

Book 6 of 6

K-ELK RIVER 77(4)B  
ROTARY Samp.  
= ANALYSES.

= R-76-2 to 76-4; R-77-5 to 77-27 =

276

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.

Elk River Coal Project 1976-77

DRILL CORE ANALYSIS

Sample Identification: R - 76 - 2 - 1

Warnock Hersey Lab. No.: 76 - 110

TABLE I Raw Coal Head Sample 1/4" x 0

| AIR DRIED BASIS |      |      |       |         |         | % DRY BASIS |       |      |         |
|-----------------|------|------|-------|---------|---------|-------------|-------|------|---------|
| Moist.          | Ash  | V.M. | F. C. | Sulphur | H.G. I. | Ash         | V. M. | F.C. | Sulphur |
| 0.7             | 45.8 | 15.1 | 38.4  | 0.29    | 101.0   | 46.2        | 15.2  | 38.6 | 0.29    |

TABLE II Screen Analysis

| Size      | AIR DRIED BASIS |          |      |         | DRY BASIS |         |
|-----------|-----------------|----------|------|---------|-----------|---------|
|           | Weight %        | Moisture | ASH  | Sulphur | ASH       | Sulphur |
| 1/4" x 65 | 74.4            | 0.7      | 48.2 | 0.29    | 48.5      | 0.29    |
| 65 x 0    | 25.6            | 0.8      | 42.5 | 0.28    | 42.9      | 0.28    |
| TOTAL     | 100.0           | --       | --   | --      | 47.1      | 0.29    |

TABLE III Float/Sink 1/4" x 65 Fraction

| Spec. Grav. | Sink | Float | AIR DRIED BASIS |        |      |      |      | DRY BASIS |      |      |       |         |
|-------------|------|-------|-----------------|--------|------|------|------|-----------|------|------|-------|---------|
|             |      |       | Weight%         | Moist. | Ash  | V.M. | F.C. | Sulphur   | ASH  | V.M. | F. C. | Sulphur |
| 1.40        |      | 1.40  | 22.1            | 0.8    | 5.4  | 19.5 | 74.3 | 0.38      | 5.4  | 19.7 | 74.9  | 0.38    |
| 1.40        | 1.50 |       | 11.8            | 0.7    | 15.5 | 17.9 | 65.8 | 0.37      | 15.7 | 18.0 | 66.3  | 0.37    |
| 1.50        | 1.60 |       | 6.5             | 0.7    | 21.9 | 17.3 | 60.1 | 0.30      | 22.1 | 17.4 | 60.5  | 0.30    |
| 1.60        |      |       | 59.6            | --     | --   | --   | --   | --        | 77.1 | --   | --    | --      |
| TOTAL       |      |       | 100.0           | --     | --   | --   | --   | --        | 46.0 | --   | --    | --      |

TABLE IV Cumulative 1.60 Float

| F.S.I. | Phosphorus<br>(in coal) | DILATATION     |           |                    |                     |                    |              |
|--------|-------------------------|----------------|-----------|--------------------|---------------------|--------------------|--------------|
|        |                         | TEMPERATURE °C |           |                    | PER CENT            |                    | " G " FACTOR |
|        |                         | Initial        | Softening | Maximum Dilatation | Maximum Contraction | Maximum Dilatation |              |
| 15     | 0.032                   |                |           |                    |                     |                    |              |

Lab. No. 8121 Date Jan. 24/77

Client: Warnock Hersey

Sample Identification: 76-11332

Starting Temperature °C: 350

Softening Temperature °C: 421

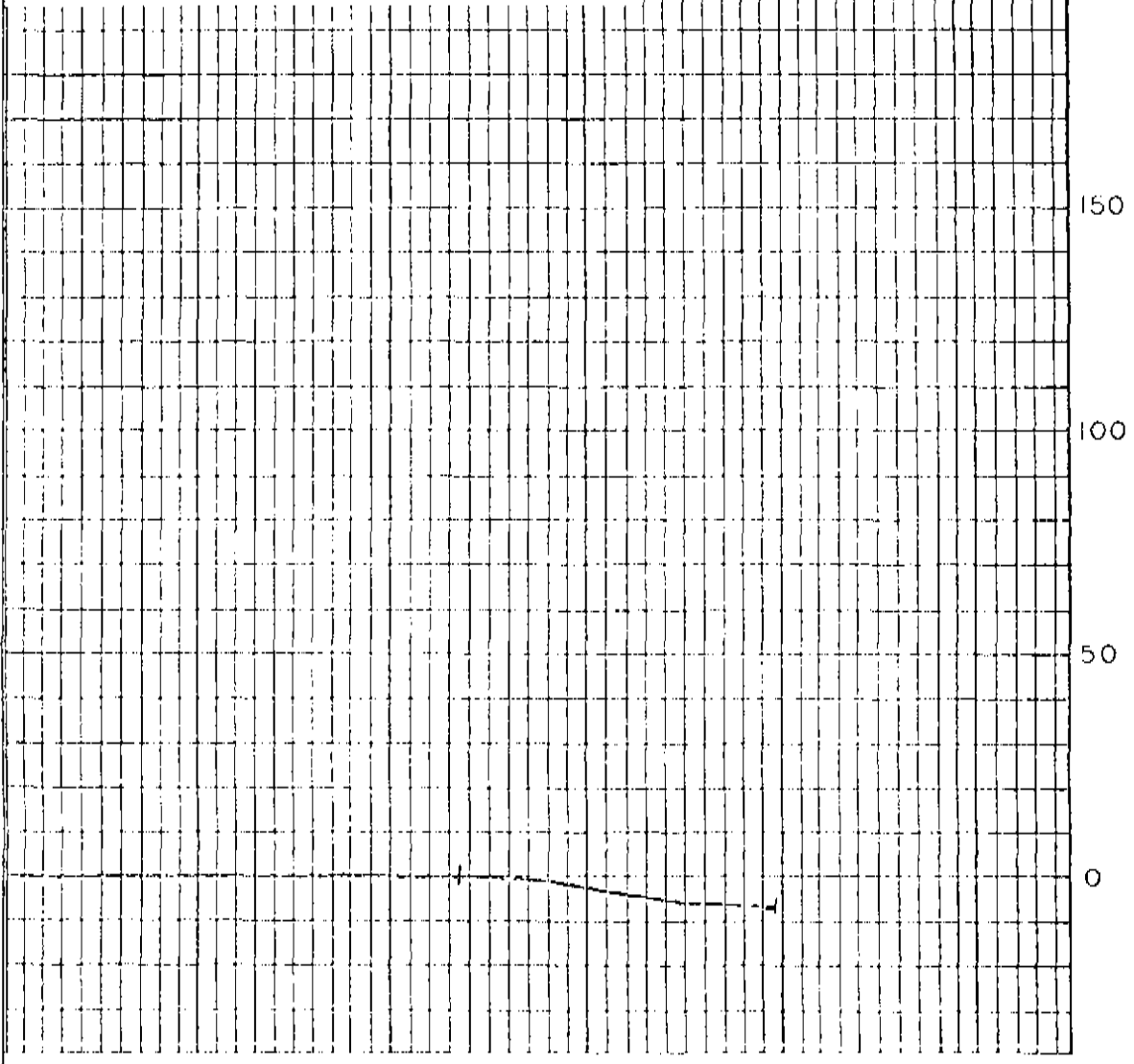
Max. Dilatation Temp. °C: ---

Contraction %: 6% @ 469°

Dilatation %: ---

Final Temperature °C: ---

G. Factor: ---



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

DRILL CORE ANALYSIS

Sample Identification: R - 76 - 2 - 2

Warnock Hersey Lab. No.: 76 - 11333

TABLE I Raw Coal Head Sample ¼" x 0

| AIR DRIED BASIS |      |      |       |         |         | % DRY BASIS |       |      |         |
|-----------------|------|------|-------|---------|---------|-------------|-------|------|---------|
| Moist.          | Ash  | V.M. | F. C. | Sulphur | H.G. I. | Ash         | V. M. | F.C. | Sulphur |
| 0.7             | 35.8 | 15.2 | 58.3  | 0.29    | 113.5   | 36.0        | 15.4  | 48.6 | 0.29    |

TABLE II Screen Analysis

| Size    | AIR DRIED BASIS |          |      |         | DRY BASIS |         |
|---------|-----------------|----------|------|---------|-----------|---------|
|         | Weight %        | Moisture | ASH  | Sulphur | ASH       | Sulphur |
| ¼" x 65 | 71.4            | 0.6      | 38.8 | 0.29    | 39.0      | 0.29    |
| 65 x 0  | 28.6            | 0.6      | 33.8 | 0.33    | 34.0      | 0.33    |
| TOTAL   | 100.0           | --       | --   | --      | 37.6      | 0.30    |

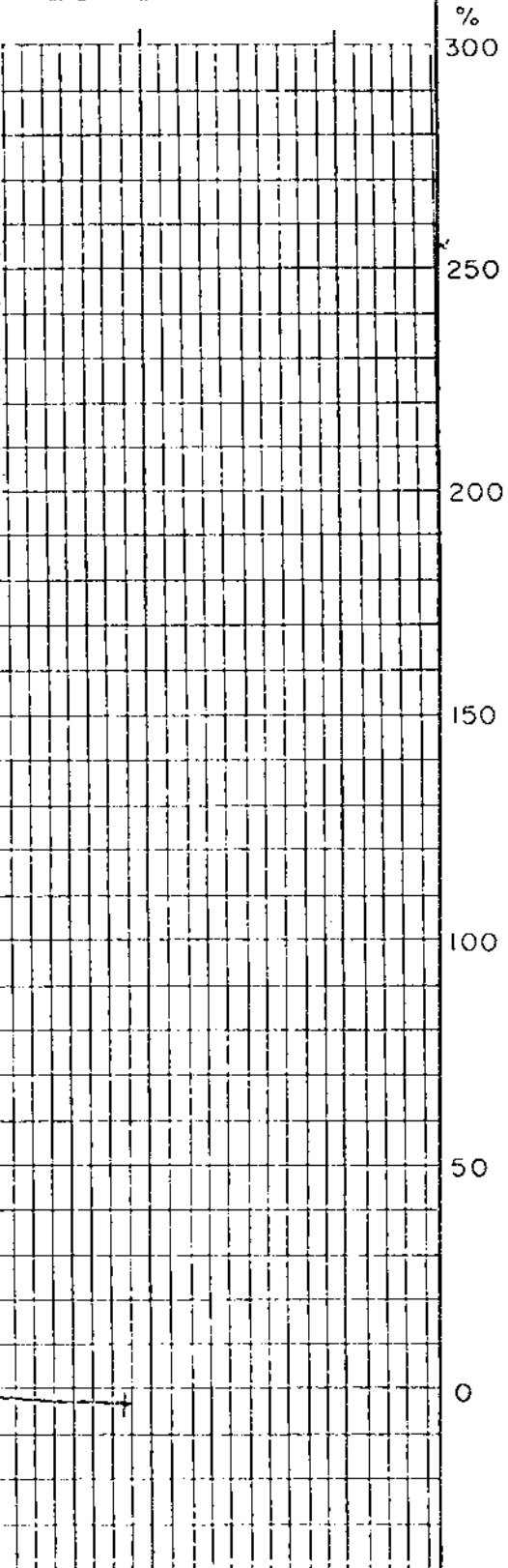
TABLE III Float/Sink ¼" x 65 Fraction

| Spec. Grav. | Sink | Float | AIR DRIED BASIS |        |      |      |      | DRY BASIS |      |      |      |         |
|-------------|------|-------|-----------------|--------|------|------|------|-----------|------|------|------|---------|
|             |      |       | Weight%         | Moist. | Ash  | V.M. | F.C. | Sulphur   | ASH  | V.M. | F.C. | Sulphur |
| 1.40        |      |       | 35.5            | 0.6    | 6.9  | 23.6 | 68.9 | 0.38      | 6.9  | 23.7 | 69.4 | 0.38    |
| 1.40        | 1.50 |       | 20.0            | 0.6    | 14.6 | 18.0 | 66.8 | 0.35      | 14.7 | 18.1 | 67.2 | 0.35    |
| 1.50        | 1.60 |       | 4.9             | 0.6    | 21.2 | 17.4 | 60.8 | 0.30      | 21.3 | 17.5 | 61.2 | 0.30    |
| 1.60        |      |       | 39.6            | --     | --   | --   | --   | --        | 77.9 | --   | --   | --      |
| TOTAL       |      |       | 100.0           | --     | --   | --   | --   | --        | 37.1 | --   | --   | --      |

TABLE IV Cumulative 1.60 Float

| F.S.I. | Phosphorus<br>(in coal) | DILATATION     |           |                    |                     |                    |              |
|--------|-------------------------|----------------|-----------|--------------------|---------------------|--------------------|--------------|
|        |                         | TEMPERATURE °C |           |                    | PER CENT            |                    | " G " FACTOR |
|        |                         | Initial        | Softening | Maximum Dilatation | Maximum Contraction | Maximum Dilatation |              |
| 1      | 0.015                   |                |           |                    |                     |                    |              |

Lab. No. 8122 Date Jan. 24/77  
 Client: Warnock Hersey  
 Sample Identification: 76-11333  
 Starting Temperature °C: 350  
 Softening Temperature °C: 422  
 Max. Dilatation Temp. °C: ---  
 Contraction %: 3% @ 466°  
 Dilatation %: ---  
 Final Temperature °C: ---  
 G. Factor: ---



**BIRLEY ENGINEERING (CANADA) LTD.**

Title RUHR DILATOMETER TEST

Date \_\_\_\_\_  
 Drawn \_\_\_\_\_

Lab. No. 7963 Date Jan 12, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R 76-2-3

Starting Temperature °C: 350

Softening Temperature °C: 388

Max. Dilatation Temp. °C: 449

250

Contraction %: 25

Dilatation %: 40

Final Temperature °C:

G. Factor: 1.017

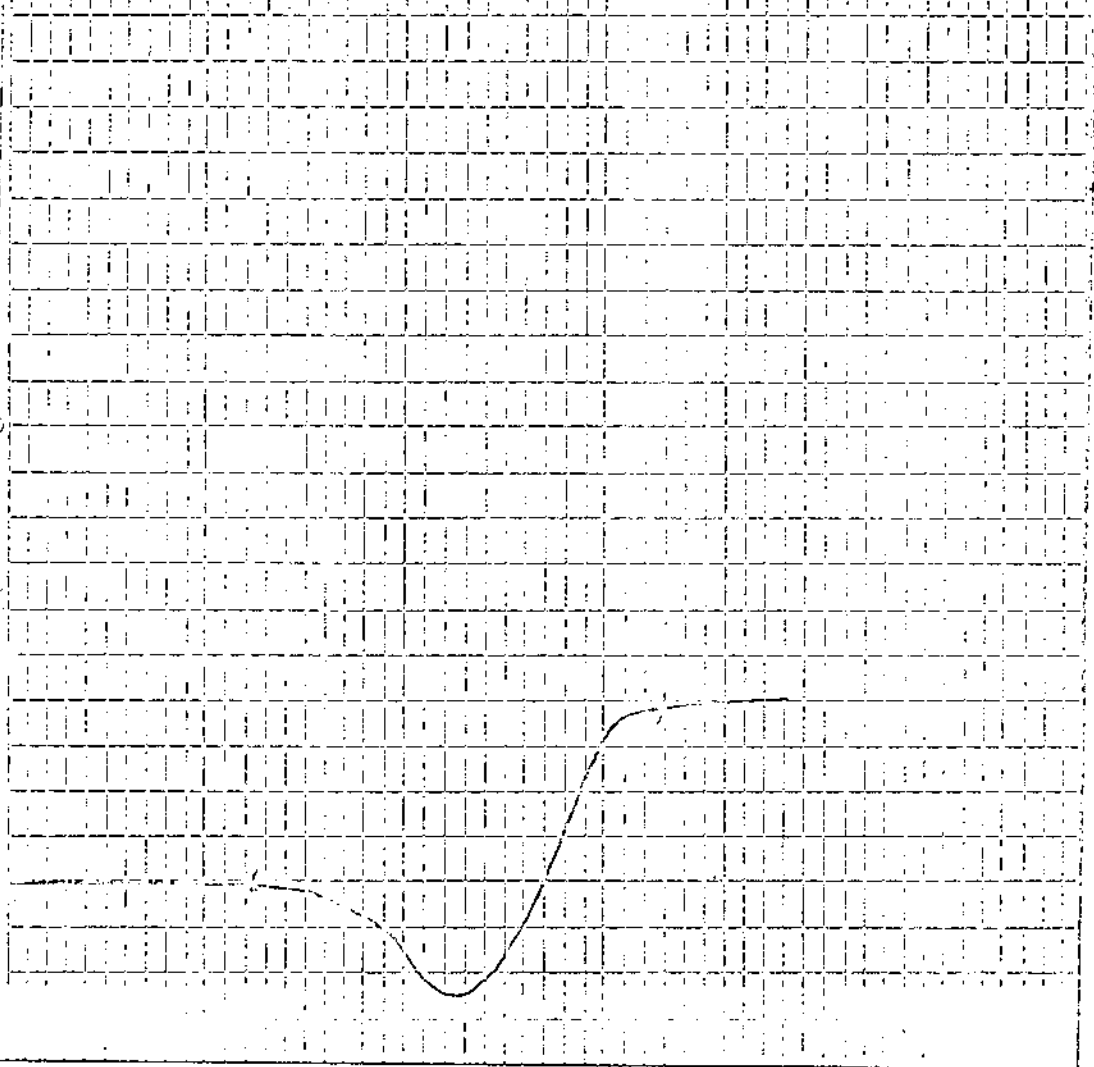
200

150

100

50

0



DUNTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

Lab. No. 7964 Date Jan 12, 1977

Client: ELCO MINING LTD.

Sample Identification: R 76-2-4

Starting Temperature °C: 350

Softening Temperature °C: 400

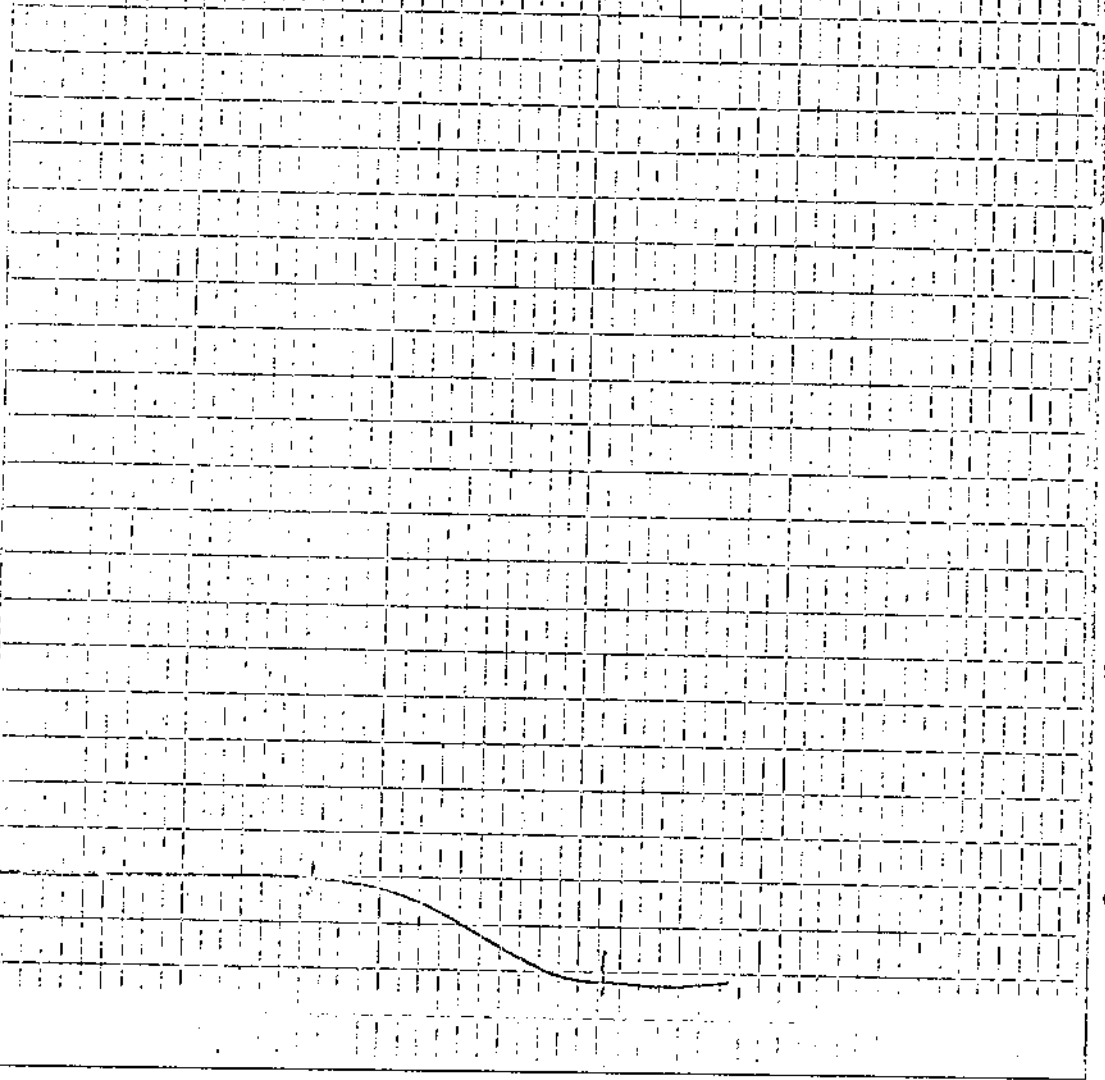
Max. Dilatation Temp. °C: ---

Contraction %: 22% @ 434°

Dilatation %: ---

Final Temperature °C: ---

G. Factor: ---



SIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No.: R 76 - 3 - 1 Lab. No.: 76 - 12117 Date: Rec'd December 16, 1976

| HEAD RAW ANALYSIS |      |       |       |      |        |                      |
|-------------------|------|-------|-------|------|--------|----------------------|
| R.M.%             | Ash% | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS <sup>c</sup> |
| 0.9               | 44.9 | 13.2  | 41.0  | 0.33 | 78     | Air Dried Basis      |
| --                | 45.3 | 13.4  | 41.3  | 0.33 | --     | Dry Basis            |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼" x 65 m           | 79.5  | 0.7   | 52.0  | 0.30 | 79.5       | 52.0  | 0.30 | A.D.B. |
|                     | 79.5  | --    | 52.3  | 0.30 | 79.5       | 52.3  | 0.30 | D.B.   |
| 65 m x 0            | 20.5  | 0.8   | 33.3  | 0.36 | 100.0      | 48.3  | 0.31 | A.D.B. |
|                     | 20.5  | --    | 33.6  | 0.36 | 100.0      | 48.5  | 0.31 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |       |       |       |      |            |       |        |
|----------------------------------|------|-------|-------|-------|-------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M.% | Ash % | V.M.% | F.C.% | S.%  | Cumulative |       |        |
|                                  |      |       |       |       |       |      | Wt. %      | Ash % |        |
| -1.40                            | 20.9 | 0.8   | 5.2   | 19.7  | 74.3  | 0.42 | 20.9       | 5.2   | A.D.B. |
|                                  | 20.9 | --    | 5.3   | 19.8  | 74.9  | 0.42 | 20.9       | 5.3   | D.B.   |
| 1.40-1.50                        | 10.4 | 0.9   | 11.8  | 18.4  | 68.9  | 0.40 | 31.3       | 7.4   | A.D.B. |
|                                  | 10.4 | --    | 11.9  | 18.6  | 69.5  | 0.40 | 31.3       | 7.5   | D.B.   |
| 1.50-1.60                        | 5.0  | 0.8   | 17.8  | 17.2  | 64.2  | 0.34 | 36.3       | 8.8   | A.D.B. |
|                                  | 5.0  | --    | 17.9  | 17.4  | 64.7  | 0.34 | 36.3       | 8.9   | D.B.   |
| +1.60                            | 63.7 | 0.8   | 81.6  | --    | --    | --   | 100.0      | 55.4  | A.D.B. |
|                                  | 63.7 | --    | 82.3  | --    | --    | --   | 100.0      | 55.7  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                     |                     |                  |                |       |
|--|-------------|---------------------|---------------------|------------------|----------------|-------|
| F.S.I.   | P % on Coal | DILATATION TESTS    |                     |                  |                |       |
|  |             | Softening Temp.(°C) | Max. Dil. Temp.(°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 1  | 0.014       |                     |                     |                  |                |       |



Lab. No. 8339 Date Feb. 8/77

Client: Warnock Hersey

Sample Identification: 76-12117

Starting Temperature °C: 350

Softening Temperature °C: 413

Max. Dilatation Temp. °C: ---

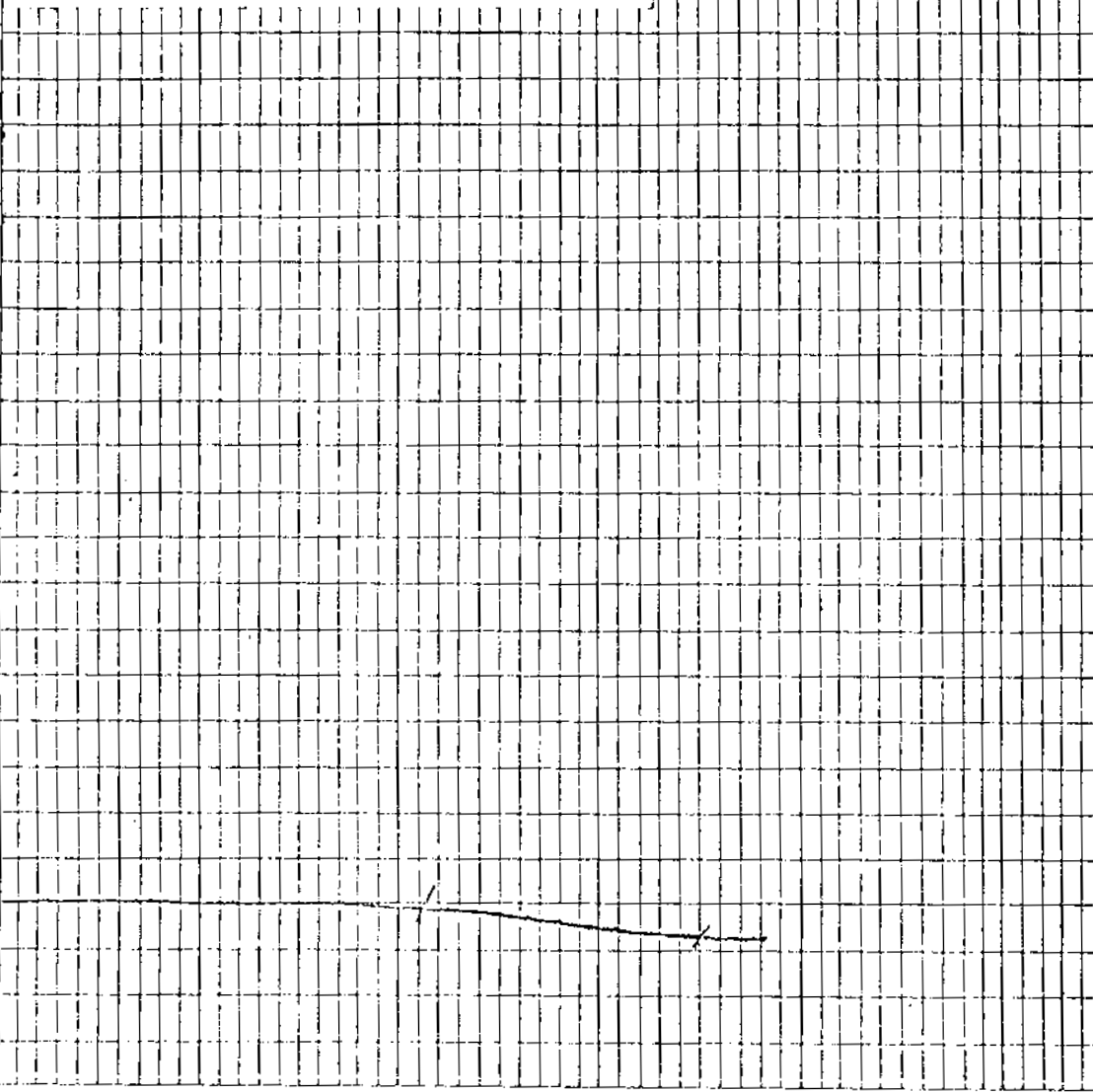
Contraction %: 7% @ 455°

Dilatation %: ---

Final Temperature °C: ---

G. Factor: ---

%  
300  
250  
200  
150  
100  
50  
0



**BIRTLEY ENGINEERING (CANADA) LTD.**

Title

RUHR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No.: R-76-3-2 Lab. No.: 76-12118 Date Rec'd December 16, 1976

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash% | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.6               | 28.8 | 16.9  | 53.7  | 0.45 | 99     | Air Dried Basis |
| --                | 29.0 | 17.0  | 54.0  | 0.45 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| 1/4" x 65 m         | 75.0  | 0.6   | 35.8  | 0.45 | 75.0       | 35.8  | 0.45 | A.D.B. |
|                     | 75.0  | --    | 36.0  | 0.45 | 75.0       | 36.0  | 0.45 | D.B.   |
| 65 m x 0            | 25.0  | 0.6   | 22.2  | 0.60 | 100.0      | 32.4  | 0.49 | A.D.B. |
|                     | 25.0  | --    | 22.4  | 0.60 | 100.0      | 32.6  | 0.49 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65 M |      |       |       |       |       |      |            |       |        |
|------------------------------------|------|-------|-------|-------|-------|------|------------|-------|--------|
| S. G.                              | Wt.% | R.M.% | Ash % | V.M.% | F.C.% | S.%  | Cumulative |       |        |
|                                    |      |       |       |       |       |      | Wt. %      | Ash % |        |
| -1.40                              | 25.9 | 0.6   | 5.7   | 20.2  | 73.5  | 0.74 | 25.9       | 5.7   | A.D.B. |
|                                    | 25.9 | --    | 5.7   | 20.3  | 74.0  | 0.74 | 25.9       | 5.7   | D.B.   |
| 1.40-1.50                          | 22.0 | 0.6   | 13.5  | 18.5  | 67.4  | 0.52 | 47.9       | 9.3   | A.D.B. |
|                                    | 22.0 | --    | 13.6  | 18.6  | 67.8  | 0.52 | 47.9       | 9.3   | D.B.   |
| 1.50-1.60                          | 12.2 | 0.6   | 25.7  | 15.8  | 57.9  | 0.50 | 60.1       | 12.6  | A.D.B. |
|                                    | 12.2 | --    | 25.9  | 15.9  | 58.2  | 0.50 | 60.1       | 12.7  | D.B.   |
| +1.60                              | 39.9 | 0.5   | 67.1  | --    | --    | --   | 100.0      | 34.3  | A.D.B. |
|                                    | 39.9 | --    | 67.4  | --    | --    | --   | 100.0      | 34.5  | D.B.   |

| COMPOSITE 1/4" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                     |                     |                  |                |       |
|--|-------------|---------------------|---------------------|------------------|----------------|-------|
| F.S.I.   | P % on Coal | DILATATION TESTS    |                     |                  |                |       |
|  |             | Softening Temp.(°C) | Max. Dil. Temp.(°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 4  | 0.007       |                     |                     |                  |                |       |

Lab. No. 8340 Date Feb. 8/77

Client: Warnock Hersey

Sample Identification: 76-12118

Starting Temperature °C: 350

Softening Temperature °C: 398

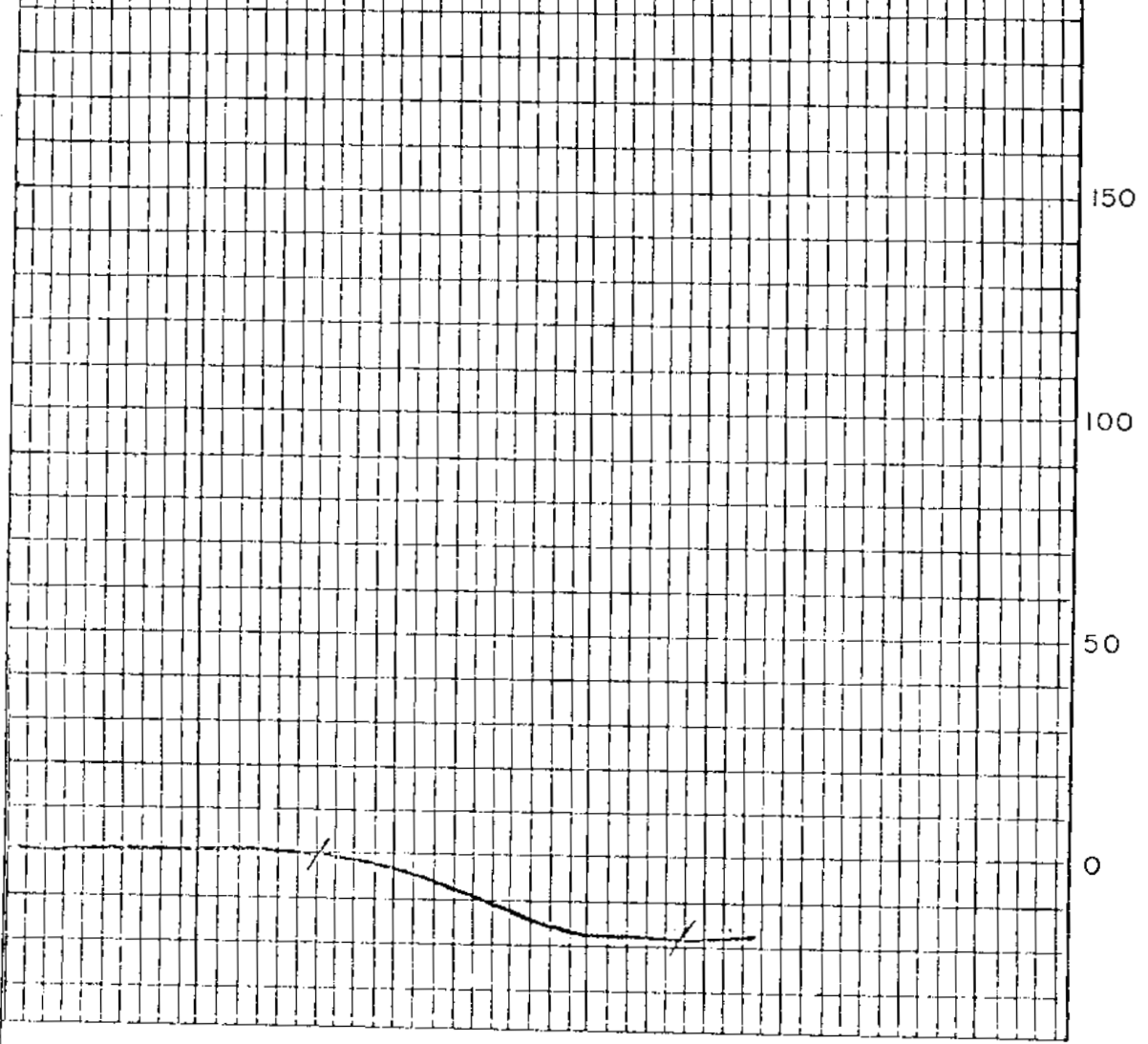
Max. Dilatation Temp. °C: 455

Contraction %: 17

Dilatation %: - 16

Final Temperature °C:

G. Factor: 0.312



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No.: R 76 - 3 - 3 Lab. No.: 76 - 12119 Date: Rec'd December 16, 1976

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash% | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS*        |
| 0.5               | 60.6 | 12.2  | 26.7  | 0.48 | 1.5    | Air Dried Basis |
| --                | 60.9 | 12.3  | 26.8  | 0.48 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼" x 65 m           | 80.4  | 0.5   | 66.7  | 0.49 | 80.4       | 66.7  | 0.49 | A.D.B. |
|                     | 80.4  | --    | 67.0  | 0.49 | 80.4       | 67.0  | 0.49 | D.B.   |
| 65 m x 0            | 19.6  | 0.6   | 48.0  | 0.45 | 100.0      | 63.0  | 0.48 | A.D.B. |
|                     | 19.6  | --    | 48.3  | 0.48 | 100.0      | 63.3  | 0.48 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |       |       |       |      |            |       |        |
|----------------------------------|------|-------|-------|-------|-------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M.% | Ash % | V.M.% | F.C.% | S.%  | Cumulative |       |        |
|                                  |      |       |       |       |       |      | Wt. %      | Ash % |        |
| -1.40                            | 8.2  | 0.7   | 5.9   | 20.9  | 72.5  | 0.63 | 8.2        | 5.9   | A.D.B. |
|                                  | 8.2  | --    | 6.0   | 21.1  | 72.9  | 0.63 | 8.2        | 6.0   | D.B.   |
| 1.40-1.50                        | 8.6  | 0.8   | 11.6  | 19.5  | 68.1  | 0.52 | 16.8       | 8.8   | A.D.B. |
|                                  | 8.6  | --    | 11.7  | 19.7  | 68.6  | 0.52 | 16.8       | 8.9   | D.B.   |
| 1.50-1.60                        | 3.4  | 0.6   | 21.8  | 17.5  | 60.1  | 0.48 | 20.2       | 11.0  | A.D.B. |
|                                  | 3.4  | --    | 21.9  | 17.6  | 60.5  | 0.48 | 20.2       | 11.1  | D.B.   |
| +1.60                            | 79.8 | 0.6   | 82.7  | --    | --    | --   | 100.0      | 68.2  | A.D.B. |
|                                  | 79.8 | --    | 83.2  | --    | --    | --   | 100.0      | 68.6  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                     |                     |                  |                |  |       |
|--|-------------|---------------------|---------------------|------------------|----------------|--|-------|
| F.S.I.   | P % on Coal | DILATATION TESTS    |                     |                  |                |  | G.No. |
|  |             | Softening Temp.(°C) | Max. Dil. Temp.(°C) | Maximum Contr. % | Maximum Dil. % |  |       |
| 5½   | 0.027       |                     |                     |                  |                |  |       |

Lab. No. 8341 Date Feb. 8/77

Client: Warnock Hersey

Sample Identification: 76-12119

Starting Temperature °C: 350

Softening Temperature °C: 392

Max. Dilatation Temp. °C: 455

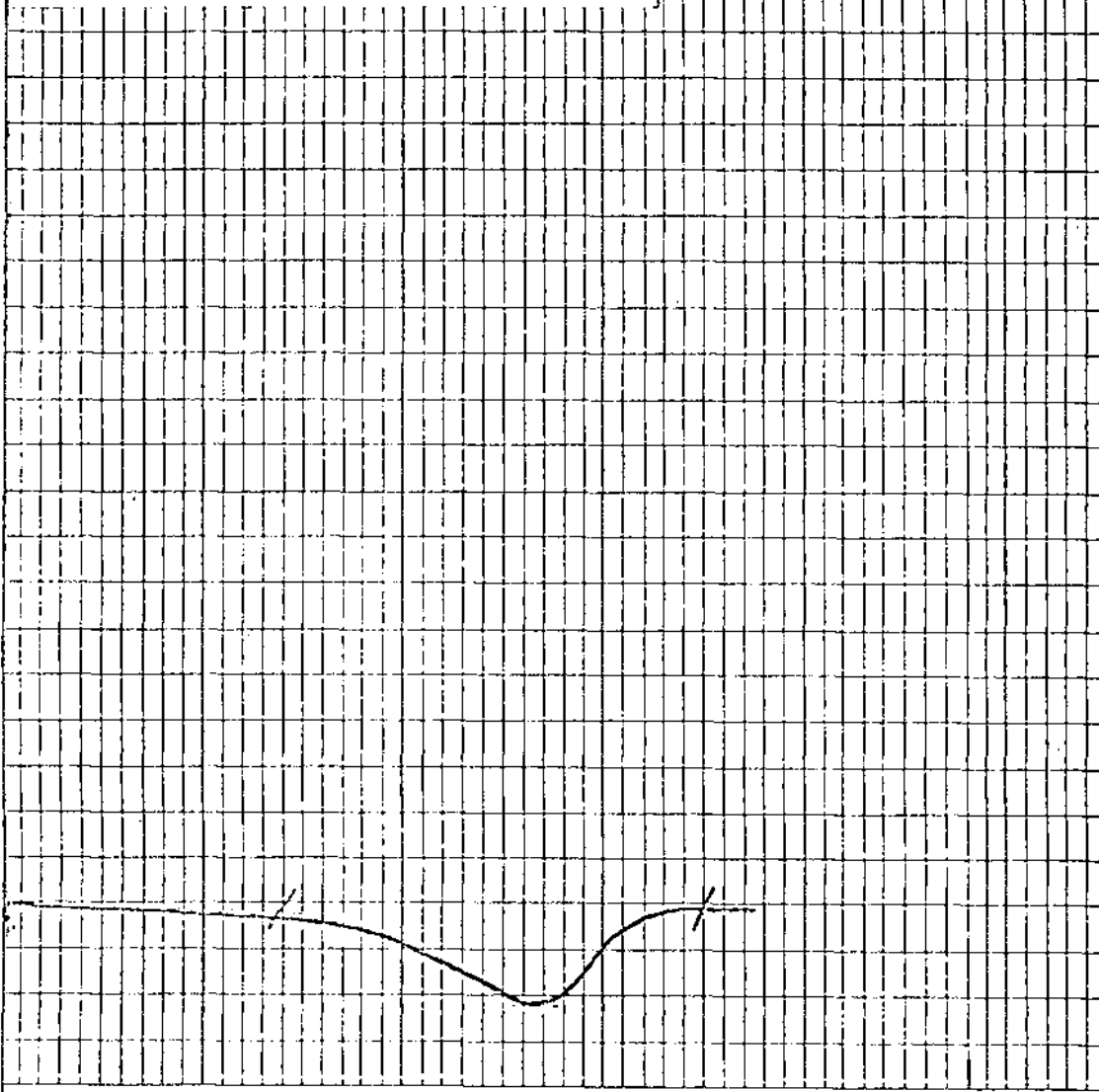
Contraction %: 23

Dilatation %: - 2

Final Temperature °C:

G. Factor: 0.919

300  
250  
200  
150  
100  
50  
0



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No.: R-76-3-4 Lab. No.: 76 - 12120 Date: Rec'd December 16, 1976

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash% | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.5               | 20.2 | 18.6  | 60.7  | 0.45 | 135    | Air Dried Basis |
| --                | 20.3 | 18.7  | 61.0  | 0.45 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| 1/4" x 65 m         | 77.9  | 0.8   | 20.4  | 0.45 | 77.9       | 20.4  | 0.45 | A.D.B. |
|                     | 77.9  | --    | 20.6  | 0.45 | 77.9       | 20.6  | 0.45 | D.B.   |
| 65 m x 0            | 22.1  | 0.7   | 25.1  | 0.43 | 100.0      | 21.4  | 0.44 | A.D.B. |
|                     | 22.1  | --    | 25.3  | 0.43 | 100.0      | 21.6  | 0.44 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65 M |      |       |       |       |       |      |            |       |        |
|------------------------------------|------|-------|-------|-------|-------|------|------------|-------|--------|
| S. G.                              | Wt.% | R.M.% | Ash % | V.M.% | F.C.% | S.%  | Cumulative |       |        |
|                                    |      |       |       |       |       |      | Wt. %      | Ash % |        |
| -1.40                              | 55.3 | 0.8   | 6.4   | 22.0  | 70.8  | 0.48 | 55.3       | 6.4   | A.D.B. |
|                                    | 55.3 | --    | 6.4   | 22.2  | 71.4  | 0.48 | 55.3       | 6.4   | D.B.   |
| 1.40-1.50                          | 21.1 | 0.7   | 13.6  | 19.4  | 66.3  | 0.42 | 76.4       | 8.4   | A.D.B. |
|                                    | 21.1 | --    | 13.7  | 19.5  | 66.8  | 0.42 | 76.4       | 8.4   | D.B.   |
| 1.50-1.60                          | 10.3 | 0.7   | 20.2  | 17.8  | 61.3  | 0.38 | 86.7       | 9.7   | A.D.B. |
|                                    | 10.3 | --    | 20.3  | 17.9  | 61.8  | 0.38 | 86.7       | 9.8   | D.B.   |
| +1.60                              | 13.3 | 0.7   | 74.1  | --    | --    | --   | 100.0      | 18.3  | A.D.B. |
|                                    | 13.3 | --    | 74.6  | --    | --    | --   | 100.0      | 18.4  | D.B.   |

| COMPOSITE 1/4" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                     |                     |                  |                |       |
|--|-------------|---------------------|---------------------|------------------|----------------|-------|
| F.S.I.   | P % on Coal | DILATATION TESTS    |                     |                  |                | G.No. |
|  |             | Softening Temp.(°C) | Max. Dil. Temp.(°C) | Maximum Contr. % | Maximum Dil. % |       |
| 8  | 0.017       |                     |                     |                  |                |       |

Lab. No. 8342 Date Feb. 8/77

Client: Warnock Hersey

Sample Identification: 76-12120

Starting Temperature °C: 350

Softening Temperature °C: 389

Max. Dilatation Temp. °C: 449

Contraction %: 17

Dilatation %: 37

Final Temperature °C: 1.027

G. Factor:



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

# Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No. - R 76-4-1

Lab. No.: 76 - 12121

Date Rec'd December 16, 1976

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash% | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.4               | 65.2 | 15.4  | 19.0  | 0.33 | 71     | Air Dried Basis |
| --                | 65.5 | 15.5  | 19.0  | 0.33 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼" x 65 m           | 86.4  | 0.4   | 67.5  | 0.31 | 86.4       | 67.5  | 0.31 | A.D.B. |
|                     | 86.4  | --    | 67.8  | 0.31 | 86.4       | 67.5  | 0.31 | D.B.   |
|                     | 13.6  | 0.5   | 56.7  | 0.44 | 100.0      | 66.0  | 0.33 | A.D.B. |
|                     | 13.6  | --    | 57.0  | 0.44 | 100.0      | 66.3  | 0.33 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |       |       |       |      |            |       |        |
|----------------------------------|------|-------|-------|-------|-------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M.% | Ash % | V.M.% | F.C.% | S.%  | Cumulative |       |        |
|                                  |      |       |       |       |       |      | Wt. %      | Ash % |        |
| -1.40                            | 11.6 | 0.6   | 7.1   | 21.0  | 71.3  | 0.74 | 11.6       | 7.1   | A.D.B. |
|                                  | 11.6 | --    | 7.2   | 21.2  | 71.6  | 0.74 | 11.6       | 7.2   | D.B.   |
| 1.40-1.50                        | 4.6  | 0.8   | 14.3  | 19.1  | 65.8  | 0.53 | 16.2       | 9.1   | A.D.B. |
|                                  | 4.6  | --    | 14.4  | 19.2  | 66.4  | 0.53 | 16.2       | 9.2   | D.B.   |
| 1.50-1.60                        | 1.9  | 0.7   | 20.8  | 17.3  | 61.2  | 0.41 | 18.1       | 10.4  | A.D.B. |
|                                  | 1.9  | --    | 21.0  | 17.5  | 61.5  | 0.41 | 18.1       | 10.5  | D.B.   |
| +1.60                            | 81.9 | 0.6   | 78.4  | --    | --    | --   | 100.0      | 66.3  | A.D.B. |
|                                  | 81.9 | --    | 78.9  | --    | --    | --   | 100.0      | 66.5  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |                        |                        |                     |                   |       |
|--|-------------------|------------------------|------------------------|---------------------|-------------------|-------|
| F.S.I.   | P %<br>on<br>Coal | DILATATION TESTS       |                        |                     |                   |       |
|  |                   | Softening<br>Temp.(°C) | Max. Dil.<br>Temp.(°C) | Maximum<br>Contr. % | Maximum<br>Dil. % | G.No. |
| 8  | 0.032             |                        |                        |                     |                   |       |



Lab. No. 8343 Date Feb. 9/77

Client: Warnock Hersey

Sample Identification: 76-12121

Starting Temperature °C: 350

Softening Temperature °C: 383

Max. Dilatation Temp. °C: 446

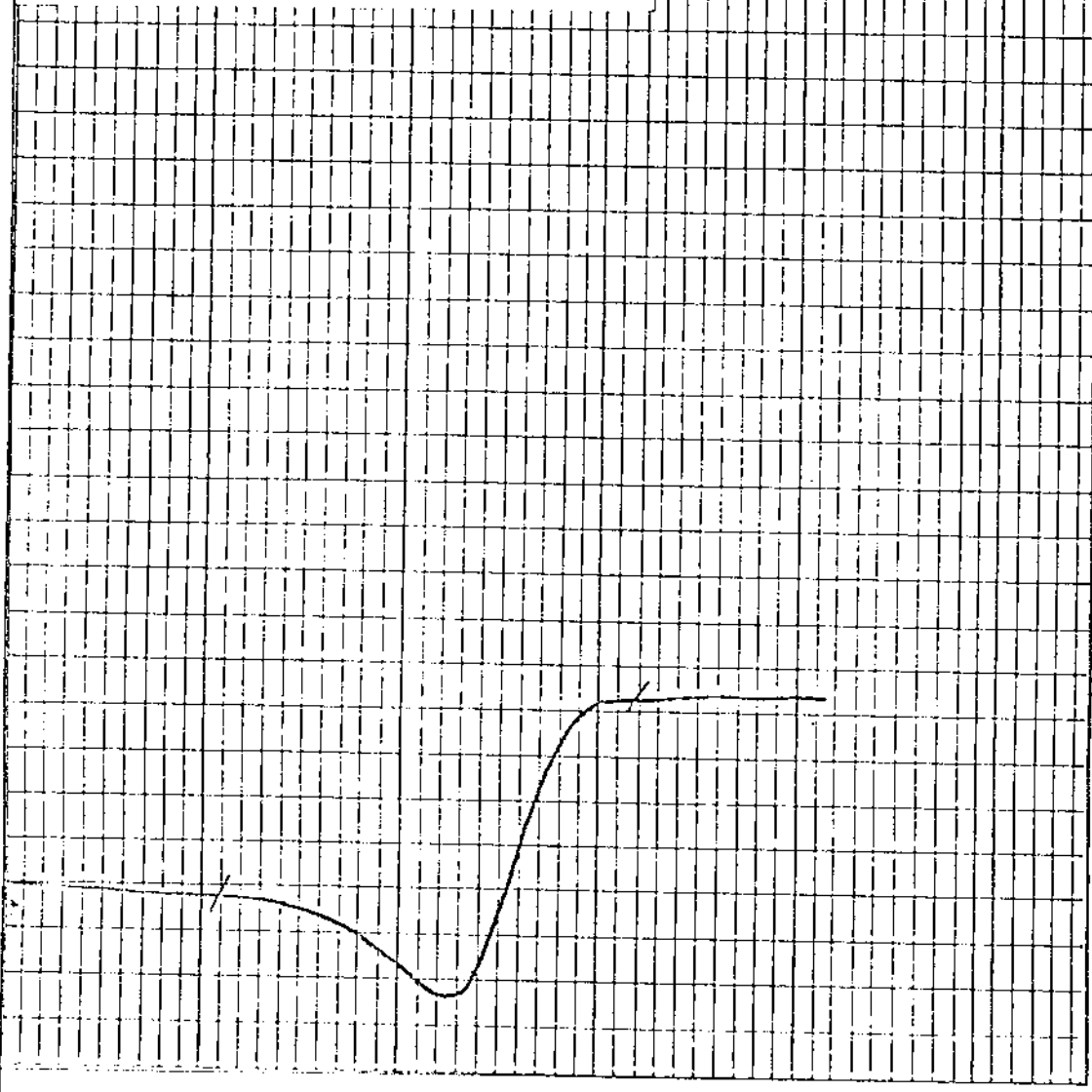
Contraction %: 23

Dilatation %: 44

Final Temperature °C:

G. Factor: 1.024

%  
300  
250  
200  
150  
100  
50  
0



BIRTLEY ENGINEERING (CANADA) LTD.

Title  
RUHR DILATOMETER TEST

Date  
Drawn

# Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No.: R 76 - 4 - 2 Lab. No.: 76 - 12122 Date: Rec'd December 16, 1976

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash% | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.9               | 46.5 | 13.7  | 38.9  | 0.34 | 82     | Air Dried Basis |
| --                | 46.9 | 13.8  | 39.3  | 0.34 | --     | Dry Basis       |

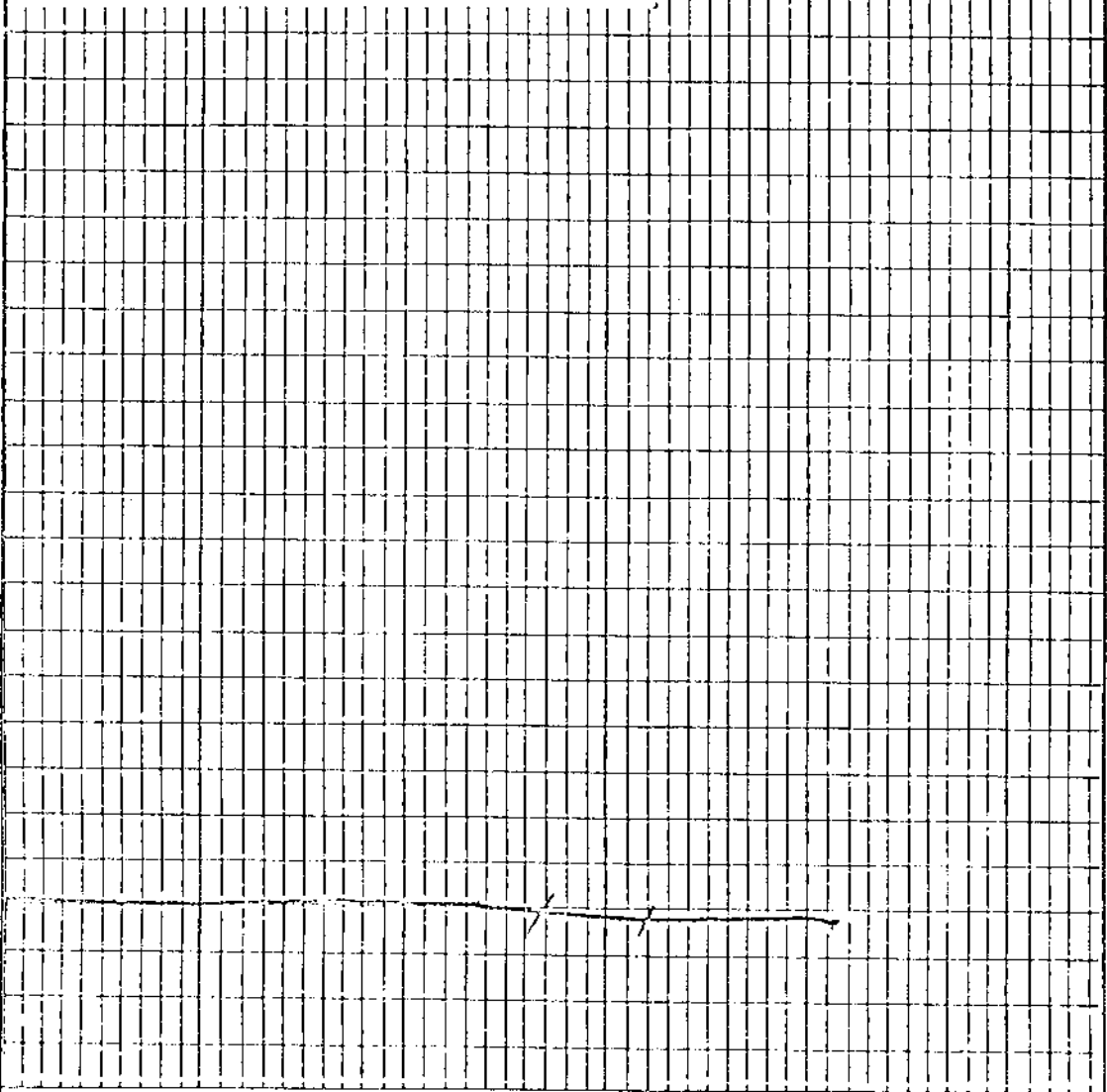
| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼" x 65 m           | 80.7  | 0.7   | 55.0  | 0.30 | 80.7       | 55.0  | 0.30 | A.D.B. |
|                     | 80.7  | --    | 55.4  | 0.30 | 80.7       | 55.4  | 0.30 | D.B.   |
| 65 m x 0            | 19.3  | 0.8   | 31.8  | 0.37 | 100.0      | 50.7  | 0.31 | A.D.B. |
|                     | 19.3  | --    | 32.0  | 0.37 | 100.0      | 50.9  | 0.31 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |       |       |       |      |            |       |        |
|----------------------------------|------|-------|-------|-------|-------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M.% | Ash % | V.M.% | F.C.% | S.%  | Cumulative |       |        |
|                                  |      |       |       |       |       |      | Wt. %      | Ash % |        |
| -1.40                            | 23.7 | 0.8   | 5.1   | 19.1  | 75.0  | 0.47 | 23.7       | 5.1   | A.D.B. |
|                                  | 23.7 | --    | 5.2   | 19.2  | 75.6  | 0.47 | 23.7       | 5.2   | D.B.   |
| 1.40-1.50                        | 9.1  | 0.9   | 10.4  | 18.1  | 70.6  | 0.46 | 32.8       | 6.6   | A.D.B. |
|                                  | 9.1  | --    | 10.6  | 18.3  | 71.1  | 0.46 | 32.8       | 6.7   | D.B.   |
| 1.50-1.60                        | 4.3  | 0.7   | 17.2  | 16.6  | 65.5  | 0.35 | 37.1       | 7.8   | A.D.B. |
|                                  | 4.3  | --    | 17.3  | 16.7  | 66.0  | 0.35 | 37.1       | 7.9   | D.B.   |
| +1.60                            | 62.9 | 0.7   | 81.8  | --    | --    | --   | 100.0      | 51.6  | A.D.B. |
|                                  | 62.9 | --    | 82.4  | --    | --    | --   | 100.0      | 51.8  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |                        |                        |                     |                   |       |
|--|-------------------|------------------------|------------------------|---------------------|-------------------|-------|
| F.S.I.   | P %<br>on<br>Coal | DILATATION TESTS       |                        |                     |                   | G.No. |
|  |                   | Softening<br>Temp.(°C) | Max. Dil.<br>Temp.(°C) | Maximum<br>Contr. % | Maximum<br>Dil. % |       |
| 2  | 0.041             |                        |                        |                     |                   |       |

Lab. No. 8344 Date Feb. 9/77  
Client: Warnock Hersey  
Sample Identification: 76-12122  
Starting Temperature °C: 350  
Softening Temperature °C: 431  
Max. Dilatation Temp. °C: ---  
Contraction %: 3% @ 446  
Dilatation %: ---  
Final Temperature °C: ---  
G. Factor: ---

%  
300  
250  
200  
150  
100  
50  
0



**BIRTELEY ENGINEERING (CANADA) LTD.**

Title

RUHR DILATOMETER TEST

Date

Drawn

# Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No.: R 75-4-3A    Lab. No.: 76 - 12123    Date: Rec'd December 16, 1976

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash% | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.6               | 44.0 | 15.3  | 40.1  | 0.29 | 72     | Air Dried Basis |
| --                | 44.3 | 15.4  | 40.3  | 0.29 |        | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼" x 65 m           | 74.9  | 0.6   | 43.1  | 0.29 | 74.9       | 43.1  | 0.29 | A.D.B. |
|                     | 74.9  | --    | 43.4  | 0.29 | 74.9       | 43.4  | 0.29 | D.B.   |
| 65 m x 0            | 25.1  | 0.7   | 43.7  | 0.30 | 100.0      | 43.2  | 0.29 | A.D.B. |
|                     | 25.1  | --    | 44.0  | 0.30 | 100.0      | 43.5  | 0.29 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |       |       |       |      |            |       |        |
|----------------------------------|------|-------|-------|-------|-------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M.% | Ash % | V.M.% | F.C.% | S.%  | Cumulative |       |        |
|                                  |      |       |       |       |       |      | Wt. %      | Ash % |        |
| -1.40                            | 24.6 | 0.7   | 7.9   | 20.5  | 70.9  | 0.64 | 24.6       | 7.9   | A.D.B. |
|                                  | 24.6 | --    | 8.0   | 20.6  | 71.4  | 0.64 | 24.6       | 8.0   | D.B.   |
| 1.40-1.50                        | 11.4 | 0.7   | 15.8  | 18.5  | 65.0  | 0.35 | 36.0       | 10.4  | A.D.B. |
|                                  | 11.4 | --    | 15.9  | 18.6  | 65.5  | 0.35 | 36.0       | 10.5  | D.B.   |
| 1.50-1.60                        | 7.0  | 0.7   | 23.1  | 16.8  | 59.4  | 0.30 | 43.0       | 12.5  | A.D.B. |
|                                  | 7.0  | --    | 23.3  | 17.0  | 59.7  | 0.30 | 43.0       | 12.6  | D.B.   |
| +1.60                            | 57.0 | 0.7   | 62.3  | --    | --    | --   | 100.0      | 41.0  | A.D.B. |
|                                  | 57.0 | --    | 62.7  | --    | --    | --   | 100.0      | 41.2  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                     |                     |                  |                |       |
|--|-------------|---------------------|---------------------|------------------|----------------|-------|
| F.S.I.   | F % on Coal | DILATATION TESTS    |                     |                  |                |       |
|  |             | Softening Temp.(°C) | Max. Dil. Temp.(°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 2  | 0.031       |                     |                     |                  |                |       |

Lab. No. 8345 Date Feb. 8/77

Client: Warnock Hersey

Sample Identification: 76-12123

Starting Temperature °C: 350

Softening Temperature °C: 404

Max. Dilatation Temp. °C: ---

Contraction %: 11% @ 449°

Dilatation %: ---

Final Temperature °C: ---

G. Factor: ---

%

300

250

200

150

100

50

0



**BIRTLEY ENGINEERING (CANADA) LTD.**

Title

**RUHR DILATOMETER TEST**

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No.: R76 - 4 - 3B Lab. No.: 76 - 12124 Date Rec'd, December 16, 1976

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash% | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.6               | 52.4 | 15.2  | 31.8  | 0.35 | 104    | Air Dried Basis |
| --                | 52.7 | 15.3  | 32.0  | 0.35 | --     | Dry Basis       |

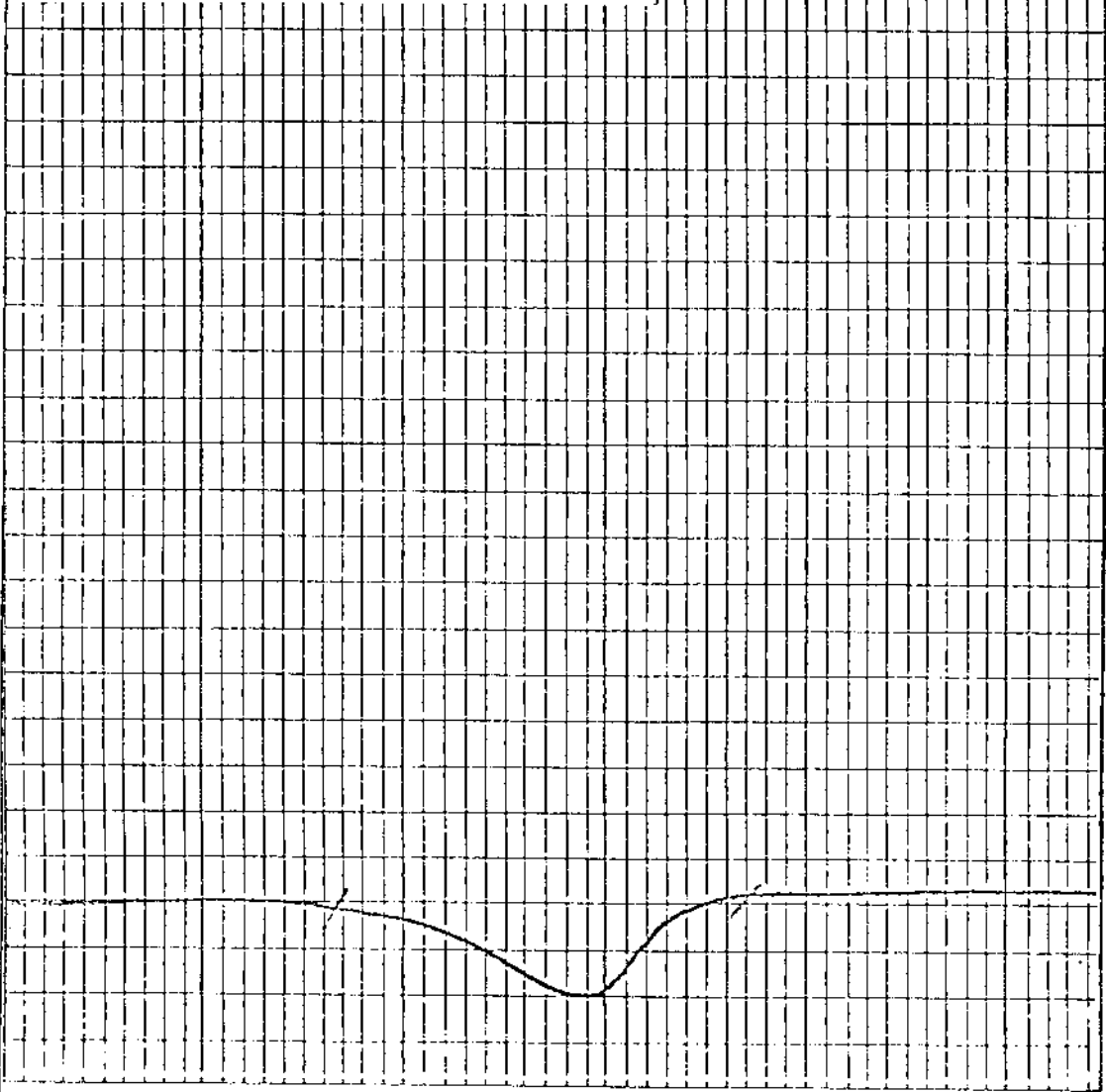
| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼" x 65 m           | 74.3  | 0.6   | 56.0  | 0.35 | 74.3       | 56.0  | 0.35 | A.D.B. |
|                     | 74.3  | --    | 56.3  | 0.35 | 74.3       | 56.3  | 0.35 | D.B.   |
| 65 m x 0            | 25.7  | 0.6   | 41.7  | 0.44 | 100.0      | 52.3  | 0.37 | A.D.B. |
|                     | 25.7  | --    | 41.9  | 0.44 | 100.0      | 52.6  | 0.37 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |       |       |       |      |            |       |        |
|----------------------------------|------|-------|-------|-------|-------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M.% | Ash % | V.M.% | F.C.% | S.%  | Cumulative |       |        |
|                                  |      |       |       |       |       |      | Wt. %      | Ash % |        |
| -1.40                            | 11.6 | 0.8   | 6.0   | 20.8  | 72.4  | 0.71 | 11.6       | 6.0   | A.D.B. |
|                                  | 11.6 | --    | 6.0   | 20.9  | 73.1  | 0.72 | 11.6       | 6.0   | D.B.   |
| 1.40-1.50                        | 5.2  | 0.7   | 14.6  | 18.4  | 66.3  | 0.64 | 16.8       | 8.7   | A.D.B. |
|                                  | 5.2  | --    | 14.7  | 18.5  | 66.8  | 0.64 | 16.8       | 8.7   | D.B.   |
| 1.50-1.60                        | 7.6  | 0.7   | 24.1  | 15.9  | 59.3  | 0.50 | 24.4       | 13.5  | A.D.B. |
|                                  | 7.6  | --    | 24.3  | 16.0  | 59.7  | 0.50 | 24.4       | 13.6  | D.B.   |
| +1.60                            | 75.6 | 0.7   | 71.0  | --    | --    | --   | 100.0      | 57.1  | A.D.B. |
|                                  | 75.6 | --    | 71.5  | --    | --    | --   | 100.0      | 57.4  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                      |                      |                  |                |       |
|--|-------------|----------------------|----------------------|------------------|----------------|-------|
| F.S.I.   | P % on Coal | DILATATION TESTS     |                      |                  |                |       |
|  |             | Softening Temp. (°C) | Max. Dil. Temp. (°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 6½   | 0.077       |                      |                      |                  |                |       |

Lab. No. 8346      Date Feb. 8/77  
 Client: Warnock Hersey  
 Sample Identification: 76-12124  
 Starting Temperature °C: 350  
 Softening Temperature °C: 399  
 Max. Dilatation Temp. °C: 461  
 Contraction %: 19  
 Dilatation %: 3  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 0.950

%  
 300  
 250  
 200  
 150  
 100  
 50  
 0



**BIRTLEY ENGINEERING (CANADA) LTD.**

Title

RUHR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R 77 - 5 - 1 Lab. No.: 77 - 4077 Date: May 13, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.7               | 69.3  | 10.2  | 19.8  | 0.34 | 59.4   | Air Dried Basis |
| --                | 69.8  | 10.3  | 19.9  | 0.34 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 70.0 | 0.7   | 72.8  | 0.27 | 70.0       | 72.8  | 0.27 | A.D.B. |
|                     | 70.0 | --    | 73.3  | 0.27 | 70.0       | 73.3  | 0.27 | D.B.   |
| 65 x 0              | 30.0 | 0.7   | 55.2  | 0.48 | 100.0      | 67.5  | 0.33 | A.D.B. |
|                     | 30.0 | --    | 55.6  | 0.48 | 100.0      | 68.0  | 0.33 | D.B.   |

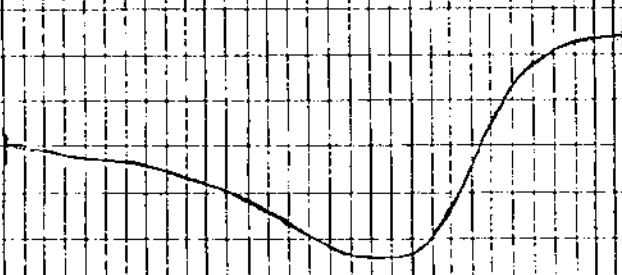
| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 6.3  | 0.4   | 7.9  | 21.2  | 70.5  | 0.80 | 6.3        | 7.9  | A.D.B. |
|                                  | 6.3  | --    | 7.9  | 21.3  | 70.8  | 0.80 | 6.3        | 7.9  | D.B.   |
| 1.40-1.50                        | 1.1  | 0.8   | 21.2 | 19.4  | 58.6  | 0.66 | 7.4        | 9.9  | A.D.B. |
|                                  | 1.1  | --    | 21.4 | 19.6  | 59.0  | 0.66 | 7.4        | 9.9  | D.B.   |
| 1.50-1.60                        | 0.9  | 0.4   | 24.8 | --    | --    | --   | 8.3        | 11.5 | A.D.B. |
|                                  | 0.9  | --    | 24.9 | --    | --    | --   | 8.3        | 11.5 | D.B.   |
| +1.60                            | 91.7 | 0.8   | 77.5 | --    | --    | --   | 100.0      | 72.0 | A.D.B. |
|                                  | 91.7 | --    | 78.1 | --    | --    | --   | 100.0      | 72.6 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |            |            |          |         |       |
|--|-------------------|------------|------------|----------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening  | Max. Dil.  | Maximum  | Maximum | G.No. |
|  |                   | Temp. (°C) | Temp. (°C) | Contr. % | Dil. %  |       |
| 9  | 0.039             |            |            |          |         |       |



Lab. No. 77 - 4077 Date July 4, 1977.  
 Client: Elco Mining Ltd.  
 Sample Identification: R77 - 5 - 1  
 Starting Temperature °C: 350<sup>o</sup>C  
 Softening Temperature °C: 402<sup>o</sup>C  
 Max. Dilatation Temp. °C: 479  
 Contraction %: 23%  
 Dilatation %: 24%  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 0.968

300  
 250  
 200  
 150  
 100  
 50  
 0



Title  
 RUHR DILATOMETER TEST

Date  
 Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R 77 - 5 - 2      Lab. No.: 77 - 4078      Date: May 13, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.5               | 32.5  | 20.2  | 46.8  | 0.37 | 91.3   | Air Dried Basis |
| --                | 32.7  | 20.3  | 47.0  | 0.37 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 87.4 | 0.5   | 35.4  | 0.32 | 87.4       | 35.4  | 0.32 | A.D.B. |
|                     | 87.4 | --    | 35.6  | 0.32 | 87.4       | 35.6  | 0.32 | D.B.   |
| 65 x 0              | 12.6 | 0.6   | 13.2  | 0.45 | 100.0      | 32.6  | 0.34 | A.D.B. |
|                     | 12.6 | --    | 13.3  | 0.45 | 100.0      | 32.8  | 0.34 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 52.8 | 1.1   | 6.4  | 19.8  | 72.7  | 0.45 | 52.8       | 6.4  | A.D.B. |
|                                  | 52.8 | --    | 6.4  | 20.1  | 73.5  | 0.45 | 52.9       | 6.4  | D.B.   |
| 1.40-1.50                        | 5.4  | 0.6   | 18.9 | 17.4  | 63.1  | 0.36 | 58.2       | 7.6  | A.D.B. |
|                                  | 5.4  | --    | 19.0 | 17.5  | 63.5  | 0.36 | 58.3       | 7.6  | D.B.   |
| 1.50-1.60                        | 2.8  | 0.6   | 24.5 | --    | --    | --   | 61.0       | 8.3  | A.D.B. |
|                                  | 2.8  | --    | 24.7 | --    | --    | --   | 61.1       | 8.4  | D.B.   |
| +1.60                            | 39.0 | 0.6   | 74.5 | --    | --    | --   | 100.0      | 34.1 | A.D.B. |
|                                  | 38.9 | --    | 74.9 | --    | --    | --   | 100.0      | 34.2 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |            |            |          |         |       |
|--|-------------------|------------|------------|----------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening  | Max. Dil.  | Maximum  | Maximum | G.No. |
|  |                   | Temp. (°C) | Temp. (°C) | Contr. % | Dil. %  |       |
| 2  | 0.033             |            |            |          |         |       |

Lab. No. 77-4078 Date July 4, 1977

Client: Elco Mining Ltd.

Sample Identification: R77 - 5 - 2

Starting Temperature °C: 350°C

Softening Temperature °C: 409°C

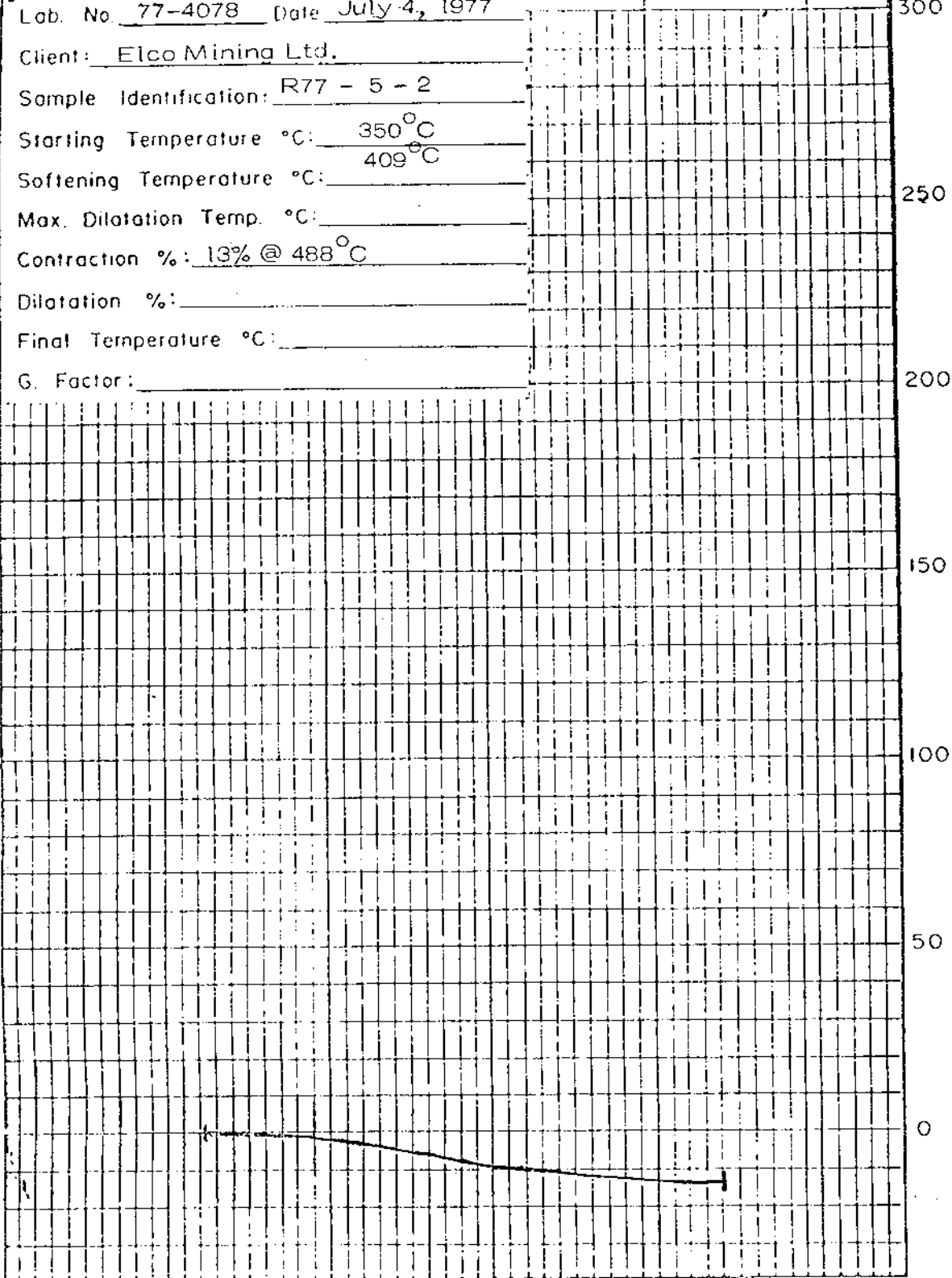
Max. Dilatation Temp. °C: \_\_\_\_\_

Contraction %: 13% @ 488°C

Dilatation %: \_\_\_\_\_

Final Temperature °C: \_\_\_\_\_

G. Factor: \_\_\_\_\_



Title

RUHR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R 77 - 5 - 3      Lab. No.: 77 - 4079      Date: May 13, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.5               | 36.8  | 16.5  | 46.2  | 0.38 | 95.5   | Air Dried Basis |
| --                | 37.0  | 16.6  | 46.4  | 0.38 | ---    | Dry Basis       |

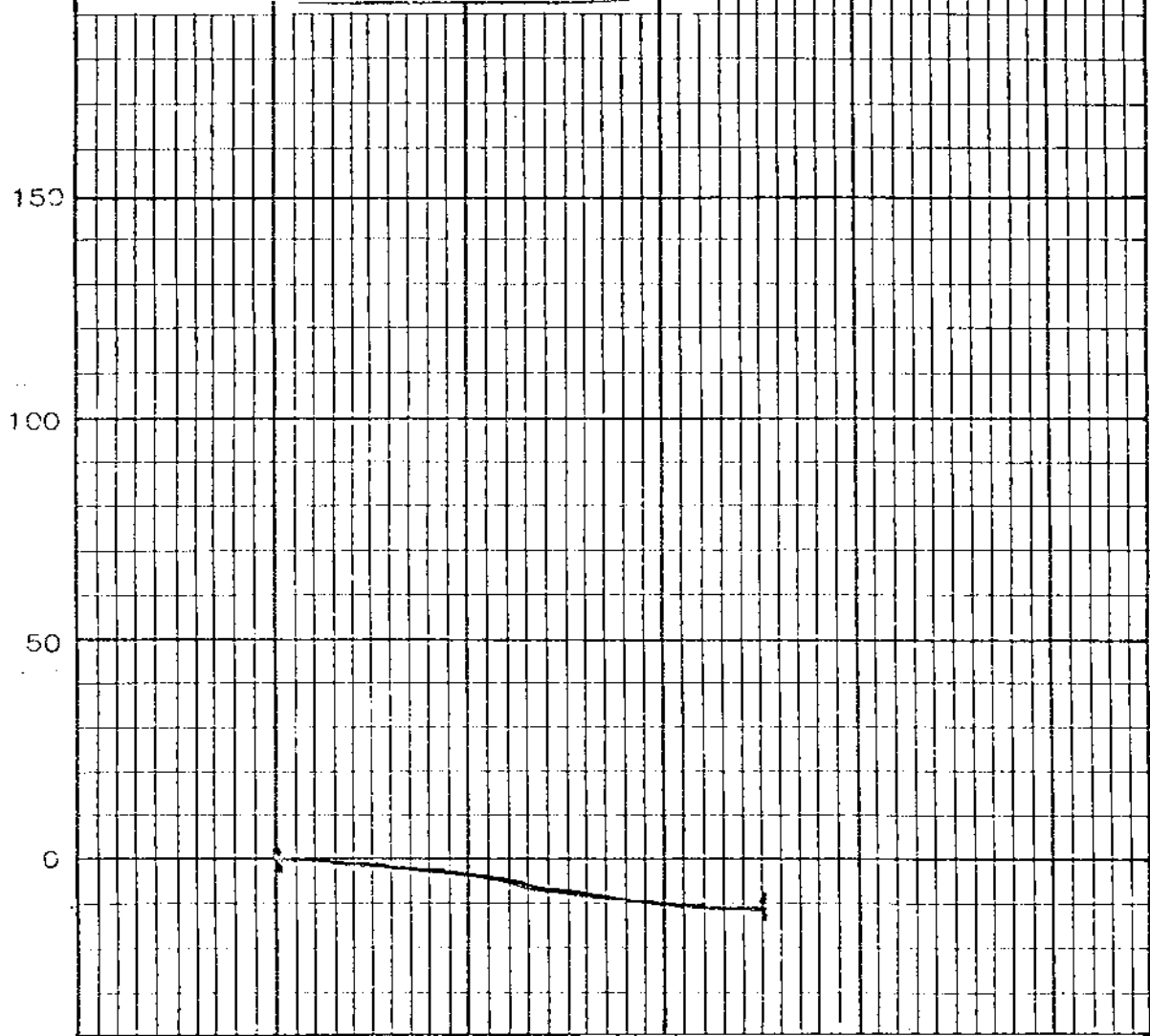
| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 86.0 | 0.5   | 38.2  | 0.33 | 86.0       | 38.2  | 0.33 | A.D.B. |
|                     | 86.0 | --    | 38.4  | 0.33 | 86.0       | 38.4  | 0.33 | D.B.   |
| 65 x 0              | 14.0 | 0.6   | 25.1  | 0.46 | 100.0      | 36.4  | 0.35 | A.D.B. |
|                     | 14.0 | --    | 25.3  | 0.46 | 100.0      | 36.6  | 0.35 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 47.6 | 1.1   | 7.4  | 19.0  | 72.5  | 0.47 | 47.6       | 7.4  | A.D.B. |
|                                  | 47.6 | --    | 7.5  | 19.2  | 73.3  | 0.48 | 47.6       | 7.5  | D.B.   |
| 1.40-1.50                        | 3.7  | 0.8   | 19.2 | 17.9  | 62.1  | 0.42 | 51.3       | 8.3  | A.D.B. |
|                                  | 3.7  | --    | 19.4 | 18.0  | 62.6  | 0.42 | 51.3       | 8.4  | D.B.   |
| 1.50-1.60                        | 1.9  | 0.9   | 26.2 | --    | --    | --   | 53.2       | 8.9  | A.D.B. |
|                                  | 1.9  | --    | 26.5 | --    | --    | --   | 53.2       | 9.0  | D.B.   |
| +1.60                            | 46.8 | 0.7   | 72.3 | --    | --    | --   | 100.0      | 38.6 | A.D.B. |
|                                  | 46.8 | --    | 72.8 | --    | --    | --   | 100.0      | 38.9 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |            |            |          |         |       |
|--|-------------------|------------|------------|----------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening  | Max. Dil.  | Maximum  | Maximum | G.No. |
|  |                   | Temp. (°C) | Temp. (°C) | Contr. % | Dil. %  |       |
| 2½   | 0.027             |            |            |          |         |       |

% Lab. No. 77-4079 Date: July 4/77

300 Client: Elco Mining Ltd.  
Sample I. D.: R77 - 5 - 3  
Starting Temperature °C: 350  
Softening Temperature °C: 424  
250 Max. Dilatation Temp. °C: \_\_\_\_\_  
Contraction %: 12% @ 434  
Dilatation %: \_\_\_\_\_  
Final Temperature °C: \_\_\_\_\_  
200 G. Factor: \_\_\_\_\_



Warnock Hersey Professional Services Ltd.

RUHR DILATCMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R 77 - 5 - 4      Lab. No.: 77 - 4080      Date: May 12, 1977

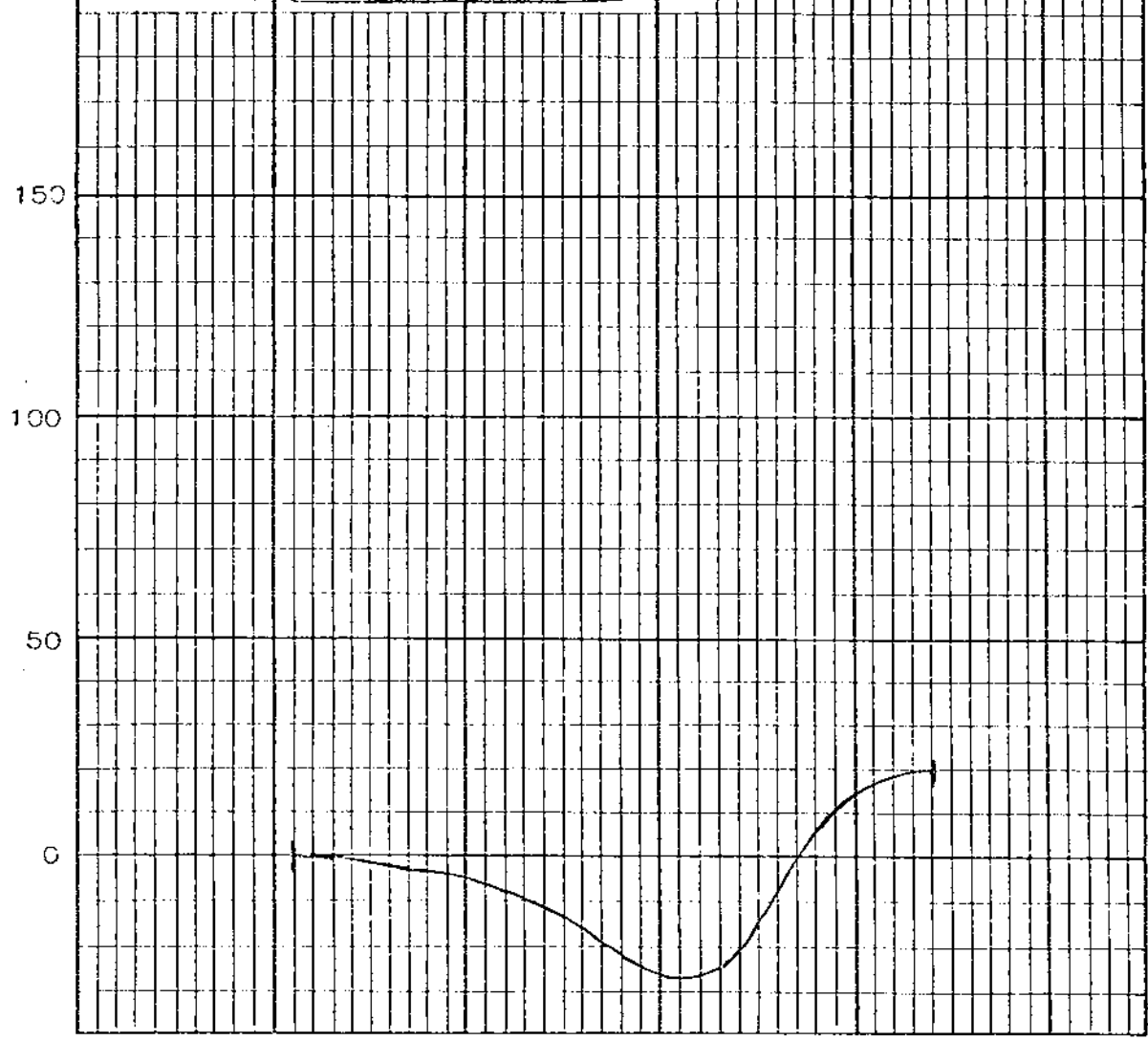
| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.8               | 75.0  | 9.3   | 14.9  | 0.25 | 49.0   | Air Dried Basis |
| --                | 75.5  | 9.4   | 15.1  | 0.25 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 97.6 | 0.8   | 76.2  | 0.23 | 97.6       | 76.2  | 0.23 | A.D.B. |
|                     | 97.6 | --    | 76.8  | 0.23 | 97.6       | 76.8  | 0.23 | D.B.   |
| 65 x 0              | 2.4  | 0.6   | 37.5  | 0.54 | 100.0      | 75.3  | 0.24 | A.D.B. |
|                     | 2.4  | --    | 37.7  | 0.54 | 100.0      | 75.9  | 0.24 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 6.2  | 0.8   | 6.8  | 21.0  | 71.4  | 0.70 | 6.2        | 6.8  | A.D.B. |
|                                  | 6.2  | --    | 6.8  | 21.2  | 72.0  | 0.71 | 6.2        | 6.8  | D.B.   |
| 1.40-1.50                        | 1.7  | 0.6   | 21.9 | 18.5  | 59.0  | 0.56 | 7.9        | 10.0 | A.D.B. |
|                                  | 1.7  | --    | 22.0 | 18.6  | 59.4  | 0.56 | 7.9        | 10.1 | D.B.   |
| 1.50-1.60                        | 1.2  | 0.6   | 29.1 | --    | --    | --   | 9.1        | 12.5 | A.D.B. |
|                                  | 1.2  | --    | 29.3 | --    | --    | --   | 9.1        | 12.6 | D.B.   |
| +1.60                            | 90.9 | 0.8   | 81.4 | --    | --    | --   | 100.0      | 75.1 | A.D.B. |
|                                  | 90.9 | --    | 82.1 | --    | --    | --   | 100.0      | 75.8 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |            |            |          |         |       |
|--|-------------------|------------|------------|----------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening  | Max. Dil.  | Maximum  | Maximum | G.No. |
|  |                   | Temp. (°C) | Temp. (°C) | Contr. % | Dil. %  |       |
| e  | 0.036             |            |            |          |         |       |

% Lab. No. 77-4080 Date: July 4, 77  
 Client: Elco Mining Ltd.  
 Sample I. D.: R77 - 5 - 4  
 Starting Temperature °C: 350  
 Softening Temperature °C: 399  
 250 Max. Dilatation Temp. °C: 485  
 Contraction %: 27%  
 Dilatation %: 20%  
 Final Temperature °C: \_\_\_\_\_  
 200 G. Factor: 0.972



Warnock Hersey Professional Services Ltd.

RUHR DILATCMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R - 77 - 5 - 5 Lab. No.: 77 - 4081 Date: May 12, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.5               | 62.0  | 12.9  | 24.6  | 0.36 | 57.4   | Air Dried Basis |
| --                | 62.4  | 12.9  | 24.7  | 0.36 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 98.0 | 0.6   | 62.2  | 0.37 | 98.0       | 62.2  | 0.37 | A.D.B. |
|                     | 98.0 | --    | 62.6  | 0.37 | 98.0       | 62.6  | 0.37 | D.B.   |
| 65 x 0              | 2.0  | 0.5   | 53.5  | 0.44 | 100.0      | 62.0  | 0.37 | A.D.B. |
|                     | 2.0  | --    | 53.8  | 0.44 | 100.0      | 62.4  | 0.37 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 0.6  | 0.9   | 8.4  | 21.2  | 69.5  | 0.72 | 0.6        | 8.4  | A.D.B. |
|                                  | 0.6  | --    | 8.4  | 21.4  | 70.2  | 0.73 | 0.6        | 8.4  | D.B.   |
| 1.40-1.50                        | 0.2  | 0.7   | 20.1 | 19.5  | 59.7  | 0.66 | 0.8        | 11.3 | A.D.B. |
|                                  | 0.2  | --    | 20.2 | 19.6  | 60.2  | 0.66 | 0.8        | 11.3 | D.B.   |
| 1.50-1.60                        | 1.0  | 0.7   | 27.4 | --    | --    | --   | 1.8        | 20.3 | A.D.B. |
|                                  | 1.0  | --    | 27.6 | --    | --    | --   | 1.8        | 20.4 | D.B.   |
| +1.60                            | 98.2 | 0.7   | 64.1 | --    | --    | --   | 100.0      | 63.3 | A.D.B. |
|                                  | 98.2 | --    | 64.6 | --    | --    | --   | 100.0      | 63.8 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |            |            |          |         |       |
|--|-------------------|------------|------------|----------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening  | Max. Dil.  | Maximum  | Maximum | G.No. |
|  |                   | Temp. (°C) | Temp. (°C) | Contr. % | Dil. %  |       |
| 2  | 0.038             |            |            |          |         |       |



% Lab. No. 77-4081 Date: July 4/77

300 Client: Elco Mining Ltd.

Sample I. D.: R 77 - 5 - 5

Starting Temperature °C: 370

Softening Temperature °C: 396

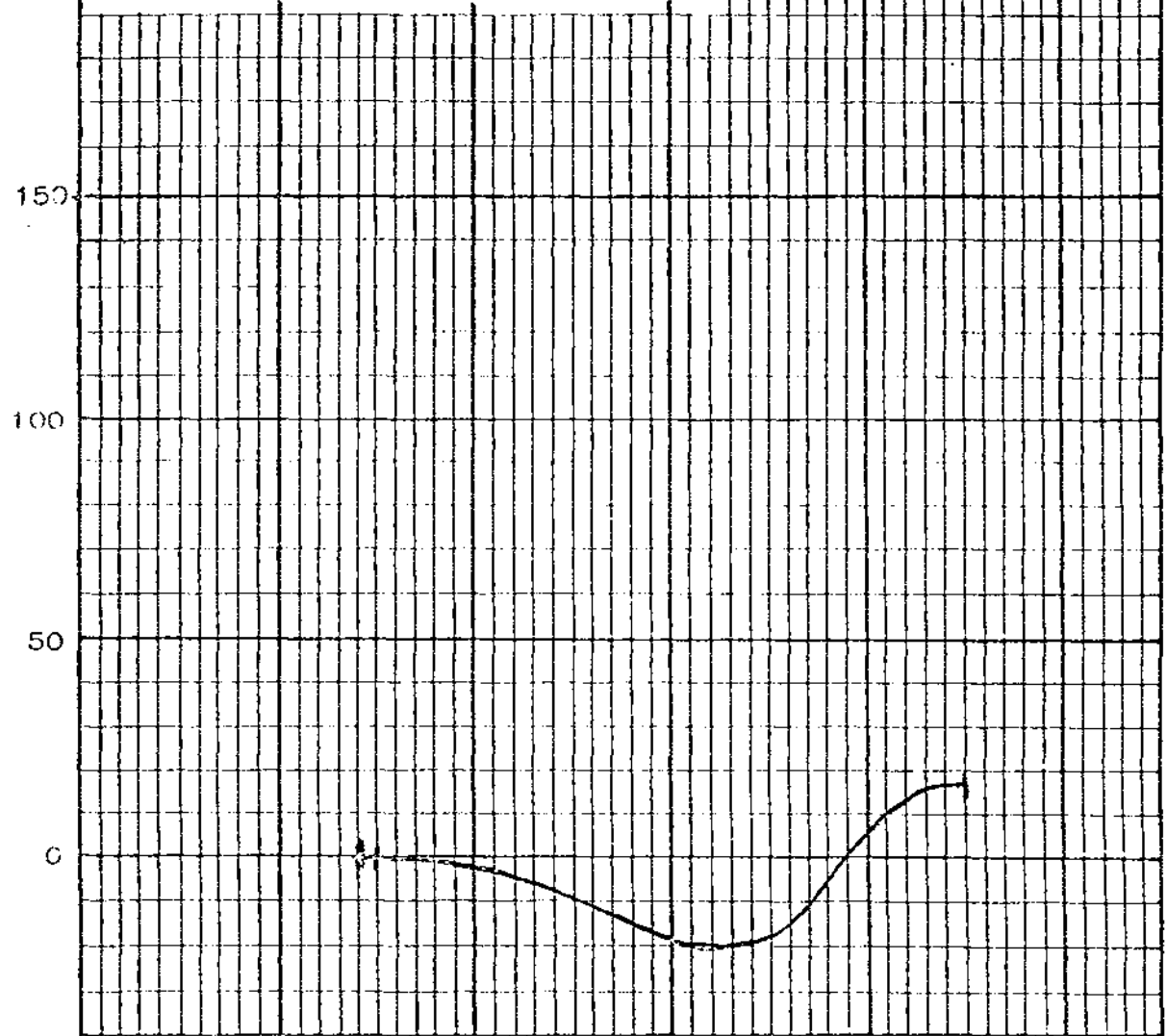
250 Max. Dilatation Temp. °C: 480

Contraction %: 20%

Dilatation %: 17%

Final Temperature °C: \_\_\_\_\_

200 G. Factor: 1.007



Warnock Hersey Professional Services Ltd.

RUHR DILATCMETER TEST

Date

Drawn

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-5-6      Lab. No. 8967      DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.8               | 69.6  | 10.2   | 19.4   | 0.33 | 61     | Air Dried Basis |
|                   | 70.2  | 10.3   | 19.5   | 0.33 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 96.7  | 0.9    | 69.8  | 0.31 | 96.7       | 69.8  | 0.31 | A.D.B. |
|                     | 96.7  |        | 70.4  | 0.31 | 96.7       | 70.4  | 0.31 | D.B.   |
| 65M x 0             | 3.3   | 0.8    | 42.3  | 0.59 | 100.0      | 68.9  | 0.32 | A.D.B. |
|                     | 3.3   |        | 42.6  | 0.59 | 100.0      | 69.5  | 0.32 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 7.6   | 1.0    | 6.8   | 19.2   | 73.0   | 0.80 | 7.6        | 6.8   | A.D.B. |
|                                   | 7.6   |        | 6.9   | 19.4   | 73.7   | 0.81 | 7.6        | 6.9   | D.B.   |
| 1.40-1.50                         | 3.3   | 0.9    | 13.2  | 18.9   | 67.0   | 0.77 | 10.9       | 8.7   | A.D.B. |
|                                   | 3.3   |        | 13.3  | 19.1   | 67.6   | 0.78 | 10.9       | 8.8   | D.B.   |
| 1.50-1.60                         | 1.5   | 1.2    | 22.9  |        |        |      | 12.4       | 10.5  | A.D.B. |
|                                   | 1.5   |        | 23.2  |        |        |      | 12.4       | 10.6  | D.B.   |
| +1.60                             | 87.6  | 0.9    | 78.2  |        |        |      | 100.0      | 69.8  | A.D.B. |
|                                   | 87.6  |        | 78.9  |        |        |      | 100.0      | 70.4  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |   |                       |                  |                |        |
|---|------------|---|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp. = 320°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP.* (°C)                   | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 8   | 0.09       | 388                                     | 464                   | 23               | 13             | 0.976  |

\* S.T. & M.D.T. corrected with factor 6/5

Lab. No. 8967 Date May 2, 1977  
 Client: ELCO MINING LTD.  
 Sample Identification: R77-5-6  
 Starting Temperature °C: 320  
 Softening Temperature °C: 388  
 Max. Dilatation Temp. °C: 464  
 Contraction %: 23  
 Dilatation %: 13  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 0.976

%  
300

250

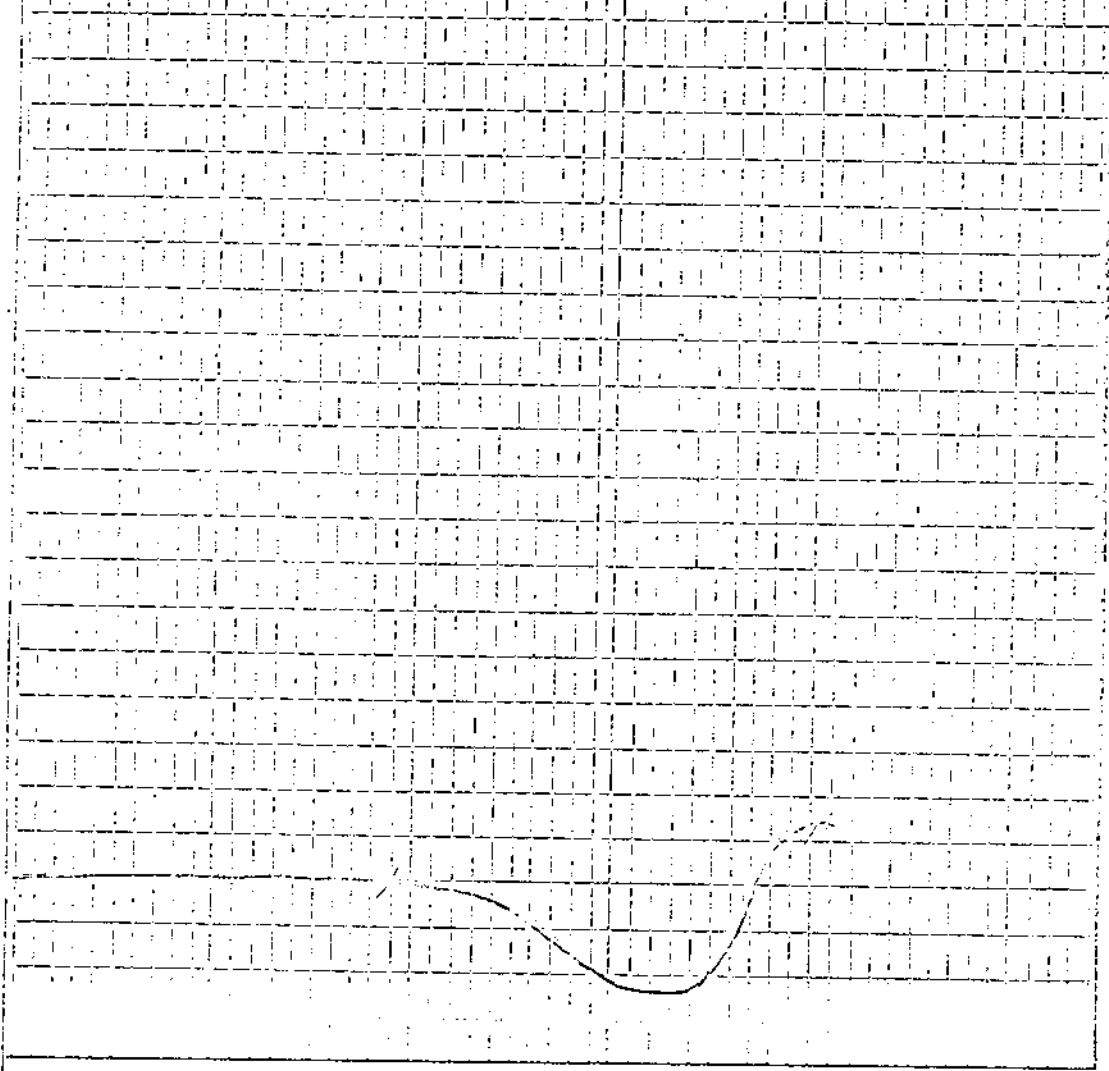
200

150

100

50

0



DIRTLEY ENGINEERING (CANADA) LTD.

Title RUHR DILATOMETER TEST

Date \_\_\_\_\_  
 Drawn \_\_\_\_\_

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-5-7      Lab. No. 8968      DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.7               | 67.7  | 10.3   | 21.3   | 0.22 | 52     | Air Dried Basis |
|                   | 68.2  | 10.4   | 21.4   | 0.22 | --     | Dry Basis       |

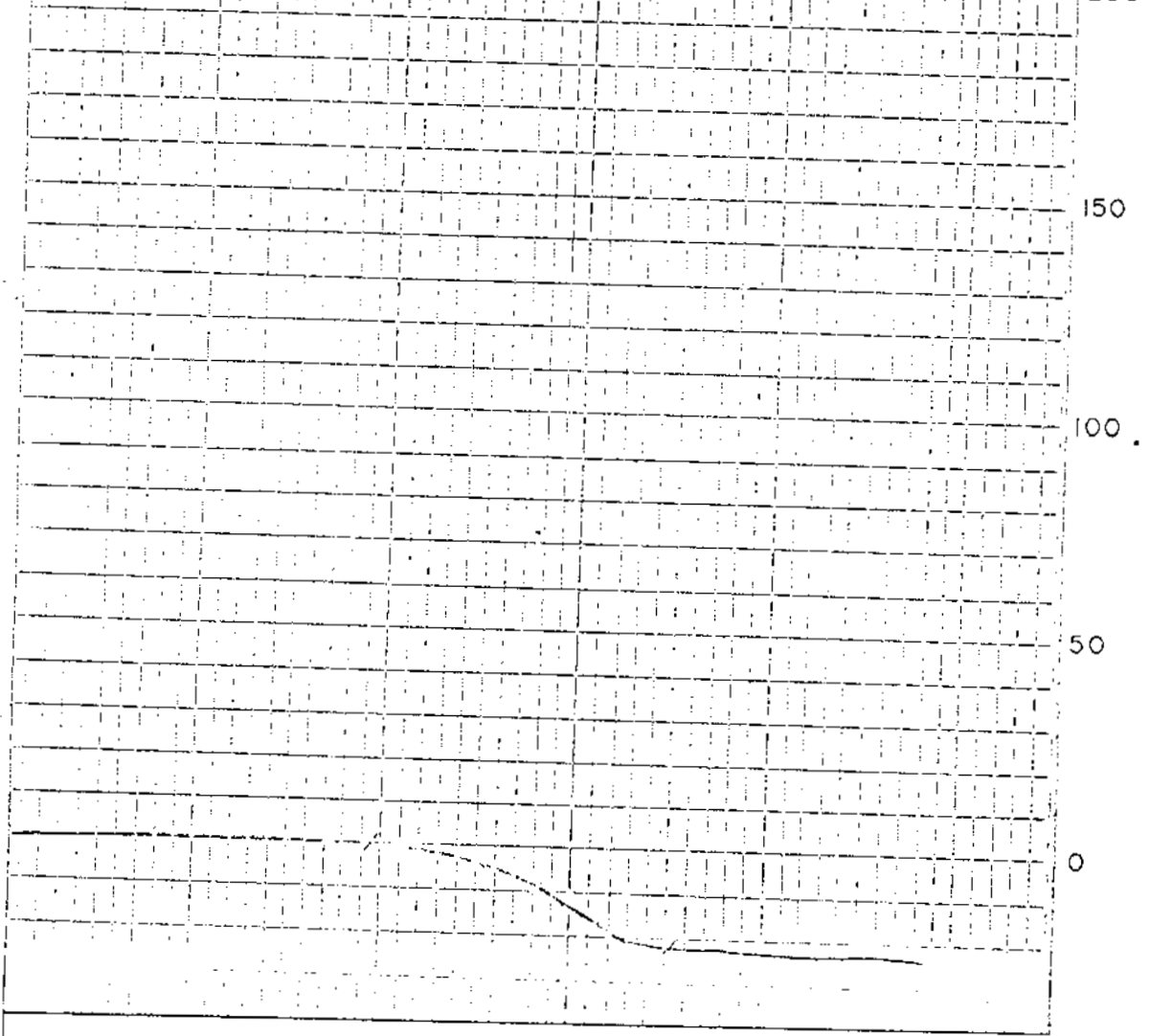
| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 93.4  | 0.7    | 69.2  | 0.24 | 93.4       | 69.2  | 0.24 | A.D.B. |
|                     | 93.4  |        | 69.7  | 0.24 | 93.4       | 69.7  | 0.24 | D.B.   |
| 65M x 0             | 6.6   | 0.6    | 43.5  | 0.45 | 100.0      | 67.5  | 0.25 | A.D.B. |
|                     | 6.6   |        | 43.8  | 0.45 | 100.0      | 68.0  | 0.25 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 5.1   | 0.7    | 5.6   | 21.8   | 71.9   | 0.75 | 5.1        | 5.6   | A.D.B. |
|                                   | 5.1   |        | 5.6   | 22.0   | 72.4   | 0.76 | 5.1        | 5.6   | D.B.   |
| 1.40-1.50                         | 3.8   | 0.7    | 12.9  | 17.3   | 69.1   | 0.61 | 8.9        | 8.7   | A.D.B. |
|                                   | 3.8   |        | 13.0  | 17.4   | 69.6   | 0.61 | 8.9        | 8.8   | D.B.   |
| 1.50-1.60                         | 5.0   | 0.7    | 19.0  |        |        |      | 13.9       | 12.4  | A.D.B. |
|                                   | 5.0   |        | 19.1  |        |        |      | 13.9       | 12.5  | D.B.   |
| +1.60                             | 86.1  | 0.8    | 78.4  |        |        |      | 100.0      | 69.2  | A.D.B. |
|                                   | 86.1  |        | 79.0  |        |        |      | 100.0      | 69.8  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                       |                  |                |        |
|---|------------|---------------------------------------|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP.* (°C)                 | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 6   | 0.05       | 391                                   | ---                   | 22% @ 446        | ---            | ---    |

\* S.T. & M.D.T. corrected with factor 6/5

Lab. No. 8968 Date May 3, 1977  
 Client: ELCO MINING LTD.  
 Sample Identification: R77-5-7  
 Starting Temperature °C: 320  
 Softening Temperature °C: 391  
 Max. Dilatation Temp. °C: ---  
 Contraction %: 22% @ 446°  
 Dilatation %: ---  
 Final Temperature °C: ---  
 G. Factor: ---



BIRTLEY ENGINEERING (CANADA) LTD.

|   |       |
|---|-------|
| Title<br><br><p style="text-align: center;">RUHR DILATOMETER TEST</p> | Date  |
|   | Drawn |

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-5-8

Lab. No. 8969

DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS*        |
| 0.7               | 39.7  | 14.8   | 44.8   | 0.35 | 77     | Air Dried Basis |
|                   | 40.0  | 14.9   | 45.1   | 0.35 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 86.2  | 0.7    | 42.4  | 0.37 | 86.2       | 42.4  | 0.37 | A.D.B. |
|                     | 86.2  |        | 42.7  | 0.37 | 86.2       | 42.7  | 0.37 | D.B.   |
| 65M x 0             | 13.8  | 0.9    | 26.9  | 0.45 | 100.0      | 40.3  | 0.38 | A.D.B. |
|                     | 13.8  |        | 27.1  | 0.45 | 100.0      | 40.5  | 0.38 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 29.6  | 0.7    | 6.1   | 17.8   | 75.4   | 0.59 | 29.6       | 6.1   | A.D.B. |
|                                   | 29.6  |        | 6.1   | 17.9   | 76.0   | 0.59 | 29.6       | 6.1   | D.B.   |
| 1.40-1.50                         | 12.0  | 0.8    | 12.7  | 17.0   | 69.5   | 0.57 | 41.6       | 8.0   | A.D.B. |
|                                   | 12.0  |        | 12.8  | 17.1   | 70.1   | 0.57 | 41.6       | 8.0   | D.B.   |
| 1.50-1.60                         | 7.0   | 0.7    | 19.3  |        |        |      | 48.6       | 9.6   | A.D.B. |
|                                   | 7.0   |        | 19.4  |        |        |      | 48.6       | 9.7   | D.B.   |
| +1.60                             | 51.4  | 0.9    | 73.3  |        |        |      | 100.0      | 42.4  | A.D.B. |
|                                   | 51.4  |        | 74.0  |        |        |      | 100.0      | 42.7  | D.B.   |

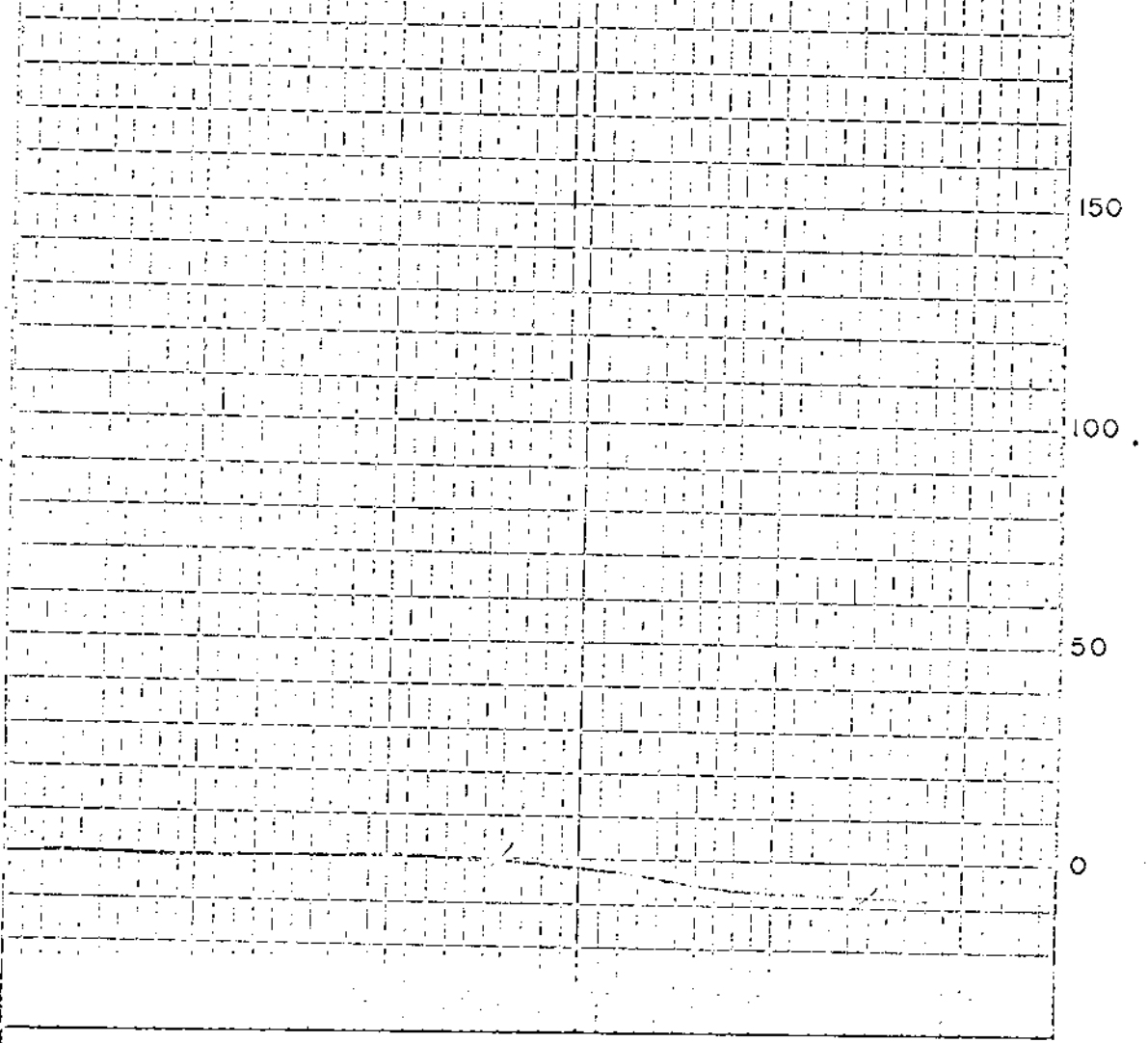
| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                      |                  |                |        |
|---|------------|---------------------------------------|----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                      |                  |                |        |
|   |            | SOFTENING TEMP* (°C)                  | MAX. DIL. TEMP* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 1 1/2   | 0.08       | 414                                   | ---                  | 8% @ 482°C       | ---            | ---    |

\* S.T. & M.D.T. corrected with factor 6/5

*Birtley Engineering*

*Subsidiary of Great West Steel Industries*

Lab. No. 8969 Date May 3, 1977 %  
 Client: ELCO MINING LTD. 300  
 Sample Identification: R77-5-8  
 Starting Temperature °C: 320  
 Softening Temperature °C: 414  
 Max. Dilatation Temp. °C: --- 250  
 Contraction %: 8% @ 482°  
 Dilatation %: ---  
 Final Temperature °C: ---  
 G. Factor: --- 200



**BIRTLEY ENGINEERING (CANADA) LTD.**

|                       |       |
|-----------------------|-------|
| Title                 | Date  |
| RUHR DILATOMETER TEST | Drawn |

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-6-1

Lab. No. 8850

DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.7               | 62.8  | 14.4   | 22.1   | 0.33 | 62     | Air Dried Basis |
|                   | 63.2  | 14.5   | 22.3   | 0.33 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 93.8  | 0.8    | 64.2  | 0.32 | 93.8       | 64.2  | 0.32 | A.D.B. |
|                     | 93.8  |        | 64.7  | 0.32 | 93.8       | 64.7  | 0.32 | D.B.   |
| 65M x 0             | 6.1   | 0.8    | 40.8  | 0.56 | 100.0      | 62.7  | 0.33 | A.D.B. |
|                     | 6.1   |        | 41.1  | 0.56 | 100.0      | 63.2  | 0.33 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 6.3   | 0.7    | 4.8   | 22.1   | 72.4   | 0.90 | 6.3        | 4.8   | A.D.B. |
|                                   | 6.3   |        | 4.8   | 22.3   | 72.9   | 0.91 | 6.3        | 4.8   | D.B.   |
| 1.40-1.50                         | 2.0   | 0.8    | 18.0  | 18.8   | 62.4   | 0.74 | 8.3        | 8.0   | A.D.B. |
|                                   | 2.0   |        | 18.1  | 19.0   | 62.9   | 0.75 | 8.3        | 8.0   | D.B.   |
| 1.50-1.60                         | 2.6   | 0.8    | 27.7  |        |        |      | 10.9       | 12.7  | A.D.B. |
|                                   | 2.6   |        | 27.9  |        |        |      | 10.9       | 12.8  | D.B.   |
| +1.60                             | 89.1  | 0.8    | 70.5  |        |        |      | 100.0      | 64.2  | A.D.B. |
|                                   | 89.1  |        | 71.1  |        |        |      | 100.0      | 64.7  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                      |                  |                |        |
|---|------------|---------------------------------------|----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                      |                  |                |        |
|   |            | SOFTENING TEMP. (°C)                  | MAX. DIL. TEMP. (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 9   | 0.03       | 374                                   | 464                  | 30               | 154            | 1.078  |

\* S.T. & M.D.T. corrected with factor 6/5

*Birtley Engineering*

*Subsidiary of Great West Steel Industries*



Lab. No. 8850 Date April 21, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-6-1

Starting Temperature °C: 320

Softening Temperature °C: 374

Max. Dilatation Temp. °C: 464

250

Contraction %: 30

Dilatation %: 154

Final Temperature °C:

G. Factor: 1.078

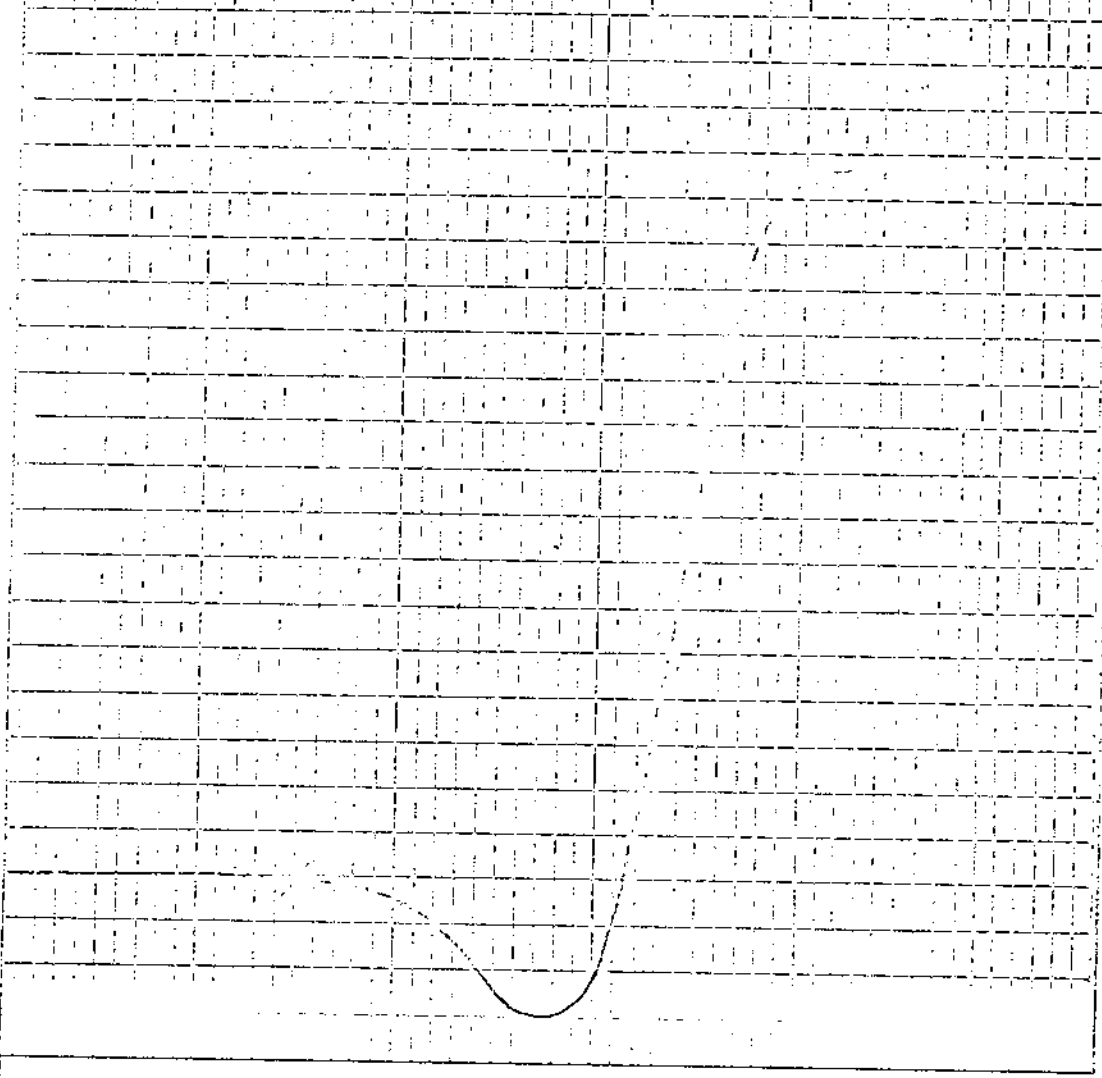
200

150

100

50

0



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-6-2

Lab. No. 8851

DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.7               | 68.4  | 10.4   | 20.5   | 0.35 | 55     | Air Dried Basis |
|                   | 68.9  | 10.5   | 20.6   | 0.35 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 90.2  | 1.5    | 71.0  | 0.32 | 90.2       | 71.0  | 0.32 | A.D.B. |
|                     | 90.1  |        | 72.1  | 0.32 | 90.1       | 72.1  | 0.32 | D.B.   |
| 65M x 0             | 9.8   | 0.8    | 41.0  | 0.63 | 100.0      | 68.1  | 0.35 | A.D.B. |
|                     | 9.9   |        | 41.3  | 0.64 | 100.0      | 69.1  | 0.35 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 8.1   | 0.9    | 4.1   | 22.2   | 72.8   | 1.00 | 8.1        | 4.1   | A.D.B. |
|                                   | 8.2   |        | 4.1   | 22.4   | 73.5   | 1.01 | 8.2        | 4.1   | D.B.   |
| 1.40-1.50                         | 2.5   | 1.3    | 12.5  | 20.5   | 65.7   | 0.90 | 10.6       | 6.1   | A.D.B. |
|                                   | 2.5   |        | 12.7  | 20.8   | 66.5   | 0.91 | 10.7       | 6.1   | D.B.   |
| 1.50-1.60                         | 0.6   | 1.3    | 24.7  |        |        |      | 11.2       | 7.1   | A.D.B. |
|                                   | 0.6   |        | 25.0  |        |        |      | 11.3       | 7.1   | D.B.   |
| +1.60                             | 88.8  | 1.7    | 79.1  |        |        |      | 100.0      | 71.0  | A.D.B. |
|                                   | 88.7  |        | 80.5  |        |        |      | 100.0      | 72.2  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                      |                  |                |        |
|---|------------|---------------------------------------|----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                      |                  |                |        |
|   |            | SOFTENING TEMP.*(°C)                  | MAX. DIL. TEMP.*(°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 9   | 0.04       | 379                                   | 464                  | 28               | 172            | 1.078  |

\* S.T. & M.D.T. corrected with factor 6/5

Lab. No. 8351 Date April 21, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-6-2

Starting Temperature °C: 320

Softening Temperature °C: 379

Max. Dilatation Temp. °C: 464

250

Contraction %: 28

Dilatation %: 172

Final Temperature °C:

G. Factor: 1.078

200

150

100

50

0



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-6-3 Lab. No. 8852 DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 1.2               | 25.1  | 15.7   | 58.0   | 0.45 | 100    | Air Dried Basis |
|                   | 25.4  | 15.9   | 58.7   | 0.46 | ---    | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 56.6  | 1.3    | 32.1  | 0.44 | 56.6       | 32.1  | 0.44 | A.D.B. |
|                     | 56.6  |        | 32.5  | 0.45 | 56.6       | 32.5  | 0.45 | D.B.   |
| 65M x 0             | 43.4  | 1.0    | 14.7  | 0.53 | 100.0      | 24.5  | 0.48 | A.D.B. |
|                     | 43.4  |        | 14.8  | 0.54 | 100.0      | 24.8  | 0.49 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 33.6  | 1.3    | 4.5   | 20.0   | 74.2   | 0.74 | 33.6       | 4.5   | A.D.B. |
|                                   | 33.6  |        | 4.6   | 20.3   | 75.1   | 0.75 | 33.6       | 4.6   | D.B.   |
| 1.40-1.50                         | 18.1  | 1.1    | 11.6  | 18.4   | 68.9   | 0.67 | 51.7       | 7.0   | A.D.B. |
|                                   | 18.1  |        | 11.7  | 18.5   | 69.7   | 0.68 | 51.7       | 7.1   | D.B.   |
| 1.50-1.60                         | 9.7   | 1.0    | 18.8  |        |        |      | 61.4       | 8.9   | A.D.B. |
|                                   | 9.7   |        | 19.0  |        |        |      | 61.4       | 9.0   | D.B.   |
| +1.60                             | 38.6  | 1.4    | 69.0  |        |        |      | 100.0      | 32.1  | A.D.B. |
|                                   | 38.6  |        | 70.0  |        |        |      | 100.0      | 32.5  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                       |                  |                |     |        |
|---|------------|---------------------------------------|-----------------------|------------------|----------------|-----|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                       |                  |                |     | G. NO. |
|   |            | SOFTENING TEMP.* (°C)                 | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % |     |        |
| 4   | 0.05       | 398                                   | ---                   | 22% @ 460°C      | ---            | --- |        |

Lab. No. 2852 Date April 21, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-6-3

Starting Temperature °C: 320

Softening Temperature °C: 398

Max. Dilatation Temp. °C: ---

Contraction %: 22% @ 460°

Dilatation %: ---

Final Temperature °C: ---

G. Factor: ---

250

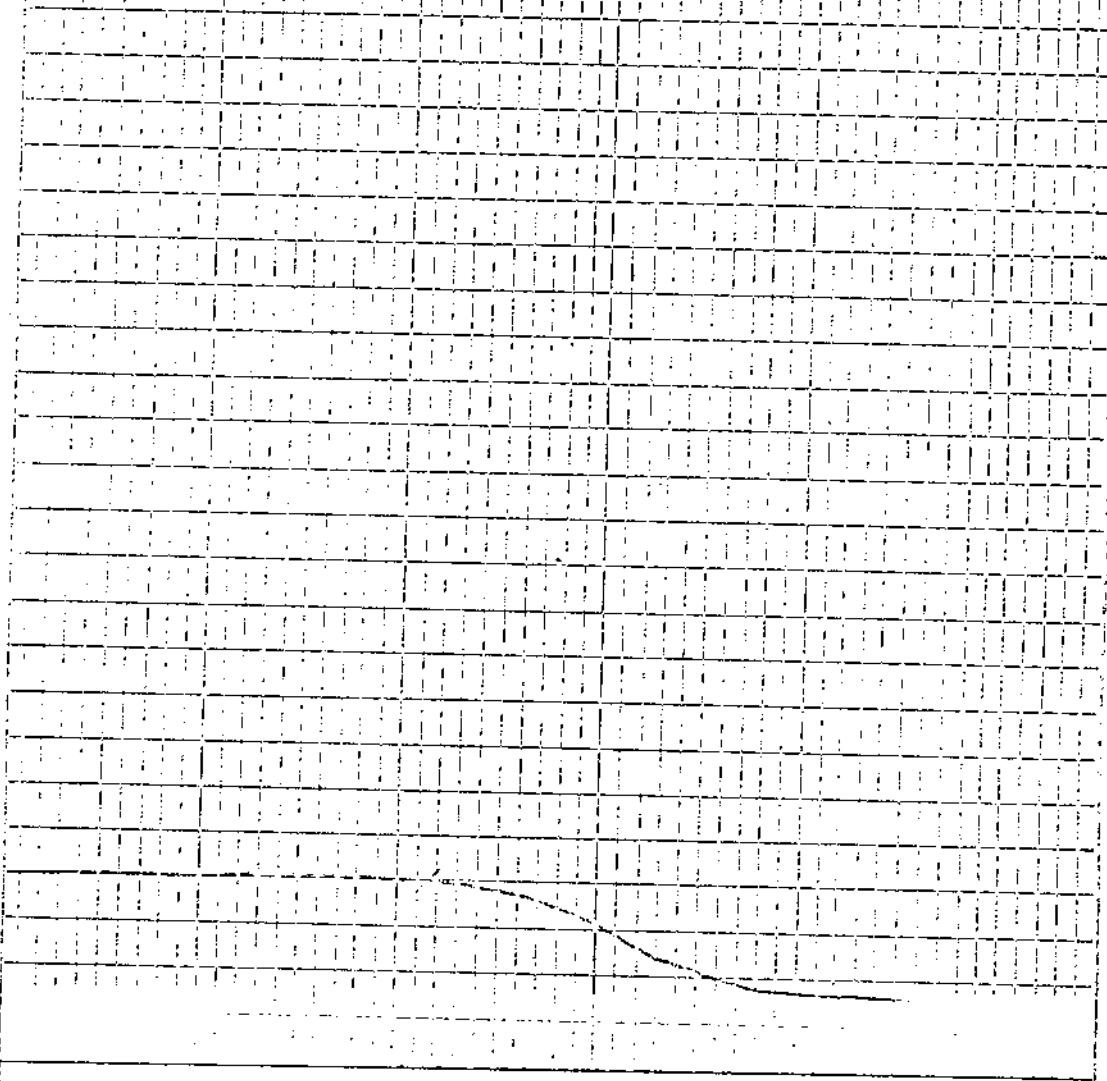
200

150

100

50

0



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-6-4 Lab. No. 8853 DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.8               | 34.8  | 15.5   | 48.9   | 0.51 | 89     | Air Dried Basis |
|                   | 35.1  | 15.6   | 49.3   | 0.51 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 75.7  | 1.2    | 38.9  | 0.48 | 75.7       | 38.9  | 0.48 | A.D.B. |
|                     | 75.6  |        | 39.4  | 0.49 | 75.6       | 39.4  | 0.49 | D.B.   |
| 65M x 0             | 24.3  | 0.7    | 19.1  | 0.57 | 100.0      | 34.1  | 0.50 | A.D.B. |
|                     | 24.4  |        | 19.2  | 0.57 | 100.0      | 34.5  | 0.51 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 32.9  | 0.8    | 6.5   | 18.5   | 74.2   | 0.70 | 32.9       | 6.5   | A.D.B. |
|                                   | 33.1  |        | 6.6   | 18.6   | 74.8   | 0.71 | 33.1       | 6.6   | D.B.   |
| 1.40-1.50                         | 15.1  | 0.9    | 11.9  | 17.7   | 69.5   | 0.64 | 48.0       | 8.2   | A.D.B. |
|                                   | 15.1  |        | 12.0  | 17.9   | 70.1   | 0.65 | 48.2       | 8.3   | D.B.   |
| 1.50-1.60                         | 5.8   | 1.1    | 18.9  |        |        |      | 53.8       | 9.4   | A.D.B. |
|                                   | 5.8   |        | 19.1  |        |        |      | 54.0       | 9.5   | D.B.   |
| +1.60                             | 46.2  | 1.5    | 71.4  |        |        |      | 100.0      | 38.0  | A.D.B. |
|                                   | 46.0  |        | 72.5  |        |        |      | 100.0      | 38.5  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                      |                  |                |        |
|---|------------|---------------------------------------|----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                      |                  |                |        |
|   |            | SOFTENING TEMP* (°C)                  | MAX. DIL. TEMP* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 2 1/2   | 0.03       | 410                                   | ---                  | 12% @ 471°C      | ---            | ---    |

\* S.T. & M.D.T. corrected with factor 6/5

Lab. No. 8853 Date April 21, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-6-4

Starting Temperature °C: 320

Softening Temperature °C: 410

Max. Dilatation Temp. °C: ---

Contraction %: 12% @ 471°

Dilatation %: ---

Final Temperature °C: ---

G. Factor: ---

250

200

150

100

50

0



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-6-5

Lab. No. 8854

DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 1.0               | 76.8  | 8.9    | 13.3   | 0.27 | 50     | Air Dried Basis |
|                   | 77.6  | 9.0    | 13.4   | 0.27 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 86.1  | 1.1    | 81.1  | 0.25 | 86.1       | 81.1  | 0.25 | A.D.B. |
|                     | 86.1  |        | 82.0  | 0.25 | 86.1       | 82.0  | 0.25 | D.B.   |
| 65M x 0             | 13.9  | 0.8    | 47.3  | 0.50 | 100.0      | 76.4  | 0.28 | A.D.B. |
|                     | 13.9  |        | 47.7  | 0.50 | 100.0      | 77.2  | 0.28 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 5.3   | 1.0    | 6.9   | 19.9   | 72.2   | 0.79 | 5.3        | 6.9   | A.D.B. |
|                                   | 5.3   |        | 7.0   | 20.1   | 72.9   | 0.80 | 5.3        | 7.0   | D.B.   |
| 1.40-1.50                         | 2.2   | 0.9    | 15.4  | 17.7   | 66.0   | 0.72 | 7.5        | 9.4   | A.D.B. |
|                                   | 2.2   |        | 15.5  | 17.9   | 66.6   | 0.73 | 7.5        | 9.5   | D.B.   |
| 1.50-1.60                         | 1.5   | 0.9    | 24.7  |        |        |      | 9.0        | 11.9  | A.D.B. |
|                                   | 1.5   |        | 24.9  |        |        |      | 9.0        | 12.1  | D.B.   |
| +1.60                             | 91.0  | 1.1    | 87.9  |        |        |      | 100.0      | 81.1  | A.D.B. |
|                                   | 91.0  |        | 88.9  |        |        |      | 100.0      | 82.0  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                      |                  |                |        |
|---|------------|---------------------------------------|----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                      |                  |                |        |
|   |            | SOFTENING TEMP.*(°C)                  | MAX. DIL. TEMP.*(°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 7 1/2   | 0.12       | 390                                   | 474                  | 18               | 6              | 0.954  |

\* S.T. & M.D.T. corrected with factor = 6/5



Lab. No. 8854 Date April 21, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-6-5

Starting Temperature °C: 320

Softening Temperature °C: 390

Max. Dilatation Temp. °C: 474

Contraction %: 18

Dilatation %: 6

Final Temperature °C: \_\_\_\_\_

G. Factor: 0.954

250

200

150

100

50

0



**BIRTLEY ENGINEERING (CANADA) LTD.**

Title

**RUHR DILATOMETER TEST**

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R - 77 - 6 - 6 Lab. No.: 77 - 4082 Date: May 12, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.7               | 50.1  | 14.0  | 35.2  | 0.24 | 73.3   | Air Dried Basis |
| --                | 50.5  | 14.1  | 35.4  | 0.24 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 86.5 | 0.7   | 52.7  | 0.22 | 86.5       | 52.7  | 0.22 | A.D.B. |
|                     | 86.5 | --    | 53.1  | 0.22 | 86.5       | 53.1  | 0.22 | D.B.   |
| 65 x 0              | 13.5 | 0.6   | 22.6  | 0.33 | 100.0      | 48.6  | 0.23 | A.D.B. |
|                     | 13.5 | --    | 22.7  | 0.33 | 100.0      | 49.0  | 0.23 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 30.0 | 1.0   | 7.6  | 18.6  | 72.8  | 0.42 | 30.0       | 7.6  | A.D.B. |
|                                  | 30.0 | --    | 7.7  | 18.8  | 73.5  | 0.42 | 30.0       | 7.7  | D.B.   |
| 1.40-1.50                        | 4.4  | 0.8   | 13.6 | 17.0  | 63.6  | 0.33 | 34.4       | 9.0  | A.D.B. |
|                                  | 4.4  | --    | 18.7 | 17.1  | 64.2  | 0.33 | 34.4       | 9.1  | D.B.   |
| 1.50-1.60                        | 3.2  | 0.8   | 23.7 | --    | --    | --   | 37.6       | 10.3 | A.D.B. |
|                                  | 3.2  | --    | 23.9 | --    | --    | --   | 37.6       | 10.4 | D.B.   |
| +1.60                            | 62.4 | 1.0   | 78.0 | --    | --    | --   | 100.0      | 52.5 | A.D.B. |
|                                  | 62.4 | --    | 78.7 | --    | --    | --   | 100.0      | 53.0 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |            |            |          |         |       |
|--|-------------------|------------|------------|----------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening  | Max. Dil.  | Maximum  | Maximum | G.No. |
|  |                   | Temp. (°C) | Temp. (°C) | Contr. % | Dil. %  |       |
| 1  | 0.035             |            |            |          |         |       |

Lab. No. 77-4082 Date July 5/77  
 Client: Elco Mining Ltd.  
 Sample Identification: R - 77 - 6 - 6  
 Starting Temperature °C: 350  
 Softening Temperature °C: 427  
 Max. Dilatation Temp. °C: \_\_\_\_\_  
 Contraction %: \_\_\_\_\_ 8% @ 497  
 Dilatation %: \_\_\_\_\_  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: \_\_\_\_\_



Title

RUHR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R 77 - 7 - 1 Lab. No.: 77 - 4083 Date: May 13, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.5               | 34.1  | 17.4  | 48.0  | 0.38 | 80.2   | Air Dried Basis |
| --                | 34.3  | 17.5  | 48.2  | 0.38 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 90.2 | 0.5   | 33.6  | 0.37 | 90.2       | 33.6  | 0.37 | A.D.B. |
|                     | 90.2 | --    | 33.8  | 0.37 | 90.2       | 33.8  | 0.37 | D.B.   |
| 65 x 0              | 9.8  | 0.6   | 34.8  | 0.39 | 100.0      | 33.7  | 0.37 | A.D.B. |
|                     | 9.8  | --    | 35.0  | 0.39 | 100.0      | 33.9  | 0.37 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 55.7 | 0.7   | 7.0  | 19.0  | 73.3  | 0.55 | 55.7       | 7.0  | A.D.B. |
|                                  | 55.7 | --    | 7.1  | 19.1  | 73.8  | 0.55 | 55.7       | 7.1  | D.B.   |
| 1.40-1.50                        | 4.2  | 0.6   | 18.2 | 17.2  | 64.0  | 0.45 | 59.9       | 7.8  | A.D.B. |
|                                  | 4.2  | --    | 18.3 | 17.3  | 64.4  | 0.45 | 59.9       | 7.9  | D.B.   |
| 1.50-1.60                        | 2.7  | 0.6   | 25.9 | --    | --    | --   | 62.6       | 8.6  | A.D.B. |
|                                  | 2.7  | --    | 26.0 | --    | --    | --   | 62.6       | 8.7  | D.B.   |
| +1.60                            | 37.4 | 0.5   | 73.4 | --    | --    | --   | 100.0      | 32.8 | A.D.B. |
|                                  | 37.4 | --    | 73.8 | --    | --    | --   | 100.0      | 33.0 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |                         |                         |                     |                   |       |
|--|-------------------|-------------------------|-------------------------|---------------------|-------------------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening<br>Temp. (°C) | Max. Dil.<br>Temp. (°C) | Maximum<br>Contr. % | Maximum<br>Dil. % | G.No. |
| 1½   | 0.015             |                         |                         |                     |                   |       |

Lab No. 77-4083 Date July 5/77

Client: Elco Mining Ltd.

Sample Identification: R77 - 7 - 1

Starting Temperature °C: 350

Softening Temperature °C: 422

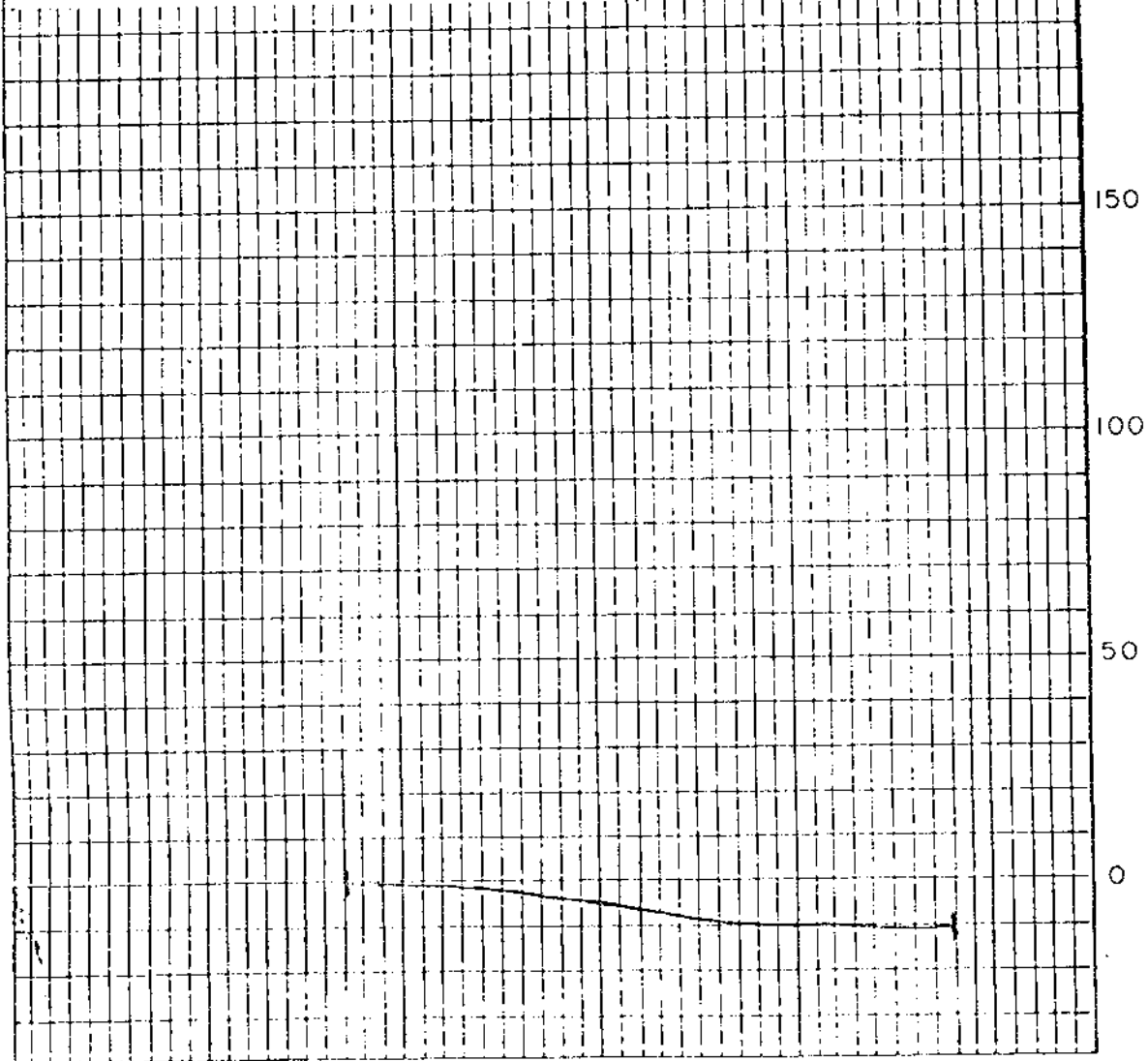
Max. Dilatation Temp. °C: \_\_\_\_\_

Contraction %: 11% @ 496

Dilatation %: \_\_\_\_\_

Final Temperature °C: \_\_\_\_\_

G. Factor: \_\_\_\_\_



Title

RUHR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R 77 - 7 - 2      Lab. No.: 77 - 4084      Date: May 12, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.6               | 73.6  | 9.2   | 16.6  | 0.37 | 51.1   | Air Dried Basis |
| --                | 74.1  | 9.3   | 16.6  | 0.37 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 91.4 | 0.7   | 76.6  | 0.34 | 91.4       | 76.6  | 0.34 | A.D.B. |
|                     | 91.4 | --    | 77.1  | 0.34 | 91.4       | 77.1  | 0.34 | D.B.   |
| 65 x 0              | 8.6  | 0.6   | 57.3  | 0.44 | 100.0      | 74.9  | 0.35 | A.D.B. |
|                     | 8.6  | --    | 57.7  | 0.44 | 100.0      | 75.4  | 0.35 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 4.5  | 0.5   | 3.8  | 21.1  | 74.6  | 0.86 | 4.5        | 3.8  | A.D.B. |
|                                  | 4.5  | --    | 3.8  | 21.2  | 75.0  | 0.86 | 4.5        | 3.8  | D.B.   |
| 1.40-1.50                        | 0.7  | 0.5   | 10.3 | 20.8  | 68.4  | 0.69 | 5.2        | 4.7  | A.D.B. |
|                                  | 0.7  | --    | 10.4 | 20.9  | 68.7  | 0.69 | 5.2        | 4.7  | D.B.   |
| 1.50-1.60                        | 0.4  | 0.7   | 22.6 | --    | --    | --   | 5.6        | 6.0  | A.D.B. |
|                                  | 0.4  | --    | 22.7 | --    | --    | --   | 5.6        | 6.0  | D.B.   |
| +1.60                            | 94.4 | 0.6   | 80.5 | --    | --    | --   | 100.0      | 76.3 | A.D.B. |
|                                  | 94.4 | --    | 81.1 | --    | --    | --   | 100.0      | 76.9 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                      |                      |                  |                |       |
|--|-------------|----------------------|----------------------|------------------|----------------|-------|
| F.S.I.   | P % on Coal | Softening Temp. (°C) | Max. Dil. Temp. (°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 9  | 0.021       |                      |                      |                  |                |       |

Lab. No. 77-4084 Date July 5/77

Client: Elco Mining Ltd.

Sample Identification: R77 - 7 - 2

Starting Temperature °C: 380

Softening Temperature °C: 399

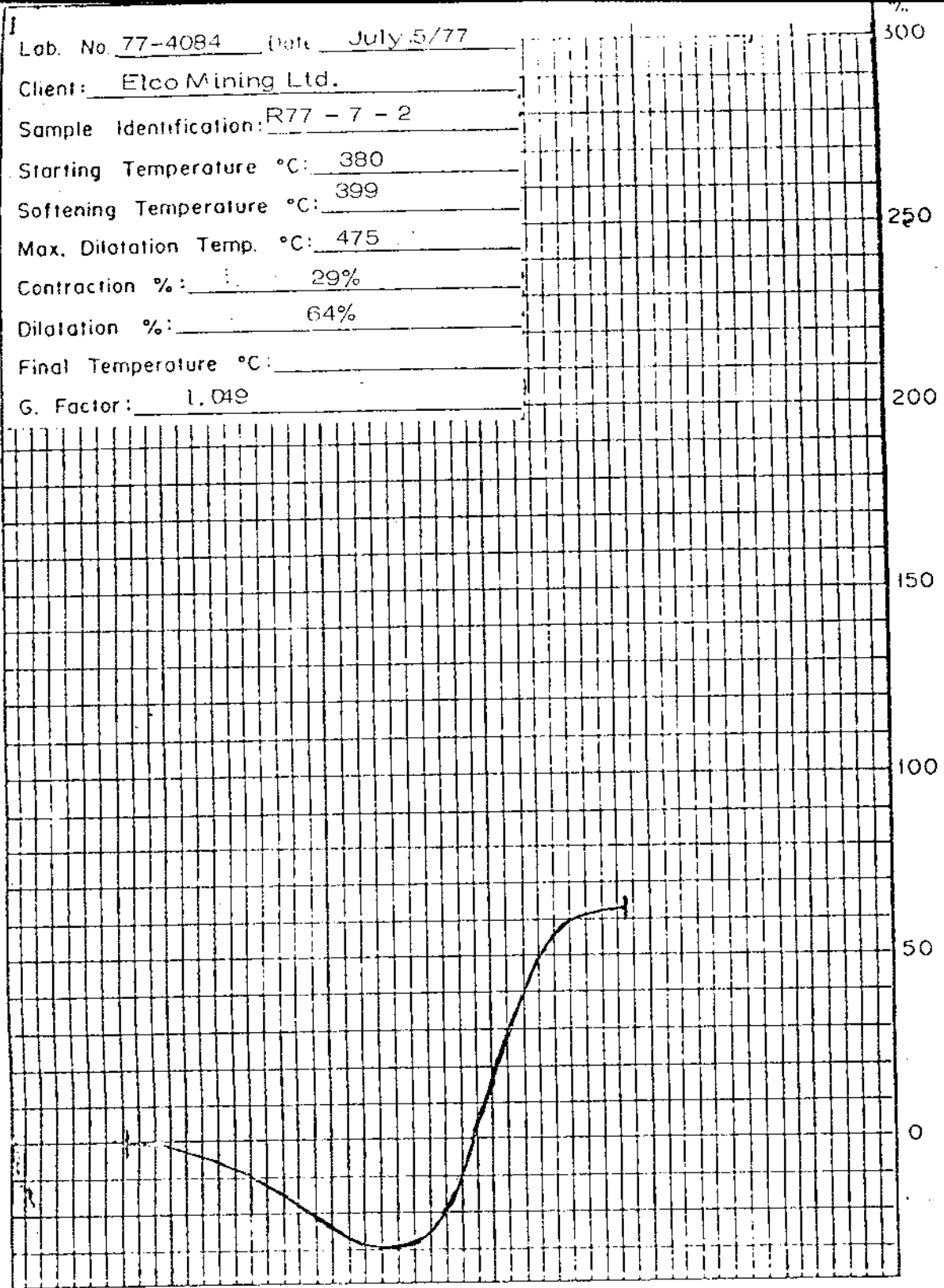
Max. Dilatation Temp. °C: 475

Contraction %: 29%

Dilatation %: 64%

Final Temperature °C:

G. Factor: 1.049



Title

RUHR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R 77 - 7 - 3      Lab. No.: 77 - 4085      Date: May 12, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.7               | 46.5  | 14.4  | 38.4  | 0.28 | 71.9   | Air Dried Basis |
| --                | 46.8  | 14.5  | 38.7  | 0.28 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 86.2 | 0.7   | 50.3  | 0.32 | 86.2       | 50.3  | 0.32 | A.D.B. |
|                     | 86.2 | --    | 50.7  | 0.32 | 86.2       | 50.7  | 0.32 | D.B.   |
| 65 x 0              | 13.8 | 0.6   | 28.6  | 0.43 | 100.0      | 47.3  | 0.33 | A.D.B. |
|                     | 13.8 | --    | 28.7  | 0.43 | 100.0      | 47.7  | 0.33 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 34.3 | 1.0   | 7.9  | 19.6  | 71.5  | 0.57 | 34.3       | 7.9  | A.D.B. |
|                                  | 34.3 | --    | 8.0  | 19.8  | 72.2  | 0.58 | 34.3       | 8.0  | D.B.   |
| 1.40-1.50                        | 3.6  | 0.9   | 16.9 | 18.1  | 64.1  | 0.42 | 37.9       | 8.8  | A.D.B. |
|                                  | 3.6  | --    | 17.0 | 18.3  | 64.7  | 0.42 | 37.9       | 8.9  | D.B.   |
| 1.50-1.60                        | 2.8  | 1.1   | 23.4 | --    | --    | --   | 40.7       | 9.8  | A.D.B. |
|                                  | 2.8  | --    | 23.6 | --    | --    | --   | 40.7       | 9.9  | D.B.   |
| +1.60                            | 59.3 | 0.9   | 77.3 | --    | --    | --   | 100.0      | 49.8 | A.D.B. |
|                                  | 59.3 | --    | 78.0 | --    | --    | --   | 100.0      | 50.3 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                      |                      |                  |                |       |
|--|-------------|----------------------|----------------------|------------------|----------------|-------|
| F.S.I.   | P % on Coal | Softening Temp. (°C) | Max. Dil. Temp. (°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 2%   | 0.029       |                      |                      |                  |                |       |



Lab. No. 77-4085 Date July 5/77

Client: Elco Mining Ltd.

Sample Identification: R77 - 7 - 3

Starting Temperature °C: 380

Softening Temperature °C: 401

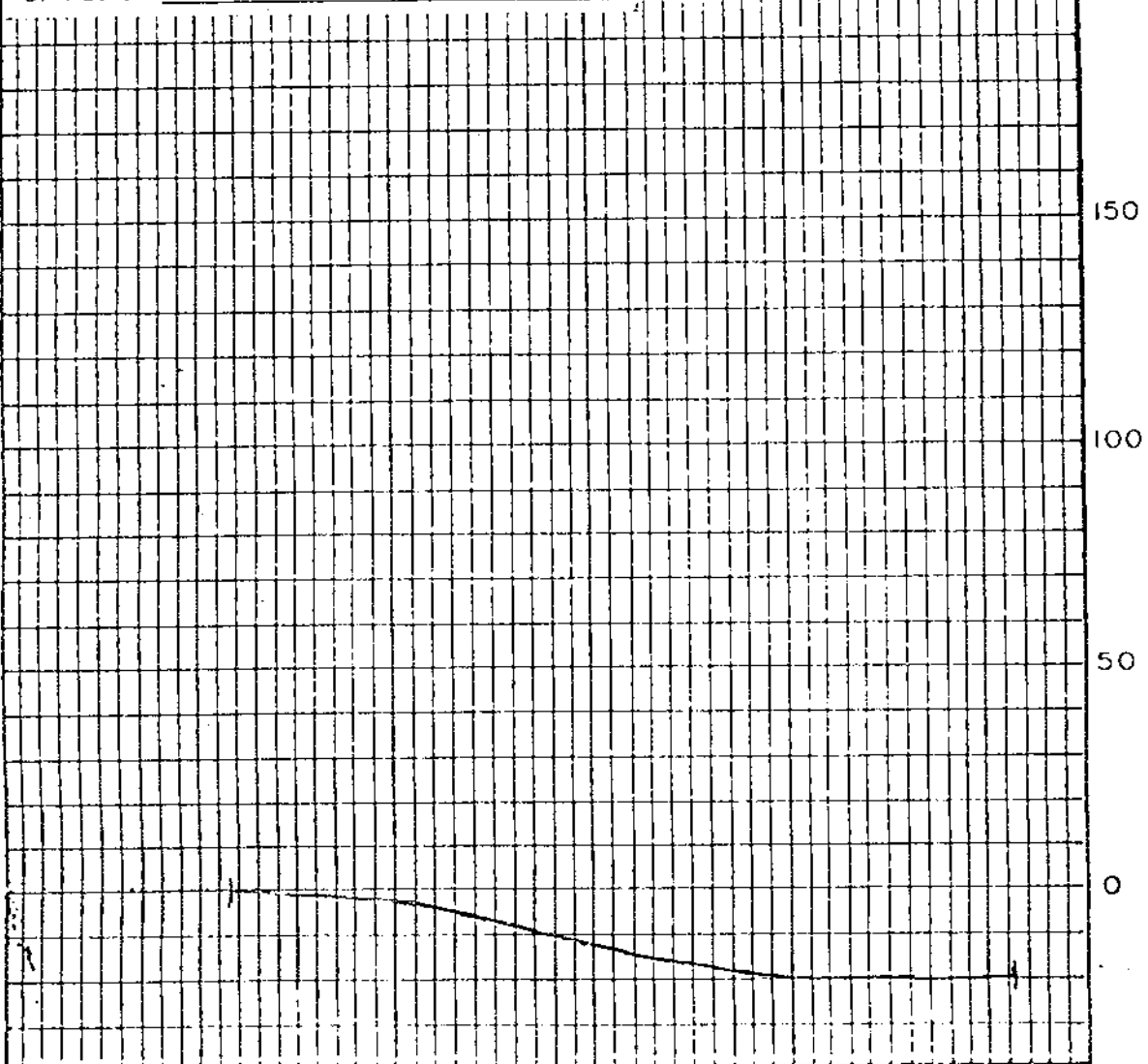
Max. Dilatation Temp. °C: \_\_\_\_\_

Contraction %: 20% @ 509

Dilatation %: \_\_\_\_\_

Final Temperature °C: \_\_\_\_\_

G. Factor: \_\_\_\_\_



Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-7-4

Lab. No. 8970

DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.8               | 68.7  | 9.4    | 21.1   | 0.32 | 62     | Air Dried Basis |
|                   | 69.3  | 9.5    | 21.2   | 0.32 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 89.4  | 0.8    | 71.3  | 0.28 | 89.4       | 71.3  | 0.28 | A.D.B. |
|                     | 89.4  |        | 71.9  | 0.28 | 89.4       | 71.9  | 0.28 | D.B.   |
| 65M x 0             | 10.6  | 0.7    | 44.9  | 0.48 | 100.0      | 68.5  | 0.30 | A.D.B. |
|                     | 10.6  |        | 45.2  | 0.48 | 100.0      | 69.1  | 0.30 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 9.1   | 0.5    | 5.7   | 20.3   | 73.5   | 0.78 | 9.1        | 5.7   | A.D.B. |
|                                   | 9.1   |        | 5.7   | 20.4   | 73.9   | 0.78 | 9.1        | 5.7   | D.B.   |
| 1.40-1.50                         | 3.4   | 0.5    | 18.5  | 17.3   | 63.7   | 0.62 | 12.5       | 9.2   | A.D.B. |
|                                   | 3.4   |        | 18.6  | 17.4   | 64.0   | 0.62 | 12.5       | 9.2   | D.B.   |
| 1.50-1.60                         | 2.3   | 0.5    | 30.6  |        |        |      | 14.8       | 12.5  | A.D.B. |
|                                   | 2.3   |        | 30.8  |        |        |      | 14.8       | 12.6  | D.B.   |
| +1.60                             | 85.2  | 0.8    | 81.5  |        |        |      | 100.0      | 71.3  | A.D.B. |
|                                   | 86.2  |        | 82.2  |        |        |      | 100.0      | 71.9  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                       |                  |                |       |        |
|---|------------|---------------------------------------|-----------------------|------------------|----------------|-------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                       |                  |                |       | G. NO. |
|   |            | SOFTENING TEMP. *(°C)                 | MAX. DIL. TEMP. *(°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % |       |        |
| 9   | 0.05       | 386                                   | 466                   | 28               | 68             | 1.041 |        |

\* S.T. & M.D.T. corrected with factor 6/5

Lab. No. 8979 Date May 3, 1977

Client: ELCO MINING LTD.

Sample Identification: R77-7-4

Starting Temperature °C: 320

Softening Temperature °C: 386

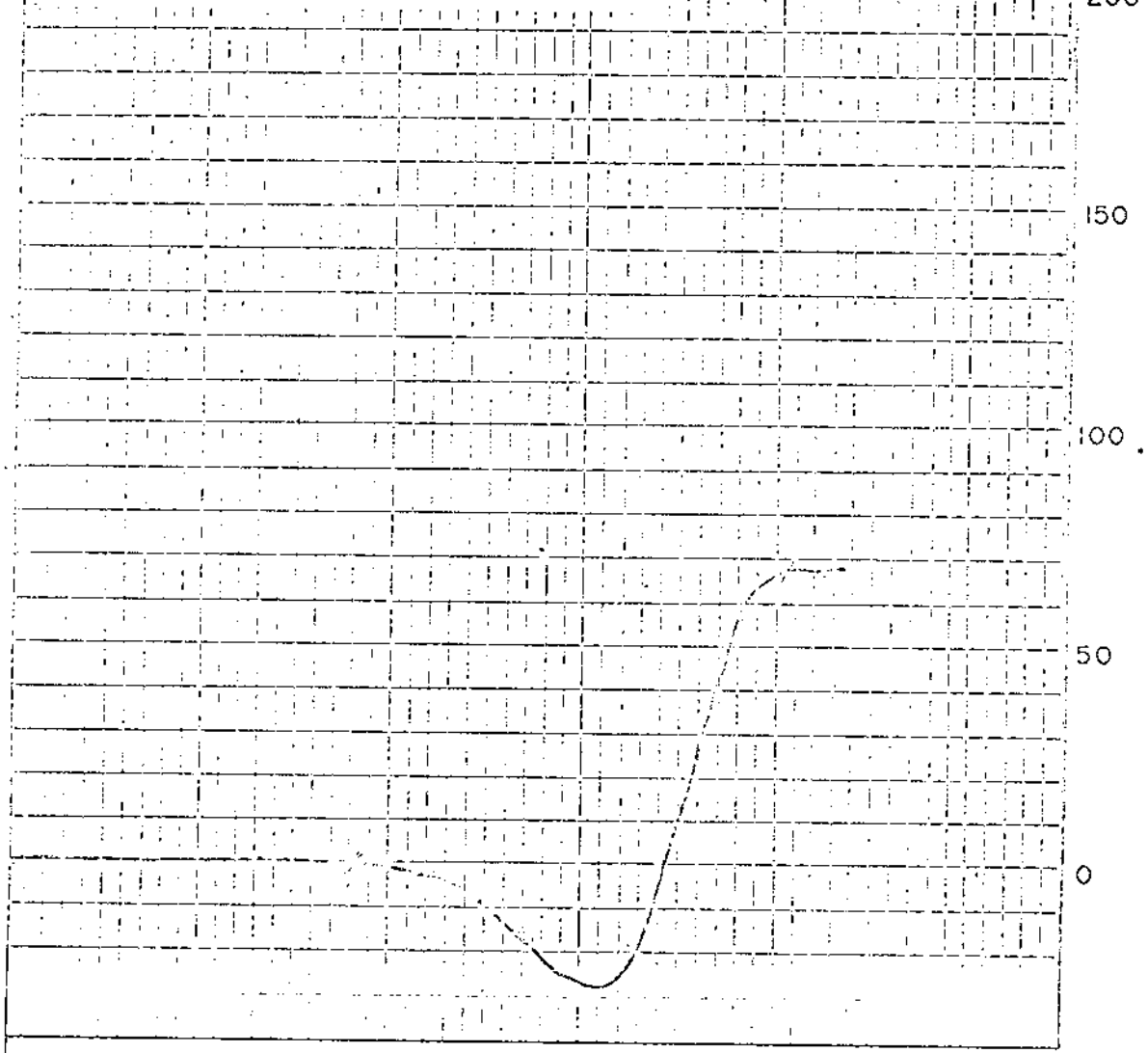
Max. Dilatation Temp. °C: 466

Contraction %: 28

Dilatation %: 68

Final Temperature °C: 1.041

G. Factor: 1.041



BENTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R-77-7-5

Lab. No. 8971

DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.9               | 77.3  | 8.5    | 13.3   | 0.36 | 53     | Air Dried Basis |
|                   | 78.0  | 8.6    | 13.4   | 0.36 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 91.8  | 0.8    | 79.0  | 0.37 | 91.8       | 79.0  | 0.37 | A.D.B. |
|                     | 91.8  |        | 79.6  | 0.37 | 91.8       | 79.6  | 0.37 | D.B.   |
| 65M x 0             | 8.2   | 0.8    | 50.6  | 0.64 | 100.0      | 76.7  | 0.39 | A.D.B. |
|                     | 8.2   |        | 51.0  | 0.65 | 100.0      | 77.3  | 0.39 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 3.6   | 0.8    | 2.6   | 22.8   | 73.8   | 1.01 | 3.6        | 2.6   | A.D.B. |
|                                   | 3.6   |        | 2.6   | 23.0   | 74.4   | 1.01 | 3.6        | 2.6   | D.B.   |
| 1.40-1.50                         | 1.1   | 0.9    | 11.4  | 22.5   | 65.2   | 1.01 | 4.7        | 4.7   | A.D.B. |
|                                   | 1.1   |        | 11.5  | 22.7   | 65.8   | 1.02 | 4.7        | 4.7   | D.B.   |
| 1.50-1.60                         | 0.7   | 1.0    | 26.7  |        |        |      | 5.4        | 7.5   | A.D.B. |
|                                   | 0.7   |        | 27.0  |        |        |      | 5.4        | 7.6   | D.B.   |
| +1.60                             | 94.6  | 0.8    | 82.8  |        |        |      | 100.0      | 78.7  | A.D.B. |
|                                   | 94.6  |        | 83.5  |        |        |      | 100.0      | 79.4  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                       |                  |                |        |
|---|------------|---------------------------------------|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP. *(°C)                 | MAX. DIL. TEMP. *(°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 9   | 0.01       | 381                                   | 464                   | 19               | 151            | 1.083  |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lab. No. 8971 Date May 3, 197

%  
300

Client: ELCO MINING LTD.

Sample Identification: S77-7-5

Starting Temperature °C: 320

Softening Temperature °C: 381

Max. Dilatation Temp. °C: 464

250

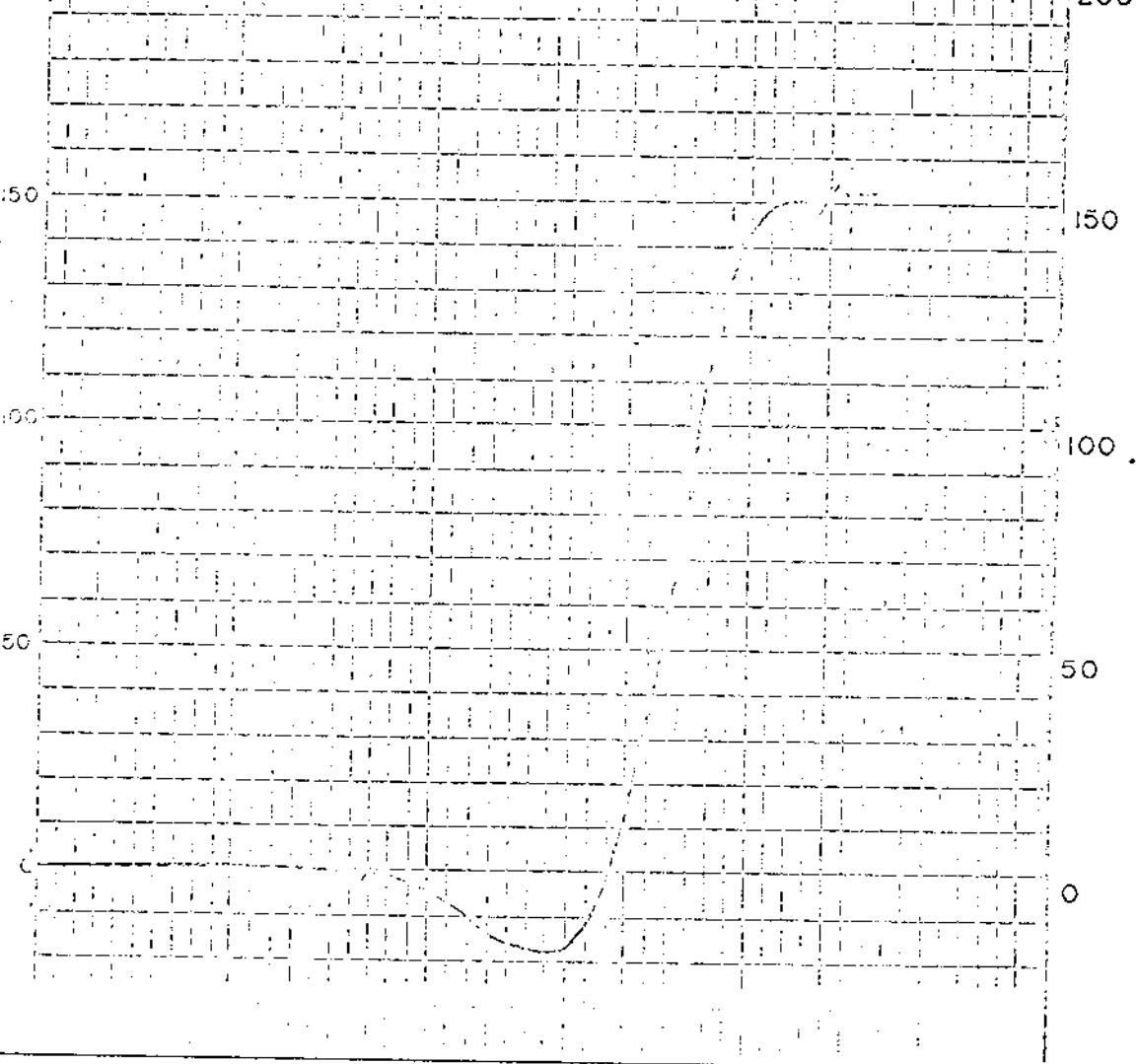
Contraction %: 19

Dilatation %: 151

Final Temperature °C:

G. Factor: 1.063

200



EMBLEY ENGINEERING (CANADA) LTD.

Title  
RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R-77-7-6

Lab. No. 8972

DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.6               | 44.9  | 13.8   | 40.7   | 0.28 | 70     | Air Dried Basis |
|                   | 45.2  | 13.9   | 40.9   | 0.28 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |         |
|---------------------|-------|--------|-------|------|------------|-------|------|---------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      | REMARKS |
|                     |       |        |       |      | WT. %      | ASH % | S. % |         |
| 1/4" x 65M          | 76.8  | 0.6    | 53.0  | 0.24 | 76.8       | 53.0  | 0.24 | A.D.B.  |
|                     | 76.8  |        | 53.3  | 0.24 | 76.8       | 53.3  | 0.24 | D.B.    |
| 65M x 0             | 23.2  | 0.6    | 20.2  | 0.46 | 100.0      | 45.4  | 0.29 | A.D.B.  |
|                     | 23.2  |        | 20.3  | 0.46 | 100.0      | 45.6  | 0.29 | D.B.    |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |         |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|---------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       | REMARKS |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |         |
| -1.40                             | 23.6  | 0.8    | 6.3   | 17.7   | 75.2   | 0.49 | 23.6       | 6.3   | A.D.B.  |
|                                   | 23.6  |        | 6.4   | 17.8   | 75.8   | 0.49 | 23.6       | 6.4   | D.B.    |
| 1.40-1.50                         | 13.2  | 0.7    | 13.7  | 16.8   | 68.8   | 0.48 | 36.8       | 9.0   | A.D.B.  |
|                                   | 13.2  |        | 13.8  | 16.9   | 69.3   | 0.48 | 36.8       | 9.1   | D.B.    |
| 1.50-1.60                         | 3.4   | 0.9    | 25.6  |        |        |      | 40.2       | 10.4  | A.D.B.  |
|                                   | 3.4   |        | 25.8  |        |        |      | 40.2       | 10.5  | D.B.    |
| +1.60                             | 59.8  | 0.8    | 82.0  |        |        |      | 100.0      | 53.2  | A.D.B.  |
|                                   | 59.8  |        | 82.7  |        |        |      | 100.0      | 53.7  | D.B.    |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                       |                  |                |     |        |
|---|------------|---------------------------------------|-----------------------|------------------|----------------|-----|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                       |                  |                |     | G. NO. |
|   |            | SOFTENING TEMP. *(°C)                 | MAX. DIL. TEMP. *(°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % |     |        |
| 1 1/2   | 0.05       | 417                                   | ---                   | 5% @ 475°C       | ---            | --- |        |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lab. No. 8972 Date May 3, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-7-6

Starting Temperature °C: 320

Softening Temperature °C: 417

Max. Dilatation Temp. °C: ---

Contraction %: 5% @ 475°

Dilatation %: ---

Final Temperature °C: ---

G. Factor: ---

250

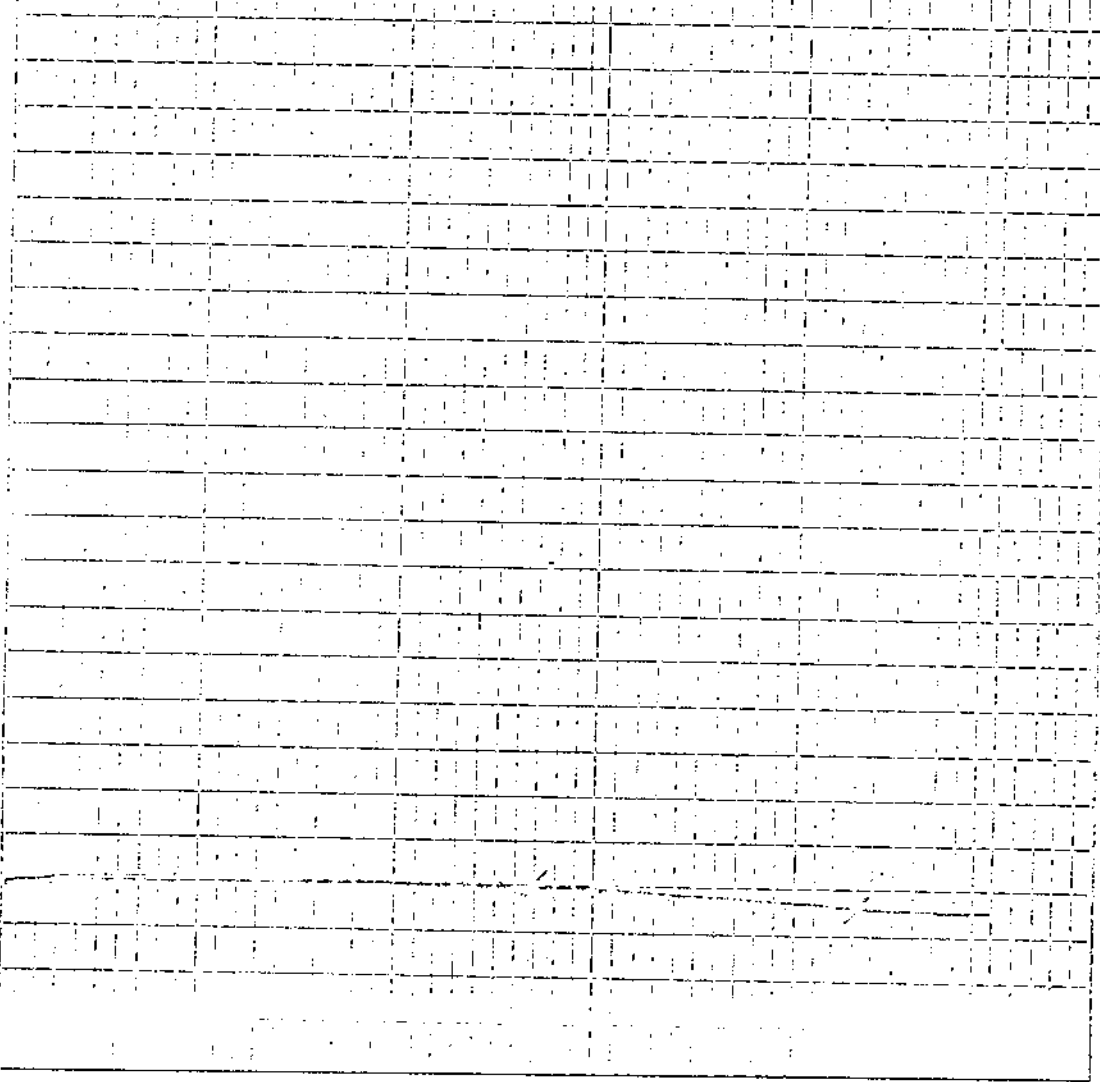
200

150

100

50

0



BENTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R 77 - 8 - 1      Lab. No.: 77 - 4086      Date: May 12, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.6               | 22.2  | 19.5  | 57.7  | 0.24 | 96.9   | Air Dried Basis |
| --                | 22.3  | 19.6  | 58.1  | 0.24 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 95.5 | 0.6   | 23.4  | 0.27 | 95.5       | 23.4  | 0.27 | A.D.B. |
|                     | 95.5 | --    | 23.6  | 0.27 | 95.5       | 23.6  | 0.27 | D.B.   |
| 65 x 0              | 4.5  | 0.6   | 10.0  | 0.33 | 100.0      | 22.8  | 0.27 | A.D.B. |
|                     | 4.5  | --    | 10.1  | 0.33 | 100.0      | 23.0  | 0.27 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 69.0 | 0.9   | 6.6  | 20.1  | 72.4  | 0.38 | 69.0       | 6.6  | A.D.B. |
|                                  | 69.0 | --    | 6.6  | 20.3  | 73.1  | 0.38 | 69.0       | 6.6  | D.B.   |
| 1.40-1.50                        | 3.5  | 0.7   | 19.7 | 18.2  | 61.4  | 0.29 | 72.5       | 7.2  | A.D.B. |
|                                  | 3.5  | --    | 19.8 | 18.3  | 61.9  | 0.29 | 72.5       | 7.2  | D.B.   |
| 1.50-1.60                        | 2.2  | 0.8   | 25.5 | --    | --    | --   | 74.7       | 7.8  | A.D.B. |
|                                  | 2.2  | --    | 25.7 | --    | --    | --   | 74.7       | 7.8  | D.B.   |
| +1.60                            | 25.3 | 0.6   | 67.9 | --    | --    | --   | 100.0      | 23.0 | A.D.B. |
|                                  | 25.3 | --    | 68.3 | --    | --    | --   | 100.0      | 23.1 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |            |            |          |         |       |
|--|-------------------|------------|------------|----------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening  | Max. Dil.  | Maximum  | Maximum | G.No. |
|  |                   | Temp. (°C) | Temp. (°C) | Contr. % | Dil. %  |       |
| 2½   | 0.019             |            |            |          |         |       |



016

1  
 Lab No. 77-4086 Date July 5/77  
 Client: Elco Mining Ltd.  
 Sample Identification: R77 - 8 - 1  
 Starting Temperature °C: 370  
 Softening Temperature °C: 425  
 Max. Dilatation Temp. °C: \_\_\_\_\_  
 Contraction %: 12% @ 502  
 Dilatation %: \_\_\_\_\_  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: \_\_\_\_\_

%  
 300  
 250  
 200  
 150  
 100  
 50  
 0



Title  
 RUHR DILATOMETER TEST

Date  
 Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R77 - 8 - 2 Lab. No.: 77 - 4087 Date: May 13, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.5               | 18.8  | 20.2  | 60.5  | 0.30 | 94.1   | Air Dried Basis |
| --                | 18.9  | 20.3  | 60.8  | 0.30 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 93.3 | 0.6   | 20.0  | 0.28 | 93.3       | 20.0  | 0.28 | A.D.B. |
|                     | 93.3 | --    | 20.1  | 0.28 | 93.3       | 20.1  | 0.28 | D.B.   |
| 65 x 0              | 6.7  | 0.6   | 9.8   | 0.37 | 100.0      | 19.3  | 0.29 | A.D.B. |
|                     | 6.7  | --    | 9.8   | 0.37 | 100.0      | 19.4  | 0.29 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 74.8 | 0.9   | 6.4  | 20.2  | 72.5  | 0.44 | 74.8       | 6.4  | A.D.B. |
|                                  | 74.9 | --    | 6.5  | 20.4  | 73.1  | 0.44 | 74.9       | 6.5  | D.B.   |
| 1.40-1.50                        | 2.1  | 0.7   | 18.9 | 18.2  | 62.2  | 0.28 | 76.9       | 6.7  | A.D.B. |
|                                  | 2.1  | --    | 19.0 | 18.4  | 62.6  | 0.28 | 77.0       | 6.8  | D.B.   |
| 1.50-1.60                        | 2.8  | 0.7   | 24.1 | --    | --    | --   | 79.7       | 7.4  | A.D.B. |
|                                  | 2.8  | --    | 24.3 | --    | --    | --   | 79.8       | 7.5  | D.B.   |
| +1.60                            | 20.3 | 0.4   | 66.4 | --    | --    | --   | 100.0      | 19.3 | A.D.B. |
|                                  | 20.2 | --    | 66.7 | --    | --    | --   | 100.0      | 19.4 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                      |                      |                  |                |       |
|--|-------------|----------------------|----------------------|------------------|----------------|-------|
| F.S.I.   | P % on Coal | Softening Temp. (°C) | Max. Dil. Temp. (°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 2  | 0.025       |                      |                      |                  |                |       |

Lab. No. 77-4087 Date July 5/77

Client: Elco Mining Ltd.

Sample Identification: R77 - 8 - 2

Starting Temperature °C: 370

Softening Temperature °C: 409

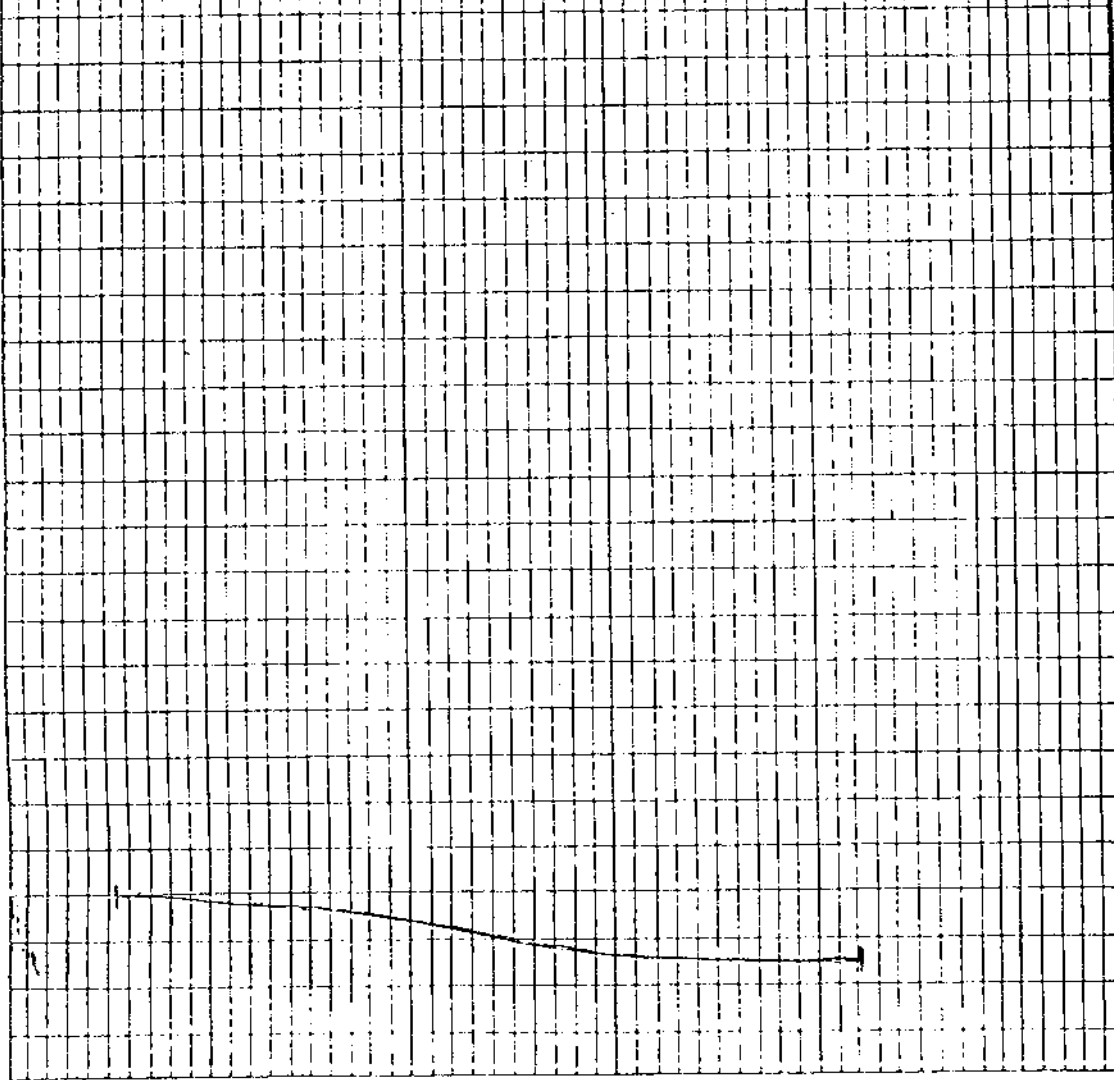
Max. Dilatation Temp. °C: \_\_\_\_\_

Contraction %: 14% @ 502

Dilatation %: \_\_\_\_\_

Final Temperature °C: \_\_\_\_\_

G. Factor: \_\_\_\_\_



Title RUHR DILATOMETER TEST

Date \_\_\_\_\_

Drawn \_\_\_\_\_

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R77 - 8 - 3 Lab. No.: 77 - 4088 Date: May 12, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.5               | 34.6  | 16.4  | 48.5  | 0.38 | 76.1   | Air Dried Basis |
| --                | 34.8  | 16.5  | 48.7  | 0.38 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 97.1 | 0.6   | 34.6  | 0.38 | 97.1       | 34.6  | 0.38 | A.D.B. |
|                     | 97.1 | --    | 34.8  | 0.38 | 97.1       | 34.8  | 0.38 | D.B.   |
| 65 x 0              | 2.9  | 0.6   | 16.9  | 0.53 | 100.0      | 34.1  | 0.38 | A.D.B. |
|                     | 2.9  | --    | 17.0  | 0.53 | 100.0      | 34.3  | 0.38 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 51.8 | 0.7   | 7.3  | 19.3  | 72.7  | 0.59 | 51.8       | 7.3  | A.D.B. |
|                                  | 51.8 | --    | 7.4  | 19.4  | 73.2  | 0.59 | 51.8       | 7.4  | D.B.   |
| 1.40-1.50                        | 3.3  | 0.5   | 19.3 | 17.6  | 62.6  | 0.42 | 55.1       | 8.0  | A.D.B. |
|                                  | 3.3  | --    | 19.4 | 17.7  | 62.9  | 0.42 | 55.1       | 8.1  | D.B.   |
| 1.50-1.60                        | 3.9  | 0.7   | 25.4 | --    | --    | --   | 59.0       | 9.2  | A.D.B. |
|                                  | 3.9  | --    | 25.6 | --    | --    | --   | 59.0       | 9.3  | D.B.   |
| +1.60                            | 41.0 | -0.6  | 71.6 | --    | --    | --   | 100.0      | 34.8 | A.D.B. |
|                                  | 41.0 | --    | 72.1 | --    | --    | --   | 100.0      | 35.0 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |                        |                       |                    |                   |       |
|--|-------------------|------------------------|-----------------------|--------------------|-------------------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening<br>Temp.(°C) | Max.Dil.<br>Temp.(°C) | Maximum<br>Contr.% | Maximum<br>Dil. % | G.No. |
| 2  | 0.036             |                        |                       |                    |                   |       |

Lab. No 77-4088 Date July 5/77

Client: Elco Mining Ltd.

Sample Identification: R77 - 8 - 3

Starting Temperature °C: 370

Softening Temperature °C: 427

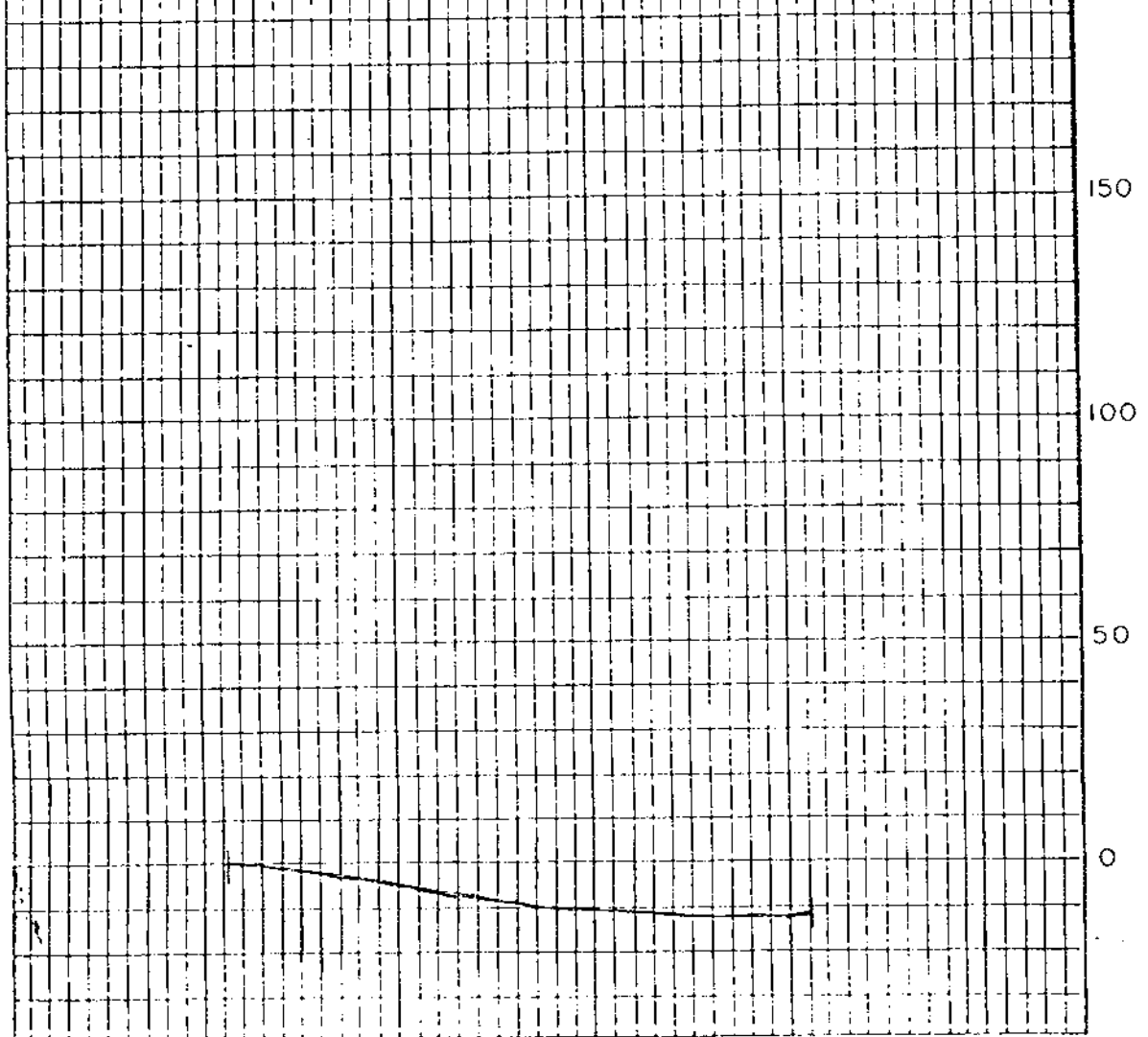
Max. Dilatation Temp. °C: \_\_\_\_\_

Contraction %: 12% @ 503

Dilatation %: \_\_\_\_\_

Final Temperature °C: \_\_\_\_\_

G. Factor: \_\_\_\_\_



Title

RUHR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R77- 8 - 4

Lab. No.: 77 - 4089

Date: May 16, 1977

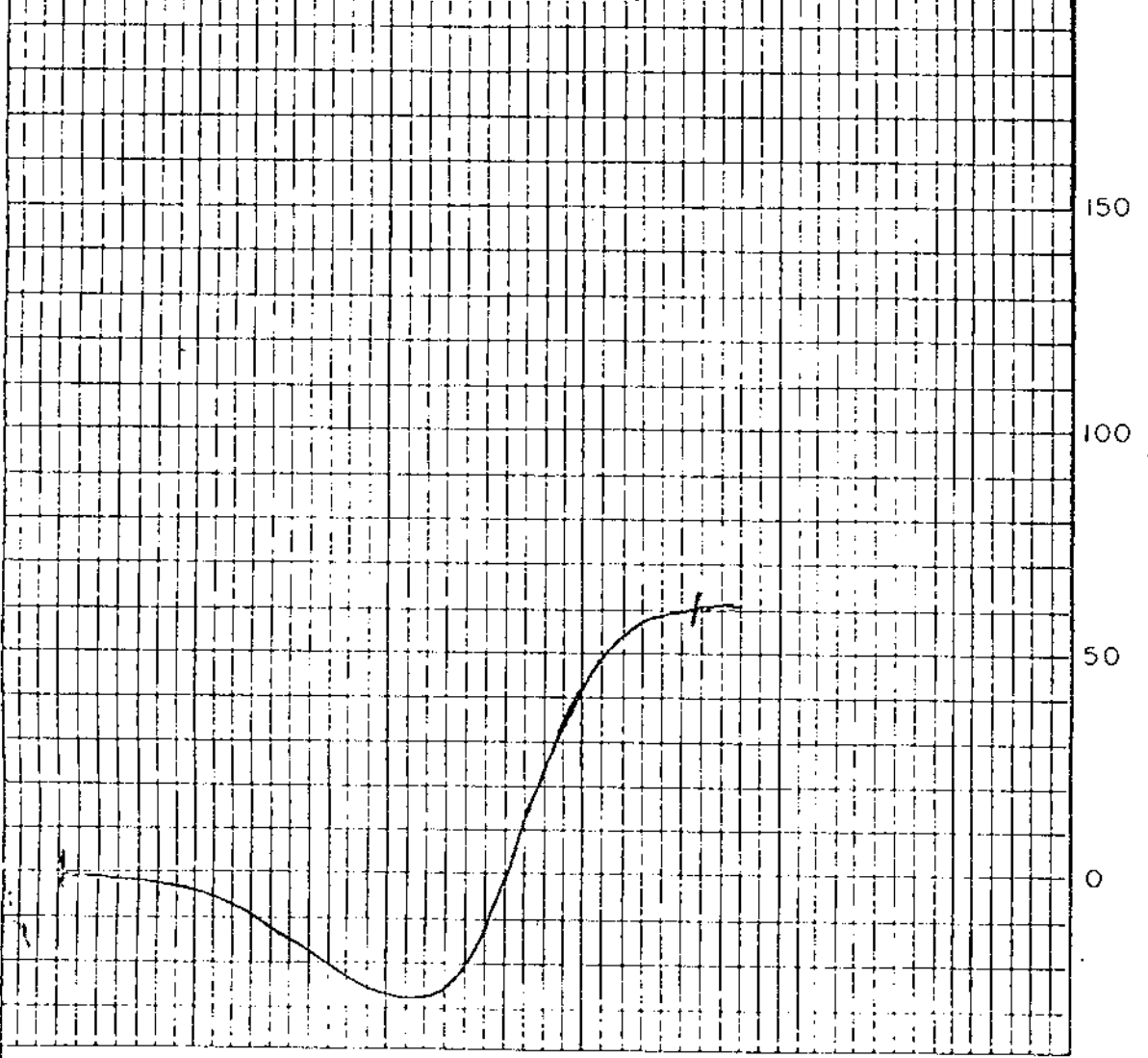
| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.5               | 56.8  | 12.5  | 30.2  | 0.40 | 71.2   | Air Dried Basis |
| --                | 57.2  | 12.6  | 30.2  | 0.40 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 98.1 | 0.7   | 58.0  | 0.39 | 98.1       | 58.0  | 0.39 | A.D.B. |
|                     | 98.1 | --    | 58.4  | 0.39 | 98.1       | 58.4  | 0.39 | D.B.   |
| 65 x 0              | 1.9  | 0.6   | 27.7  | 0.62 | 100.0      | 57.4  | 0.39 | A.D.B. |
|                     | 1.9  | --    | 27.8  | 0.62 | 100.0      | 57.8  | 0.39 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 15.9 | 0.6   | 9.3  | 21.6  | 69.5  | 0.81 | 15.9       | 9.3  | A.D.B. |
|                                  | 15.9 | --    | 9.3  | 21.7  | 69.0  | 0.82 | 15.9       | 9.3  | D.B.   |
| 1.40-1.50                        | 2.0  | 0.5   | 22.4 | 19.1  | 58.0  | 0.62 | 17.9       | 10.8 | A.D.B. |
|                                  | 2.0  | --    | 22.5 | 19.2  | 58.3  | 0.62 | 17.9       | 10.8 | D.B.   |
| 1.50-1.60                        | 3.3  | 0.6   | 29.5 | --    | --    | --   | 21.2       | 13.7 | A.D.B. |
|                                  | 3.3  | --    | 29.6 | --    | --    | --   | 21.2       | 13.7 | D.B.   |
| +1.60                            | 78.8 | 0.7   | 71.4 | --    | --    | --   | 100.0      | 59.2 | A.D.B. |
|                                  | 78.8 | --    | 71.9 | --    | --    | --   | 100.0      | 59.6 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                      |                      |                  |                |       |
|--|-------------|----------------------|----------------------|------------------|----------------|-------|
| F.S.I.   | P % on Coal | Softening Temp. (°C) | Max. Dil. Temp. (°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 9  | 0.029       |                      |                      |                  |                |       |

Lab. No. 77-4089 Date July 5/77  
 Client: Elco Mining Ltd.  
 Sample Identification: R77 - 8 - 4  
 Starting Temperature °C: 370  
 Softening Temperature °C: 392  
 Max. Dilatation Temp. °C: 473  
 Contraction %: 27%  
 Dilatation %: 60%  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 1.037



Title: RUHR DILATOMETER TEST

Date: \_\_\_\_\_  
 Drawn: \_\_\_\_\_

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R 77 - 8 - 5 Lab. No.: 77 - 4090 Date: May 16, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.6               | 24.3  | 16.6  | 58.5  | 0.46 | 113.5  | Air Dried Basis |
| --                | 24.4  | 16.7  | 58.9  | 0.46 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 93.2 | 0.6   | 25.2  | 0.43 | 93.2       | 25.2  | 0.43 | A.D.B. |
|                     | 93.2 | --    | 25.4  | 0.43 | 93.2       | 25.4  | 0.43 | D.B.   |
| 65 x 0              | 6.8  | 0.6   | 11.7  | 0.45 | 100.0      | 24.3  | 0.43 | A.D.B. |
|                     | 6.8  | --    | 11.8  | 0.45 | 100.0      | 24.5  | 0.43 | D.B.   |

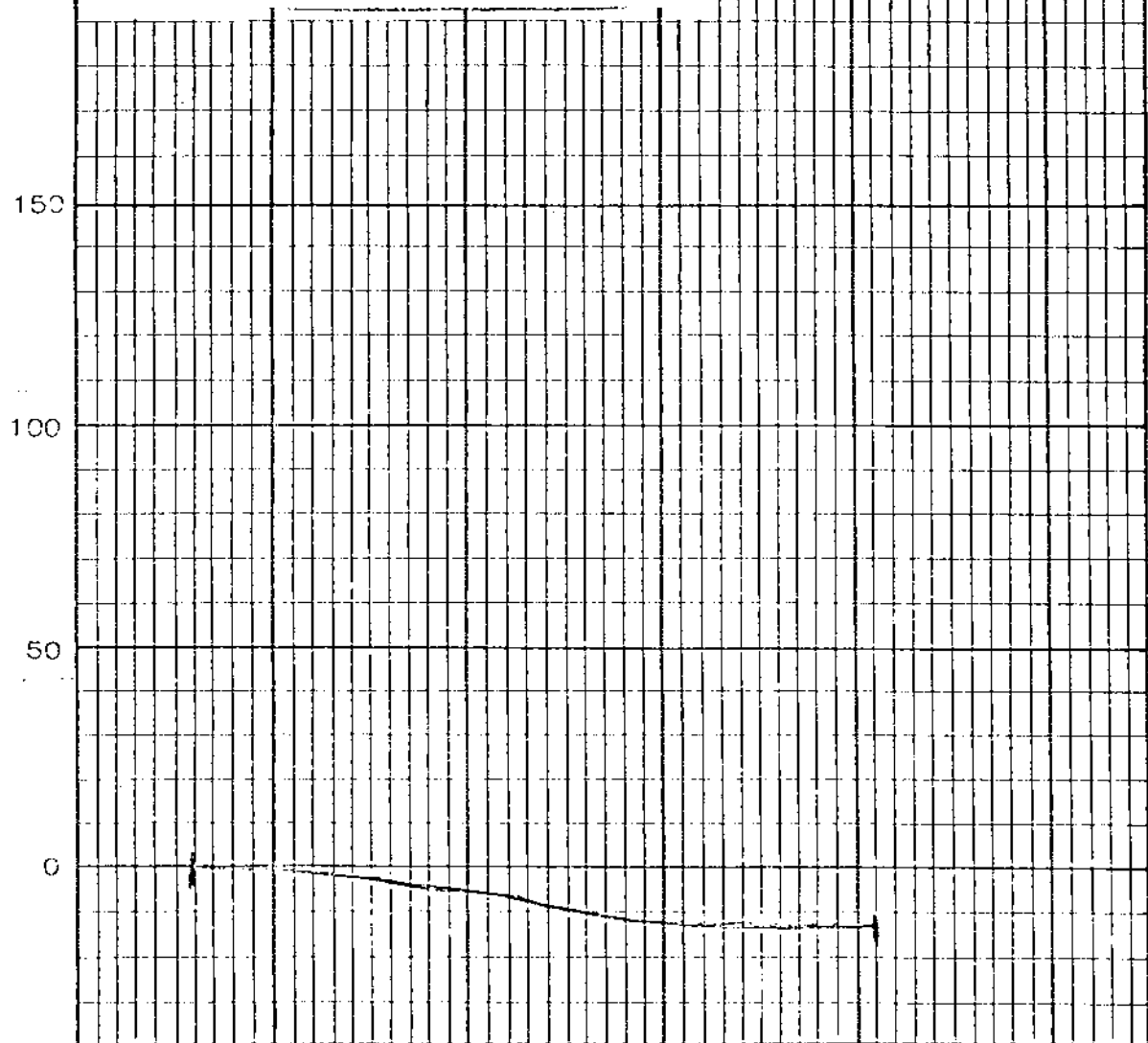
| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 63.7 | 1.2   | 6.4  | 20.0  | 72.4  | 0.49 | 63.7       | 6.4  | A.D.B. |
|                                  | 63.8 | --    | 6.5  | 20.3  | 73.2  | 0.49 | 63.8       | 6.5  | D.B.   |
| 1.40-1.50                        | 3.7  | 0.6   | 18.6 | 17.7  | 63.1  | 0.41 | 67.4       | 7.1  | A.D.B. |
|                                  | 3.7  | --    | 18.7 | 17.8  | 63.5  | 0.41 | 67.5       | 7.2  | D.B.   |
| 1.50-1.60                        | 3.7  | 0.8   | 25.2 | --    | --    | --   | 71.1       | 8.0  | A.D.B. |
|                                  | 3.7  | --    | 25.4 | --    | --    | --   | 71.2       | 8.1  | D.B.   |
| +1.60                            | 28.9 | 0.7   | 65.4 | --    | --    | --   | 100.0      | 24.6 | A.D.B. |
|                                  | 28.8 | --    | 65.9 | --    | --    | --   | 100.0      | 24.8 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |            |            |          |         |       |
|--|-------------------|------------|------------|----------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening  | Max. Dil.  | Maximum  | Maximum | G.No. |
|  |                   | Temp. (°C) | Temp. (°C) | Contr. % | Dil. %  |       |
| 1½   | 0.041             |            |            |          |         |       |



% Lab. No. 77-4090 Date: July 6/77

300 Client: Elco Mining Ltd.  
Sample I. D.: R77 - 8 - 5  
Starting Temperature °C: 370  
Softening Temperature °C: 408  
250 Max. Dilatation Temp. °C: \_\_\_\_\_  
Contraction %: 13% @ 506  
Dilatation %: \_\_\_\_\_  
Final Temperature °C: \_\_\_\_\_  
200 G. Factor: \_\_\_\_\_



Warnock Hersey Professional Services Ltd.

RUPR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R 77 - 8 - 6 Lab. No.: 77 - 4091 Date: May 12, 1977

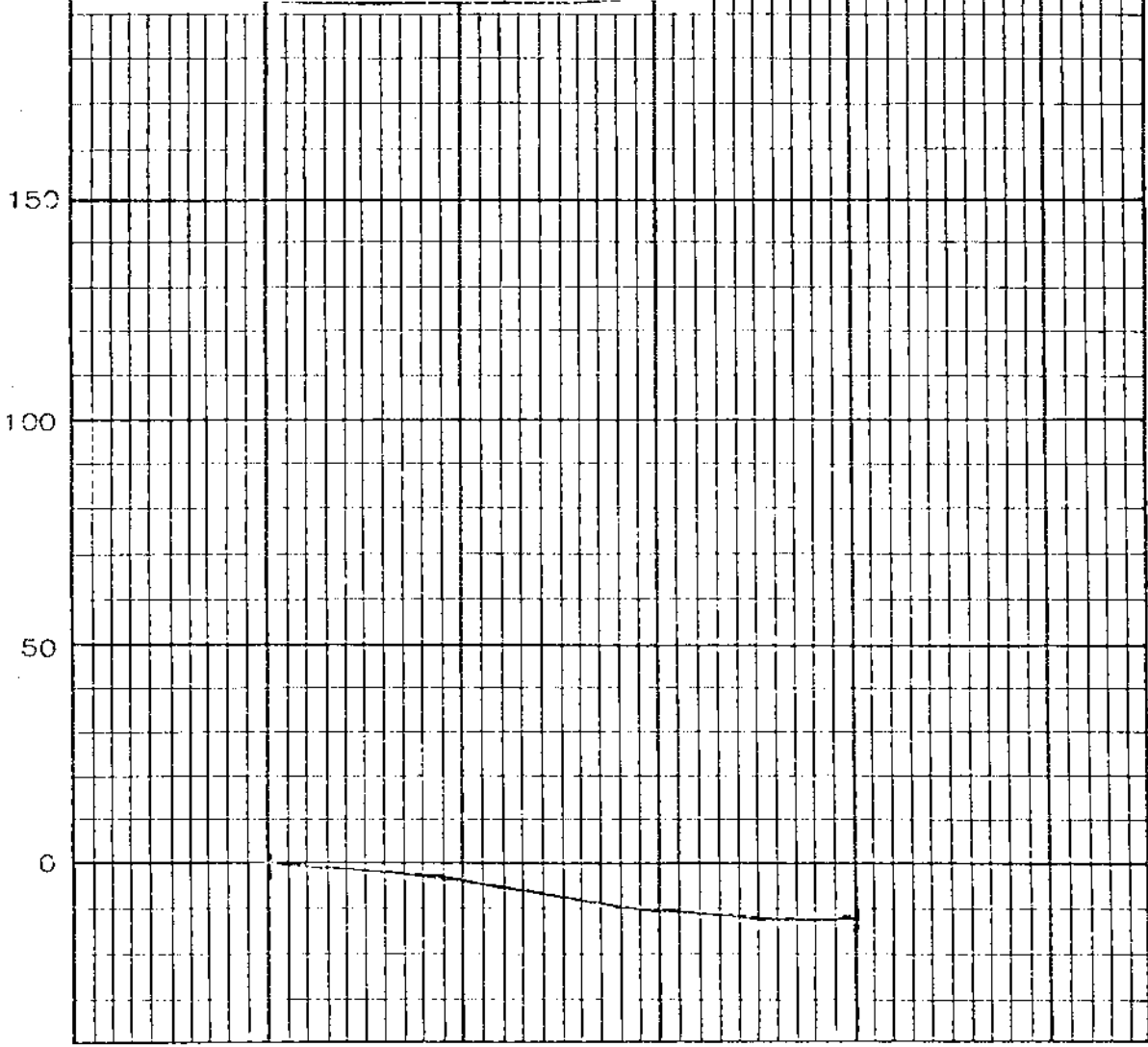
| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.7               | 35.1  | 16.2  | 48.0  | 0.38 | 85.1   | Air Dried Basis |
| --                | 35.3  | 16.3  | 48.4  | 0.38 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 95.6 | 0.6   | 35.8  | 0.40 | 95.6       | 35.8  | 0.40 | A.D.B. |
|                     | 95.6 | --    | 36.0  | 0.40 | 95.6       | 36.0  | 0.40 | D.B.   |
| 65 x 0              | 4.4  | 0.6   | 15.0  | 0.54 | 100.0      | 34.9  | 0.41 | A.D.B. |
|                     | 4.4  | --    | 15.1  | 0.54 | 100.0      | 35.1  | 0.41 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 48.6 | 1.0   | 7.3  | 20.7  | 71.0  | 0.57 | 48.6       | 7.3  | A.D.B. |
|                                  | 48.6 | --    | 7.3  | 21.0  | 71.7  | 0.58 | 48.6       | 7.3  | D.B.   |
| 1.40-1.50                        | 3.8  | 0.8   | 18.8 | 17.9  | 62.5  | 0.42 | 52.4       | 8.1  | A.D.B. |
|                                  | 3.8  | --    | 19.0 | 18.0  | 63.0  | 0.42 | 52.4       | 8.1  | D.B.   |
| 1.50-1.60                        | 4.0  | 1.0   | 24.4 | --    | --    | --   | 56.4       | 9.3  | A.D.B. |
|                                  | 4.0  | --    | 24.6 | --    | --    | --   | 56.4       | 9.3  | D.B.   |
| +1.60                            | 43.6 | 0.8   | 71.2 | --    | --    | --   | 100.0      | 36.3 | A.D.B. |
|                                  | 43.6 | --    | 71.8 | --    | --    | --   | 100.0      | 36.6 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |           |           |          |         |       |
|--|-------------------|-----------|-----------|----------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening | Max. Dil. | Maximum  | Maximum | G.No. |
|  |                   | Temp.(°C) | Temp.(°C) | Contr. % | Dil. %  |       |
| 1½   | 0.030             |           |           |          |         |       |

% Lab. No. 77-4091 Date: July 6/77  
 300 Client: Elco Mining Ltd.  
 Sample I. D.: R77 - 8 - 6  
 Starting Temperature °C: 370  
 Softening Temperature °C: 420  
 250 Max. Dilatation Temp. °C: \_\_\_\_\_  
 Contraction %: 12% @ 499  
 Dilatation %: \_\_\_\_\_  
 Final Temperature °C: \_\_\_\_\_  
 200 G. Factor: \_\_\_\_\_



Warnock Hersey Professional Services Ltd.

RUHR DILATCMETER TEST

|       |
|-------|
| Date  |
| Drawn |

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R 77 - 8 - 7 Lab. No.: 77 - 4092 Date: May 12, 1977

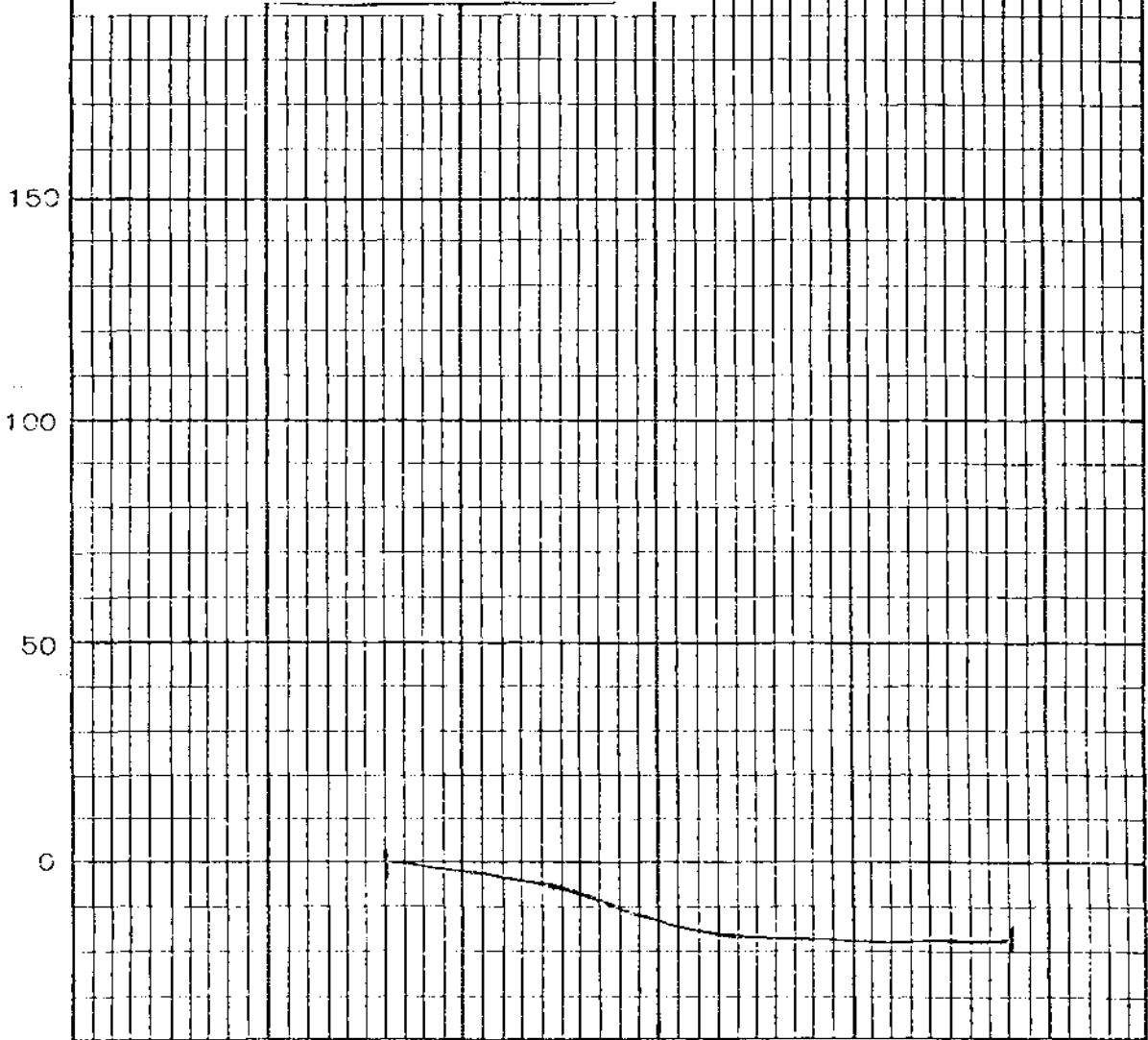
| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.6               | 68.1  | 10.3  | 21.0  | 0.23 | 66.4   | Air Dried Basis |
| --                | 68.5  | 10.4  | 21.1  | 0.23 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 97.4 | 0.7   | 67.4  | 0.26 | 97.4       | 67.4  | 0.26 | A.D.B. |
|                     | 97.4 | --    | 67.9  | 0.26 | 97.4       | 67.9  | 0.26 | D.B.   |
| 65 x 0              | 2.6  | 0.6   | 33.0  | 0.49 | 100.0      | 66.5  | 0.27 | A.D.B. |
|                     | 2.6  | --    | 33.3  | 0.49 | 100.0      | 67.0  | 0.27 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 7.7  | 1.0   | 7.7  | 20.2  | 71.1  | 0.65 | 7.7        | 7.7  | A.D.B. |
|                                  | 7.7  | --    | 7.7  | 20.4  | 71.9  | 0.66 | 7.7        | 7.7  | D.B.   |
| 1.40-1.50                        | 1.8  | 0.7   | 17.7 | 18.0  | 63.6  | 0.55 | 9.5        | 9.6  | A.D.B. |
|                                  | 1.8  | --    | 17.8 | 18.2  | 64.0  | 0.55 | 9.5        | 9.6  | D.B.   |
| 1.50-1.60                        | 2.3  | 0.8   | 25.7 | --    | --    | --   | 11.8       | 12.8 | A.D.B. |
|                                  | 2.3  | --    | 25.9 | --    | --    | --   | 11.8       | 12.8 | D.B.   |
| +1.60                            | 88.2 | 0.8   | 75.9 | --    | --    | --   | 100.0      | 68.5 | A.D.B. |
|                                  | 88.2 | --    | 76.5 | --    | --    | --   | 100.0      | 69.0 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |           |           |         |         |       |
|--|-------------------|-----------|-----------|---------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening | Max. Dil. | Maximum | Maximum | G.No. |
|  |                   | Temp.(°C) | Temp.(°C) | Contr.% | Dil. %  |       |
| 7  | 0.014             |           |           |         |         |       |

% Lab. No. 77-4092 Date: July 6/77  
 Client: Elco Mining Ltd.  
 Sample I. D.: R77 - 8 - 7  
 Starting Temperature °C: 370  
 Softening Temperature °C: 411  
 250 Max. Dilatation Temp. °C: \_\_\_\_\_  
 Contraction %: 17% @ 492  
 Dilatation %: \_\_\_\_\_  
 Final Temperature °C: \_\_\_\_\_  
 200 G. Factor: \_\_\_\_\_



Warnock Hersey Professional Services Ltd.

RUPR DILATCMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R - 77 - 9 - 1 Lab. No. 8738 DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.6               | 53.0  | 17.6   | 28.8   | 0.92 | 66     | Air Dried Basis |
|                   | 53.3  | 17.7   | 29.0   | 0.93 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 94.8  | 0.6    | 53.5  | 0.89 | 94.8       | 53.5  | 0.89 | A.D.B. |
|                     | 94.8  |        | 53.8  | 0.90 | 94.8       | 53.8  | 0.90 | D.B.   |
| 65M x 0             | 5.2   | 0.7    | 29.7  | 1.50 | 100.0      | 52.3  | 0.92 | A.D.B. |
|                     | 5.2   |        | 29.9  | 1.51 | 100.0      | 52.6  | 0.93 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 9.1   | 0.8    | 7.9   | 23.2   | 68.1   | 0.92 | 9.1        | 7.9   | A.D.B. |
|                                   | 9.1   |        | 8.0   | 23.4   | 68.6   |      | 9.1        | 8.0   | D.B.   |
| 1.40-1.50                         | 16.6  | 0.9    | 13.2  | 21.7   | 64.2   | 0.94 | 25.7       | 11.3  | A.D.B. |
|                                   | 16.6  |        | 13.3  | 21.9   | 64.8   |      | 25.7       | 11.4  | D.B.   |
| 1.50-1.60                         | 5.4   | 1.1    | 24.8  |        |        |      | 31.1       | 13.7  | A.D.B. |
|                                   | 5.4   |        | 25.1  |        |        |      | 31.1       | 13.8  | D.B.   |
| +1.60                             | 68.9  | 0.7    | 71.5  |        |        |      | 100.0      | 53.5  | A.D.B. |
|                                   | 68.9  |        | 72.0  |        |        |      | 100.0      | 53.9  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                       |                  |                |       |        |
|---|------------|---------------------------------------|-----------------------|------------------|----------------|-------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                       |                  |                |       | G. NO. |
|   |            | SOFTENING TEMP.* (°C)                 | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % |       |        |
| 8 1/2   | 0.04       | 385                                   | 460                   | 22               | 81             | 1.054 |        |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lab. No. 8738 Date April 11, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-9-1

Starting Temperature °C: 320

Softening Temperature °C: 385

Max. Dilatation Temp. °C: 460

Contraction %: 22

Dilatation %: 81

Final Temperature °C:

G. Factor: 1.054

250

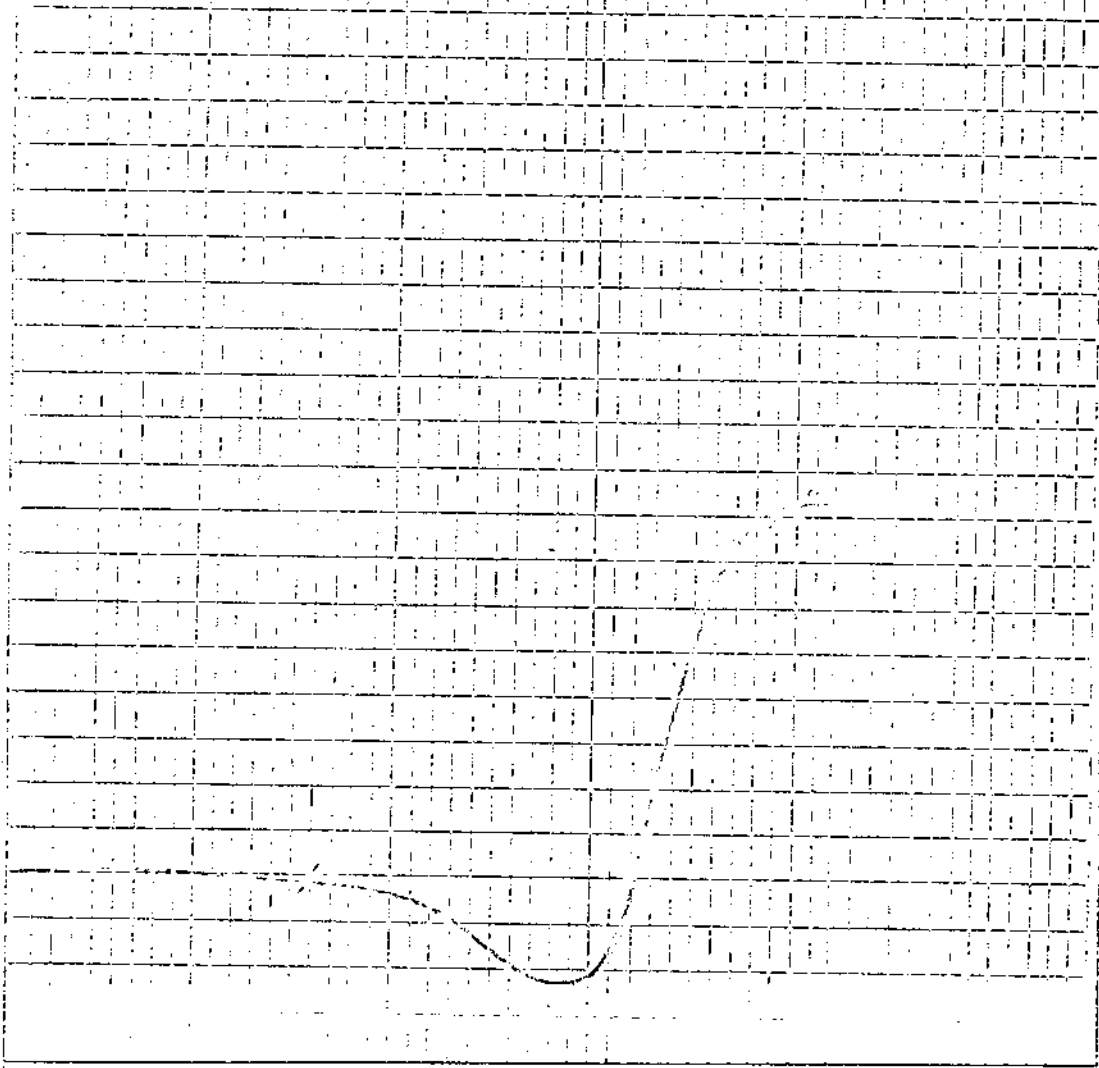
200

150

100

50

0



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R - 77 - 9 - 2 Lab. No. 8739 DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.4               | 36.8  | 22.5   | 40.3   | 0.37 | 83     | Air Dried Basis |
|                   | 36.9  | 22.6   | 40.5   | 0.37 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 93.0  | 0.7    | 38.6  | 0.30 | 93.0       | 38.6  | 0.30 | A.D.B. |
|                     | 93.0  |        | 38.9  | 0.30 | 93.0       | 38.9  | 0.30 | D.B.   |
| 65M x 0             | 7.0   | 0.9    | 13.3  | 0.71 | 100.0      | 36.8  | 0.33 | A.D.B. |
|                     | 7.0   |        | 13.4  | 0.72 | 100.0      | 37.1  | 0.33 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 43.7  | 0.7    | 4.1   | 23.1   | 72.1   | 0.73 | 43.7       | 4.1   | A.D.B. |
|                                   | 43.7  |        | 4.1   | 23.3   | 72.6   | 0.74 | 43.7       | 4.1   | D.B.   |
| 1.40-1.50                         | 7.3   | 0.7    | 12.1  | 21.2   | 66.0   | 0.74 | 51.0       | 5.2   | A.D.B. |
|                                   | 7.3   |        | 12.2  | 21.3   | 66.5   | 0.75 | 51.0       | 5.3   | D.B.   |
| 1.50-1.60                         | 3.0   | 0.9    | 22.1  |        |        |      | 54.0       | 6.2   | A.D.B. |
|                                   | 3.0   |        | 22.3  |        |        |      | 54.0       | 6.2   | D.B.   |
| +1.60                             | 46.0  | 0.7    | 76.6  |        |        |      | 100.0      | 38.6  | A.D.B. |
|                                   | 46.0  |        | 77.1  |        |        |      | 100.0      | 38.8  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                     |                  |                |        |
|---|------------|---------------------------------------|---------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                     |                  |                |        |
|   |            | SOFTENING TEMP.*(°C)                  | MAX. DIL. TEMP*(°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 8 1/2   | 0.03       | 388                                   | 459                 | 23               | 43             | 1.026  |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries



Lab. No. 8739 Date April 11, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-9-2

Starting Temperature °C: 320

Softening Temperature °C: 388

Max. Dilatation Temp. °C: 459

Contraction %: 23

Dilatation %: 43

Final Temperature °C: 1.026

G. Factor: 1.026

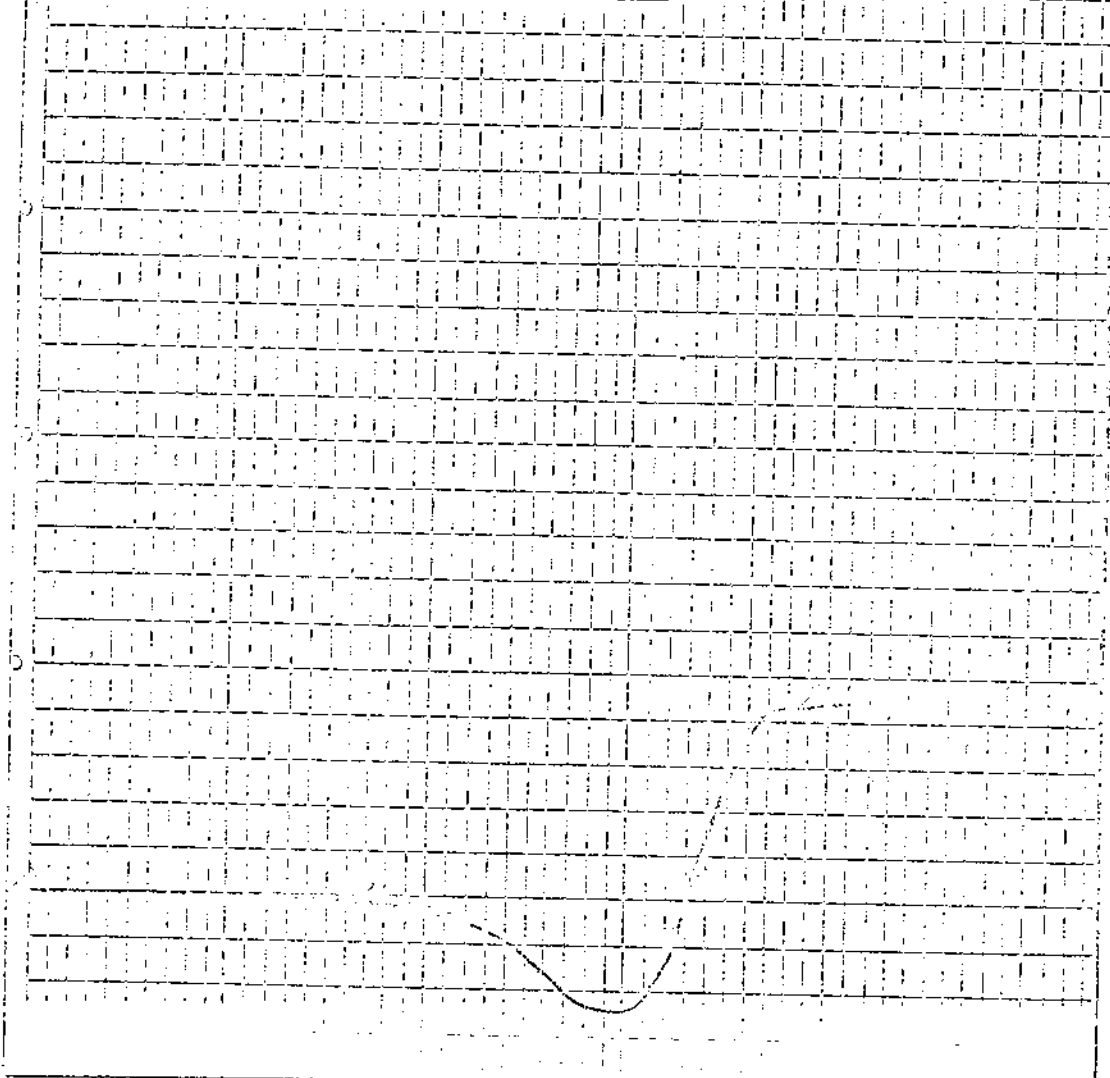
200

150

100

50

0



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RURR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R - 77 - 9 - 3

Lab. No. 8740

DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.6               | 20.0  | 18.2   | 61.2   | 0.38 | 96     | Air Dried Basis |
|                   | 20.1  | 18.3   | 61.6   | 0.38 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 93.0  | 0.6    | 21.2  | 0.43 | 93.0       | 21.2  | 0.43 | A.D.B. |
|                     | 93.0  |        | 21.3  | 0.43 | 93.0       | 21.3  | 0.43 | D.B.   |
| 65M x 0             | 7.0   | 1.0    | 9.8   | 0.41 | 100.0      | 20.4  | 0.43 | A.D.B. |
|                     | 7.0   |        | 9.9   | 0.41 | 100.0      | 20.5  | 0.43 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 57.3  | 0.6    | 5.0   | 21.3   | 73.1   | 0.59 | 57.3       | 5.0   | A.D.B. |
|                                   | 57.3  |        | 5.0   | 21.4   | 73.6   | 0.59 | 57.3       | 5.0   | D.B.   |
| 1.40-1.50                         | 14.7  | 0.7    | 16.2  | 18.2   | 64.9   | 0.48 | 72.0       | 7.3   | A.D.B. |
|                                   | 14.7  |        | 16.3  | 18.3   | 65.4   | 0.48 | 72.0       | 7.3   | D.B.   |
| 1.50-1.60                         | 6.1   | 0.7    | 24.1  |        |        |      | 78.1       | 8.6   | A.D.B. |
|                                   | 6.1   |        | 24.3  |        |        |      | 78.1       | 8.6   | D.B.   |
| +1.60                             | 21.9  | 0.9    | 68.4  |        |        |      | 100.0      | 21.7  | A.D.B. |
|                                   | 21.9  |        | 69.0  |        |        |      | 100.0      | 21.9  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                      |                  |                |        |
|---|------------|---------------------------------------|----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                      |                  |                |        |
|   |            | SOFTENING TEMP* (°C)                  | MAX. DIL. TEMP.*(°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 4 1/2   | 0.02       | 403                                   | ---                  | 21% @ 462°C      | ---            | ---    |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lcb. No. 8740 Date April 11, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-9-3

Starting Temperature °C: 320

Softening Temperature °C: 403

Max. Dilatation Temp. °C: ---

Contraction %: 21% @ 462°

Dilatation %: ---

Final Temperature °C: ---

G. Factor: ---

250

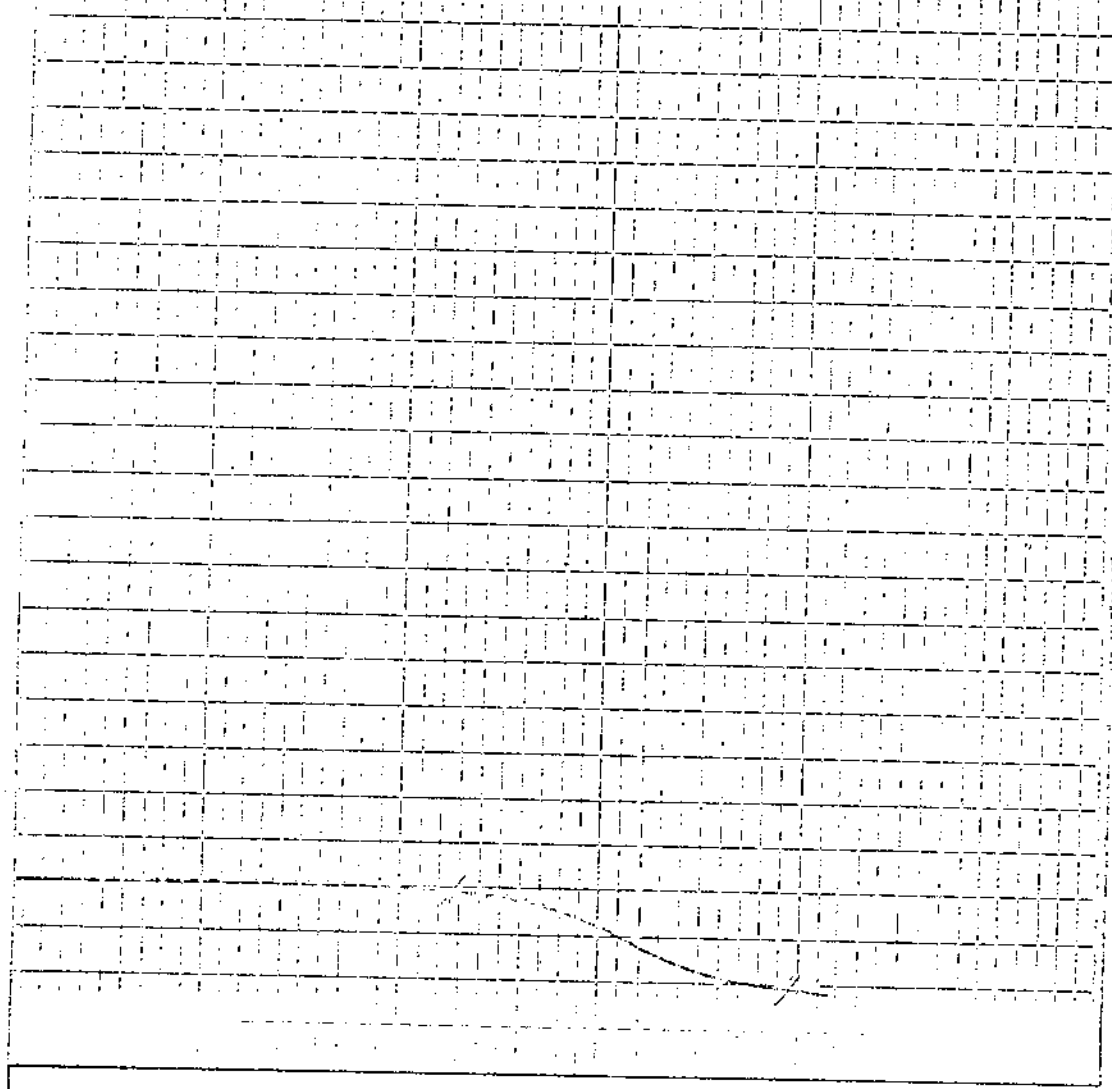
200

150

100

50

0



**BIRTLEY ENGINEERING (CANADA) LTD.**

Title  
**RUHR DILATOMETER TEST**

Date

Drawn

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R - 77 - 9 - 4      Lab. No. 8741      DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.8               | 67.0  | 11.0   | 21.2   | 0.47 | 57     | Air Dried Basis |
|                   | 67.5  | 11.1   | 21.4   | 0.47 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 97.5  | 0.8    | 67.3  | 0.45 | 97.5       | 67.3  | 0.45 | A.D.B. |
|                     | 97.5  |        | 67.8  | 0.45 | 97.5       | 67.8  | 0.45 | D.B.   |
| 65M x 0             | 2.5   | 0.8    | 35.5  | 0.75 | 100.0      | 66.5  | 0.46 | A.D.B. |
|                     | 2.5   |        | 35.8  | 0.76 | 100.0      | 67.0  | 0.46 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |                       |                       |                       |            |       |        |
|-----------------------------------|-------|--------|-------|-----------------------|-----------------------|-----------------------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. %                | F.C. %                | S. %                  | CUMULATIVE |       |        |
|                                   |       |        |       |                       |                       |                       | WT. %      | ASH % |        |
| -1.40                             | 12.9  | 0.8    | 5.1   | 22.4                  | 71.7                  | 0.96                  | 12.9       | 5.1   | A.D.B. |
|                                   | 12.9  |        | 5.1   | 22.6                  | 72.3                  | 0.97                  | 12.9       | 5.1   | D.B.   |
| 1.40-1.50                         | 3.2   | 0.8    | 10.9  | 21.2                  | 67.1                  | 0.89                  | 16.1       | 6.3   | A.D.B. |
|                                   | 3.2   |        | 11.0  | 21.4                  | 67.6                  | 0.90                  | 16.1       | 6.3   | D.B.   |
| 1.50-1.60                         | 1.7   | 0.8    | 23.9  | <del>          </del> | <del>          </del> | <del>          </del> | 17.8       | 7.9   | A.D.B. |
|                                   | 1.7   |        | 24.1  | <del>          </del> | <del>          </del> | <del>          </del> | 17.8       | 8.0   | D.B.   |
| +1.60                             | 82.2  | 1.0    | 80.1  | <del>          </del> | <del>          </del> | <del>          </del> | 100.0      | 67.3  | A.D.B. |
|                                   | 82.2  |        | 80.9  | <del>          </del> | <del>          </del> | <del>          </del> | 100.0      | 67.9  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                      |                  |                |       |        |
|---|------------|---------------------------------------|----------------------|------------------|----------------|-------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                      |                  |                |       | G. NO. |
|   |            | SOFTENING TEMP. *(°C)                 | MAX. DIL. TEMP* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % |       |        |
| 8 1/2   | 0.01       | 370                                   | 459                  | 28               | 121            | 1.072 |        |

\* S.T. & M.D.T. corrected with factor 6/5

Lab. No. 8741 Date April 11, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-9-4

Starting Temperature °C: 320

Softening Temperature °C: 370

Max. Dilatation Temp. °C: 459

250

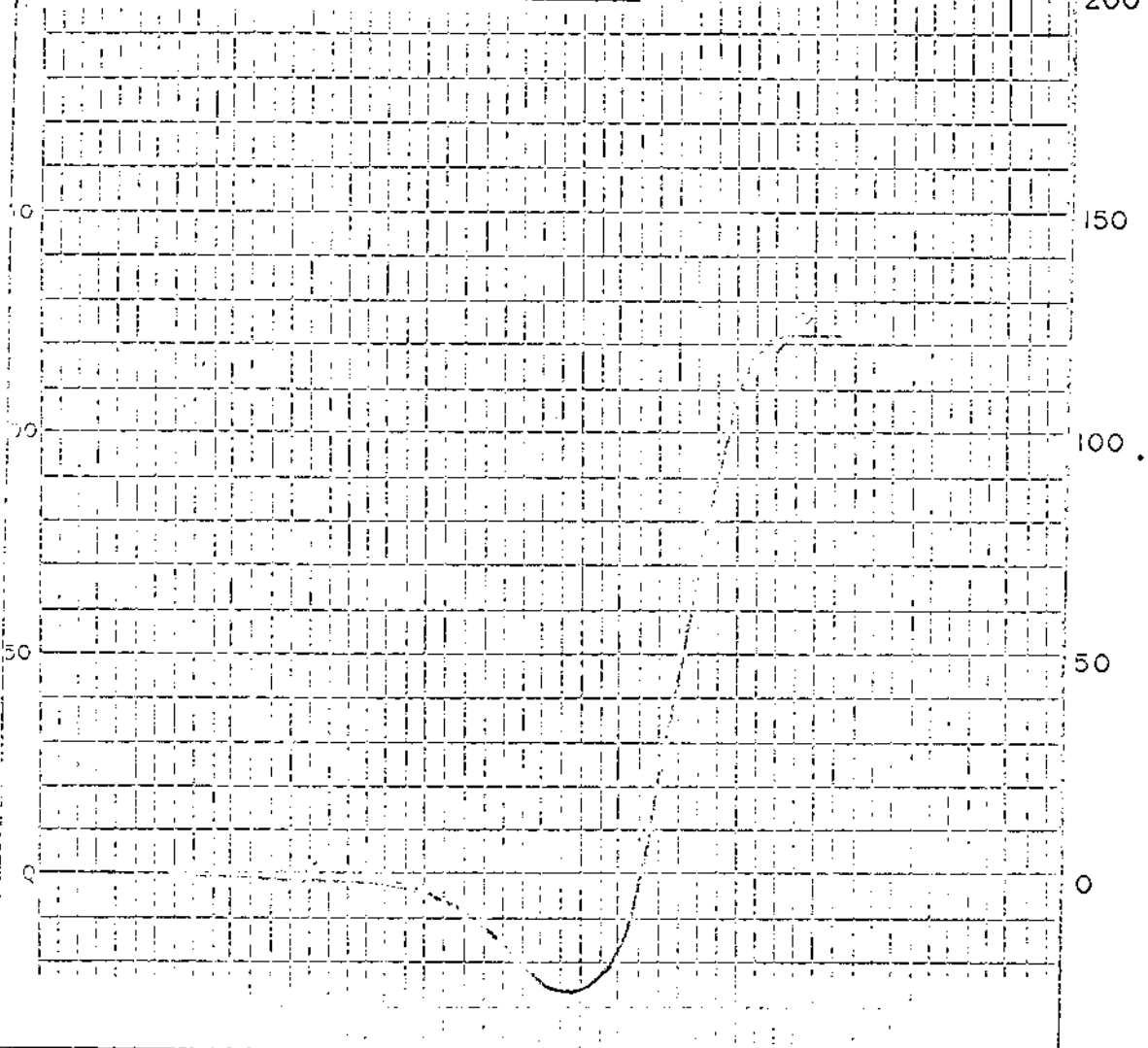
Contraction %: 28

Dilatation %: 121

Final Temperature °C:

G. Factor: 1.072

200



BIRTLEY ENGINEERING (CANADA) LTD.

Title  
RUHR DILATOMETER TEST

Date  
Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R - 77 - 9 - 5 Lab. No. 8742 DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.8               | 55.5  | 13.9   | 29.8   | 0.38 | 81     | Air Dried Basis |
|                   | 55.9  | 14.0   | 30.1   | 0.38 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 84.6  | 0.8    | 61.7  | 0.31 | 84.6       | 61.7  | 0.31 | A.D.B. |
|                     | 84.7  |        | 62.2  | 0.31 | 84.7       | 62.2  | 0.31 | D.B.   |
| 65M x 0             | 15.4  | 1.5    | 20.8  | 0.74 | 100.0      | 55.4  | 0.38 | A.D.B. |
|                     | 15.3  |        | 21.1  | 0.75 | 100.0      | 55.9  | 0.38 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 17.3  | 0.8    | 4.1   | 24.5   | 70.6   | 0.74 | 17.3       | 4.1   | A.D.B. |
|                                   | 17.3  |        | 4.1   | 24.7   | 71.2   | 0.75 | 17.3       | 4.1   | D.B.   |
| 1.40-1.50                         | 4.6   | 0.8    | 9.1   | 23.2   | 66.9   | 0.75 | 21.9       | 5.2   | A.D.B. |
|                                   | 4.6   |        | 9.2   | 23.4   | 67.4   | 0.76 | 21.9       | 5.2   | D.B.   |
| 1.50-1.60                         | 2.4   | 0.9    | 20.8  |        |        |      | 24.3       | 6.7   | A.D.B. |
|                                   | 2.4   |        | 21.0  |        |        |      | 24.3       | 6.7   | D.B.   |
| +1.60                             | 75.7  | 0.9    | 79.4  |        |        |      | 100.0      | 61.7  | A.D.B. |
|                                   | 75.7  |        | 80.1  |        |        |      | 100.0      | 62.3  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                      |                  |                |        |
|---|------------|---------------------------------------|----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                      |                  |                |        |
|   |            | SOFTENING TEMP. *(°C)                 | MAX. DIL. TEMP* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 8   | 0.04       | 386                                   | 457                  | 31               | 33             | 1.003  |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lab. No. 8742 Date April 11, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-9-5

Starting Temperature °C: 320

Softening Temperature °C: 386

Max. Dilatation Temp. °C: 457

250

Contraction %: 31

Dilatation %: 33

Final Temperature °C:

G. Factor: 1.003

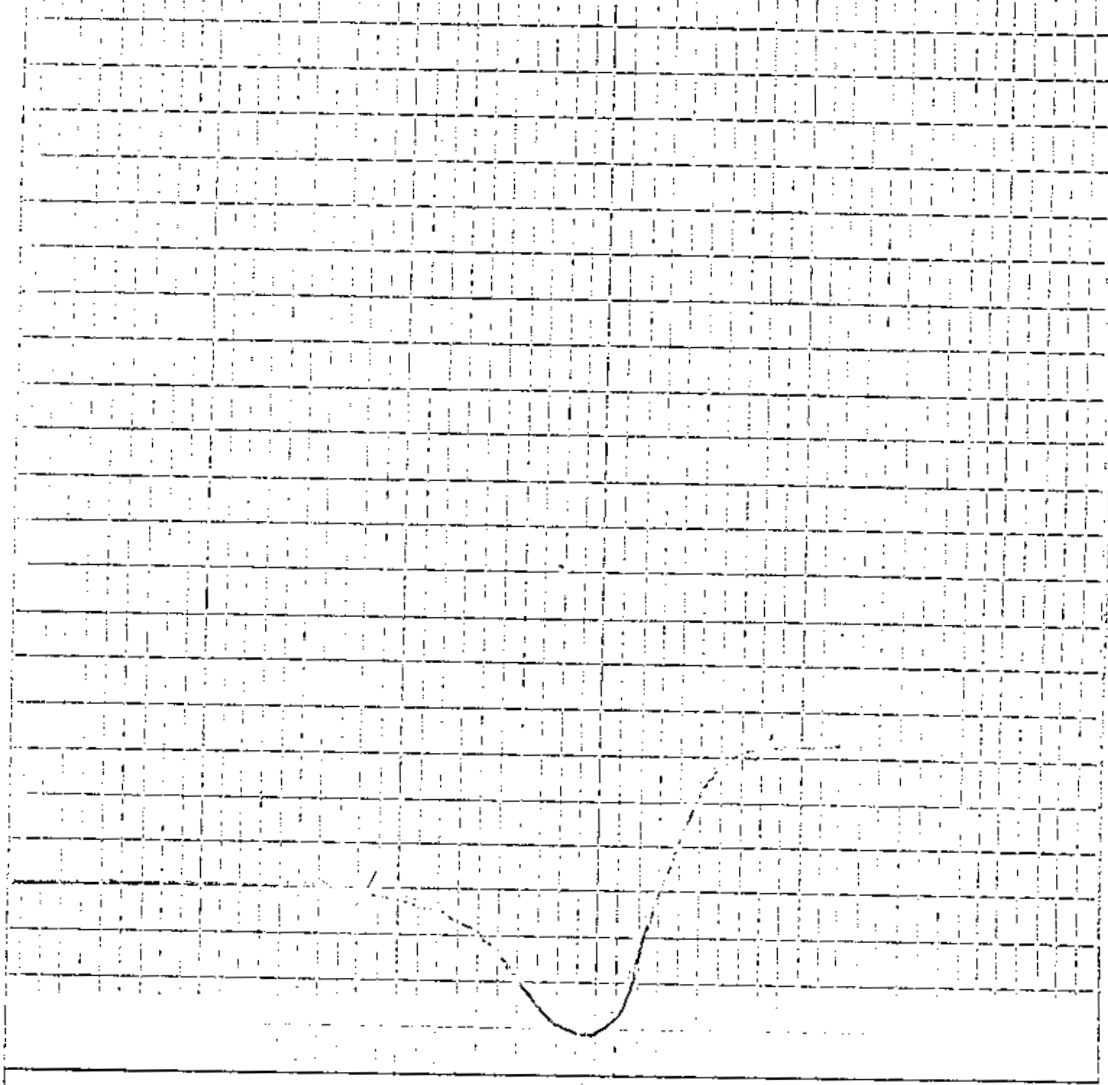
200

150

100

50

0



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R-77-10-1

Lab. No. 8849

DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 1.1               | 39.0  | 17.5   | 42.4   | 0.62 | 75     | Air Dried Basis |
|                   | 39.4  | 17.7   | 42.9   | 0.63 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 89.8  | 1.1    | 40.7  | 0.61 | 89.8       | 40.7  | 0.61 | A.D.B. |
|                     | 89.8  |        | 41.2  | 0.62 | 89.8       | 41.2  | 0.62 | D.B.   |
| 65M x 0             | 10.2  | 1.0    | 27.9  | 0.78 | 100.0      | 39.4  | 0.63 | A.D.B. |
|                     | 10.2  |        | 28.2  | 0.79 | 100.0      | 39.9  | 0.64 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 27.8  | 0.9    | 6.8   | 23.1   | 69.2   | 0.94 | 27.8       | 6.8   | A.D.B. |
|                                   | 27.8  |        | 6.9   | 23.3   | 69.8   | 0.95 | 27.8       | 6.9   | D.B.   |
| 1.40-1.50                         | 13.8  | 0.9    | 17.7  | 20.2   | 61.2   | 0.88 | 41.6       | 10.4  | A.D.B. |
|                                   | 13.8  |        | 17.9  | 20.4   | 61.7   | 0.89 | 41.6       | 10.5  | D.B.   |
| 1.50-1.60                         | 7.7   | 1.1    | 27.2  |        |        |      | 49.3       | 13.0  | A.D.B. |
|                                   | 7.7   |        | 27.5  |        |        |      | 49.3       | 13.2  | D.B.   |
| +1.60                             | 50.7  | 1.1    | 67.6  |        |        |      | 100.0      | 40.7  | A.D.B. |
|                                   | 50.7  |        | 68.4  |        |        |      | 100.0      | 41.2  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS: 1.50 S.G., A.D.B. |            |                                       |                       |                  |                |        |
|--|------------|---------------------------------------|-----------------------|------------------|----------------|--------|
| F.S.I.   | PZ ON COAL | DILATATION TEST (Initial Temp.=320°C) |                       |                  |                |        |
|  |            | SOFTENING TEMP. *(°C)                 | MAX. DIL. TEMP. *(°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 9  | 0.03       | 374                                   | 464                   | 21               | 92             | 1.072  |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries



Lab. No. 8849 Date April 21, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: 377-10-1

Starting Temperature °C: 320

Softening Temperature °C: 374

Max. Dilatation Temp. °C: 464

250

Contraction %: 21

Dilatation %: 92

Final Temperature °C:

G. Factor: 1.072

200

150

100

50

0



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUMR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R 77 - 10 - 2 Lab. No.: 77 - 4093 Date: May 16, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.7               | 27.8  | 19.5  | 52.0  | 0.61 | 81.6   | Air Dried Basis |
| --                | 28.0  | 19.7  | 52.3  | 0.61 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 96.2 | 0.7   | 29.1  | 0.55 | 96.2       | 29.1  | 0.55 | A.D.B. |
|                     | 96.2 | --    | 29.3  | 0.55 | 96.2       | 29.3  | 0.55 | D.B.   |
| 65 x 0              | 3.8  | 0.6   | 11.2  | 0.70 | 100.0      | 28.4  | 0.56 | A.D.B. |
|                     | 3.8  | --    | 11.3  | 0.70 | 100.0      | 28.6  | 0.56 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 63.5 | 0.8   | 5.8  | 22.1  | 71.3  | 0.75 | 63.5       | 5.8  | A.D.B. |
|                                  | 63.5 | --    | 5.9  | 22.3  | 71.8  | 0.76 | 63.5       | 5.9  | D.B.   |
| 1.40-1.50                        | 2.3  | 0.6   | 19.4 | 19.5  | 60.5  | 0.58 | 65.8       | 6.3  | A.D.B. |
|                                  | 2.3  | --    | 19.6 | 19.6  | 60.8  | 0.58 | 65.8       | 6.4  | D.B.   |
| 1.50-1.60                        | 2.9  | 0.6   | 26.7 | --    | --    | --   | 68.7       | 7.1  | A.D.B. |
|                                  | 2.9  | --    | 26.9 | --    | --    | --   | 68.7       | 7.2  | D.B.   |
| +1.60                            | 31.3 | 0.7   | 76.8 | --    | --    | --   | 100.0      | 29.0 | A.D.B. |
|                                  | 31.3 | --    | 77.3 | --    | --    | --   | 100.0      | 29.2 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |            |            |          |         |       |
|--|-------------------|------------|------------|----------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening  | Max. Dil.  | Maximum  | Maximum | G.No. |
|  |                   | Temp. (°C) | Temp. (°C) | Contr. % | Dil. %  |       |
| 7½   | 0.024             |            |            |          |         |       |

% Lab. No. 77-4093 Date: July 6/77

300 Client: Elco Mining Ltd.

Sample I. D.: R77 - 10 - 2

Starting Temperature °C: 370

Softening Temperature °C: 395

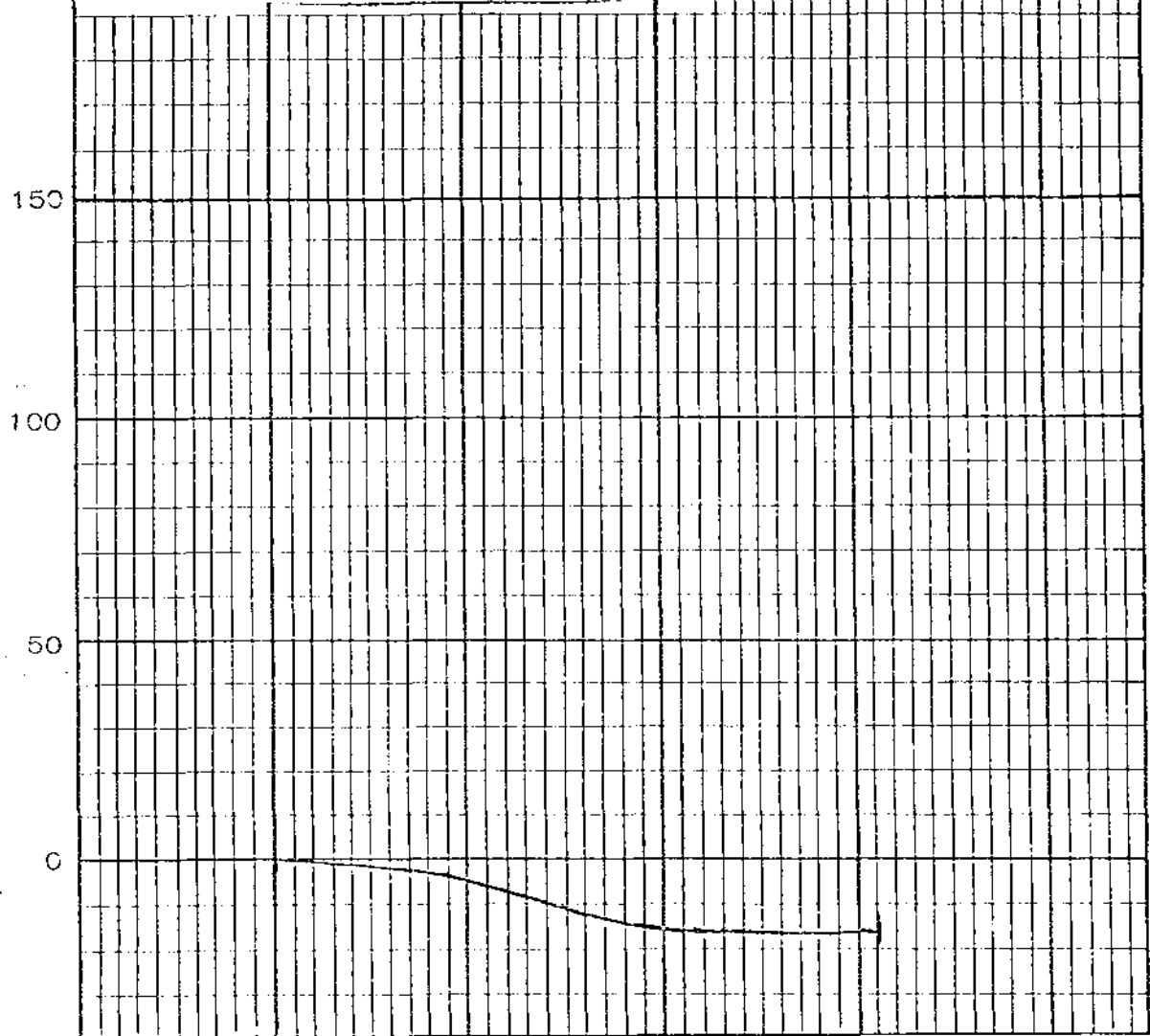
250 Max. Dilatation Temp. °C: \_\_\_\_\_

Contraction %: 15% @ 472

Dilatation %: \_\_\_\_\_

Final Temperature °C: \_\_\_\_\_

200 G. Factor: \_\_\_\_\_



Warnock Hersey Professional Services Ltd.

RUHR DILATCMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R 77 - 10 - 3 Lab. No.: 77 - 4094 Date: May 12, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.6               | 20.6  | 18.5  | 60.3  | 0.30 | 87.8   | Air Dried Basis |
| --                | 20.8  | 18.6  | 60.6  | 0.30 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 94.4 | 0.6   | 21.5  | 0.29 | 94.4       | 21.5  | 0.29 | A.D.B. |
|                     | 94.4 | --    | 21.6  | 0.29 | 94.4       | 21.6  | 0.29 | D.B.   |
| 65 x 0              | 5.6  | 0.7   | 9.4   | 0.35 | 100.0      | 20.8  | 0.29 | A.D.B. |
|                     | 5.6  | --    | 9.4   | 0.35 | 100.0      | 20.9  | 0.29 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 74.3 | 1.1   | 6.9  | 20.9  | 71.1  | 0.35 | 74.3       | 6.9  | A.D.B. |
|                                  | 74.4 | --    | 7.0  | 21.1  | 71.9  | 0.35 | 74.4       | 7.0  | D.B.   |
| 1.40-1.50                        | 2.6  | 0.6   | 19.9 | 18.9  | 60.6  | 0.27 | 76.9       | 7.3  | A.D.B. |
|                                  | 2.6  | --    | 20.0 | 19.1  | 60.9  | 0.27 | 77.0       | 7.4  | D.B.   |
| 1.50-1.60                        | 3.1  | 0.7   | 26.0 | --    | --    | --   | 80.0       | 8.1  | A.D.B. |
|                                  | 3.1  | --    | 26.2 | --    | --    | --   | 80.1       | 8.2  | D.B.   |
| +1.60                            | 20.0 | 0.6   | 71.5 | --    | --    | --   | 100.0      | 20.8 | A.D.B. |
|                                  | 19.9 | --    | 71.9 | --    | --    | --   | 100.0      | 20.8 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |            |            |          |         |       |
|--|-------------------|------------|------------|----------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening  | Max. Dil.  | Maximum  | Maximum | G.No. |
|  |                   | Temp. (°C) | Temp. (°C) | Contr. % | Dil. %  |       |
| 2  | 0.019             |            |            |          |         |       |

Lab. No. 77-4094 Date July 6/77

Client: Elco Mining Ltd.

Sample Identification: R77 - 10 - 3

Starting Temperature °C: 370

Softening Temperature °C: 422

Max. Dilatation Temp. °C: \_\_\_\_\_

Contraction %: 13% @ 497

Dilatation %: \_\_\_\_\_

Final Temperature °C: \_\_\_\_\_

G. Factor: \_\_\_\_\_



Title

RUHR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R 77 - 10 - 4 Lab. No.: 77 - 4095 Date: May 16, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.6               | 29.2  | 17.3  | 52.9  | 0.42 | 85.1   | Air Dried Basis |
| --                | 29.3  | 17.4  | 53.3  | 0.42 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 96.8 | 0.6   | 30.2  | 0.40 | 96.8       | 30.2  | 0.40 | A.D.B. |
|                     | 96.8 | --    | 30.4  | 0.40 | 96.8       | 30.4  | 0.40 | D.B.   |
| 65 x 0              | 3.2  | 0.7   | 13.6  | 0.53 | 100.0      | 29.7  | 0.40 | A.D.B. |
|                     | 3.2  | --    | 13.7  | 0.53 | 100.0      | 29.9  | 0.40 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 56.4 | 0.8   | 7.6  | 19.1  | 72.5  | 0.55 | 56.4       | 7.6  | A.D.B. |
|                                  | 56.4 | --    | 7.7  | 19.3  | 73.0  | 0.55 | 56.4       | 7.7  | D.B.   |
| 1.40-1.50                        | 5.4  | 0.6   | 19.8 | 17.8  | 61.8  | 0.43 | 61.8       | 8.7  | A.D.B. |
|                                  | 5.4  | --    | 19.9 | 17.9  | 62.2  | 0.43 | 61.8       | 8.8  | D.B.   |
| 1.50-1.60                        | 4.1  | 0.6   | 25.9 | --    | --    | --   | 65.9       | 9.8  | A.D.B. |
|                                  | 4.1  | --    | 26.1 | --    | --    | --   | 65.9       | 9.9  | D.B.   |
| +1.60                            | 34.1 | 0.8   | 68.2 | --    | --    | --   | 100.0      | 29.7 | A.D.B. |
|                                  | 34.1 | --    | 68.7 | --    | --    | --   | 100.0      | 29.9 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                      |                      |                  |                |       |
|--|-------------|----------------------|----------------------|------------------|----------------|-------|
| F.S.I.   | P % on Coal | Softening Temp. (°C) | Max. Dil. Temp. (°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 1½   | 0.036       |                      |                      |                  |                |       |

Lab No. 77-4095 Date July 6/77

Client: Elco Mining Ltd.

Sample Identification: R77 - 10 - 4

Starting Temperature °C: 370

Softening Temperature °C: 429

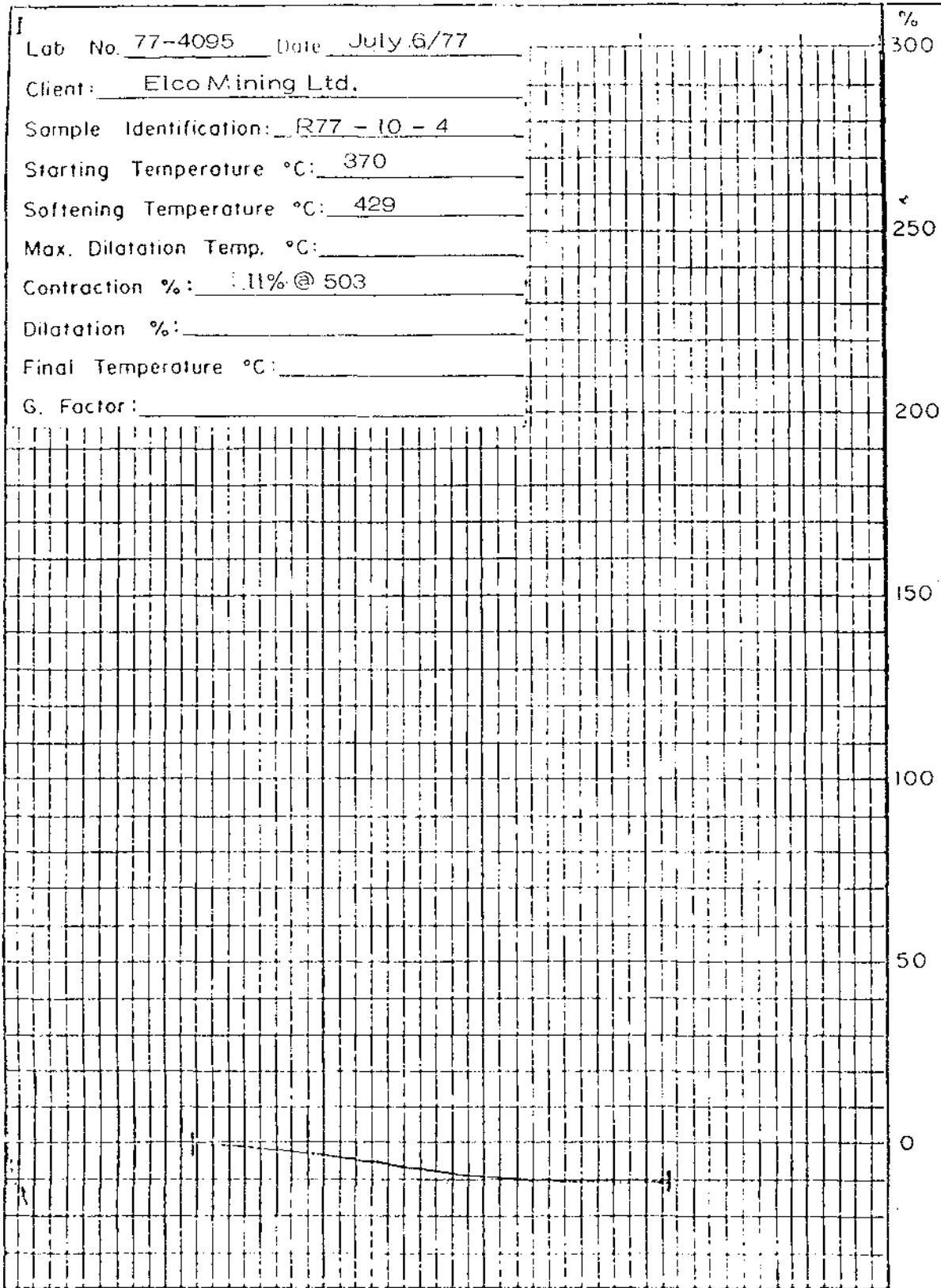
Max. Dilatation Temp. °C: \_\_\_\_\_

Contraction %: 11% @ 503

Dilatation %: \_\_\_\_\_

Final Temperature °C: \_\_\_\_\_

G. Factor: \_\_\_\_\_



Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R-77-11-1

Lab. No. 8834

DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.6               | 11.0  | 22.7   | 65.7   | 0.82 | 140    | Air Dried Basis |
|                   | 11.1  | 22.8   | 66.1   | 0.82 | ---    | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 86.5  | 0.9    | 11.9  | 0.82 | 86.5       | 11.9  | 0.82 | A.D.B. |
|                     | 86.5  |        | 12.0  | 0.83 | 86.5       | 12.0  | 0.83 | D.B.   |
| 65M x 0             | 13.5  | 0.7    | 7.3   | 0.80 | 100.0      | 11.3  | 0.82 | A.D.B. |
|                     | 13.5  |        | 7.4   | 0.81 | 100.0      | 11.4  | 0.83 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 74.2  | 0.7    | 3.6   | 24.6   | 71.1   | 0.90 | 74.2       | 3.6   | A.D.B. |
|                                   | 74.4  |        | 3.6   | 24.8   | 71.6   | 0.91 | 74.4       | 3.6   | D.B.   |
| 1.40-1.50                         | 7.2   | 0.9    | 11.4  | 21.5   | 66.2   | 0.78 | 81.4       | 4.3   | A.D.B. |
|                                   | 7.2   |        | 11.5  | 21.7   | 66.8   | 0.79 | 81.6       | 4.3   | D.B.   |
| 1.50-1.60                         | 5.1   | 1.0    | 17.4  |        |        |      | 86.5       | 5.1   | A.D.B. |
|                                   | 5.1   |        | 17.6  |        |        |      | 86.7       | 5.1   | D.B.   |
| +1.60                             | 13.5  | 1.9    | 55.7  |        |        |      | 100.0      | 11.9  | A.D.B. |
|                                   | 13.3  |        | 56.8  |        |        |      | 100.0      | 12.0  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS - 1.50 S.G., A.D.B. |            |                                       |                      |                  |                |        |
|---|------------|---------------------------------------|----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                      |                  |                |        |
|   |            | SOFTENING TEMP. *(°C)                 | MAX. DIL. TEMP* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 7 1/2   | 0.06       | 378                                   | 457                  | 36               | 3              | 0.926  |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries



Lab. No. 8834 Date April 20, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-11-1

Starting Temperature °C: 320

Softening Temperature °C: 378

Max. Dilatation Temp. °C: 457

250

Contraction %: 36

Dilatation %: 3

Final Temperature °C:

G. Factor: 0.926

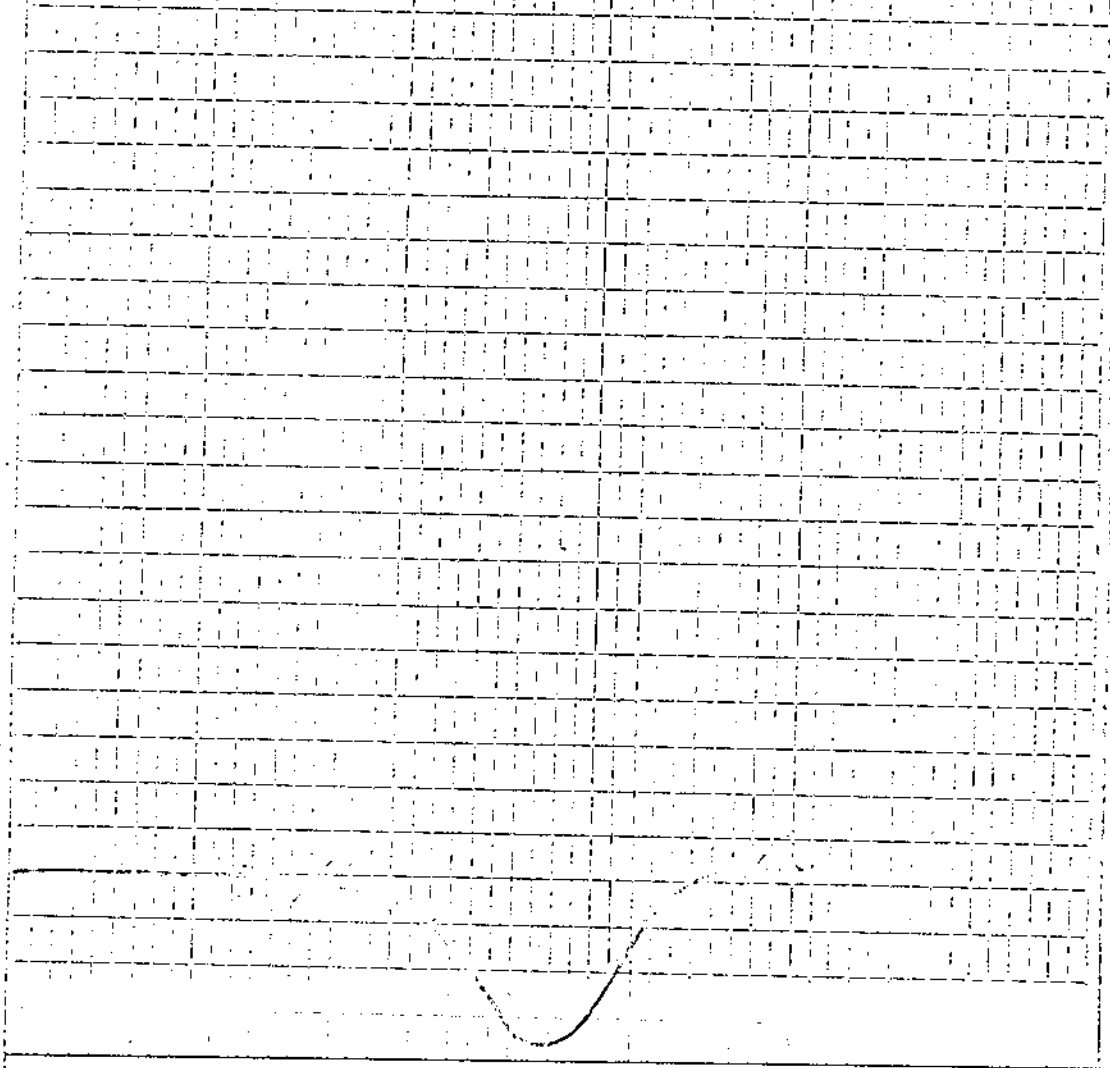
200

150

100

50

0



BENTLEY ENGINEERING (CANADA) LTD.

Title  
RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R-77-11-2

Lab. No. 8835

DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.6               | 42.4  | 20.5   | 36.6   | 1.78 | 71     | Air Dried Basis |
|                   | 42.7  | 20.5   | 36.8   | 1.79 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 91.4  | 0.9    | 43.9  | 1.78 | 91.4       | 43.9  | 1.78 | A.D.B. |
|                     | 91.4  |        | 44.3  | 1.80 | 91.4       | 44.3  | 1.80 | D.B.   |
| 65M x 0             | 8.6   | 0.9    | 20.7  | 1.74 | 100.0      | 41.9  | 1.78 | A.D.B. |
|                     | 8.6   |        | 20.9  | 1.76 | 100.0      | 42.3  | 1.80 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 30.0  | 0.9    | 7.5   | 24.3   | 67.3   | 0.94 | 30.0       | 7.5   | A.D.B. |
|                                   | 30.0  |        | 7.6   | 24.5   | 67.9   | 0.95 | 30.0       | 7.6   | D.B.   |
| 1.40-1.50                         | 8.7   | 0.9    | 17.3  | 31.2   | 60.5   | 0.96 | 38.7       | 9.7   | A.D.B. |
|                                   | 8.7   |        | 17.5  | 21.5   | 61.0   | 0.97 | 38.7       | 9.8   | D.B.   |
| 1.50-1.60                         | 8.7   | 1.1    | 25.3  |        |        |      | 47.4       | 12.6  | A.D.B. |
|                                   | 8.6   |        | 25.6  |        |        |      | 47.3       | 12.7  | D.B.   |
| +1.60                             | 52.6  | 0.8    | 72.1  |        |        |      | 100.0      | 43.9  | A.D.B. |
|                                   | 52.7  |        | 72.7  |        |        |      | 100.0      | 44.3  | D.B.   |

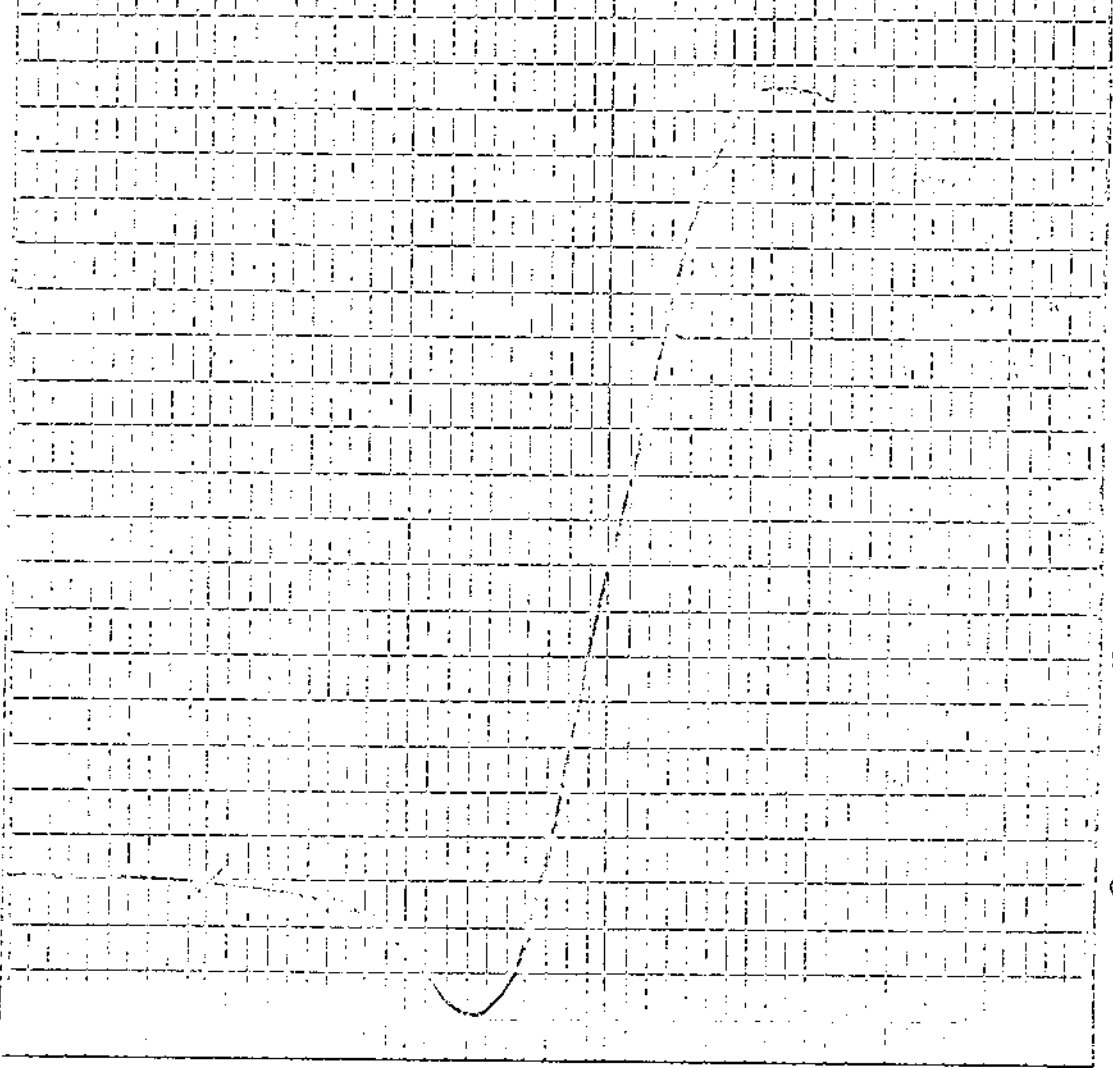
| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |   |                      |                  |                |        |
|---|------------|---|----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp. = 320°C) |                      |                  |                |        |
|   |            | SOFTENING TEMP. * (°C)                  | MAX. DIL. TEMP* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 8 1/2   | 0.03       | 356                                     | 453                  | 30               | 174            | 1.092  |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lab. No. 8035 Date April 20, 1977 %  
 Client: ELCO MINING LTD. 300  
 Sample Identification: R-11-2  
 Starting Temperature °C: 320  
 Softening Temperature °C: 356  
 Max. Dilatation Temp. °C: 453 250  
 Contraction %: 30  
 Dilatation %: 174  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 1.092 200



SINTERLEY ENGINEERING (CANADA) LTD.

|                       |       |
|-----------------------|-------|
| Title                 | Date  |
| RUHR DILATOMETER TEST | Drawn |

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-11-3      Lab. No. 8836      DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.9               | 46.7  | 15.2   | 37.2   | 0.75 | 69     | Air Dried Basis |
|                   | 47.1  | 15.3   | 37.6   | 0.76 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 94.3  | 1.1    | 47.7  | 0.74 | 94.3       | 47.7  | 0.74 | A.D.B. |
|                     | 94.3  |        | 48.2  | 0.75 | 94.3       | 48.2  | 0.75 | D.B.   |
| 65M x 0             | 5.7   | 0.9    | 15.8  | 0.98 | 100.0      | 45.9  | 0.75 | A.D.B. |
|                     | 5.7   |        | 15.9  | 0.99 | 100.0      | 46.6  | 0.76 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 34.9  | 1.0    | 4.3   | 23.3   | 71.4   | 0.98 | 34.9       | 4.3   | A.D.B. |
|                                   | 35.0  |        | 4.3   | 23.5   | 72.2   | 0.99 | 35.0       | 4.3   | D.B.   |
| 1.40-1.50                         | 5.0   | 1.1    | 17.4  | 21.6   | 59.9   | 0.94 | 39.9       | 5.9   | A.D.B. |
|                                   | 5.0   |        | 17.6  | 21.8   | 60.6   | 0.95 | 40.0       | 6.0   | D.B.   |
| 1.50-1.60                         | 3.8   | 0.9    | 27.9  |        |        |      | 43.7       | 7.9   | A.D.B. |
|                                   | 3.8   |        | 28.2  |        |        |      | 43.8       | 7.9   | D.B.   |
| +1.60                             | 56.3  | 1.1    | 77.7  |        |        |      | 100.0      | 47.2  | A.D.B. |
|                                   | 56.2  |        | 78.6  |        |        |      | 100.0      | 47.6  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                      |                  |                |        |
|---|------------|---------------------------------------|----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                      |                  |                |        |
|   |            | SOFTENING TEMP* (°C)                  | MAX. DIL. TEMP* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 9   | 0.03       | 362                                   | 459                  | 23               | 135            | 1.091  |

\* S.T. & M.D.T. corrected with factor 6/5

Lab. No. 0836 Date April 20, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R-11-3

Starting Temperature °C: 320

Softening Temperature °C: 362

Max. Dilatation Temp. °C: 459

Contraction %: 23

Dilatation %: 135

Final Temperature °C:

G. Factor: 1.091

250

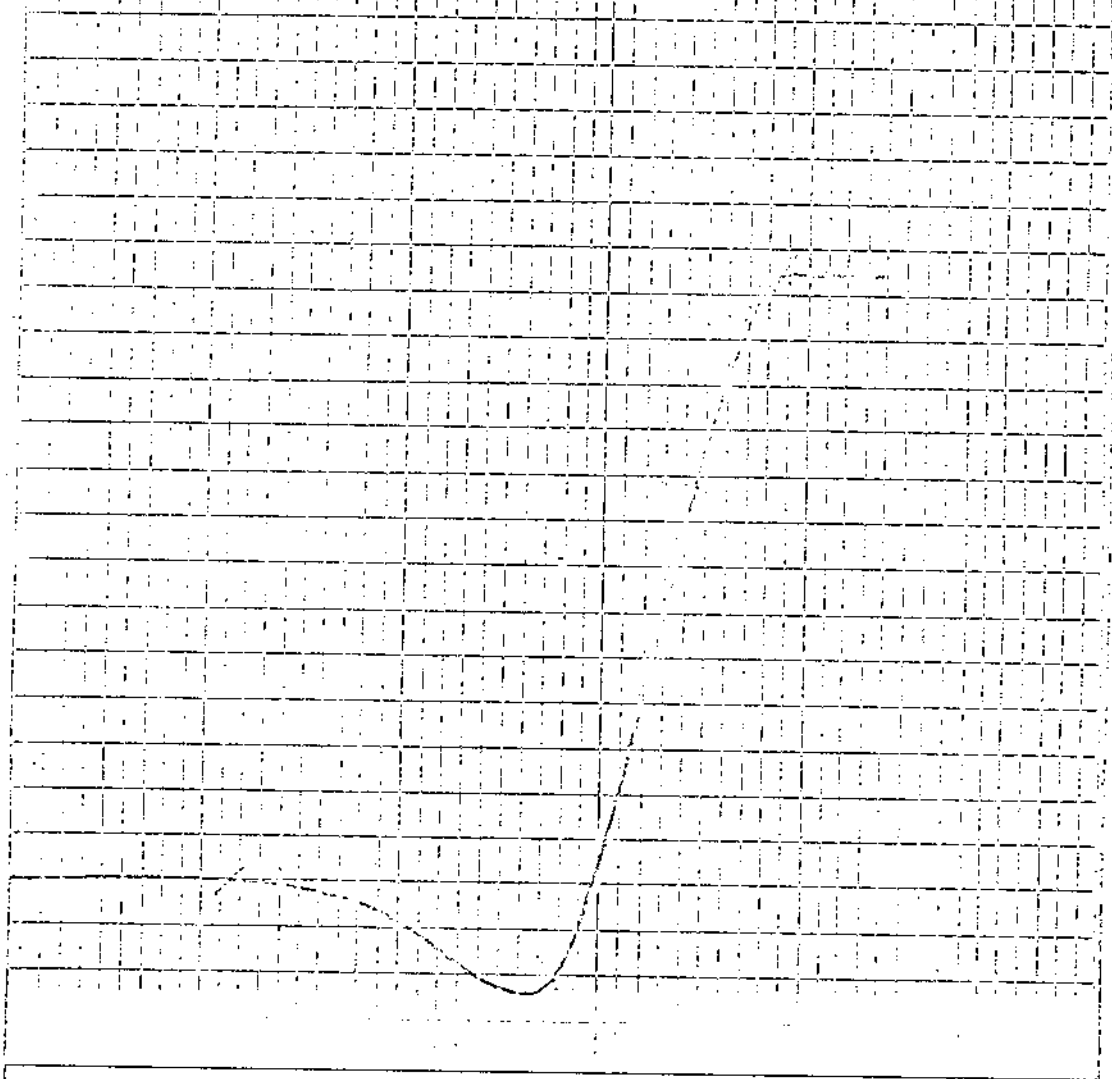
200

150

100

50

0



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R-77-11-4

Lab. No. 8837

DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.8               | 41.5  | 16.9   | 40.8   | 0.59 | 77     | Air Dried Basis |
|                   | 41.8  | 17.0   | 41.2   | 0.59 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 93.2  | 0.8    | 42.3  | 0.58 | 93.2       | 42.3  | 0.58 | A.D.B. |
|                     | 93.2  |        | 42.6  | 0.58 | 93.2       | 42.6  | 0.58 | D.B.   |
| 65M x 0             | 6.8   | 0.7    | 19.1  | 0.71 | 100.0      | 40.7  | 0.59 | A.D.B. |
|                     | 6.8   |        | 19.2  | 0.72 | 100.0      | 41.0  | 0.59 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 41.4  | 1.1    | 4.7   | 22.3   | 71.9   | 0.79 | 41.4       | 4.7   | A.D.B. |
|                                   | 41.3  |        | 4.8   | 22.5   | 72.7   | 0.80 | 41.3       | 4.8   | D.B.   |
| 1.40-1.50                         | 5.6   | 0.7    | 18.1  | 19.2   | 62.0   | 0.67 | 47.0       | 6.3   | A.D.B. |
|                                   | 5.6   |        | 13.2  | 19.3   | 62.5   | 0.67 | 46.9       | 6.4   | D.B.   |
| 1.50-1.60                         | 4.2   | 0.8    | 29.5  |        |        |      | 51.2       | 8.2   | A.D.B. |
|                                   | 4.2   |        | 29.7  |        |        |      | 51.1       | 8.3   | D.B.   |
| +1.60                             | 48.8  | 0.9    | 76.8  |        |        |      | 100.0      | 41.7  | A.D.B. |
|                                   | 48.9  |        | 77.5  |        |        |      | 100.0      | 42.1  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                       |                  |                |       |        |
|---|------------|---------------------------------------|-----------------------|------------------|----------------|-------|--------|
| F.S.I.  | P% GN COAL | DILATATION TEST (Initial Temp.=320°C) |                       |                  |                |       | G. NO. |
|   |            | SOFTENING TEMP. *(°C)                 | MAX. DIL. TEMP. *(°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % |       |        |
| 8 1/2   | 0.04       | 387                                   | 464                   | 21               | 24             | 1.006 |        |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lcb. No. 8837 Date April 20, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-11-4

Starting Temperature °C: 320

Softening Temperature °C: 387

Max. Dilatation Temp. °C: 464

250

Contraction %: 21

Dilatation %: 24

Final Temperature °C:

G. Factor: 1.006

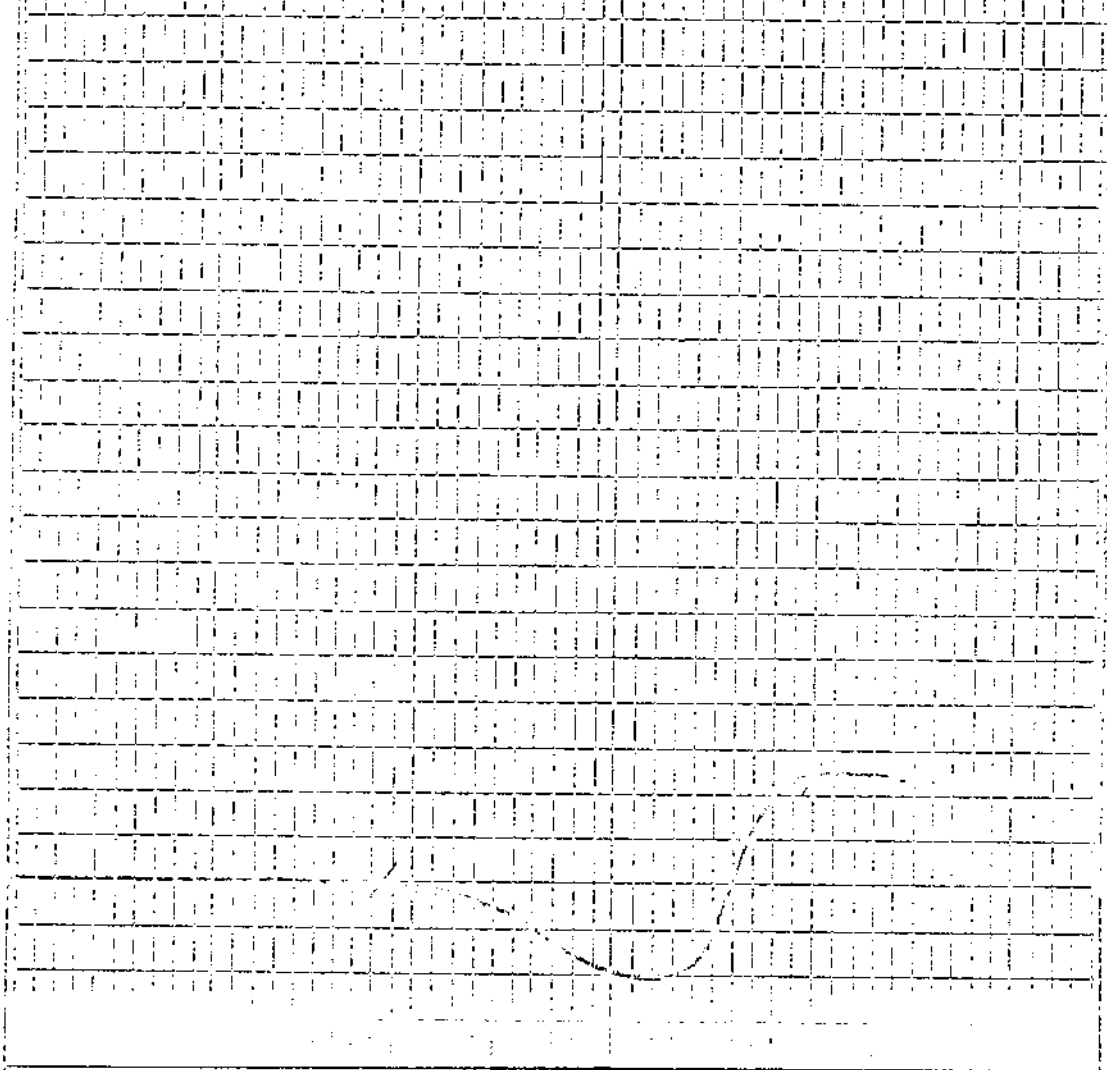
200

150

100

50

0



BENTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-11-5 Lab. No. 8838 DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.9               | 21.4  | 18.1   | 59.6   | 0.50 | 96     | Air Dried Basis |
|                   | 21.6  | 18.3   | 60.1   | 0.50 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 88.6  | 0.9    | 22.2  | 0.53 | 88.6       | 22.2  | 0.53 | A.D.B. |
|                     | 88.6  |        | 22.4  | 0.53 | 88.6       | 22.4  | 0.53 | D.B.   |
| 65M x 0             | 11.4  | 1.1    | 12.2  | 0.51 | 100.0      | 21.1  | 0.53 | A.D.B. |
|                     | 11.4  |        | 12.3  | 0.52 | 100.0      | 21.2  | 0.53 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |                       |                       |                       |            |       |        |
|-----------------------------------|-------|--------|-------|-----------------------|-----------------------|-----------------------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. %                | F.C. %                | S. %                  | CUMULATIVE |       |        |
|                                   |       |        |       |                       |                       |                       | WT. %      | ASH % |        |
| -1.40                             | 54.4  | 0.9    | 5.0   | 20.7                  | 73.4                  | 0.64                  | 54.4       | 5.0   | A.D.B. |
|                                   | 54.5  |        | 5.0   | 20.9                  | 74.1                  | 0.65                  | 54.5       | 5.0   | D.B.   |
| 1.40-1.50                         | 15.1  | 1.0    | 13.8  | 18.0                  | 67.2                  | 0.49                  | 69.5       | 6.9   | A.D.B. |
|                                   | 15.1  |        | 13.9  | 18.2                  | 67.9                  | 0.49                  | 69.6       | 6.9   | D.B.   |
| 1.50-1.60                         | 6.2   | 0.9    | 21.2  | <del>          </del> | <del>          </del> | <del>          </del> | 75.7       | 8.1   | A.D.B. |
|                                   | 6.2   |        | 21.4  | <del>          </del> | <del>          </del> | <del>          </del> | 75.8       | 8.1   | D.B.   |
| +1.60                             | 24.3  | 1.2    | 66.0  | <del>          </del> | <del>          </del> | <del>          </del> | 100.0      | 22.2  | A.D.B. |
|                                   | 24.2  |        | 66.8  | <del>          </del> | <del>          </del> | <del>          </del> | 100.0      | 22.3  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.C., A.D.B. |            |                                       |                       |                  |                |        |
|---|------------|---------------------------------------|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP. *(°C)                 | MAX. DIL. TEMP. *(°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 3 1/2   | 0.03       | 410                                   | ---                   | 15% @ 457°C      | ---            | ---    |

\* S.T. & M.D.T. corrected with factor 6/5



Lab. No. 8838 Date April 20, 1977

Client: ELCO MINING LTD.

Sample Identification: R77-11-5

Starting Temperature °C: 320

Softening Temperature °C: 410

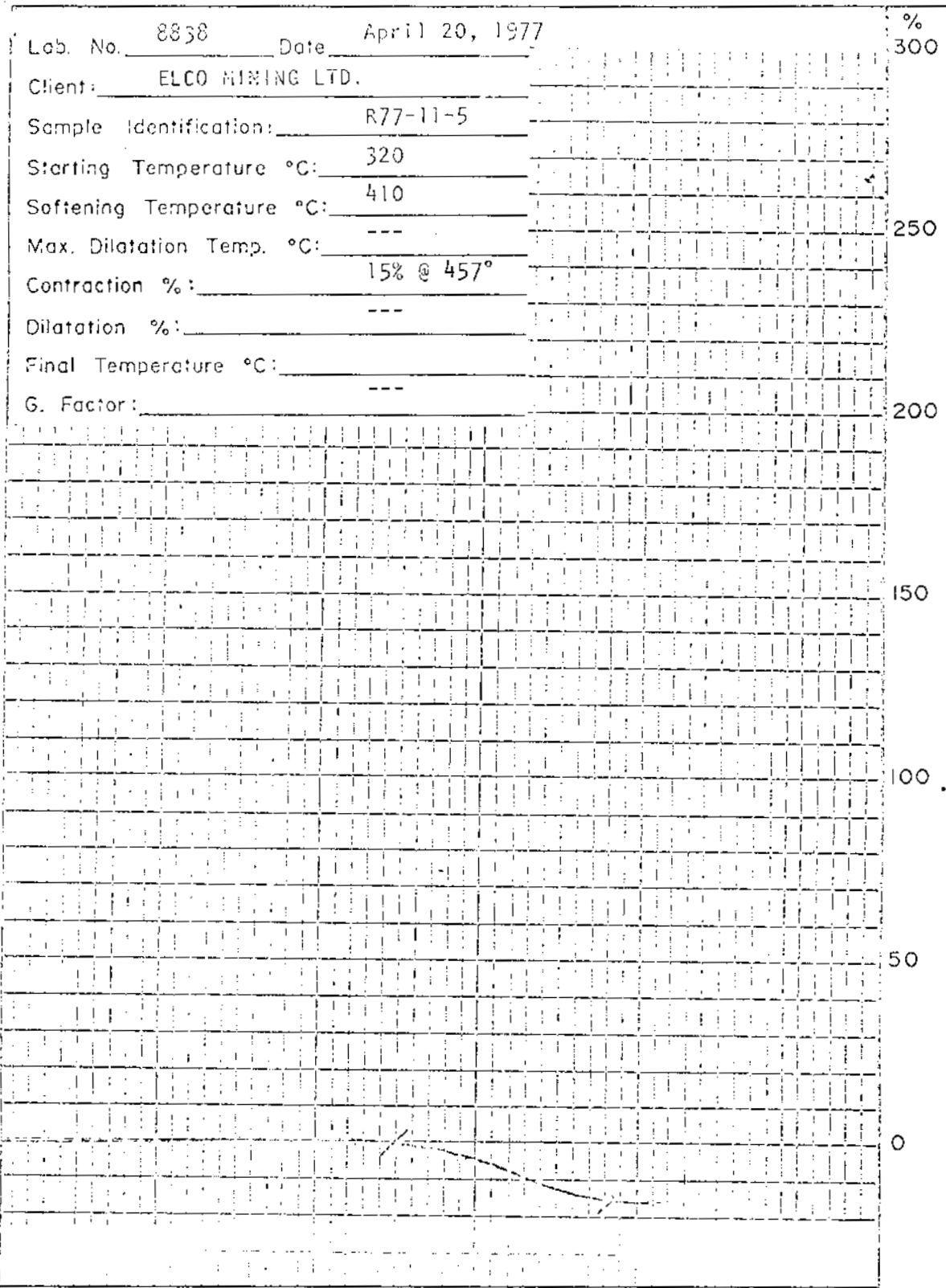
Max. Dilatation Temp. °C: ---

Contraction %: 15% @ 457°

Dilatation %: ---

Final Temperature °C: ---

G. Factor: ---



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R-77-11-6 Lab. No. 8839 DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.9               | 32.4  | 16.4   | 50.3   | 0.43 | 80     | Air Dried Basis |
|                   | 32.7  | 16.5   | 50.8   | 0.43 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 91.4  | 0.9    | 34.4  | 0.42 | 91.4       | 34.4  | 0.42 | A.D.B. |
|                     | 91.4  |        | 34.7  | 0.42 | 91.4       | 34.7  | 0.42 | D.B.   |
| 65M x 0             | 8.6   | 1.0    | 21.0  | 0.58 | 100.0      | 33.2  | 0.43 | A.D.B. |
|                     | 8.6   |        | 21.2  | 0.59 | 100.0      | 33.5  | 0.43 | D.B.   |

| SINK-FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|---------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                           | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                 |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                           | 40.4  | 0.9    | 5.4   | 20.0   | 73.7   | 0.69 | 40.4       | 5.4   | A.D.B. |
|                                 | 40.5  |        | 5.4   | 20.2   | 74.4   | 0.70 | 40.5       | 5.4   | D.B.   |
| 1.40-1.50                       | 10.8  | 1.0    | 13.5  | 18.2   | 67.3   | 0.61 | 51.2       | 7.1   | A.D.B. |
|                                 | 10.8  |        | 13.6  | 18.4   | 68.0   | 0.62 | 51.3       | 7.1   | D.B.   |
| 1.50-1.60                       | 4.8   | 0.8    | 23.6  |        |        |      | 56.0       | 8.5   | A.D.B. |
|                                 | 4.8   |        | 23.8  |        |        |      | 56.1       | 8.6   | D.B.   |
| +1.60                           | 44.0  | 1.3    | 69.3  |        |        |      | 100.0      | 35.3  | A.D.B. |
|                                 | 43.9  |        | 70.2  |        |        |      | 100.0      | 35.6  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                       |                  |                |        |
|---|------------|---------------------------------------|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP.* (°C)                 | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 3 1/2   | 0.06       | 403                                   | ---                   | 13% @ 468°C      | ---            | ---    |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lab. No. 8839 Date April 20, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-11-6

Starting Temperature °C: 320

Softening Temperature °C: 403

Max. Dilatation Temp. °C: ---

Contraction %: 13% @ 468°

Dilatation %: ---

Final Temperature °C: ---

G. Factor: ---

250

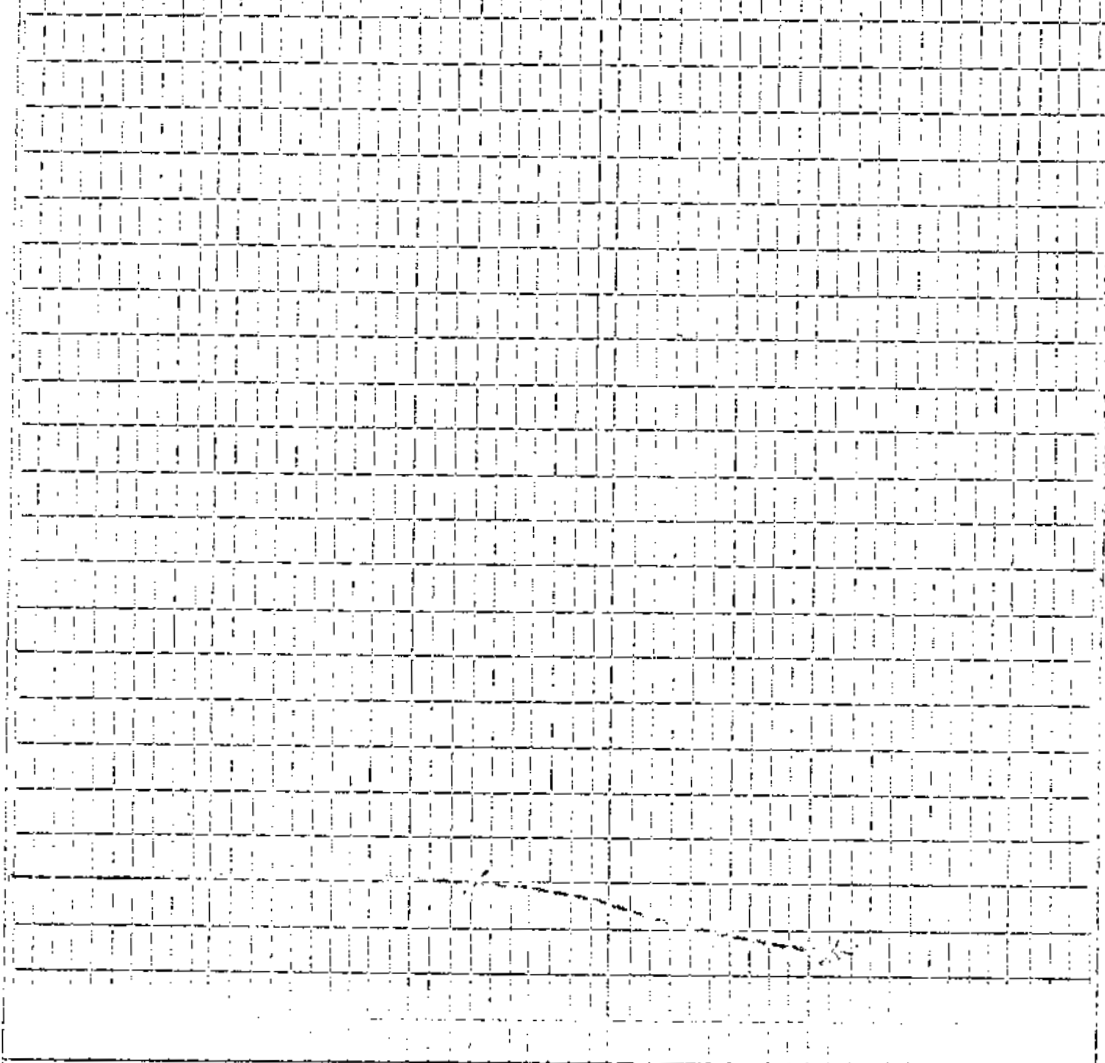
200

150

100

50

0



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No.: R77 - 12 - 1 Lab. No.: 77 - 3001 Date: April 5, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| P.M.%             | Ash% | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.6               | 37.9 | 22.0  | 39.5  | 0.75 | 102.4  | Air Dried Basis |
| --                | 38.1 | 22.2  | 39.7  | 0.75 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 54.2  | 0.5   | 42.9  | 0.75 | 54.2       | 42.9  | 0.75 | A.D.B. |
|                     | 54.2  | --    | 43.1  | 0.75 | 54.2       | 43.1  | 0.75 | D.B.   |
| 65 x 0              | 45.8  | 0.6   | 34.8  | 0.86 | 100.0      | 39.2  | 0.80 | A.D.B. |
|                     | 45.8  | --    | 35.1  | 0.86 | 100.0      | 39.4  | 0.80 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |       |       |       |      |            |       |        |
|----------------------------------|------|-------|-------|-------|-------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M.% | Ash % | V.M.% | F.C.% | S. % | Cumulative |       |        |
|                                  |      |       |       |       |       |      | Wt. %      | Ash % |        |
| -1.40                            | 22.2 | 0.9   | 12.3  | 29.7  | 57.1  | 1.11 | 22.2       | 12.3  | A.D.B. |
|                                  | 22.2 | --    | 12.4  | 30.0  | 57.6  | 1.12 | 22.2       | 12.4  | D.B.   |
| 1.40-1.50                        | 18.3 | 0.9   | 19.8  | 24.2  | 55.1  | 1.01 | 40.5       | 15.7  | A.D.B. |
|                                  | 18.3 | --    | 20.0  | 24.4  | 55.6  | 1.02 | 40.5       | 15.8  | D.B.   |
| 1.50-1.60                        | 12.0 | 0.8   | 27.8  | --    | --    | --   | 52.5       | 18.5  | A.D.B. |
|                                  | 12.0 | --    | 28.0  | --    | --    | --   | 52.5       | 18.6  | D.B.   |
| +1.60                            | 47.5 | 0.7   | 70.4  | --    | --    | --   | 100.0      | 43.2  | A.D.B. |
|                                  | 47.5 | --    | 71.0  | --    | --    | --   | 100.0      | 43.5  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |                        |                        |                     |                   |       |
|--|-------------------|------------------------|------------------------|---------------------|-------------------|-------|
| I.S.I.   | F %<br>on<br>Coal | DILATATION TESTS       |                        |                     |                   | G.No. |
|  |                   | Softening<br>Temp.(°C) | Max. Dil.<br>Temp.(°C) | Maximum<br>Contr. % | Maximum<br>Dil. % |       |
| 9  | 0.020             |                        |                        |                     |                   |       |

ELCO MINING LTD.

## CORE SAMPLE ANALYSIS

Hole No.: R77 - 12 - 2 Lab. No.: 77 - 3002 Date: April 5, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| F.M.%             | Ash% | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.7               | 73.1 | 13.5  | 12.7  | 0.51 | 53.9   | Air Dried Basis |
| --                | 73.6 | 13.6  | 12.8  | 0.51 | ---    | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 93.8  | 0.6   | 76.9  | 0.47 | 93.8       | 76.9  | 0.47 | A.D.B. |
|                     | 93.8  | --    | 77.4  | 0.47 | 93.8       | 77.4  | 0.47 | D.B.   |
| 65 x 0              | 6.2   | 0.6   | 59.3  | 0.63 | 100.0      | 75.8  | 0.48 | A.D.B. |
|                     | 6.2   | --    | 59.7  | 0.63 | 100.0      | 76.3  | 0.48 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |       |       |       |      |            |       |        |
|----------------------------------|------|-------|-------|-------|-------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M.% | Ash % | V.M.% | F.C.% | S.%  | Cumulative |       |        |
|                                  |      |       |       |       |       |      | Wt. %      | Ash % |        |
| -1.40                            | 2.6  | 0.6   | 9.5   | 26.3  | 63.6  | 0.94 | 2.6        | 9.5   | A.D.B. |
|                                  | 2.6  | --    | 9.6   | 26.4  | 64.0  | 0.95 | 2.6        | 9.6   | D.B.   |
| 1.40-1.50                        | 2.6  | 0.6   | 17.8  | 23.6  | 58.0  | 0.83 | 5.2        | 13.6  | A.D.B. |
|                                  | 2.6  | --    | 18.0  | 23.8  | 58.2  | 0.84 | 5.2        | 13.8  | D.B.   |
| 1.50-1.60                        | 3.6  | 0.5   | 30.9  | --    | --    | --   | 8.8        | 20.7  | A.D.B. |
|                                  | 3.6  | --    | 31.0  | --    | --    | --   | 8.8        | 20.8  | D.B.   |
| +1.60                            | 91.2 | 0.8   | 82.3  | --    | --    | --   | 100.0      | 76.9  | A.D.B. |
|                                  | 91.2 | --    | 82.9  | --    | --    | --   | 100.0      | 77.4  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |                         |                         |                     |                   |       |
|--|-------------------|-------------------------|-------------------------|---------------------|-------------------|-------|
| F.S.I.   | F %<br>on<br>Coal | DILATATION TESTS        |                         |                     |                   |       |
|  |                   | Softening<br>Temp. (°C) | Max. Dil.<br>Temp. (°C) | Maximum<br>Contr. % | Maximum<br>Dil. % | G.No. |
| 8%   | 0.054             |                         |                         |                     |                   |       |

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No. R77 - 12 - 3 Lab. No.: 77 - 3003 Date: April 5, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| P.M.%             | Ash% | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.8               | 70.6 | 12.7  | 15.9  | 0.47 | 53.9   | Air Dried Basis |
| --                | 71.2 | 12.8  | 16.0  | 0.47 | ---    | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 63.7  | 0.7   | 76.6  | 0.39 | 63.7       | 76.6  | 0.39 | A.D.B. |
|                     | 63.7  | --    | 77.1  | 0.39 | 63.7       | 77.1  | 0.39 | D.B.   |
| 65 x 0              | 36.3  | 0.8   | 58.3  | 0.65 | 100.0      | 70.0  | 0.48 | A.D.B. |
|                     | 36.3  | --    | 58.6  | 0.66 | 100.0      | 70.4  | 0.48 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |      |       |      |      |      |            |       |        |
|----------------------------------|------|------|-------|------|------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M% | Ash % | V.M% | F.C% | S.%  | Cumulative |       |        |
|                                  |      |      |       |      |      |      | Wt. %      | Ash % |        |
| -1.40                            | 2.1  | 0.6  | 9.6   | 26.5 | 63.3 | 1.01 | 2.1        | 9.6   | A.D.B. |
|                                  | 2.1  | --   | 9.7   | 26.6 | 63.7 | 1.02 | 2.1        | 9.7   | D.B.   |
| 1.40-1.50                        | 2.3  | 0.6  | 20.2  | 24.0 | 55.2 | 0.95 | 4.4        | 15.1  | A.D.B. |
|                                  | 2.3  | --   | 20.3  | 24.1 | 55.6 | 0.96 | 4.4        | 15.2  | D.B.   |
| 1.50-1.60                        | 1.3  | 0.5  | 30.6  | --   | --   | --   | 5.7        | 18.7  | A.D.B. |
|                                  | 1.3  | --   | 30.7  | --   | --   | --   | 5.7        | 18.8  | D.B.   |
| +1.60                            | 94.3 | 1.0  | 79.4  | --   | --   | --   | 100.0      | 75.9  | A.D.B. |
|                                  | 94.3 | --   | 80.2  | --   | --   | --   | 100.0      | 76.7  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                     |                     |                  |                |       |
|--|-------------|---------------------|---------------------|------------------|----------------|-------|
| F.S.I.   | P % on Coal | DILATATION TESTS    |                     |                  |                | G.No. |
|  |             | Softening Temp.(°C) | Max. Dil. Temp.(°C) | Maximum Contr. % | Maximum Dil. % |       |
| 7%   | 0.067       |                     |                     |                  |                |       |

CLIENT: WARNOCK HERSEY

PROJECT: DILATATION TESTS \*

SAMPLE : -8 Mesh, 1.50 S.G. Composite      DATE: April/77  
Float

| CSEMT<br>LAB. NO. | W.H.<br>I.D. No.   | INITIAL<br>TEMP(°C) | SOFTENING<br>TEMP(°C) | MAX.<br>DILAT'N<br>TEMP(°C) | MAX.<br>CONTRACT'N<br>% | MAX.<br>DILATATION<br>% | G.No.            |
|-------------------|--------------------|---------------------|-----------------------|-----------------------------|-------------------------|-------------------------|------------------|
| 8932              | 77-3001            | 320                 | 363                   | 453                         | 24                      | 191                     | 1.094            |
| 8933              | 77-3002            | 320                 | 361                   | 459                         | 23                      | 212                     | 1.106            |
| 8934              | 77-3003            | 320                 | 356                   | 457                         | 29                      | 251                     | 1.109            |
| <del>8935</del>   | <del>77-3004</del> | <del>320</del>      | <del>363</del>        | <del>453</del>              | <del>28</del>           | <del>88</del>           | <del>1.061</del> |
| 8936              | 77-3005            | 320                 | 367                   | 459                         | 26                      | 216                     | 1.096            |
| 8937              | 77-3006            | 320                 | 360                   | 459                         | 22                      | 250                     | 1.113            |
| 8938              | 77-3007            | 320                 | 356                   | 452                         | 27                      | 187                     | 1.097            |
| 8939              | 77-3008            | 320                 | 352                   | 450                         | 16                      | 295                     | 1.123            |
| 8940              | 77-3009            | 320                 | 363                   | 458                         | 30                      | 289                     | 1.104            |
| 8941              | 77-3010            | 320                 | 360                   | 460                         | 23                      | 297                     | 1.117            |
| 8942              | 77-3011            | 320                 | 367                   | 456                         | 23                      | 17                      | 0.984            |
| 8943              | 77-3012            | 320                 | 372                   | 458                         | 28                      | 21                      | 0.985            |
| 8944              | 77-3013            | 320                 | 367                   | 460                         | 24                      | 175                     | 1.093            |
| 8945              | 77-3014            | 320                 | 367                   | 458                         | 29                      | 229                     | 1.094            |
| 8946              | 77-3015            | 320                 | 374                   | 456                         | 23                      | 181                     | 1.083            |
| 8947              | 77-3016            | 320                 | 370                   | 457                         | 19                      | 193                     | 1.095            |
| 8948              | 77-3017            | 320                 | 379                   | 466                         | 27                      | 57                      | 1.038            |
| 8949              | 77-3018            | 320                 | 370                   | 465                         | 23                      | 179                     | 1.096            |
| 8950              | 77-3019            | 320                 | 363                   | 460                         | 25                      | 183                     | 1.098            |
| 8951              | 77-3020            | 320                 | 368                   | 456                         | 25                      | 96                      | 1.067            |
| 8952              | 77-3021            | 320                 | 367                   | 457                         | 28                      | 223                     | 1.093            |
| 8953              | 77-3022            | 320                 | 354                   | 463                         | 26                      | 308                     | 1.127            |
| 8954              | 77-3023            | 320                 | 350                   | 452                         | 24                      | 222                     | 1.114            |

\* Softening Temp., Maximum Dilatation/Contraction Temp.  
are corrected with factor = 6/5

*Birtley Engineering*

*Subsidiary of Great West Steel Industries*

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R - 77 - 12 - 4 Lab. No. 8728 DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.8               | 29.6  | 19.6   | 50.0   | 0.55 | 98     | Air Dried Basis |
|                   | 29.8  | 19.8   | 50.4   | 0.55 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 61.2  | 0.8    | 35.6  | 0.51 | 61.2       | 35.6  | 0.51 | A.D.B. |
|                     | 61.4  |        | 35.9  | 0.51 | 61.4       | 35.9  | 0.51 | D.B.   |
| 65M x 0             | 38.8  | 1.7    | 18.5  | 0.62 | 100.0      | 29.0  | 0.55 | A.D.B. |
|                     | 38.6  |        | 18.8  | 0.63 | 100.0      | 29.3  | 0.56 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 38.6  | 0.8    | 4.5   | 25.1   | 69.6   | 0.67 | 38.6       | 4.5   | A.D.B. |
|                                   | 38.7  |        | 4.5   | 25.3   | 70.2   | 0.68 | 38.7       | 4.5   | D.B.   |
| 1.40-1.50                         | 6.8   | 1.0    | 13.6  | 21.5   | 63.9   | 0.64 | 45.4       | 5.9   | A.D.B. |
|                                   | 6.8   |        | 13.7  | 21.7   | 64.6   | 0.65 | 45.5       | 5.9   | D.B.   |
| 1.50-1.60                         | 13.1  | 1.0    | 20.6  |        |        |      | 58.5       | 9.2   | A.D.B. |
|                                   | 13.1  |        | 20.8  |        |        |      | 58.6       | 9.2   | D.B.   |
| +1.60                             | 41.5  | 1.1    | 72.8  |        |        |      | 100.0      | 35.6  | A.D.B. |
|                                   | 41.4  |        | 73.6  |        |        |      | 100.0      | 35.9  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |   |                       |                  |                |        |
|---|------------|---|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp. = 320°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP.* (°C)                   | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 8   | 0.03       | 374                                     | 451                   | 26               | 19             | 0.986  |

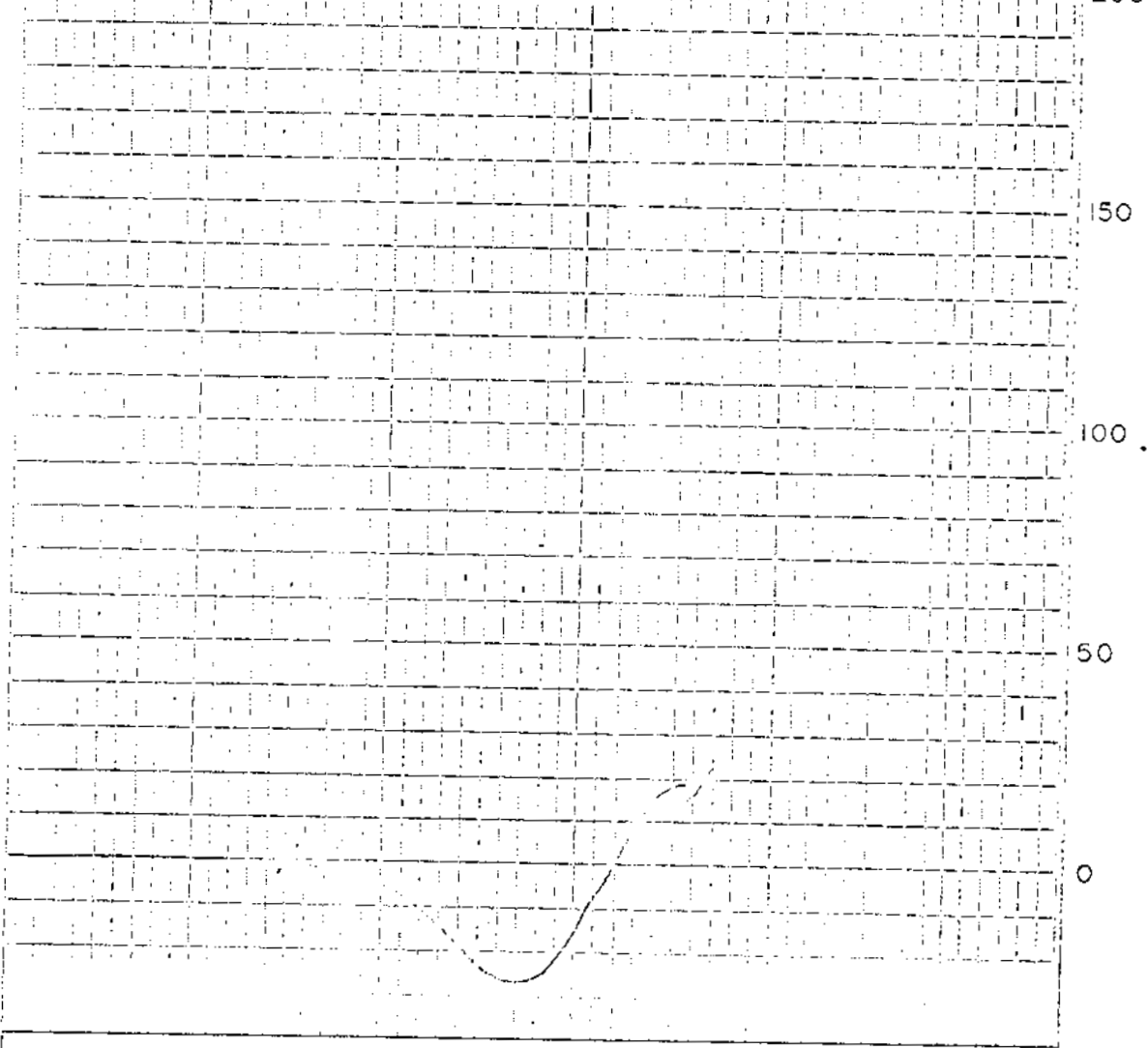
\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries



Lab. No. 8728 Date April 7, 1977 %  
 Client: ELCO MINING LTD. 300  
 Sample Identification: R77-12-4  
 Starting Temperature °C: 320  
 Softening Temperature °C: 374  
 Max. Dilatation Temp. °C: 451 250  
 Contraction %: 26  
 Dilatation %: 19  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 0.936 200



**BIRTLEY ENGINEERING (CANADA) LTD.**

|   |       |
|---|-------|
| Title<br><p style="text-align: center;">RUHR DILATOMETER TEST</p> | Date  |
|   | Drawn |

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R - 77 - 12 - 5 Lab. No. 8729 DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.9               | 66.0  | 12.6   | 20.5   | 0.62 | 56     | Air Dried Basis |
|                   | 66.6  | 12.7   | 20.7   | 0.63 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 61.7  | 0.9    | 75.0  | 0.62 | 61.7       | 75.0  | 0.62 | A.D.B. |
|                     | 61.8  |        | 75.7  | 0.63 | 61.8       | 75.7  | 0.63 | D.B.   |
| 65M x 0             | 38.3  | 1.1    | 51.1  | 0.73 | 100.0      | 65.8  | 0.66 | A.D.B. |
|                     | 38.2  |        | 51.7  | 0.74 | 100.0      | 66.5  | 0.67 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 6.9   | 0.9    | 4.8   | 25.8   | 68.5   | 0.96 | 6.9        | 4.8   | A.D.B. |
|                                   | 6.9   |        | 4.8   | 26.0   | 69.2   | 0.97 | 6.9        | 4.8   | D.B.   |
| 1.40-1.50                         | 2.2   | 0.8    | 19.1  | 21.7   | 58.4   | 0.85 | 9.1        | 8.3   | A.D.B. |
|                                   | 2.2   |        | 19.3  | 21.9   | 58.8   | 0.86 | 9.1        | 8.3   | D.B.   |
| 1.50-1.60                         | 1.5   | 1.0    | 29.7  |        |        |      | 10.6       | 11.3  | A.D.B. |
|                                   | 1.5   |        | 30.0  |        |        |      | 10.6       | 11.4  | D.B.   |
| +1.60                             | 89.4  | 1.0    | 82.5  |        |        |      | 100.0      | 75.0  | A.D.B. |
|                                   | 89.4  |        | 83.3  |        |        |      | 100.0      | 75.7  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                       |                  |                |        |
|---|------------|---------------------------------------|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP.* (°C)                 | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 8 1/2   | 0.03       | 360                                   | 446                   | 25               | 193            | 1.090  |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lab. No. 8729 Date April 7, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-12-5

Starting Temperature °C: 320

Softening Temperature °C: 360

Max. Dilatation Temp. °C: 446

Contraction %: 25

Dilatation %: 193

Final Temperature °C: \_\_\_\_\_

G. Factor: 1.090

250

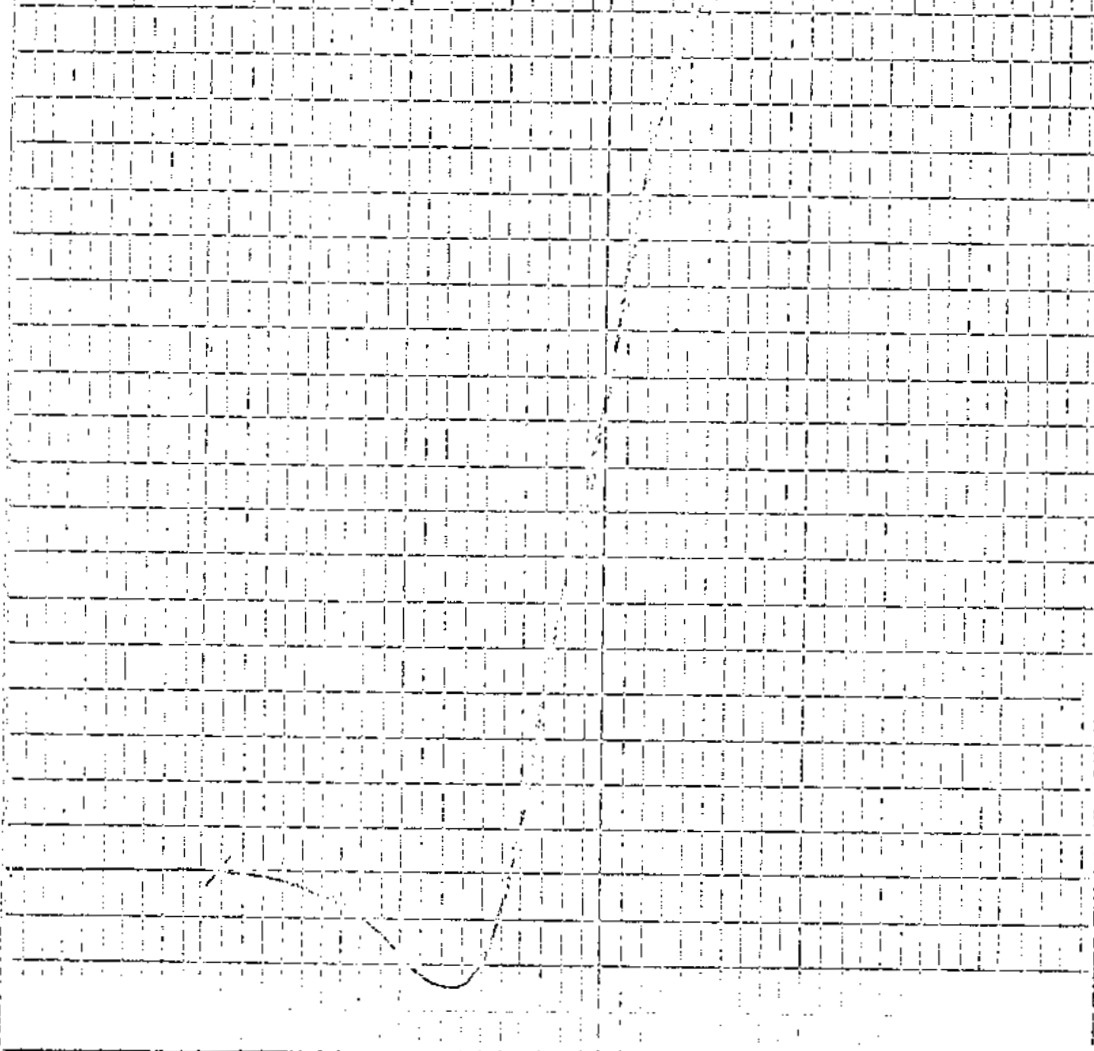
200

150

100

50

0



DARTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R - 77 - 12 - 6

Lab. No. 8730

DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.6               | 45.2  | 16.6   | 37.6   | 0.69 | 62     | Air Dried Basis |
|                   | 45.5  | 16.7   | 37.8   | 0.69 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 63.9  | 0.8    | 57.9  | 0.54 | 63.9       | 57.9  | 0.54 | A.D.B. |
|                     | 63.9  |        | 58.4  | 0.54 | 63.9       | 58.4  | 0.54 | D.B.   |
| 65M x 0             | 36.1  | 0.9    | 22.8  | 0.93 | 100.0      | 45.2  | 0.68 | A.D.B. |
|                     | 36.1  |        | 23.0  | 0.94 | 100.0      | 45.6  | 0.68 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 28.6  | 0.8    | 3.4   | 26.2   | 69.6   | 0.97 | 28.6       | 3.4   | A.D.B. |
|                                   | 28.7  |        | 3.4   | 26.4   | 70.2   | 0.98 | 28.7       | 3.4   | D.B.   |
| 1.40-1.50                         | 3.3   | 0.8    | 9.3   | 24.9   | 65.0   | 0.95 | 31.9       | 4.0   | A.D.B. |
|                                   | 3.3   |        | 9.4   | 25.1   | 65.5   | 0.96 | 32.0       | 4.0   | D.B.   |
| 1.50-1.60                         | 2.0   | 1.0    | 19.2  |        |        |      | 33.9       | 4.9   | A.D.B. |
|                                   | 2.0   |        | 19.4  |        |        |      | 34.0       | 4.9   | D.B.   |
| +1.60                             | 66.1  | 1.0    | 85.1  |        |        |      | 100.0      | 57.9  | A.D.B. |
|                                   | 66.0  |        | 86.0  |        |        |      | 100.0      | 58.4  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                      |                  |                |       |        |
|---|------------|---------------------------------------|----------------------|------------------|----------------|-------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                      |                  |                |       | G. NO. |
|   |            | SOFTENING TEMP.* (°C)                 | MAX. DIL. TEMP. (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % |       |        |
| 8 1/2   | 0.02       | 367                                   | 453                  | 26               | 154            | 1.081 |        |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lab. No. 8730 Date April 7, 1977

Client: ELCO MINING LTD.

Sample Identification: R77-12-6

Starting Temperature °C: 320

Softening Temperature °C: 367

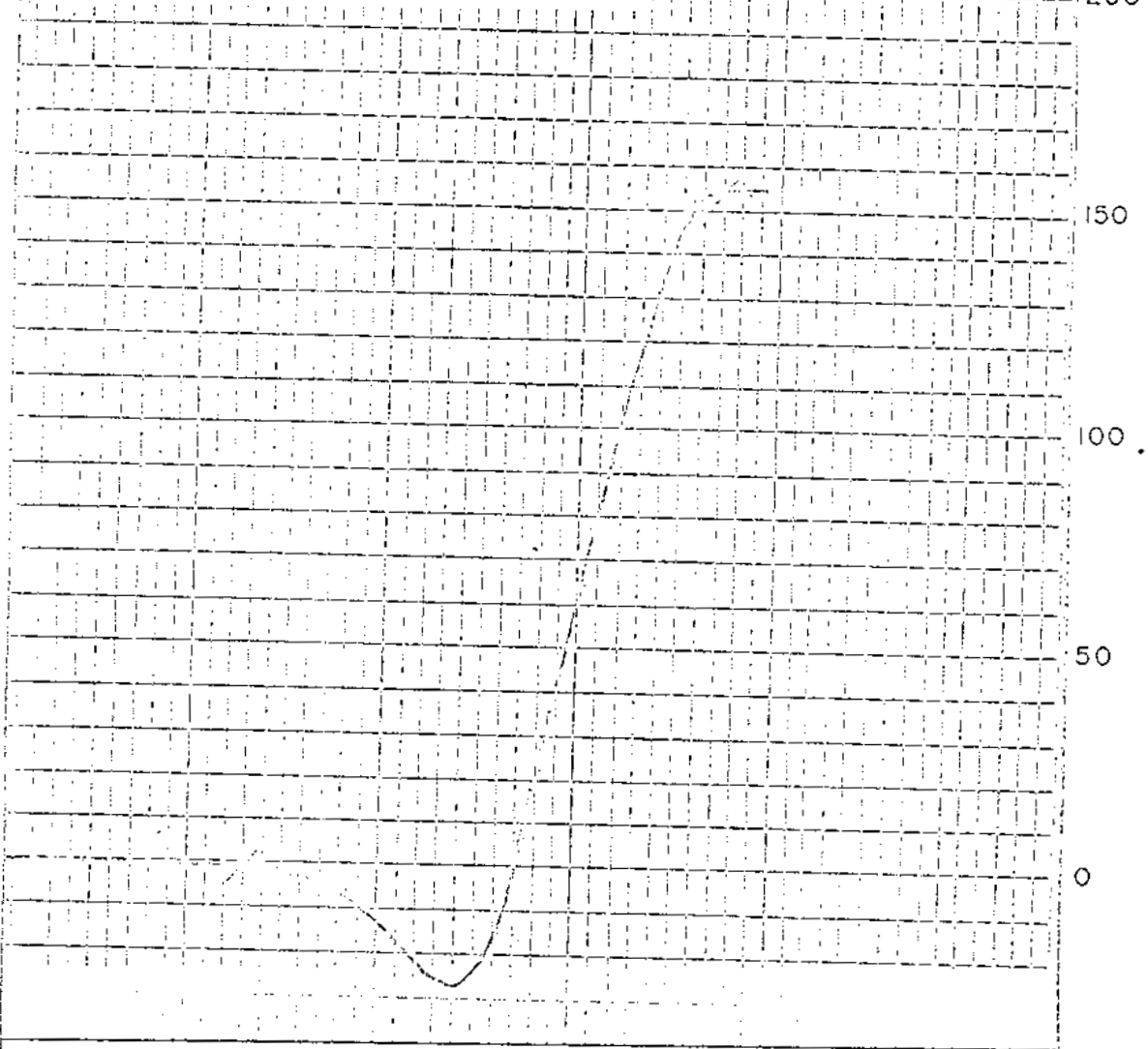
Max. Dilatation Temp. °C: 453

Contraction %: 26

Dilatation %: 154

Final Temperature °C: \_\_\_\_\_

G. Factor: 1.081



**BIRTLEY ENGINEERING (CANADA) LTD.**

Title RUHR DILATOMETER TEST

Date \_\_\_\_\_  
Drawn \_\_\_\_\_

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R - 77 - 12 - 7 Lab. No. 8731 DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.8               | 43.2  | 17.2   | 38.8   | 0.76 | 81     | Air Dried Basis |
|                   | 43.5  | 17.3   | 39.2   | 0.77 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 63.2  | 0.8    | 51.7  | 0.71 | 63.2       | 51.7  | 0.71 | A.D.B. |
|                     | 63.2  |        | 52.1  | 0.72 | 63.2       | 52.1  | 0.72 | D.B.   |
| 65M x 0             | 36.8  | 0.9    | 27.9  | 0.85 | 100.0      | 42.9  | 0.76 | A.D.B. |
|                     | 36.8  |        | 28.2  | 0.86 | 100.0      | 43.3  | 0.77 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 27.7  | 0.8    | 4.8   | 26.5   | 67.9   | 1.04 | 27.7       | 4.8   | A.D.B. |
|                                   | 27.7  |        | 4.8   | 26.7   | 68.5   | 1.05 | 27.7       | 4.8   | D.B.   |
| 1.40-1.50                         | 2.8   | 0.9    | 17.3  | 23.3   | 58.5   | 0.93 | 30.5       | 5.9   | A.D.B. |
|                                   | 2.8   |        | 17.5  | 23.5   | 59.0   | 0.94 | 30.5       | 6.0   | D.B.   |
| 1.50-1.60                         | 5.8   | 1.0    | 24.4  |        |        |      | 36.3       | 8.9   | A.D.B. |
|                                   | 5.8   |        | 24.6  |        |        |      | 36.3       | 8.9   | D.B.   |
| +1.60                             | 63.7  | 0.9    | 75.8  |        |        |      | 100.0      | 51.5  | A.D.B. |
|                                   | 63.7  |        | 76.5  |        |        |      | 100.0      | 52.0  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                       |                  |                |        |
|---|------------|---------------------------------------|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP.* (°C)                 | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 8 1/2   | 0.04       | 363                                   | 452                   | 28               | 217            | 1.092  |

\* S.T. & M.D.T. corrected with factor 6/5

Lab. No. 8731 Date April 7, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-12-7

Starting Temperature °C: 320

Softening Temperature °C: 363

Max. Dilatation Temp. °C: 452

250

Contraction %: 28

Dilatation %: 217

Final Temperature °C:

G. Factor: 1.092

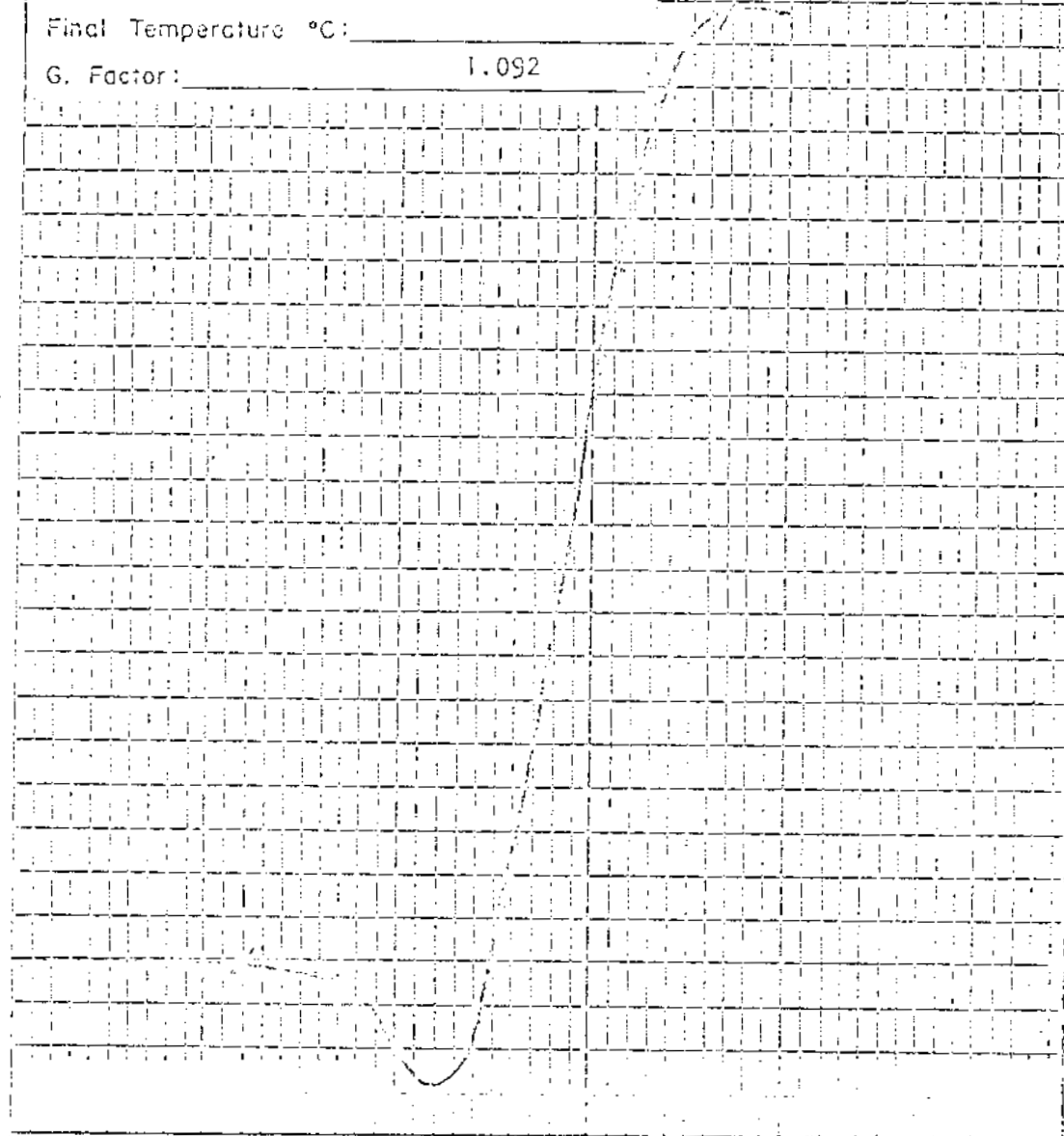
200

150

100

50

0



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R - 77 - 12 - 8 Lab. No. 8732 DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.8               | 25.4  | 20.2   | 53.6   | 1.11 | 89     | Air Dried Basis |
|                   | 25.6  | 20.4   | 54.0   | 1.12 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 62.8  | 0.8    | 31.7  | 1.29 | 62.8       | 31.7  | 1.29 | A.D.B. |
|                     | 63.0  |        | 32.0  | 1.30 | 63.0       | 32.0  | 1.30 | D.B.   |
| 65M x 0             | 37.2  | 1.4    | 13.6  | 0.80 | 100.0      | 25.0  | 1.11 | A.D.B. |
|                     | 37.0  |        | 13.8  | 0.81 | 100.0      | 25.3  | 1.12 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 47.8  | 1.1    | 4.4   | 22.7   | 71.8   | 0.77 | 47.8       | 4.4   | A.D.B. |
|                                   | 47.8  |        | 4.4   | 23.0   | 72.6   | 0.78 | 47.8       | 4.4   | D.B.   |
| 1.40-1.50                         | 10.3  | 1.1    | 13.0  | 19.9   | 66.0   | 0.68 | 58.1       | 5.9   | A.D.B. |
|                                   | 10.3  |        | 13.1  | 20.1   | 66.8   | 0.69 | 58.1       | 5.9   | D.B.   |
| 1.50-1.60                         | 5.3   | 1.2    | 22.5  |        |        |      | 63.4       | 7.3   | A.D.B. |
|                                   | 5.2   |        | 22.8  |        |        |      | 63.3       | 7.3   | D.B.   |
| +1.60                             | 36.6  | 0.8    | 72.3  |        |        |      | 100.0      | 31.1  | A.D.B. |
|                                   | 36.7  |        | 72.9  |        |        |      | 100.0      | 31.4  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                       |                  |                |        |
|---|------------|---------------------------------------|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP.* (°C)                 | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 6 1/2   | 0.04       | 381                                   | 460                   | 22               | - 2            | 0.899  |

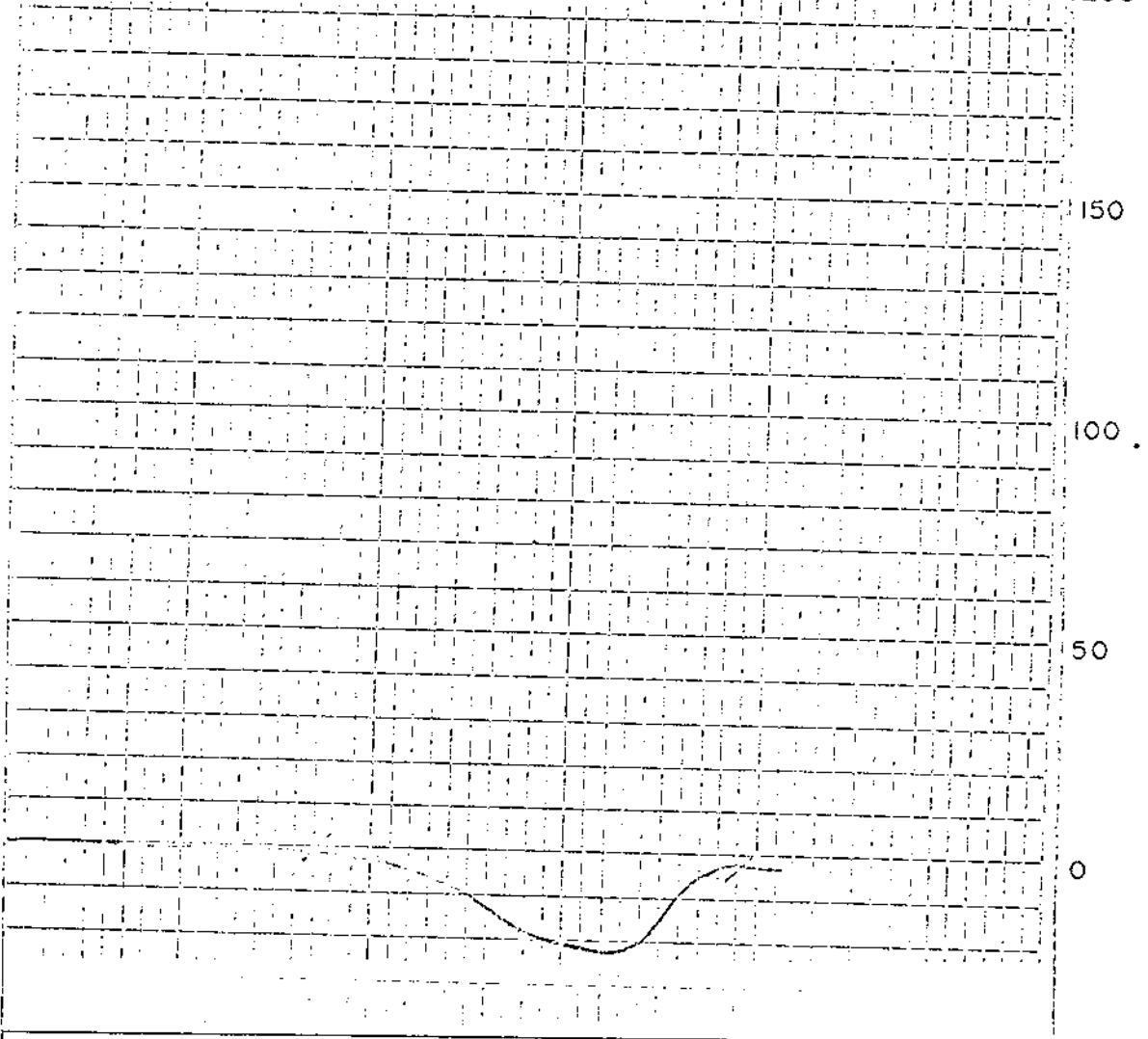
\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries



Lab. No. 8732 Date April 7, 1977 %  
 Client: ELCO MINING LTD. 300  
 Sample Identification: R77-12-8  
 Starting Temperature °C: 320  
 Softening Temperature °C: 381  
 Max. Dilatation Temp. °C: 460 250  
 Contraction %: 22  
 Dilatation %: -2  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 0.899 200



BENTLEY ENGINEERING (CANADA) LTD.

|                       |       |
|-----------------------|-------|
| Title                 | Date  |
| RUHR DILATOMETER TEST | Drawn |

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R - 77 - 12 - 9 Lab. No. 8733 DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 1.2               | 57.8  | 12.0   | 29.0   | 0.47 | 61     | Air Dried Basis |
|                   | 58.5  | 12.1   | 29.4   | 0.48 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 84.3  | 1.2    | 64.6  | 0.38 | 84.3       | 64.6  | 0.38 | A.D.B. |
|                     | 84.3  |        | 65.4  | 0.38 | 84.3       | 65.4  | 0.38 | D.B.   |
| 65M x 0             | 15.7  | 1.3    | 24.4  | 0.79 | 100.0      | 58.3  | 0.44 | A.D.B. |
|                     | 15.7  |        | 24.7  | 0.80 | 100.0      | 59.0  | 0.45 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 20.0  | 1.4    | 5.1   | 24.4   | 69.1   | 0.90 | 20.0       | 5.1   | A.D.B. |
|                                   | 20.0  |        | 5.2   | 24.7   | 70.1   | 0.91 | 20.0       | 5.2   | D.B.   |
| 1.40-1.50                         | 5.1   | 1.5    | 13.5  | 22.2   | 62.8   | 0.83 | 25.1       | 6.8   | A.D.B. |
|                                   | 5.1   |        | 13.7  | 22.5   | 63.8   | 0.84 | 25.1       | 6.9   | D.B.   |
| 1.50-1.60                         | 3.8   | 1.4    | 26.4  |        |        |      | 28.9       | 9.4   | A.D.B. |
|                                   | 3.8   |        | 26.8  |        |        |      | 28.9       | 9.5   | D.B.   |
| +1.60                             | 71.1  | 1.0    | 87.8  |        |        |      | 100.0      | 65.1  | A.D.B. |
|                                   | 71.1  |        | 88.7  |        |        |      | 100.0      | 65.8  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                       |                  |                |       |        |
|---|------------|---------------------------------------|-----------------------|------------------|----------------|-------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                       |                  |                |       | G. NO. |
|   |            | SOFTENING TEMP.* (°C)                 | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % |       |        |
| 8 1/2   | 0.03       | 374                                   | 454                   | 22               | 158            | 1.079 |        |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lab. No. 8733 Date April 7, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-12-9

Starting Temperature °C: 320

Softening Temperature °C: 374

Max. Dilatation Temp. °C: 454

250

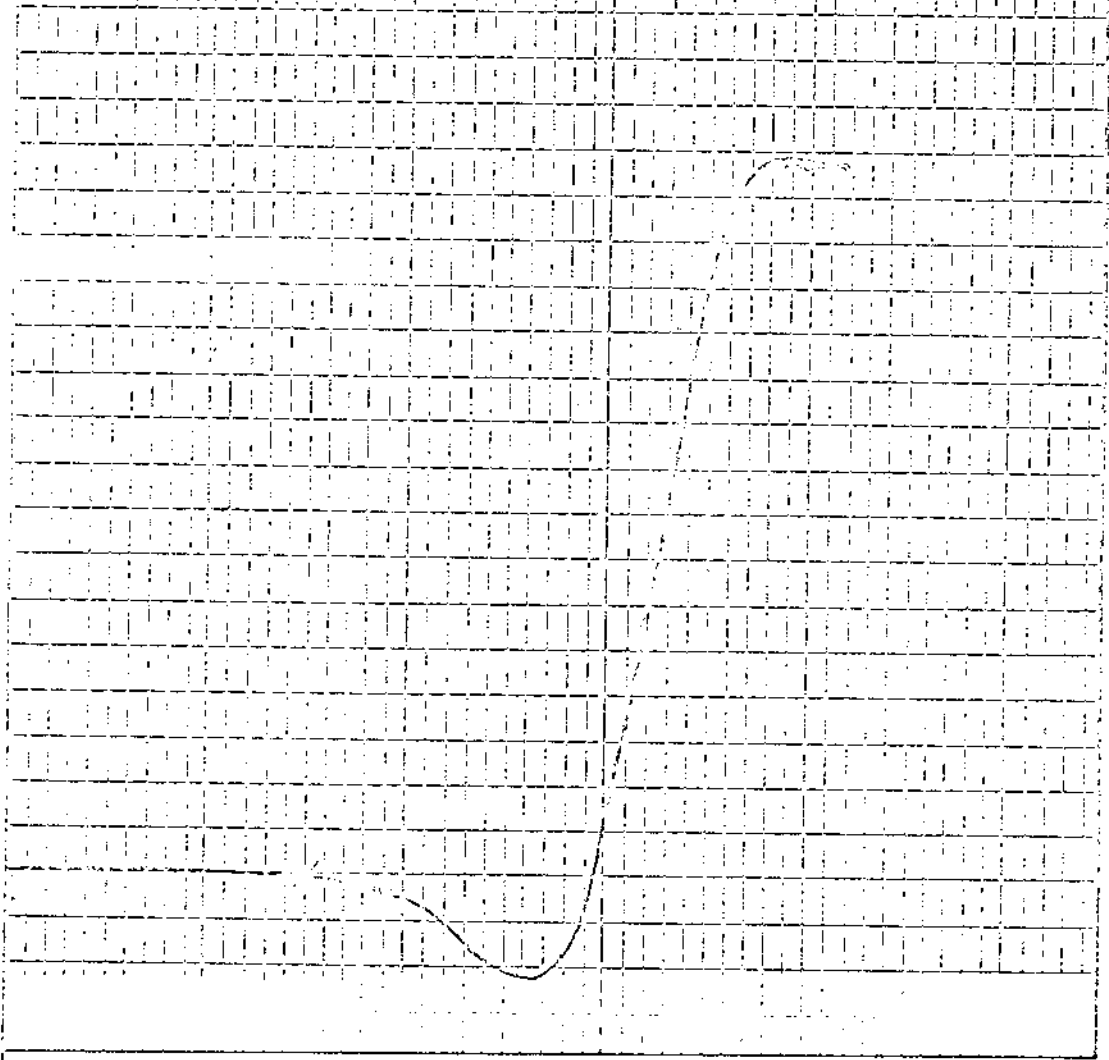
Contraction %: 22

Dilatation %: 158

Final Temperature °C: 1.079

200

G. Factor:



BIRTLEY ENGINEERING (CANADA) LTD.

|       |                       |
|-------|-----------------------|
| Title | RUHR DILATOMETER TEST |
|       |                       |

|       |  |
|-------|--|
| Date  |  |
| Drawn |  |

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R - 77 - 12 - 10 Lab. No. 8734 DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.6               | 44.3  | 17.2   | 37.9   | 1.50 | 72     | Air Dried Basis |
|                   | 44.6  | 17.3   | 38.1   | 1.51 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 78.3  | 0.6    | 48.3  | 1.45 | 78.3       | 48.3  | 1.45 | A.D.B. |
|                     | 78.3  |        | 48.6  | 1.46 | 78.3       | 48.6  | 1.46 | D.B.   |
| 65M x 0             | 21.7  | 0.7    | 28.7  | 1.64 | 100.0      | 44.0  | 1.49 | A.D.B. |
|                     | 21.7  |        | 28.9  | 1.65 | 100.0      | 44.3  | 1.50 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 26.5  | 0.7    | 6.7   | 24.1   | 68.5   | 0.86 | 26.5       | 6.7   | A.D.B. |
|                                   | 26.5  |        | 6.7   | 24.3   | 69.0   | 0.87 | 26.5       | 6.7   | D.B.   |
| 1.40-1.50                         | 8.3   | 0.6    | 18.6  | 20.2   | 60.6   | 0.95 | 34.8       | 9.5   | A.D.B. |
|                                   | 8.3   |        | 18.7  | 20.3   | 61.0   | 0.96 | 34.8       | 9.6   | D.B.   |
| 1.50-1.60                         | 7.9   | 0.5    | 28.2  |        |        |      | 42.7       | 13.0  | A.D.B. |
|                                   | 7.9   |        | 28.3  |        |        |      | 42.7       | 13.0  | D.B.   |
| +1.60                             | 57.3  | 0.7    | 74.0  |        |        |      | 100.0      | 47.9  | A.D.B. |
|                                   | 57.3  |        | 74.5  |        |        |      | 100.0      | 48.3  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |   |                       |                  |                |        |
|---|------------|---|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp. = 320°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP. *(°C)                   | MAX. DIL. TEMP. *(°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 8   | 0.05       | 370                                     | 464                   | 23               | 143            | 1.089  |

\* S.T. & M.D.T. corrected with factor 6/5

Lab. No. 8734 Date April 11, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-12-10

Starting Temperature °C: 320

Softening Temperature °C: 370

Max. Dilatation Temp. °C: 464

250

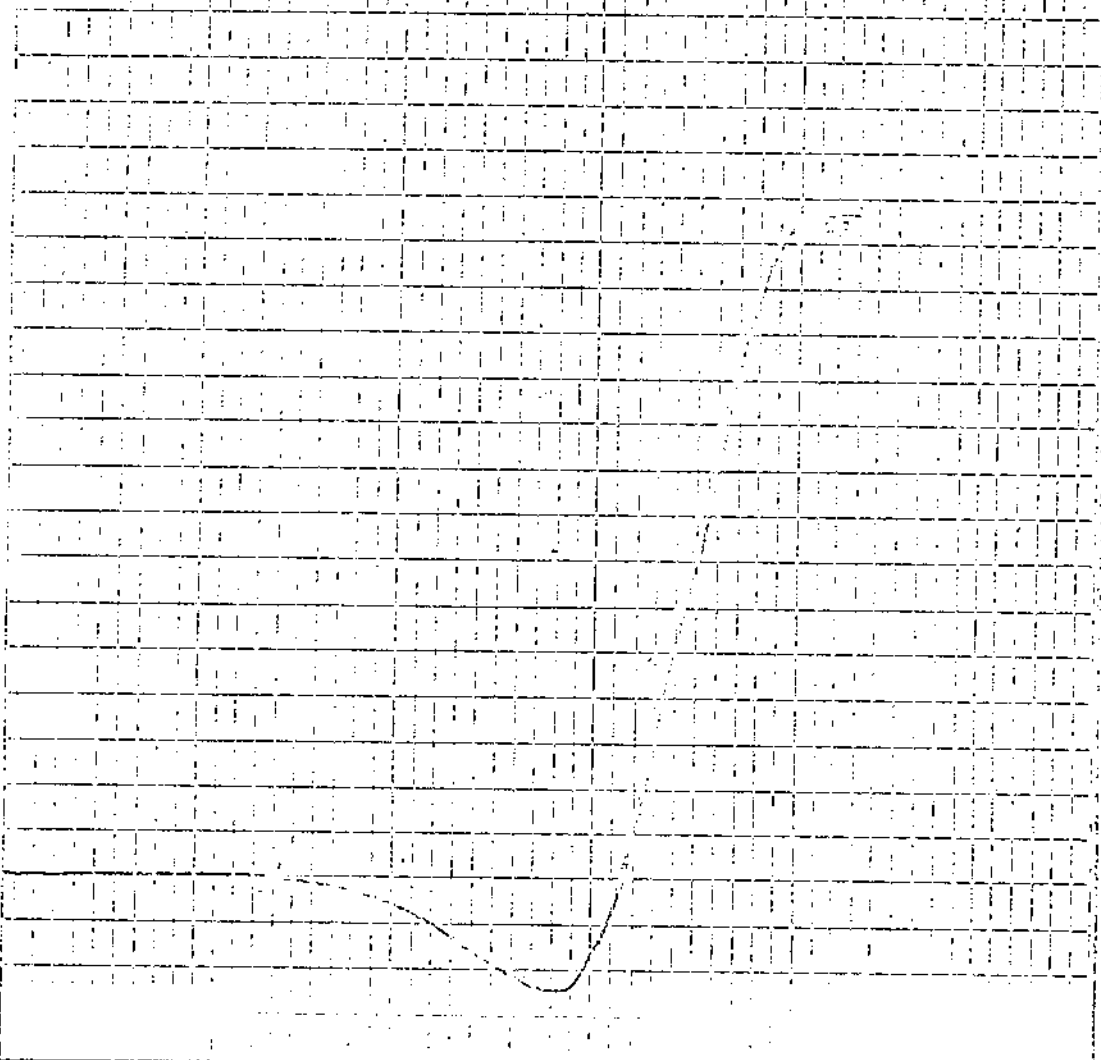
Contraction %: 23

Dilatation %: 143

Final Temperature °C:

G. Factor: 1.089

200



BENTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R - 77 - 12 - 13 Lab. No. 8735 DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.9               | 51.7  | 14.5   | 32.9   | 0.43 | 65     | Air Dried Basis |
|                   | 52.2  | 14.6   | 33.2   | 0.43 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 80.0  | 0.9    | 59.3  | 0.41 | 80.0       | 59.3  | 0.41 | A.D.B. |
|                     | 80.1  |        | 59.8  | 0.41 | 80.1       | 59.8  | 0.41 | D.B.   |
| 65M x 0             | 20.0  | 1.8    | 23.4  | 0.73 | 100.0      | 52.1  | 0.47 | A.D.B. |
|                     | 19.9  |        | 23.8  | 0.74 | 100.0      | 52.6  | 0.48 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 23.3  | 0.9    | 5.1   | 23.5   | 70.5   | 0.82 | 23.3       | 5.1   | A.D.B. |
|                                   | 23.3  |        | 5.1   | 23.7   | 71.2   | 0.83 | 23.3       | 5.1   | D.B.   |
| 1.40-1.50                         | 5.2   | 0.9    | 14.7  | 21.5   | 62.9   | 0.80 | 28.5       | 6.9   | A.D.B. |
|                                   | 5.2   |        | 14.8  | 21.7   | 63.5   | 0.81 | 28.5       | 6.9   | D.B.   |
| 1.50-1.60                         | 2.2   | 1.0    | 26.6  |        |        |      | 30.7       | 8.3   | A.D.B. |
|                                   | 2.2   |        | 26.9  |        |        |      | 30.7       | 8.3   | D.B.   |
| +1.60                             | 69.3  | 1.0    | 82.3  |        |        |      | 100.0      | 59.6  | A.D.B. |
|                                   | 69.3  |        | 83.1  |        |        |      | 100.0      | 60.1  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                      |                  |                |        |
|---|------------|---------------------------------------|----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                      |                  |                |        |
|   |            | SOFTENING TEMP. (°C)                  | MAX. DIL. TEMP. (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 8   | 0.04       | 381                                   | 462                  | 18               | 62             | 1.056  |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lab. No. 8735 Date April 11, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-12-13

Starting Temperature °C: 320

Softening Temperature °C: 381

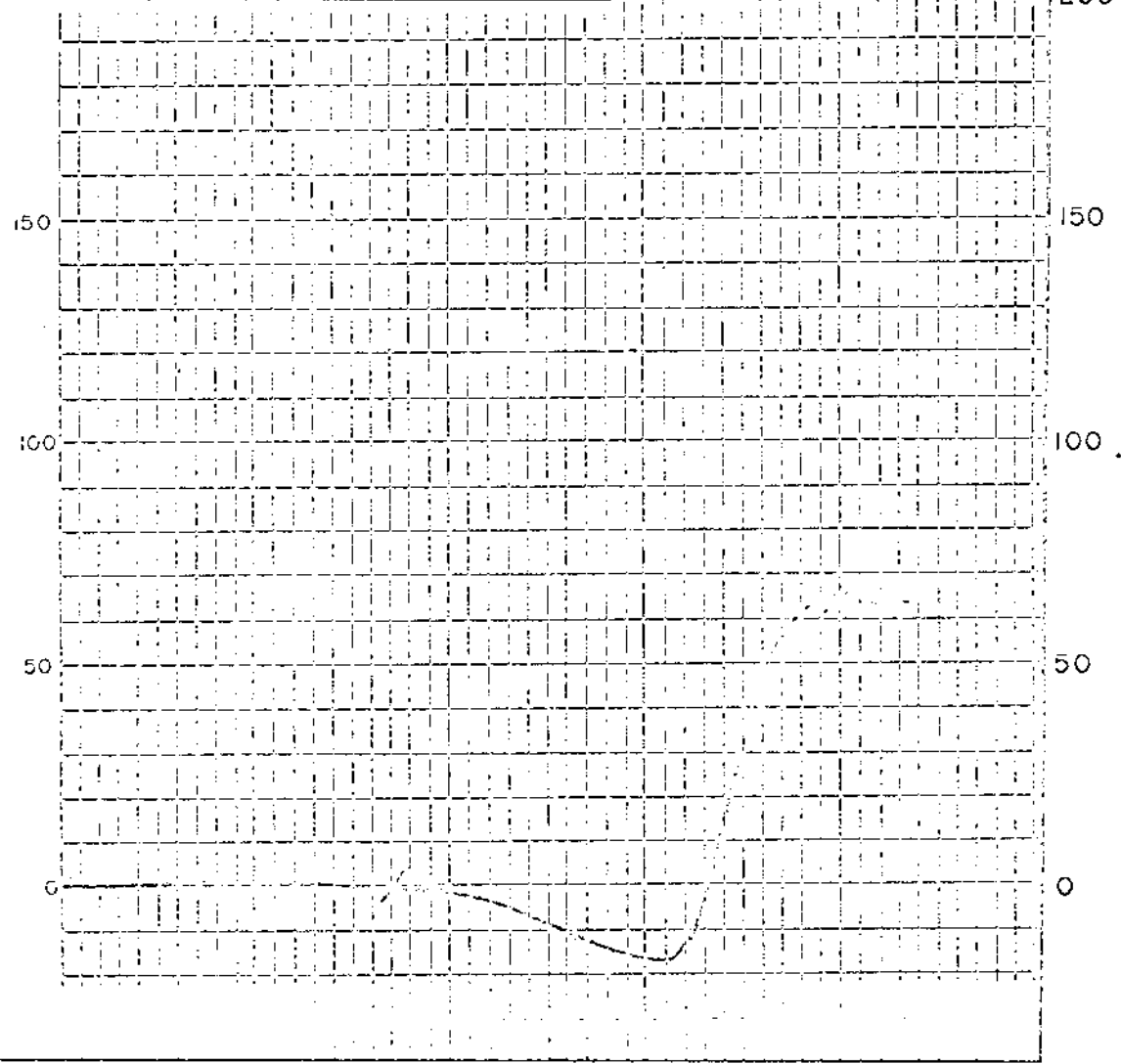
Max. Dilatation Temp. °C: 462

Contraction %: 18

Dilatation %: 62

Final Temperature °C:

G. Factor: 1.056



BENTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R - 77 - 12 - 14 Lab. No. 8736 DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.8               | 76.8  | 9.3    | 13.1   | 0.28 | 58     | Air Dried Basis |
|                   | 77.4  | 9.4    | 13.2   | 0.28 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 80.9  | 0.8    | 82.0  | 0.24 | 80.9       | 82.0  | 0.24 | A.D.B. |
|                     | 81.1  |        | 82.7  | 0.24 | 81.1       | 82.7  | 0.24 | D.B.   |
| 65M x 0             | 19.1  | 1.8    | 57.0  | 0.47 | 100.0      | 77.2  | 0.28 | A.D.B. |
|                     | 18.9  |        | 58.0  | 0.48 | 100.0      | 78.0  | 0.29 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 3.3   | 0.8    | 5.1   | 23.5   | 70.6   | 0.96 | 3.3        | 5.1   | A.D.B. |
|                                   | 3.3   |        | 5.1   | 23.7   | 71.2   | 0.97 | 3.3        | 5.1   | D.B.   |
| 1.40-1.50                         | 0.8   | 0.8    | 12.8  | 22.2   | 64.2   | 0.87 | 4.1        | 6.6   | A.D.B. |
|                                   | 0.8   |        | 12.9  | 22.4   | 64.7   | 0.88 | 6.1        | 6.6   | D.B.   |
| 1.50-1.60                         | 0.4   | 0.8    | 24.6  | X      | X      | X    | 4.5        | 8.2   | A.D.B. |
|                                   | 0.4   |        | 24.8  |        |        |      | 4.5        | 8.2   | D.B.   |
| +1.60                             | 95.5  | 0.8    | 86.3  | X      | X      | X    | 100.0      | 82.8  | A.D.B. |
|                                   | 95.5  |        | 87.0  |        |        |      | 100.0      | 83.5  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                     |                  |                |        |
|---|------------|---------------------------------------|---------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                     |                  |                |        |
|   |            | SOFTENING TEMP.*(°C)                  | MAX. DIL. TEMP*(°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 9   | 0.05       | 374                                   | 457                 | 22               | 138            | 1.078  |

\* S.T.& M.D.T. corrected with factor 6/5



Lcb. No. 8736 Date April 11, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-12-14

Starting Temperature °C: 320

Softening Temperature °C: 374

Max. Dilatation Temp. °C: 457

250

Contraction %: 22

Dilatation %: 138

Final Temperature °C: \_\_\_\_\_

G. Factor: 1.078

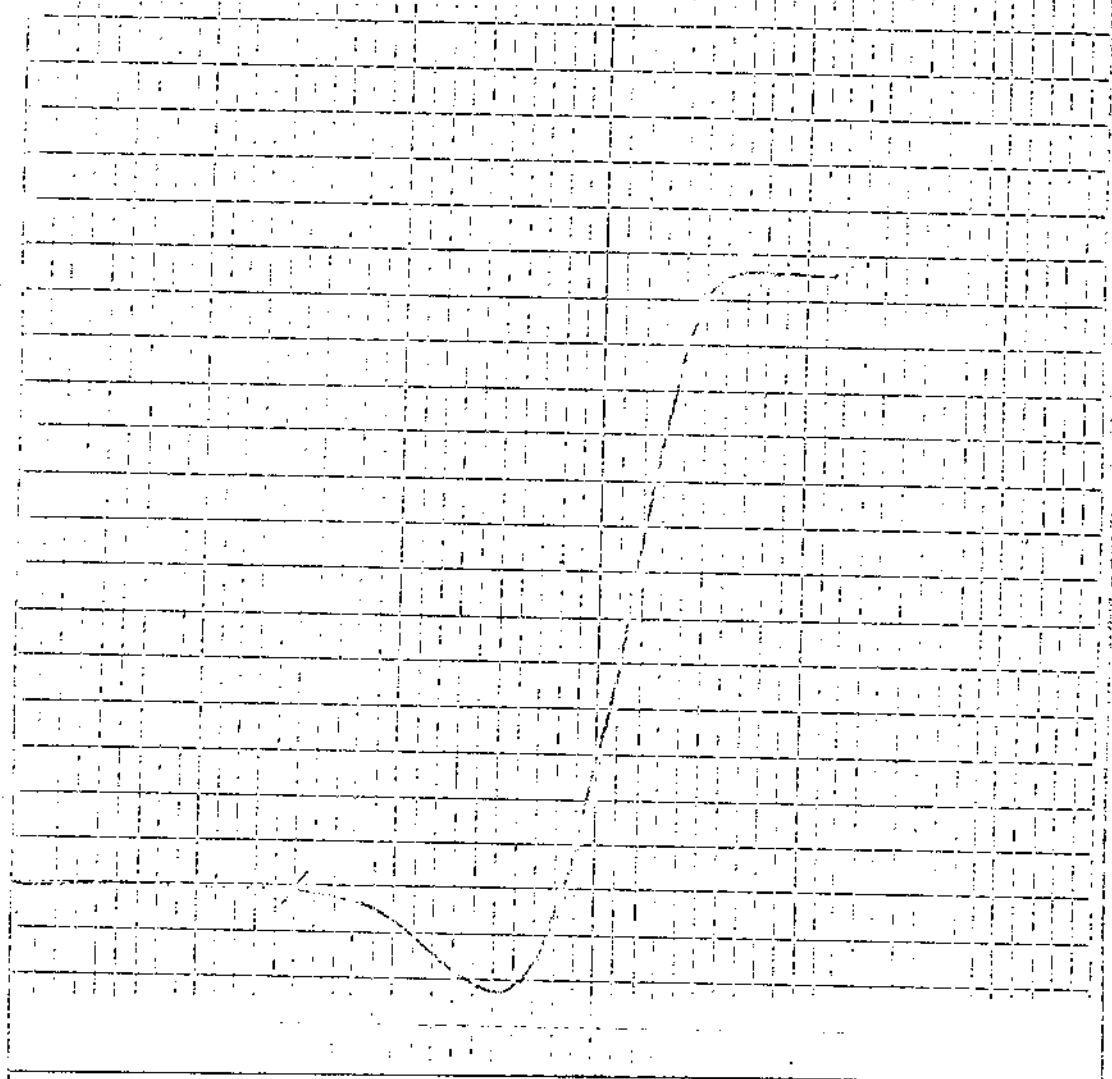
200

150

100

50

0



**BIRTLEY ENGINEERING (CANADA) LTD.**

Title  
**RUHR DILATOMETER TEST**

Date  
  
Drawn

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R - 77 - 12 - 15 Lab. No. 8737 DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.6               | 72.4  | 11.4   | 15.6   | 0.38 | 58     | Air Dried Basis |
|                   | 72.8  | 11.5   | 15.7   | 0.38 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 81.5  | 0.7    | 79.3  | 0.34 | 81.5       | 79.3  | 0.34 | A.D.B. |
|                     | 81.6  |        | 79.9  | 0.34 | 81.6       | 79.9  | 0.34 | D.B.   |
| 65M x 0             | 18.5  | 1.0    | 43.2  | 0.63 | 100.0      | 72.6  | 0.39 | A.D.B. |
|                     | 18.4  |        | 43.6  | 0.64 | 100.0      | 73.2  | 0.40 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 5.1   | 0.7    | 5.2   | 23.5   | 70.6   | 1.05 | 5.1        | 5.2   | A.D.B. |
|                                   | 5.1   |        | 5.2   | 23.7   | 71.1   | 1.06 | 5.1        | 5.2   | D.B.   |
| 1.40-1.50                         | 0.5   | 1.0    | 15.3  | 21.3   | 62.4   | 0.96 | 5.6        | 6.1   | A.D.B. |
|                                   | 0.5   |        | 15.5  | 21.5   | 63.0   | 0.97 | 5.6        | 6.1   | D.B.   |
| 1.50-1.60                         | 1.1   | 0.8    | 19.2  |        |        |      | 6.7        | 8.3   | A.D.B. |
|                                   | 1.1   |        | 19.4  |        |        |      | 6.7        | 8.3   | D.B.   |
| +1.60                             | 93.3  | 0.9    | 83.9  |        |        |      | 100.0      | 78.8  | A.D.B. |
|                                   | 93.3  |        | 84.9  |        |        |      | 100.0      | 79.5  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |   |                       |                  |                |        |
|---|------------|---|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (initial Temp. = 320°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP* (°C)                    | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 9   | 0.03       | 374                                     | 453                   | 27               | 155            | 1.072  |

\* S.T. & M.D.T. corrected with factor 6.5

Lab. No. 8737 Date April 11, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-12-15

Starting Temperature °C: 320

Softening Temperature °C: 374

Max. Dilatation Temp. °C: 453

250

Contraction %: 27

Dilatation %: 155

Final Temperature °C:

G. Factor: 1.072

200

150

150

100

100

50

50

0

0



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No. R 77-13-1 Lab. No.: 77-3004 Date: April 5, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| P.M.%             | Ash% | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.7               | 26.4 | 22.8  | 50.1  | 0.57 | 94.1   | Air Dried Basis |
| --                | 26.6 | 23.0  | 50.4  | 0.57 | ---    | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 73.1  | 0.7   | 29.3  | 0.51 | 73.1       | 29.3  | 0.51 | A.D.B. |
|                     | 73.1  | --    | 29.6  | 0.51 | 73.1       | 29.6  | 0.51 | D.B.   |
| 65 x 0              | 26.9  | 0.8   | 14.7  | 0.65 | 100.0      | 25.4  | 0.55 | A.D.B. |
|                     | 26.9  | --    | 14.8  | 0.66 | 100.0      | 25.6  | 0.55 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |      |       |      |      |      |            |       |        |
|----------------------------------|------|------|-------|------|------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M% | Ash % | V.M% | F.C% | S.%  | Cumulative |       |        |
|                                  |      |      |       |      |      |      | Wt. %      | Ash % |        |
| -1.40                            | 56.9 | 1.1  | 4.8   | 29.4 | 64.7 | 0.66 | 56.9       | 4.8   | A.D.B. |
|                                  | 56.9 | --   | 4.9   | 29.7 | 65.4 | 0.67 | 56.9       | 4.9   | D.B.   |
| 1.40-1.50                        | 7.2  | 1.1  | 15.8  | 23.5 | 59.6 | 0.57 | 64.1       | 6.0   | A.D.B. |
|                                  | 7.2  | --   | 15.9  | 23.8 | 60.3 | 0.58 | 64.1       | 6.1   | D.B.   |
| 1.50-1.60                        | 5.7  | 1.3  | 23.8  | --   | --   | --   | 69.8       | 7.5   | A.D.B. |
|                                  | 5.7  | --   | 24.1  | --   | --   | --   | 69.8       | 7.6   | D.B.   |
| +1.60                            | 30.2 | 1.1  | 73.2  | --   | --   | --   | 100.0      | 28.8  | A.D.B. |
|                                  | 30.2 | --   | 73.0  | --   | --   | --   | 100.0      | 29.2  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |                        |                        |                     |                   |       |
|--|-------------------|------------------------|------------------------|---------------------|-------------------|-------|
| F.S.I.   | F %<br>on<br>Coal | DILATATION TESTS       |                        |                     |                   |       |
|  |                   | Softening<br>Temp.(°C) | Max. Dil.<br>Temp.(°C) | Maximum<br>Contr. % | Maximum<br>Dil. % | G.No. |
| 8½   | 0.030             |                        |                        |                     |                   |       |

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No.: R 77 -13-2 Lab. No.: 77 - 3005 Date: April 5, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| P.M.%             | Ash% | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.7               | 42.6 | 21.6  | 35.1  | 1.16 | 62.2   | Air Dried Basis |
| --                | 42.9 | 21.7  | 35.4  | 1.17 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 75.3  | 0.7   | 49.3  | 1.23 | 75.3       | 49.3  | 1.23 | A.D.B. |
|                     | 75.3  | --    | 49.6  | 1.24 | 75.3       | 49.6  | 1.24 | D.B.   |
| 65 x 0              | 24.7  | 0.7   | 22.8  | 1.03 | 100.0      | 42.8  | 1.18 | A.D.B. |
|                     | 24.7  | --    | 22.9  | 1.04 | 100.0      | 43.0  | 1.19 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |       |       |       |      |            |       |        |
|----------------------------------|------|-------|-------|-------|-------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M.% | Ash % | V.M.% | F.C.% | S.%  | Cumulative |       |        |
|                                  |      |       |       |       |       |      | Wt. %      | Ash % |        |
| -1.40                            | 33.6 | 0.8   | 5.0   | 31.0  | 63.2  | 0.79 | 33.6       | 5.0   | A.D.B. |
|                                  | 33.6 | --    | 5.1   | 31.2  | 63.7  | 0.80 | 33.6       | 5.1   | D.B.   |
| 1.40-1.50                        | 5.8  | 1.1   | 13.2  | 25.4  | 60.3  | 0.76 | 39.4       | 6.2   | A.D.B. |
|                                  | 5.8  | --    | 13.3  | 25.7  | 61.0  | 0.77 | 39.4       | 6.3   | D.B.   |
| 1.50-1.60                        | 2.3  | 0.7   | 26.8  | --    | --    | --   | 41.7       | 7.3   | A.D.B. |
|                                  | 2.3  | --    | 27.0  | --    | --    | --   | 41.7       | 7.4   | D.B.   |
| +1.60                            | 58.3 | 0.8   | 77.6  | --    | --    | --   | 100.0      | 48.3  | A.D.B. |
|                                  | 58.3 | --    | 78.3  | --    | --    | --   | 100.0      | 48.8  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |                        |                        |                     |                   |       |
|--|-------------------|------------------------|------------------------|---------------------|-------------------|-------|
| F.S.I.   | P %<br>on<br>Coal | DILATATION TESTS       |                        |                     |                   |       |
|  |                   | Softening<br>Temp.(°C) | Max. Dil.<br>Temp.(°C) | Maximum<br>Contr. % | Maximum<br>Dil. % | G.No. |
| 9  | 0.017             |                        |                        |                     |                   |       |

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No.: R 77 -13 - 3 Lab. No.: 77 - 3006 Date: April 5, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| P.M.%             | Ash% | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.7               | 32.3 | 21.2  | 45.8  | 0.63 | 71.9   | Air Dried Basis |
| --                | 32.5 | 21.3  | 46.2  | 0.63 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 81.6  | 0.6   | 35.9  | 0.62 | 81.6       | 35.9  | 0.62 | A.D.B. |
|                     | 81.6  | --    | 36.1  | 0.62 | 81.6       | 36.1  | 0.62 | D.B.   |
| 65 x 0              | 18.4  | 0.6   | 17.0  | 0.73 | 100.0      | 32.4  | 0.64 | A.D.B. |
|                     | 18.4  | --    | 17.1  | 0.73 | 100.0      | 32.6  | 0.64 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |       |       |       |      |            |       |        |
|----------------------------------|------|-------|-------|-------|-------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M.% | Ash % | V.M.% | F.C.% | S.%  | Cumulative |       |        |
|                                  |      |       |       |       |       |      | Wt. %      | Ash % |        |
| -1.40                            | 49.1 | 0.7   | 5.5   | 26.9  | 66.9  | 0.78 | 49.1       | 5.5   | A.D.B. |
|                                  | 49.1 | --    | 5.5   | 27.1  | 67.4  | 0.73 | 49.1       | 5.5   | D.B.   |
| 1.40-1.50                        | 5.7  | 0.7   | 20.2  | 23.3  | 55.8  | 0.71 | 54.8       | 7.0   | A.D.B. |
|                                  | 5.7  | --    | 20.3  | 23.5  | 56.2  | 0.72 | 54.8       | 7.0   | D.B.   |
| 1.50-1.60                        | 3.2  | 0.6   | 32.4  | --    | --    | --   | 58.0       | 8.4   | A.D.B. |
|                                  | 3.2  | --    | 32.6  | --    | --    | --   | 58.0       | 8.4   | D.B.   |
| +1.60                            | 42.0 | 0.9   | 73.2  | --    | --    | --   | 100.0      | 35.6  | A.D.B. |
|                                  | 42.0 | --    | 73.8  | --    | --    | --   | 100.0      | 35.9  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                     |                     |                  |                |       |
|--|-------------|---------------------|---------------------|------------------|----------------|-------|
| F.S.I.   | P % on Coal | DILATATION TESTS    |                     |                  |                |       |
|  |             | Softening Temp.(°C) | Max. Dil. Temp.(°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 8½   | 0.016       |                     |                     |                  |                |       |

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No. R 77-13-4 Lab. No.: 77 - 3007 Date: April 5, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| P.M.%             | Ash% | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.7               | 32.3 | 21.9  | 45.1  | 0.72 | 81.6   | Air Dried Basis |
| --                | 32.5 | 22.0  | 45.5  | 0.72 | ---    | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 75.0  | 0.5   | 36.0  | 0.72 | 75.0       | 36.0  | 0.72 | A.D.B. |
|                     | 75.0  | --    | 36.2  | 0.72 | 75.0       | 36.2  | 0.72 | D.B.   |
| 65 x 0              | 25.0  | 0.6   | 24.5  | 0.81 | 100.0      | 33.1  | 0.74 | A.D.B. |
|                     | 25.0  | ---   | 24.6  | 0.82 | 100.0      | 33.3  | 0.74 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |       |       |       |      |            |       |        |
|----------------------------------|------|-------|-------|-------|-------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M.% | Ash % | V.M.% | F.C.% | S.%  | Cumulative |       |        |
|                                  |      |       |       |       |       |      | Wt. %      | Ash % |        |
| -1.40                            | 52.9 | 0.9   | 5.0   | 29.0  | 65.1  | 0.83 | 52.9       | 5.0   | A.D.B. |
|                                  | 52.9 | --    | 5.1   | 29.3  | 65.6  | 0.84 | 52.9       | 5.1   | D.B.   |
| 1.40-1.50                        | 3.4  | 0.9   | 17.0  | 24.5  | 57.6  | 0.75 | 56.3       | 5.7   | A.D.B. |
|                                  | 3.4  | --    | 17.2  | 24.7  | 58.1  | 0.76 | 56.3       | 5.8   | D.B.   |
| 1.50-1.60                        | 2.6  | 0.9   | 21.9  | --    | --    | --   | 58.9       | 6.4   | A.D.B. |
|                                  | 2.6  | --    | 22.1  | --    | --    | --   | 58.9       | 6.5   | D.B.   |
| +1.60                            | 41.1 | 1.1   | 78.1  | --    | --    | --   | 100.0      | 35.9  | A.D.B. |
|                                  | 41.1 | --    | 79.0  | --    | --    | --   | 100.0      | 36.3  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |                        |                        |                     |                   |       |
|--|-------------------|------------------------|------------------------|---------------------|-------------------|-------|
| F.S.I.   | P %<br>on<br>Coal | DILATATION TESTS       |                        |                     |                   |       |
|  |                   | Softening<br>Temp.(°C) | Max. Dil.<br>Temp.(°C) | Maximum<br>Contr. % | Maximum<br>Dil. % | G.No. |
| 8½   | 0.042             |                        |                        |                     |                   |       |

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No.: R 77-13-5 Lab. No.: 77 - 3008 Date: April 5, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| P.M.%             | Ash% | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.8               | 52.5 | 19.0  | 27.7  | 0.76 | 80.2   | Air Dried Basis |
| --                | 52.9 | 19.2  | 27.9  | 0.77 | ---    | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 76.5  | 0.7   | 58.1  | 0.62 | 76.5       | 58.1  | 0.62 | A.D.B. |
|                     | 76.5  | --    | 58.5  | 0.62 | 76.5       | 58.5  | 0.62 | D.B.   |
| 65 x 0              | 23.5  | 0.6   | 32.2  | 1.13 | 100.0      | 52.0  | 0.74 | A.D.B. |
|                     | 23.5  | --    | 32.4  | 1.14 | 100.0      | 52.4  | 0.74 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |      |       |      |      |      |            |       |        |
|----------------------------------|------|------|-------|------|------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M% | Ash % | V.M% | F.C% | S.%  | Cumulative |       |        |
|                                  |      |      |       |      |      |      | Wt. %      | Ash % |        |
| -1.40                            | 30.5 | 1.2  | 6.0   | 30.9 | 61.9 | 1.20 | 30.5       | 6.0   | A.D.B. |
|                                  | 30.5 | --   | 6.1   | 31.2 | 62.7 | 1.21 | 30.5       | 6.1   | D.B.   |
| 1.40-1.50                        | 2.0  | 1.2  | 14.2  | 27.9 | 56.7 | 1.16 | 32.5       | 6.5   | A.D.B. |
|                                  | 2.0  | --   | 14.4  | 28.2 | 57.4 | 1.17 | 32.5       | 6.6   | D.B.   |
| 1.50-1.60                        | I.S. | --   | I.S.  | --   | --   | --   | 32.5       | 6.5   | A.D.B. |
|                                  | --   | --   | --    | --   | --   | --   | 32.5       | 6.6   | D.B.   |
| +1.60                            | 67.5 | 1.2  | 81.6  | --   | --   | --   | 100.0      | 57.2  | A.D.B. |
|                                  | 67.5 | --   | 82.6  | --   | --   | --   | 100.0      | 57.9  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |                        |                        |                     |                   |       |
|--|-------------------|------------------------|------------------------|---------------------|-------------------|-------|
| F.S.I.   | P %<br>on<br>Coal | DILATATION TESTS       |                        |                     |                   | G.No. |
|  |                   | Softening<br>Temp.(°C) | Max. Dil.<br>Temp.(°C) | Maximum<br>Contr. % | Maximum<br>Dil. % |       |
| 9  | 0.020             |                        |                        |                     |                   |       |



ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No. R 77 - 13 - 6 Lab. No.: 77 - 3009 Date: April 5, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| P.M.%             | Ash% | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.7               | 70.2 | 11.8  | 17.3  | 0.66 | 53.9   | Air Dried Basis |
| --                | 70.7 | 11.9  | 17.4  | 0.66 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 90.0  | 0.7   | 72.0  | 0.59 | 90.0       | 72.0  | 0.59 | A.D.B. |
|                     | 90.0  | --    | 72.5  | 0.59 | 90.0       | 72.5  | 0.59 | D.B.   |
| 65 x 0              | 10.0  | 0.6   | 43.6  | 0.85 | 100.0      | 69.2  | 0.62 | A.D.B. |
|                     | 10.0  | --    | 43.8  | 0.86 | 100.0      | 69.6  | 0.62 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |       |       |       |      |            |       |        |
|----------------------------------|------|-------|-------|-------|-------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M.% | Ash % | V.M.% | F.C.% | S.%  | Cumulative |       |        |
|                                  |      |       |       |       |       |      | Wt. %      | Ash % |        |
| -1.40                            | 6.8  | 0.7   | 4.1   | 31.6  | 63.6  | 1.14 | 6.8        | 4.1   | A.D.B. |
|                                  | 6.8  | --    | 4.1   | 31.9  | 64.0  | 1.15 | 6.8        | 4.1   | D.B.   |
| 1.40-1.50                        | 1.3  | 0.9   | 13.8  | 24.7  | 60.6  | 1.07 | 8.1        | 5.6   | A.D.B. |
|                                  | 1.3  | --    | 13.9  | 24.9  | 61.2  | 1.08 | 8.1        | 5.7   | D.B.   |
| 1.50-1.60                        | 1.1  | 0.7   | 25.4  | --    | --    | --   | 9.2        | 8.0   | A.D.B. |
|                                  | 1.1  | --    | 25.6  | --    | --    | --   | 9.2        | 8.1   | D.B.   |
| +1.60                            | 90.8 | 0.7   | 76.4  | --    | --    | --   | 100.0      | 70.1  | A.D.B. |
|                                  | 90.8 | --    | 76.9  | --    | --    | --   | 100.0      | 70.6  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                      |                      |                  |                |       |
|--|-------------|----------------------|----------------------|------------------|----------------|-------|
| F.S.I.   | P % on Coal | DILATATION TESTS     |                      |                  |                |       |
|  |             | Softening Temp. (°C) | Max. Dil. Temp. (°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 9  | 0.027       |                      |                      |                  |                |       |

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No. R 77-13-7 Lab. No.: 77-3010 Date: April 5, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| P.M.%             | Ash% | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.6               | 71.4 | 11.1  | 16.9  | 0.48 | 53.2   | Air Dried Basis |
| --                | 71.8 | 11.2  | 17.0  | 0.48 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 93.0  | 0.5   | 73.0  | 0.43 | 93.0       | 73.0  | 0.43 | A.D.B. |
|                     | 93.0  | --    | 73.4  | 0.43 | 93.0       | 73.4  | 0.43 | D.B.   |
| 65 x 0              | 7.0   | 0.6   | 48.1  | 0.81 | 100.0      | 71.3  | 0.46 | A.D.B. |
|                     | 7.0   | --    | 48.4  | 0.82 | 100.0      | 71.6  | 0.46 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |       |       |       |      |            |       |        |
|----------------------------------|------|-------|-------|-------|-------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M.% | Ash % | V.M.% | F.C.% | S.%  | Cumulative |       |        |
|                                  |      |       |       |       |       |      | Wt. %      | Ash % |        |
| -1.40                            | 7.7  | 0.6   | 7.5   | 28.9  | 63.0  | 1.05 | 7.7        | 7.5   | A.D.B. |
|                                  | 7.7  | --    | 7.5   | 29.1  | 63.4  | 1.06 | 7.7        | 7.5   | D.B.   |
| 1.40-1.50                        | 1.2  | 0.6   | 18.5  | 24.1  | 56.8  | 0.92 | 8.9        | 9.0   | A.D.B. |
|                                  | 1.2  | --    | 18.6  | 24.3  | 57.1  | 0.93 | 8.9        | 9.0   | D.B.   |
| 1.50-1.60                        | 1.7  | 0.6   | 26.4  | --    | --    | --   | 10.6       | 11.8  | A.D.B. |
|                                  | 1.7  | --    | 26.6  | --    | --    | --   | 10.6       | 11.8  | D.B.   |
| +1.60                            | 89.4 | 0.6   | 78.0  | --    | --    | --   | 100.0      | 71.0  | A.D.B. |
|                                  | 89.4 | --    | 78.4  | --    | --    | --   | 100.0      | 71.3  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                      |                      |                  |                |       |
|--|-------------|----------------------|----------------------|------------------|----------------|-------|
| F.S.I.   | P % on Coal | DILATATION TESTS     |                      |                  |                |       |
|  |             | Softening Temp. (°C) | Max. Dil. Temp. (°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 8½   | 0.053       |                      |                      |                  |                |       |

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No.: R 77-13-8 Lab. No.: 77 - 3011 Date: April 5, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| P.M.%             | Ash% | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.9               | 66.8 | 12.5  | 19.8  | 0.52 | 53.2   | Air Dried Basis |
| --                | 67.4 | 12.6  | 20.0  | 0.52 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| 1/4 x 65            | 89.2  | 0.7   | 67.0  | 0.52 | 89.2       | 67.0  | 0.52 | A.D.B. |
|                     | 89.2  | --    | 67.5  | 0.52 | 89.2       | 67.5  | 0.52 | D.B.   |
| 65 x 0              | 10.8  | 0.8   | 65.0  | 0.55 | 100.0      | 66.8  | 0.52 | A.D.B. |
|                     | 10.8  | --    | 65.1  | 0.55 | 100.0      | 67.2  | 0.52 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65 M |      |       |       |       |       |      |            |       |        |
|------------------------------------|------|-------|-------|-------|-------|------|------------|-------|--------|
| S. G.                              | Wt.% | R.M.% | Ash % | V.M.% | F.C.% | S.%  | Cumulative |       |        |
|                                    |      |       |       |       |       |      | Wt. %      | Ash % |        |
| -1.40                              | 0.6  | 0.6   | 9.7   | 23.6  | 66.1  | 0.97 | 0.6        | 9.7   | A.D.B. |
|                                    | 0.6  | --    | 9.8   | 23.7  | 66.5  | 0.98 | 0.6        | 9.8   | D.B.   |
| 1.40-1.50                          | 4.8  | 0.5   | 22.6  | 20.0  | 56.9  | 0.86 | 5.4        | 21.2  | A.D.B. |
|                                    | 4.8  | --    | 22.8  | 20.1  | 57.1  | 0.86 | 5.4        | 21.4  | D.B.   |
| 1.50-1.60                          | 4.5  | 0.5   | 34.8  | --    | --    | --   | 9.9        | 27.4  | A.D.B. |
|                                    | 4.5  | --    | 34.9  | --    | --    | --   | 9.9        | 27.5  | D.B.   |
| +1.60                              | 90.1 | 0.7   | 70.7  | --    | --    | --   | 100.0      | 66.4  | A.D.B. |
|                                    | 90.1 | --    | 71.2  | --    | --    | --   | 100.0      | 66.9  | D.B.   |

| COMPOSITE 1/4" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |                        |                        |                     |                   |       |
|--|-------------------|------------------------|------------------------|---------------------|-------------------|-------|
| F.S.I.   | P %<br>on<br>Coal | DILATATION TESTS       |                        |                     |                   |       |
|  |                   | Softening<br>Temp.(°C) | Max. Dil.<br>Temp.(°C) | Maximum<br>Contr. % | Maximum<br>Dil. % | G.No. |
| 5  | 0.030             |                        |                        |                     |                   |       |

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CORE SAMPLE ANALYSIS

Hole No. R77 - 13 - 9 Lab. No. 77 - 3012 Date April 5, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| P.M.%             | Ash% | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.7               | 25.3 | 21.4  | 52.6  | 0.57 | 94.1   | Air Dried Basis |
| --                | 25.5 | 21.6  | 52.9  | 0.57 | ---    | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 60.4  | 0.6   | 33.3  | 0.51 | 60.4       | 33.3  | 0.51 | A.D.B. |
|                     | 60.4  | --    | 33.5  | 0.51 | 60.4       | 33.5  | 0.51 | D.B.   |
| 65 x 0              | 39.6  | 0.6   | 15.3  | 0.63 | 100.0      | 26.2  | 0.56 | A.D.B. |
|                     | 39.6  | --    | 15.4  | 0.63 | 100.0      | 26.3  | 0.56 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |      |       |      |      |      |            |       |        |
|----------------------------------|------|------|-------|------|------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M% | Ash % | V.M% | F.C% | S.%  | Cumulative |       |        |
|                                  |      |      |       |      |      |      | Wt. %      | Ash % |        |
| -1.40                            | 43.7 | 1.1  | 5.0   | 25.4 | 68.5 | 0.62 | 43.7       | 5.0   | A.D.B. |
|                                  | 43.7 | --   | 5.1   | 25.7 | 69.2 | 0.63 | 43.7       | 5.1   | D.B.   |
| 1.40-1.50                        | 8.4  | 1.1  | 15.4  | 22.8 | 60.7 | 0.58 | 52.1       | 6.7   | A.D.B. |
|                                  | 8.4  | --   | 15.5  | 23.1 | 61.4 | 0.59 | 52.1       | 6.8   | D.B.   |
| 1.50-1.60                        | 7.1  | 1.0  | 23.0  | --   | --   | --   | 59.8       | 8.5   | A.D.B. |
|                                  | 7.1  | --   | 23.2  | --   | --   | --   | 59.8       | 8.6   | D.B.   |
| +1.60                            | 40.8 | 0.9  | 67.5  | --   | --   | --   | 100.0      | 32.6  | A.D.B. |
|                                  | 40.8 | --   | 68.1  | --   | --   | --   | 100.0      | 33.0  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                     |                     |                  |                |       |
|--|-------------|---------------------|---------------------|------------------|----------------|-------|
| F.S.I.   | F % on Coal | DILATION TESTS      |                     |                  |                |       |
|  |             | Softening Temp.(°C) | Max. Dil. Temp.(°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 8  | 0.009       |                     |                     |                  |                |       |

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CORE SAMPLE ANALYSIS

Hole No.: R 77-13-10 Lab. No.: 77 - 3013 Date: April 5, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| P.M.%             | Ash% | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.9               | 73.8 | 12.3  | 13.0  | 0.47 | 47.0   | Air Dried Basis |
| --                | 74.5 | 12.4  | 13.1  | 0.47 | ---    | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 89.3  | 0.8   | 76.9  | 0.43 | 89.3       | 76.9  | 0.43 | A.D.B. |
|                     | 89.3  | --    | 77.5  | 0.43 | 89.3       | 77.5  | 0.43 | D.B.   |
| 65 x 0              | 10.7  | 0.7   | 56.8  | 0.75 | 100.0      | 74.7  | 0.46 | A.D.B. |
|                     | 10.7  | --    | 57.2  | 0.76 | 100.0      | 75.3  | 0.46 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |      |       |      |      |      |            |       |        |
|----------------------------------|------|------|-------|------|------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M% | Ash % | V.M% | F.C% | S.%  | Cumulative |       |        |
|                                  |      |      |       |      |      |      | Wt. %      | Ash % |        |
| -1.40                            | 2.6  | 0.7  | 8.5   | 25.7 | 65.1 | 0.96 | 2.6        | 8.5   | A.D.B. |
|                                  | 2.6  | --   | 8.6   | 25.9 | 65.5 | 0.97 | 2.6        | 8.6   | D.B.   |
| 1.40-1.50                        | 0.7  | 0.7  | 19.9  | 23.6 | 55.8 | 0.93 | 3.3        | 10.9  | A.D.B. |
|                                  | 0.7  | --   | 20.0  | 23.8 | 56.2 | 0.94 | 3.3        | 11.0  | D.B.   |
| 1.50-1.60                        | 1.0  | 0.5  | 27.5  | --   | --   | --   | 4.3        | 14.8  | A.D.B. |
|                                  | 1.0  | --   | 27.7  | --   | --   | --   | 4.3        | 14.9  | D.B.   |
| +1.60                            | 95.7 | 0.7  | 78.9  | --   | --   | --   | 100.0      | 76.1  | A.D.B. |
|                                  | 95.7 | --   | 79.5  | --   | --   | --   | 100.0      | 76.7  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |                        |                        |                     |                   |       |
|--|-------------------|------------------------|------------------------|---------------------|-------------------|-------|
| F.S.I.   | P %<br>on<br>Coal | DILATATION TESTS       |                        |                     |                   | G.No. |
|  |                   | Softening<br>Temp.(°C) | Max. Dil.<br>Temp.(°C) | Maximum<br>Contr. % | Maximum<br>Dil. % |       |
| 8%   | 0.015             |                        |                        |                     |                   |       |

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No. R 77 - 13-11 Lab. No.: 77 - 3014 Date: April 5, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| P.M.%             | Ash% | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.6               | 62.7 | 12.7  | 24.0  | 0.41 | 67.7   | Air Dried Basis |
| --                | 63.1 | 12.7  | 24.2  | 0.41 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼" x 65"            | 90.2  | 0.5   | 68.8  | 0.35 | 90.2       | 68.8  | 0.35 | A.D.B. |
|                     | 90.2  | --    | 69.2  | 0.35 | 90.2       | 69.2  | 0.35 | D.B.   |
| 65 x 0              | 9.8   | 0.5   | 11.8  | 0.91 | 100.0      | 63.2  | 0.40 | A.D.B. |
|                     | 9.8   | --    | 11.9  | 0.91 | 100.0      | 63.6  | 0.40 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |      |       |      |      |      |            |       |        |
|----------------------------------|------|------|-------|------|------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M% | Ash % | V.M% | F.C% | S.%  | Cumulative |       |        |
|                                  |      |      |       |      |      |      | Wt. %      | Ash % |        |
| -1.40                            | 20.0 | 1.1  | 4.3   | 30.6 | 64.0 | 0.89 | 20.0       | 4.3   | A.D.B. |
|                                  | 20.0 | --   | 4.3   | 30.9 | 64.8 | 0.90 | 20.0       | 4.3   | D.B.   |
| 1.40-1.50                        | 1.7  | 0.8  | 13.8  | 28.1 | 57.3 | 0.86 | 21.7       | 5.0   | A.D.B. |
|                                  | 1.7  | --   | 13.9  | 28.3 | 57.8 | 0.87 | 21.7       | 5.0   | D.B.   |
| 1.50-1.60                        | 0.0  | I.S. | I.S.  | --   | --   | --   | 21.7       | 5.0   | A.D.B. |
|                                  | --   | --   | --    | ---  | --   | --   | 21.7       | 5.0   | D.B.   |
| +1.60                            | 78.3 | 0.7  | 83.3  | --   | --   | --   | 100.0      | 66.3  | A.D.B. |
|                                  | 78.3 | --   | 83.8  | --   | --   | --   | 100.0      | 66.7  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |                        |                        |                     |                   |  |       |
|--|-------------------|------------------------|------------------------|---------------------|-------------------|--|-------|
| F.S.I.   | P %<br>on<br>Coal | DILATATION TESTS       |                        |                     |                   |  | G.No. |
|  |                   | Softening<br>Temp.(°C) | Max. Dil.<br>Temp.(°C) | Maximum<br>Contr. % | Maximum<br>Dil. % |  |       |
| 9  | 0.016             |                        |                        |                     |                   |  |       |

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No. R 77-13-12 Lab. No.: 77-3015 Date: April 5, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| P.M.%             | Ash% | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.5               | 76.9 | 9.4   | 13.2  | 0.28 | 78.1   | Air Dried Basis |
| --                | 77.3 | 9.4   | 13.3  | 0.28 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 95.7  | 0.4   | 78.4  | 0.26 | 95.7       | 78.4  | 0.26 | A.D.B. |
|                     | 95.7  | --    | 78.7  | 0.26 | 95.7       | 78.7  | 0.26 | D.B.   |
| 65 x 0              | 4.3   | 0.5   | 45.1  | 0.64 | 100.0      | 77.0  | 0.28 | A.D.B. |
|                     | 4.3   | --    | 45.3  | 0.64 | 100.0      | 77.3  | 0.28 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |      |       |      |      |      |            |       |        |
|----------------------------------|------|------|-------|------|------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M% | Ash % | V.M% | F.C% | S.%  | Cumulative |       |        |
|                                  |      |      |       |      |      |      | Wt. %      | Ash % |        |
| -1.40                            | 4.8  | 1.0  | 4.3   | 28.0 | 66.7 | 0.95 | 4.8        | 4.3   | A.D.B. |
|                                  | 4.8  | --   | 4.3   | 28.3 | 67.4 | 0.96 | 4.8        | 4.3   | D.B.   |
| 1.40-1.50                        | 0.4  | 0.8  | 16.9  | 23.0 | 59.3 | 0.89 | 5.2        | 5.3   | A.D.B. |
|                                  | 0.4  | --   | 17.1  | 23.1 | 59.8 | 0.90 | 5.2        | 5.3   | D.B.   |
| 1.50-1.60                        | 0.0  | --   | I.S.  | --   | --   | --   | 5.2        | 5.3   | A.D.B. |
|                                  | --   | --   | --    | --   | --   | --   | 5.2        | 5.3   | D.B.   |
| +1.60                            | 94.8 | 0.6  | 78.7  | --   | --   | --   | 100.0      | 74.9  | A.D.B. |
|                                  | 94.8 | --   | 79.1  | --   | --   | --   | 100.0      | 75.3  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                     |                     |                  |                |  |       |
|--|-------------|---------------------|---------------------|------------------|----------------|--|-------|
| F.S.I.   | P % on Coal | DILATATION TESTS    |                     |                  |                |  | G.No. |
|  |             | Softening Temp.(°C) | Max. Dil. Temp.(°C) | Maximum Contr. % | Maximum Dil. % |  |       |
| 9  | 0.004       |                     |                     |                  |                |  |       |

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No.: R 77 - 13-13 Lab. No.: 77 - 3016 Date: April 5, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| F.M.%             | Ash% | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.6               | 25.0 | 22.8  | 51.6  | 0.87 | 67.7   | Air Dried Basis |
| --                | 25.1 | 22.9  | 52.0  | 0.88 | ---    | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 79.8  | 0.4   | 26.3  | 0.89 | 79.8       | 26.3  | 0.89 | A.D.B. |
|                     | 79.8  | --    | 26.4  | 0.89 | 79.8       | 26.4  | 0.89 | D.B.   |
| 65 x 0              | 20.2  | 0.4   | 22.0  | 0.92 | 100.0      | 25.4  | 0.90 | A.D.B. |
|                     | 20.2  | --    | 22.1  | 0.92 | 100.0      | 25.5  | 0.90 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |       |       |       |      |            |       |        |
|----------------------------------|------|-------|-------|-------|-------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M.% | Ash % | V.M.% | F.C.% | S.%  | Cumulative |       |        |
|                                  |      |       |       |       |       |      | Wt. %      | Ash % |        |
| -1.40                            | 54.8 | 1.0   | 7.2   | 29.4  | 62.4  | 0.95 | 54.8       | 7.2   | A.D.B. |
|                                  | 54.8 | --    | 7.3   | 29.6  | 63.1  | 0.96 | 54.8       | 7.3   | D.B.   |
| 1.40-1.50                        | 8.1  | 0.9   | 19.6  | 23.6  | 55.9  | 0.89 | 62.9       | 8.8   | A.D.B. |
|                                  | 8.1  | --    | 19.8  | 23.9  | 56.3  | 0.90 | 62.9       | 8.9   | D.B.   |
| 1.50-1.60                        | 8.5  | 0.8   | 28.2  | --    | --    | --   | 71.4       | 11.1  | A.D.B. |
|                                  | 8.5  | --    | 28.4  | --    | --    | --   | 71.4       | 11.2  | D.B.   |
| +1.60                            | 28.6 | 0.9   | 64.0  | --    | --    | --   | 100.0      | 26.2  | A.D.B. |
|                                  | 28.6 | --    | 64.6  | --    | --    | --   | 100.0      | 26.5  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |                         |                         |                     |                   |       |
|--|-------------------|-------------------------|-------------------------|---------------------|-------------------|-------|
| F.S.I.   | P %<br>on<br>Coal | DILATATION TESTS        |                         |                     |                   |       |
|  |                   | Softening<br>Temp. (°C) | Max. Dil.<br>Temp. (°C) | Maximum<br>Contr. % | Maximum<br>Dil. % | G.No. |
| 8½   | 0.030             |                         |                         |                     |                   |       |



ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No.: R 77-13-14 Lab. No.: 77 - 3017 Date: April 5, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| P.M.%             | Ash% | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.7               | 61.2 | 12.7  | 25.4  | 0.40 | 74.0   | Air Dried Basis |
| --                | 61.6 | 12.8  | 25.6  | 0.40 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 90.6  | 0.6   | 65.0  | 0.37 | 90.6       | 65.0  | 0.37 | A.D.B. |
|                     | 90.6  | --    | 65.4  | 0.37 | 90.6       | 65.4  | 0.37 | D.B.   |
| 65 x 0              | 9.4   | 0.6   | 29.6  | 0.63 | 100.0      | 61.7  | 0.39 | A.D.B. |
|                     | 9.4   | --    | 29.8  | 0.63 | 100.0      | 62.0  | 0.39 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |       |       |       |      |            |       |        |
|----------------------------------|------|-------|-------|-------|-------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M.% | Ash % | V.M.% | F.C.% | S.%  | Cumulative |       |        |
|                                  |      |       |       |       |       |      | Wt. %      | Ash % |        |
| -1.40                            | 19.7 | 1.2   | 5.3   | 26.4  | 67.1  | 0.70 | 19.7       | 5.3   | A.D.B. |
|                                  | 19.7 | --    | 5.3   | 26.7  | 68.0  | 0.71 | 19.7       | 5.3   | D.B.   |
| 1.40-1.50                        | 6.8  | 1.3   | 10.3  | 23.5  | 64.9  | 0.62 | 26.5       | 6.6   | A.D.B. |
|                                  | 6.8  | --    | 10.4  | 23.8  | 65.8  | 0.63 | 26.5       | 6.6   | D.B.   |
| 1.50-1.60                        | 2.1  | 0.7   | 22.1  | --    | --    | --   | 28.6       | 7.7   | A.D.B. |
|                                  | 2.1  | --    | 22.3  | --    | --    | --   | 28.6       | 7.8   | D.B.   |
| +1.60                            | 71.4 | 0.8   | 87.4  | --    | --    | --   | 100.0      | 64.6  | A.D.B. |
|                                  | 71.4 | --    | 88.1  | --    | --    | --   | 100.0      | 65.1  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                      |                      |                  |                |       |
|--|-------------|----------------------|----------------------|------------------|----------------|-------|
| F.S.I.   | P % on Coal | DILATATION TESTS     |                      |                  |                |       |
|  |             | Softening Temp. (°C) | Max. Dil. Temp. (°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 8½   | 0.026       |                      |                      |                  |                |       |

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No. R 77 - 13-15 Lab. No.: 77 - 3018 Date: April 5, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| P.M.%             | Ash% | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.6               | 52.6 | 14.8  | 32.0  | 0.55 | 69.8   | Air Dried Basis |
| --                | 52.9 | 14.9  | 32.2  | 0.55 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 90.4  | 0.5   | 55.9  | 0.47 | 90.4       | 55.9  | 0.47 | A.D.B. |
|                     | 90.4  | --    | 56.2  | 0.47 | 90.4       | 56.2  | 0.47 | D.B.   |
| 65 x 0              | 9.6   | 0.4   | 20.4  | 0.91 | 100.0      | 52.5  | 0.51 | A.D.B. |
|                     | 9.6   | --    | 20.5  | 0.91 | 100.0      | 52.8  | 0.51 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |       |       |       |      |            |       |        |
|----------------------------------|------|-------|-------|-------|-------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M.% | Ash % | V.M.% | F.C.% | S.%  | Cumulative |       |        |
|                                  |      |       |       |       |       |      | Wt. %      | Ash % |        |
| -1.40                            | 30.7 | 0.6   | 4.7   | 28.4  | 66.3  | 0.98 | 30.7       | 4.7   | A.D.B. |
|                                  | 30.7 | --    | 4.7   | 28.6  | 66.7  | 0.99 | 30.7       | 4.7   | D.B.   |
| 1.40-1.50                        | 4.5  | 0.6   | 14.9  | 23.5  | 61.0  | 0.93 | 35.2       | 6.0   | A.D.B. |
|                                  | 4.5  | --    | 15.0  | 23.6  | 61.4  | 0.94 | 35.2       | 6.0   | D.B.   |
| 1.50-1.60                        | 1.8  | 0.5   | 27.4  | --    | --    | --   | 37.0       | 7.0   | A.D.B. |
|                                  | 1.8  | --    | 27.5  | --    | --    | --   | 37.0       | 7.1   | D.B.   |
| +1.60                            | 63.0 | 0.8   | 84.4  | --    | --    | --   | 100.0      | 55.8  | A.D.B. |
|                                  | 63.0 | --    | 85.1  | --    | --    | --   | 100.0      | 56.2  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |                        |                        |                     |                   |       |
|--|-------------------|------------------------|------------------------|---------------------|-------------------|-------|
| F.S.I.   | P %<br>on<br>Coal | DILATATION TESTS       |                        |                     |                   | G.No. |
|  |                   | Softening<br>Temp.(°C) | Max. Dil.<br>Temp.(°C) | Maximum<br>Contr. % | Maximum<br>Dil. % |       |
| 9  | 0.011             |                        |                        |                     |                   |       |

ELCO MINING LTD.

## CORE SAMPLE ANALYSIS

Hole No. R 77 - 13-16 Lab. No.: 77 - 3019 Date: April 5, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| P.M.%             | Ash% | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.8               | 62.0 | 13.4  | 23.8  | 0.54 | 62.2   | Air Dried Basis |
| --                | 62.4 | 13.4  | 24.2  | 0.54 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 92.1  | 0.6   | 65.2  | 0.52 | 92.1       | 65.2  | 0.52 | A.D.B. |
|                     | 92.1  | --    | 65.6  | 0.52 | 92.1       | 65.6  | 0.52 | D.B.   |
| 65 x 0              | 7.9   | 0.6   | 38.6  | 0.79 | 100.0      | 63.1  | 0.54 | A.D.B. |
|                     | 7.9   | --    | 38.8  | 0.79 | 100.0      | 63.5  | 0.54 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |      |       |      |      |      |            |       |        |
|----------------------------------|------|------|-------|------|------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M% | Ash % | V.M% | F.C% | S.%  | Cumulative |       |        |
|                                  |      |      |       |      |      |      | Wt. %      | Ash % |        |
| -1.40                            | 14.5 | 0.6  | 6.4   | 25.5 | 67.5 | 0.86 | 14.5       | 6.4   | A.D.B. |
|                                  | 14.5 | --   | 6.5   | 25.7 | 67.8 | 0.86 | 14.5       | 6.5   | D.B.   |
| 1.40-1.50                        | 6.1  | 0.6  | 16.0  | 22.3 | 61.1 | 0.75 | 20.6       | 9.2   | A.D.B. |
|                                  | 6.1  | --   | 16.1  | 22.4 | 61.5 | 0.75 | 20.6       | 9.3   | D.B.   |
| 1.50-1.60                        | 3.9  | 0.4  | 26.6  | --   | --   | --   | 24.5       | 12.0  | A.D.B. |
|                                  | 3.9  | --   | 26.7  | --   | --   | --   | 24.5       | 12.1  | D.B.   |
| +1.60                            | 75.5 | 0.6  | 81.5  | --   | --   | --   | 100.0      | 64.5  | A.D.B. |
|                                  | 75.5 | --   | 82.0  | --   | --   | --   | 100.0      | 64.9  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |                        |                        |                     |                   |       |
|--|-------------------|------------------------|------------------------|---------------------|-------------------|-------|
| F.S.I.   | P %<br>on<br>Coal | DILATATION TESTS       |                        |                     |                   |       |
|  |                   | Softening<br>Temp.(°C) | Max. Dil.<br>Temp.(°C) | Maximum<br>Contr. % | Maximum<br>Dil. % | G.No. |
| 9  | 0.018             |                        |                        |                     |                   |       |

CLIENT: WARNOCK HERSEY

PROJECT: DILATATION TESTS \*

SAMPLE : -8 Mesh, 1.50 S.G. Composite      DATE: April/77  
Float

| CS&MT<br>LAB. NO. | W.H.<br>I.D. No. | INITIAL<br>TEMP(°C) | SOFTENING<br>TEMP(°C) | MAX.<br>DILAT'N<br>TEMP(°C) | MAX.<br>CONTRACT'N<br>% | MAX,<br>DILATATION<br>% | G.No. |
|-------------------|------------------|---------------------|-----------------------|-----------------------------|-------------------------|-------------------------|-------|
| 8932              | 77-3001          | 320                 | 363                   | 453                         | 24                      | 191                     | 1.094 |
| 8933              | 77-3002          | 320                 | 361                   | 459                         | 23                      | 212                     | 1.106 |
| 8934              | 77-3003          | 320                 | 356                   | 457                         | 29                      | 251                     | 1.109 |
| 8935              | 77-3004          | 320                 | 363                   | 453                         | 28                      | 88                      | 1.061 |
| 8936              | 77-3005          | 320                 | 367                   | 459                         | 26                      | 216                     | 1.096 |
| 8937              | 77-3006          | 320                 | 360                   | 459                         | 22                      | 250                     | 1.113 |
| 8938              | 77-3007          | 320                 | 356                   | 452                         | 27                      | 187                     | 1.097 |
| 8939              | 77-3008          | 320                 | 352                   | 450                         | 16                      | 295                     | 1.123 |
| 8940              | 77-3009          | 320                 | 363                   | 458                         | 30                      | 289                     | 1.104 |
| 8941              | 77-3010          | 320                 | 360                   | 460                         | 23                      | 297                     | 1.117 |
| 8942              | 77-3011          | 320                 | 367                   | 456                         | 23                      | 17                      | 0.984 |
| 8943              | 77-3012          | 320                 | 372                   | 458                         | 28                      | 21                      | 0.985 |
| 8944              | 77-3013          | 320                 | 367                   | 460                         | 24                      | 175                     | 1.093 |
| 8945              | 77-3014          | 320                 | 367                   | 458                         | 29                      | 229                     | 1.094 |
| 8946              | 77-3015          | 320                 | 374                   | 456                         | 23                      | 181                     | 1.083 |
| 8947              | 77-3016          | 320                 | 370                   | 457                         | 19                      | 193                     | 1.095 |
| 8948              | 77-3017          | 320                 | 379                   | 466                         | 27                      | 57                      | 1.038 |
| 8949              | 77-3018          | 320                 | 370                   | 465                         | 23                      | 179                     | 1.096 |
| 8950              | 77-3019          | 320                 | 363                   | 460                         | 25                      | 183                     | 1.098 |
| 8951              | 77-3020          | 320                 | 368                   | 456                         | 25                      | 96                      | 1.067 |
| 8952              | 77-3021          | 320                 | 367                   | 457                         | 28                      | 223                     | 1.093 |
| 8953              | 77-3022          | 320                 | 354                   | 463                         | 26                      | 308                     | 1.127 |
| 8954              | 77-3023          | 320                 | 350                   | 452                         | 24                      | 222                     | 1.114 |

\* Softening Temp., Maximum Dilatation/Contraction Temp.  
are corrected with factor = 6/5

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No.: R 77-15-1 Lab. No.: 77 - 3020 Date: April 5, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| P.M.%             | Ash% | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.8               | 37.4 | 20.1  | 41.7  | 0.45 | 91.3   | Air Dried Basis |
| --                | 37.7 | 20.2  | 42.1  | 0.45 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 92.6  | 0.6   | 39.8  | 0.44 | 92.6       | 39.8  | 0.44 | A.D.B. |
|                     | 92.6  | --    | 40.0  | 0.44 | 92.6       | 40.0  | 0.44 | D.B.   |
| 65 x 0              | 7.4   | 0.7   | 16.3  | 0.60 | 100.0      | 38.1  | 0.45 | A.D.B. |
|                     | 7.4   | --    | 16.4  | 0.60 | 100.0      | 38.2  | 0.45 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |      |       |      |      |      |            |       |        |
|----------------------------------|------|------|-------|------|------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M% | Ash % | V.M% | F.C% | S.%  | Cumulative |       |        |
|                                  |      |      |       |      |      |      | Wt. %      | Ash % |        |
| -1.40                            | 46.4 | 1.1  | 3.9   | 30.9 | 64.1 | 0.72 | 46.4       | 3.9   | A.D.B. |
|                                  | 46.4 | --   | 4.0   | 31.3 | 64.7 | 0.73 | 46.4       | 4.0   | D.B.   |
| 1.40-1.50                        | 6.9  | 1.2  | 12.9  | 24.3 | 61.6 | 0.56 | 53.3       | 5.1   | A.D.B. |
|                                  | 6.9  | --   | 13.1  | 24.6 | 62.3 | 0.57 | 53.3       | 5.2   | D.B.   |
| 1.50-1.60                        | 2.8  | 1.1  | 22.3  | --   | --   | --   | 56.1       | 5.9   | A.D.B. |
|                                  | 2.8  | --   | 22.6  | --   | --   | --   | 56.1       | 6.0   | D.B.   |
| +1.60                            | 43.9 | 1.1  | 77.9  | --   | --   | --   | 100.0      | 37.5  | A.D.B. |
|                                  | 43.9 | --   | 78.7  | --   | --   | --   | 100.0      | 37.9  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                      |                      |                  |                |       |
|--|-------------|----------------------|----------------------|------------------|----------------|-------|
| F.S.I.   | F % on Coal | DILATATION TESTS     |                      |                  |                |       |
|  |             | Softening Temp. (°C) | Max. Dil. Temp. (°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 8%   | 0.034       |                      |                      |                  |                |       |

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R 77 -15 - 2 Lab. No.: 77 - 3021 Date: April 13, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.7               | 49.7  | 24.4  | 25.2  | 0.63 | 71.2   | Air Dried Basis |
| --                | 50.0  | 24.6  | 25.4  | 0.63 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 92.5 | 0.7   | 50.8  | 0.64 | 92.5       | 50.8  | 0.64 | A.D.B. |
|                     | 92.5 | --    | 51.2  | 0.64 | 92.5       | 51.2  | 0.64 | D.B.   |
| 65 x 0              | 7.5  | 0.7   | 20.1  | 0.76 | 100.0      | 48.5  | 0.65 | A.D.B. |
|                     | 7.5  | --    | 20.3  | 0.76 | 100.0      | 48.9  | 0.65 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 27.7 | 0.9   | 3.8  | 28.5  | 66.8  | 0.75 | 27.7       | 3.8  | A.D.B. |
|                                  | 27.7 | --    | 3.9  | 28.8  | 67.3  | 0.76 | 27.7       | 3.9  | D.B.   |
| 1.40-1.50                        | 3.8  | 1.0   | 11.7 | 25.4  | 61.9  | 0.68 | 31.5       | 4.8  | A.D.B. |
|                                  | 3.8  | --    | 11.8 | 25.6  | 62.6  | 0.69 | 31.5       | 4.9  | D.B.   |
| 1.50-1.60                        | 2.3  | 0.8   | 20.5 | --    | --    | --   | 33.8       | 5.8  | A.D.B. |
|                                  | 2.3  | --    | 20.7 | --    | --    | --   | 33.8       | 5.9  | D.B.   |
| +1.60                            | 66.2 | 1.0   | 73.5 | --    | --    | --   | 100.0      | 50.6 | A.D.B. |
|                                  | 66.2 | --    | 74.2 | --    | --    | --   | 100.0      | 51.1 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |            |            |          |         |       |
|--|-------------------|------------|------------|----------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening  | Max. Dil.  | Maximum  | Maximum | G.No. |
|  |                   | Temp. (°C) | Temp. (°C) | Contr. % | Dil. %  |       |
| 9  | 0.047             |            |            |          |         |       |

CLIENT: WARNOCK HERSEY

PROJECT: DILATATION TESTS \*

SAMPLE : -8 Mesh, 1.50 S.G. Composite      DATE: April/77  
Float

| CS&MT<br>LAB. NO. | W.H.<br>I.D. No. | INITIAL<br>TEMP(°C) | SOFTENING<br>TEMP(°C) | MAX.<br>DILAT'N<br>TEMP(°C) | MAX.<br>CONTRACT'N<br>% | MAX.<br>DILATATION<br>% | G.No. |
|-------------------|------------------|---------------------|-----------------------|-----------------------------|-------------------------|-------------------------|-------|
| 8932              | 77-3001          | 320                 | 363                   | 453                         | 24                      | 191                     | 1.094 |
| 8933              | 77-3002          | 320                 | 361                   | 459                         | 23                      | 212                     | 1.106 |
| 8934              | 77-3003          | 320                 | 356                   | 457                         | 29                      | 251                     | 1.109 |
| 8935              | 77-3004          | 320                 | 363                   | 453                         | 28                      | 88                      | 1.061 |
| 8936              | 77-3005          | 320                 | 367                   | 459                         | 26                      | 216                     | 1.096 |
| 8937              | 77-3006          | 320                 | 360                   | 459                         | 22                      | 250                     | 1.113 |
| 8938              | 77-3007          | 320                 | 356                   | 452                         | 27                      | 187                     | 1.097 |
| 8939              | 77-3008          | 320                 | 352                   | 450                         | 16                      | 295                     | 1.123 |
| 8940              | 77-3009          | 320                 | 363                   | 458                         | 30                      | 289                     | 1.104 |
| 8941              | 77-3010          | 320                 | 360                   | 460                         | 23                      | 297                     | 1.117 |
| 8942              | 77-3011          | 320                 | 367                   | 456                         | 23                      | 17                      | 0.984 |
| 8943              | 77-3012          | 320                 | 372                   | 458                         | 28                      | 21                      | 0.985 |
| 8944              | 77-3013          | 320                 | 367                   | 460                         | 24                      | 175                     | 1.093 |
| 8945              | 77-3014          | 320                 | 367                   | 458                         | 29                      | 229                     | 1.094 |
| 8946              | 77-3015          | 320                 | 374                   | 456                         | 23                      | 181                     | 1.083 |
| 8947              | 77-3016          | 320                 | 370                   | 457                         | 19                      | 193                     | 1.095 |
| 8948              | 77-3017          | 320                 | 379                   | 466                         | 27                      | 57                      | 1.038 |
| 8949              | 77-3018          | 320                 | 370                   | 465                         | 23                      | 179                     | 1.096 |
| 8950              | 77-3019          | 320                 | 363                   | 460                         | 25                      | 183                     | 1.098 |
| 8951              | 77-3020          | 320                 | 368                   | 456                         | 25                      | 96                      | 1.067 |
| 8952              | 77-3021          | 320                 | 367                   | 457                         | 28                      | 223                     | 1.093 |
| 8953              | 77-3022          | 320                 | 354                   | 463                         | 26                      | 308                     | 1.127 |
| 8954              | 77-3023          | 320                 | 350                   | 452                         | 24                      | 222                     | 1.114 |

\* Softening Temp., Maximum Dilatation/Contraction Temp.  
are corrected with factor = 6/5

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R - 77 - 15 - 3 Lab. No. 8720 DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.7               | 51.9  | 17.5   | 29.9   | 0.66 | 67     | Air Dried Basis |
|                   | 52.3  | 17.6   | 30.1   | 0.66 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 93.2  | 1.0    | 54.3  | 0.60 | 93.2       | 54.3  | 0.60 | A.D.B. |
|                     | 93.2  |        | 54.8  | 0.61 | 93.2       | 54.8  | 0.61 | D.B.   |
| 65M x 0             | 6.8   | 0.8    | 18.7  | 1.02 | 100.0      | 51.9  | 0.63 | A.D.B. |
|                     | 6.8   |        | 18.9  | 1.03 | 100.0      | 52.4  | 0.64 | D.B.   |

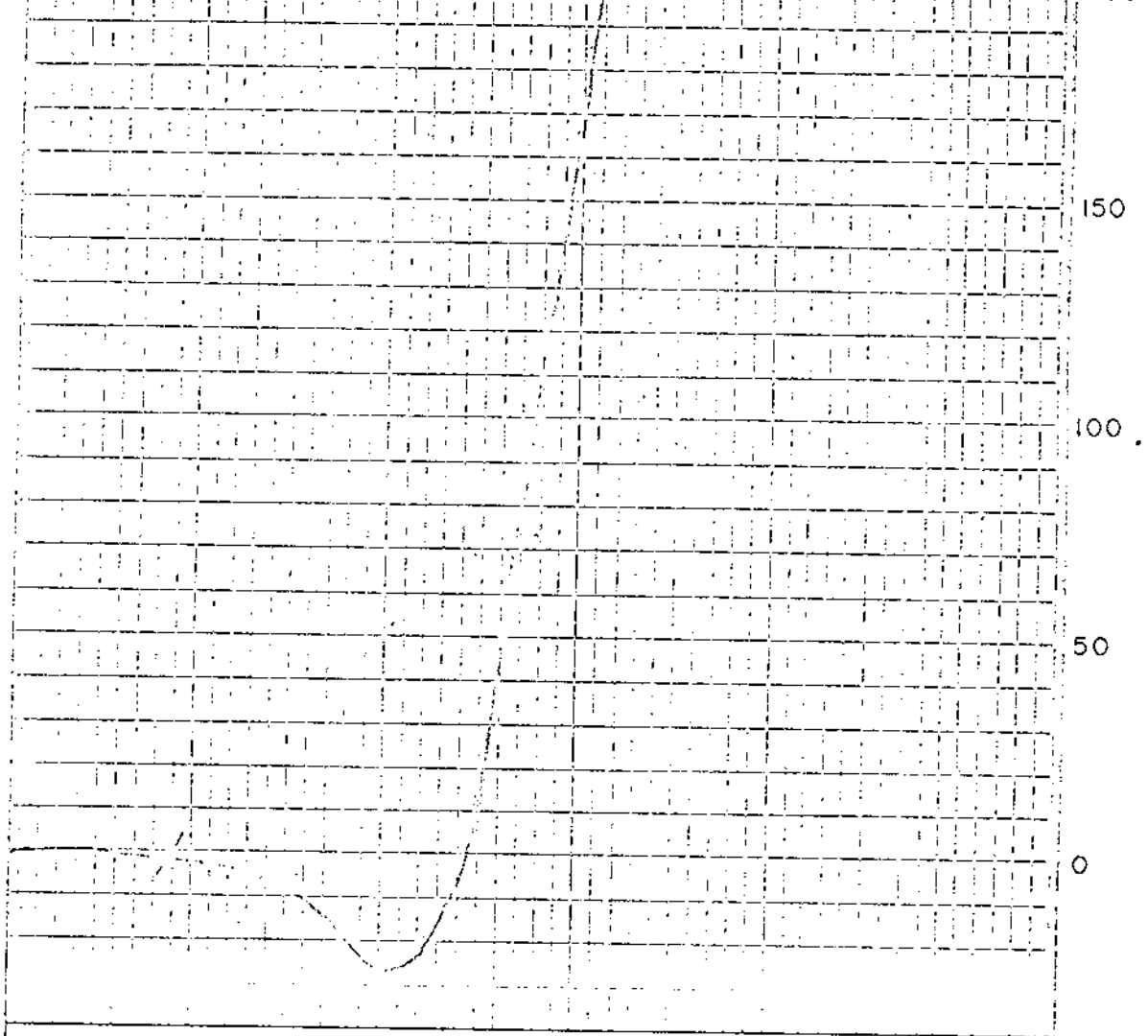
| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 32.9  | 1.2    | 5.4   | 27.7   | 65.7   | 1.05 | 32.9       | 5.4   | A.D.B. |
|                                   | 32.9  |        | 5.5   | 28.0   | 66.5   | 1.06 | 32.9       | 5.5   | D.B.   |
| 1.40-1.50                         | 2.8   | 1.3    | 16.2  | 25.4   | 57.1   | 1.03 | 35.7       | 6.2   | A.D.B. |
|                                   | 2.8   |        | 16.4  | 25.7   | 57.9   | 1.04 | 35.7       | 6.4   | D.B.   |
| 1.50-1.60                         | 2.4   | 1.4    | 27.9  |        |        |      | 38.1       | 7.6   | A.D.B. |
|                                   | 2.4   |        | 28.3  |        |        |      | 38.1       | 7.7   | D.B.   |
| +1.60                             | 61.9  | 0.9    | 83.0  |        |        |      | 100.0      | 54.3  | A.D.B. |
|                                   | 61.9  |        | 83.8  |        |        |      | 100.0      | 54.8  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS < 1.50 S.G., A.D.B. |            |   |                       |                  |                |       |        |
|---|------------|---|-----------------------|------------------|----------------|-------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp. = 320°C) |                       |                  |                |       | G. NO. |
|   |            | SOFTENING TEMP. *(°C)                   | MAX. DIL. TEMP. *(°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % |       |        |
| 8 1/2   | 0.05       | 352                                     | 457                   | 25               | 335            | 1.126 |        |

\* S.T. & M.D.T. corrected with factor 6/5



Lab. No. 8720 Date April 7, 1977 %  
 Client: ELCO MINING LTD. 300  
 Sample Identification: R77-15-3  
 Starting Temperature °C: 320  
 Softening Temperature °C: 352  
 Max. Dilatation Temp. °C: 457 250  
 Contraction %: 25  
 Dilatation %: 335  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 1.126 200



**BIRTLEY ENGINEERING (CANADA) LTD.**

Title RUHR DILATOMETER TEST

Date \_\_\_\_\_  
 Drawn \_\_\_\_\_

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R - 77 - 15 - 4

Lab. No. 8721

DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.8               | 33.0  | 20.3   | 45.9   | 0.64 | 79     | Air Dried Basis |
|                   | 33.3  | 20.5   | 46.2   | 0.65 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 94.2  | 0.8    | 33.5  | 0.64 | 94.2       | 33.5  | 0.64 | A.D.B. |
|                     | 94.2  |        | 33.8  | 0.65 | 94.2       | 33.8  | 0.65 | D.B.   |
| 65M x 0             | 5.8   | 1.2    | 15.8  | 0.77 | 100.0      | 32.5  | 0.65 | A.D.B. |
|                     | 5.8   |        | 16.0  | 0.78 | 100.0      | 32.8  | 0.66 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 46.6  | 1.1    | 4.8   | 25.9   | 68.2   | 0.83 | 46.6       | 4.8   | A.D.B. |
|                                   | 46.7  |        | 4.9   | 26.2   | 63.9   | 0.84 | 46.7       | 4.9   | D.B.   |
| 1.40-1.50                         | 8.7   | 0.3    | 17.6  | 23.4   | 58.2   | 0.69 | 55.3       | 6.8   | A.D.B. |
|                                   | 8.7   |        | 17.7  | 23.6   | 58.7   | 0.70 | 55.4       | 6.9   | D.B.   |
| 1.50-1.60                         | 4.5   | 1.1    | 29.8  |        |        |      | 59.8       | 8.5   | A.D.B. |
|                                   | 4.5   |        | 30.1  |        |        |      | 59.9       | 8.7   | D.B.   |
| +1.60                             | 40.2  | 1.2    | 70.7  |        |        |      | 100.0      | 33.5  | A.D.B. |
|                                   | 40.1  |        | 71.6  |        |        |      | 100.0      | 33.9  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                       |                  |                |       |        |
|---|------------|---------------------------------------|-----------------------|------------------|----------------|-------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                       |                  |                |       | G. NO. |
|   |            | SOFTENING TEMP.* (°C)                 | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % |       |        |
| 9   | 0.03       | 363                                   | 451                   | 19               | 213            | 1.099 |        |

\* S.T. & M.D.T. corrected with factor 6/5

*Birtley Engineering*

*Subsidiary of Great West Steel Industries*

Lab. No. 8721 Date April 7, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-15-4

Starting Temperature °C: 320

Softening Temperature °C: 363

Max. Dilatation Temp. °C: 451

Contraction %: 19

Dilatation %: 213

Final Temperature °C: 621

G. Factor: 1.099

250

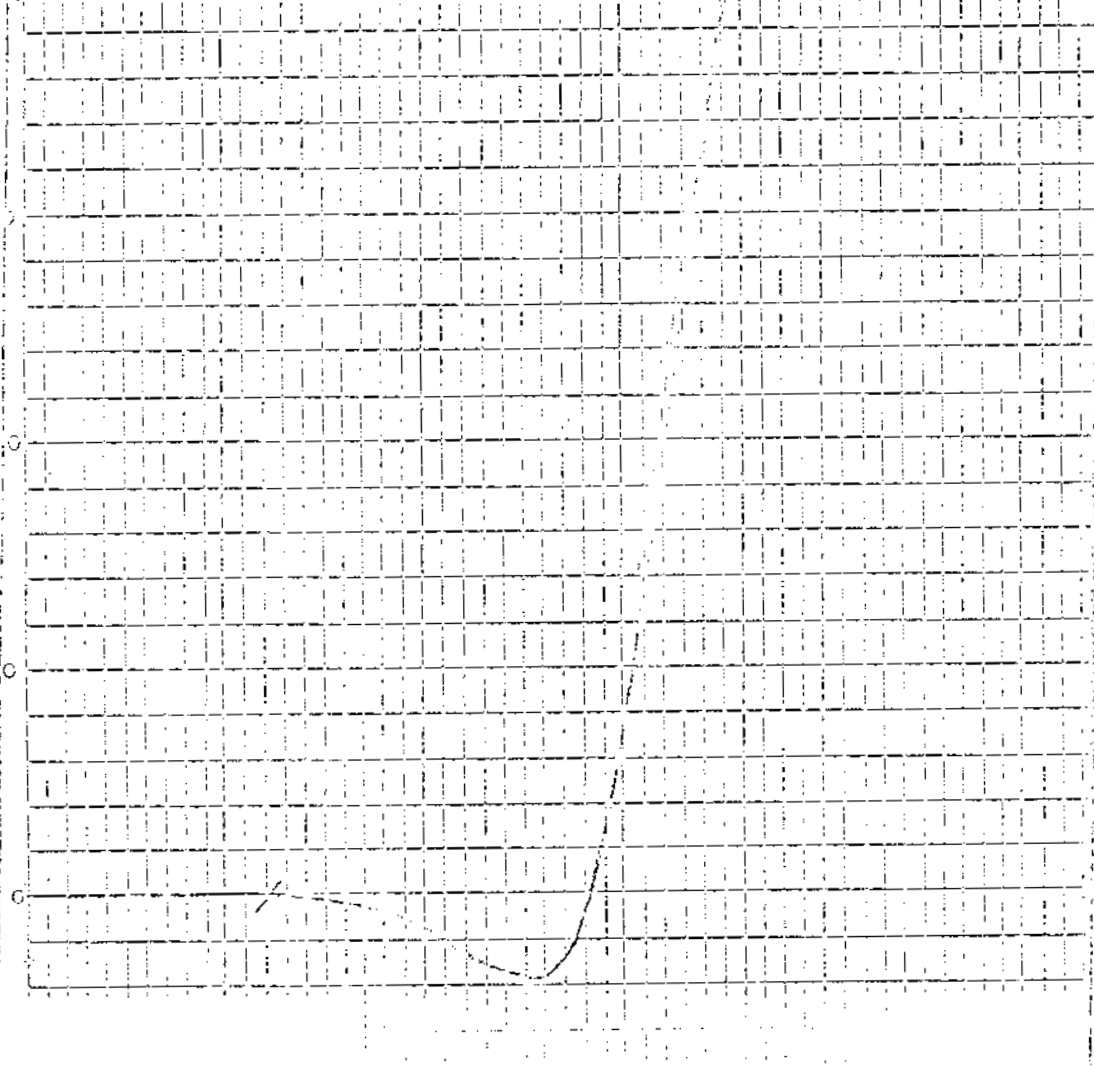
200

150

100

50

0



BIRTLEY ENGINEERING (CANADA) LTD.

|                       |       |
|-----------------------|-------|
| Title                 | Date  |
| RUHR DILATOMETER TEST | Drawn |

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R - 77 - 15 - 5 Lab. No. 8722 DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.8               | 41.4  | 17.9   | 39.9   | 0.65 | 77     | Air Dried Basis |
|                   | 41.7  | 18.0   | 40.3   | 0.66 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 93.9  | 0.9    | 42.8  | 0.64 | 93.9       | 42.8  | 0.64 | A.D.B. |
|                     | 93.9  |        | 43.2  | 0.65 | 93.9       | 43.2  | 0.65 | D.B.   |
| 65M x 0             | 6.1   | 1.1    | 27.3  | 0.75 | 100.0      | 41.9  | 0.65 | A.D.B. |
|                     | 6.1   |        | 27.6  | 0.76 | 100.0      | 42.2  | 0.66 | D.B.   |

| SINK-FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|---------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                           | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                 |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                           | 42.1  | 0.6    | 4.1   | 26.3   | 69.0   | 0.80 | 42.1       | 4.1   | A.D.B. |
|                                 | 42.4  |        | 4.1   | 26.5   | 69.4   | 0.80 | 42.4       | 4.1   | D.B.   |
| 1.40-1.50                       | 5.9   | 1.0    | 9.2   | 24.8   | 65.0   | 0.76 | 48.0       | 4.7   | A.D.B. |
|                                 | 5.9   |        | 9.3   | 25.1   | 65.6   | 0.77 | 48.3       | 4.7   | D.B.   |
| 1.50-1.60                       | 1.2   | 1.2    | 20.4  |        |        |      | 49.2       | 5.1   | A.D.B. |
|                                 | 1.1   |        | 20.6  |        |        |      | 49.4       | 5.1   | D.B.   |
| +1.60                           | 50.8  | 1.5    | 80.3  |        |        |      | 100.0      | 43.3  | A.D.B. |
|                                 | 50.6  |        | 81.5  |        |        |      | 100.0      | 43.8  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS > 1.50 S.G., A.D.B. |            |                                       |                      |                  |                |        |
|---|------------|---------------------------------------|----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                      |                  |                |        |
|   |            | SOFTENING TEMP.* (°C)                 | MAX. DIL. TEMP* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 8 1/2   | 0.02       | 364                                   | 457                  | 26               | 203            | 1.096  |

\* S.T. & M.D.T. corrected with factor 6/5

Lab. No. 8722 Date April 7, 1977

Client: ELCO MINING LTD.

Sample Identification: R77-15-5

Starting Temperature °C: 320

Softening Temperature °C: 364

Max. Dilatation Temp. °C: 457

Contraction %: 26

Dilatation %: 203

Final Temperature °C:

G. Factor: 1.096

%  
300

250

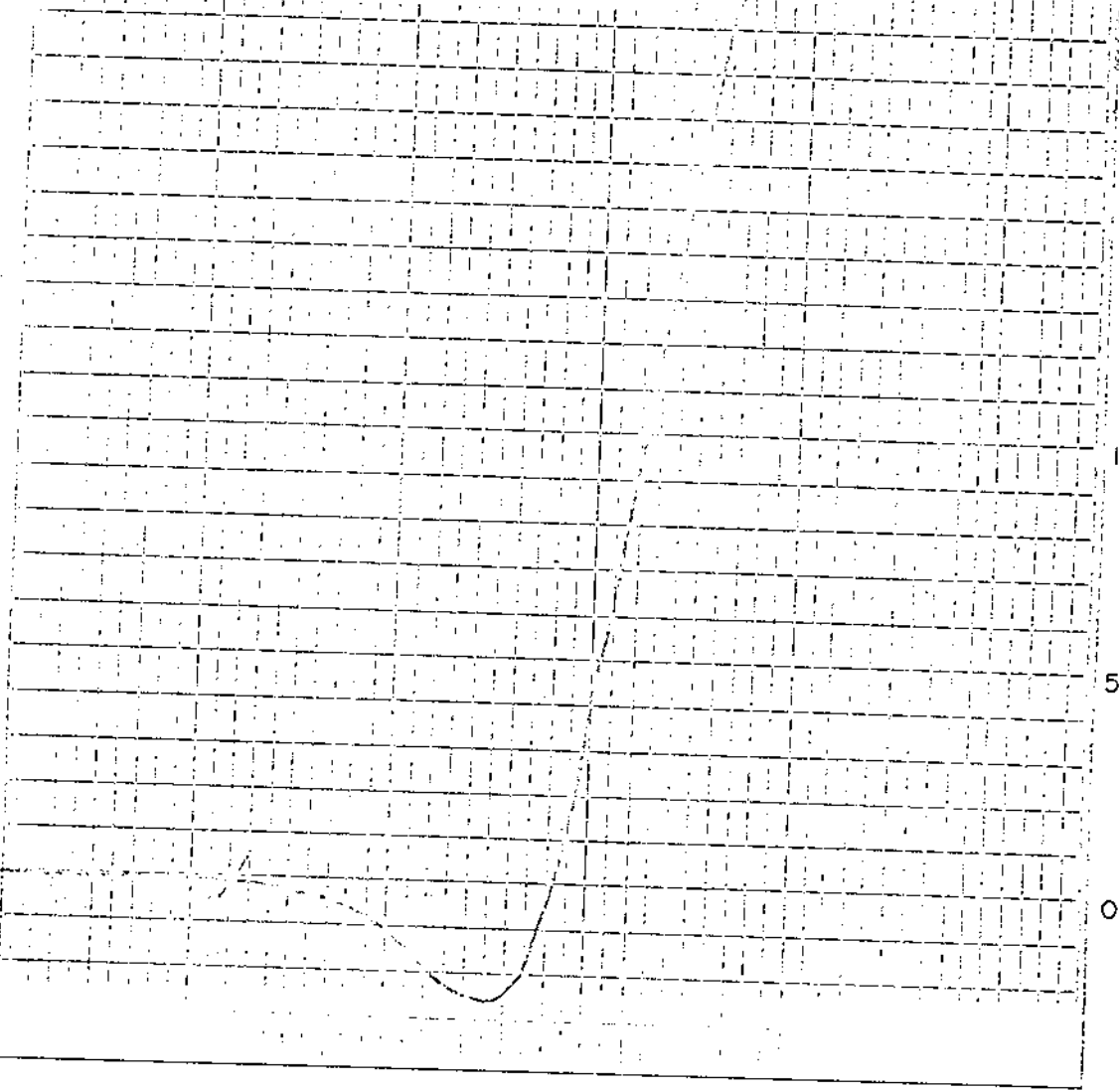
200

150

100

50

0



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R - 77 - 15 - 6 Lab. No. 8723 DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.8               | 63.7  | 12.9   | 22.6   | 0.45 | 57     | Air Dried Basis |
|                   | 64.2  | 13.0   | 22.8   | 0.45 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 94.4  | 0.9    | 64.7  | 0.44 | 94.4       | 64.7  | 0.44 | A.D.B. |
|                     | 94.4  |        | 65.3  | 0.44 | 94.4       | 65.3  | 0.44 | D.B.   |
| 65M x 0             | 5.6   | 1.0    | 41.8  | 0.64 | 100.0      | 63.4  | 0.45 | A.D.B. |
|                     | 5.6   |        | 42.2  | 0.65 | 100.0      | 64.0  | 0.45 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 8.2   | 1.0    | 3.5   | 25.8   | 69.7   | 1.00 | 8.2        | 3.5   | A.D.B. |
|                                   | 8.2   |        | 3.5   | 26.1   | 70.4   | 1.01 | 8.2        | 3.5   | D.B.   |
| 1.40-1.50                         | 2.7   | 1.3    | 11.8  | 24.4   | 62.5   | 0.91 | 10.9       | 5.6   | A.D.B. |
|                                   | 2.7   |        | 12.0  | 24.7   | 63.3   | 0.92 | 10.9       | 5.6   | D.B.   |
| 1.50-1.60                         | 1.7   | 1.1    | 26.4  | X      | X      | X    | 12.6       | 8.4   | A.D.B. |
|                                   | 1.7   |        | 26.7  |        |        |      | 12.6       | 8.5   | D.B.   |
| +1.60                             | 87.4  | 0.9    | 71.9  | X      | X      | X    | 100.0      | 63.9  | A.D.B. |
|                                   | 87.4  |        | 72.6  |        |        |      | 100.0      | 64.5  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                       |                  |                |        |
|---|------------|---------------------------------------|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP.* (°C)                 | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 9   | 0.03       | 363                                   | 452                   | 23               | 259            | 1.101  |

\* S.T. & M.D.T. corrected with factor 6/5

Lab. No. 8723 Date April 7, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-15-6

Starting Temperature °C: 320

Softening Temperature °C: 363

Max. Dilatation Temp. °C: 452

Contraction %: 23

Dilatation %: 259

Final Temperature °C:

G. Factor: 1.101

250

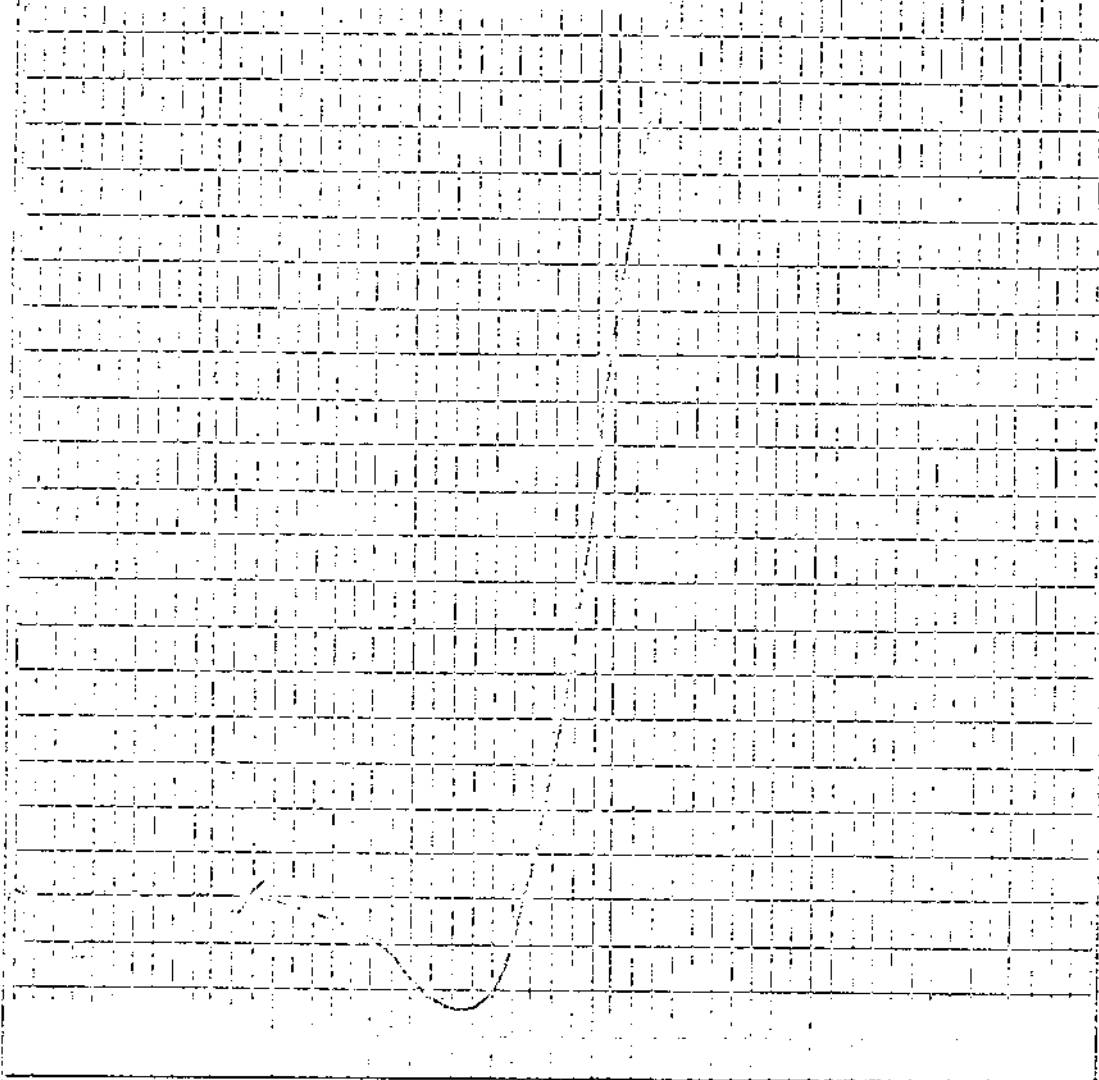
200

150

100

50

0



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R - 77 - 15 - 7 Lab. No. 8724 DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 1.6               | 25.8  | 20.6   | 52.0   | 0.47 | 87     | Air Dried Basis |
|                   | 26.2  | 20.9   | 52.9   | 0.48 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 74.0  | 1.1    | 31.5  | 0.45 | 74.0       | 31.5  | 0.45 | A.D.B. |
|                     | 74.5  |        | 31.9  | 0.46 | 74.5       | 31.9  | 0.46 | D.B.   |
| 65M x 0             | 26.0  | 3.8    | 7.1   | 0.54 | 100.0      | 25.2  | 0.47 | A.D.B. |
|                     | 25.5  |        | 7.4   | 0.56 | 100.0      | 25.7  | 0.49 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 55.2  | 1.7    | 4.0   | 24.0   | 70.3   | 0.66 | 55.2       | 4.0   | A.D.B. |
|                                   | 55.1  |        | 4.1   | 24.4   | 71.5   | 0.67 | 55.1       | 4.1   | D.B.   |
| 1.40-1.50                         | 7.2   | 1.2    | 14.5  | 20.9   | 63.4   | 0.53 | 62.4       | 5.2   | A.D.B. |
|                                   | 7.2   |        | 14.7  | 21.2   | 64.1   | 0.54 | 62.3       | 5.3   | D.B.   |
| 1.50-1.60                         | 2.9   | 1.1    | 25.0  |        |        |      | 65.3       | 6.1   | A.D.B. |
|                                   | 2.9   |        | 25.3  |        |        |      | 65.2       | 6.2   | D.B.   |
| +1.60                             | 34.7  | 1.1    | 77.9  |        |        |      | 100.0      | 31.0  | A.D.B. |
|                                   | 34.8  |        | 78.8  |        |        |      | 100.0      | 31.5  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                       |                  |                |        |
|---|------------|---------------------------------------|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP.* (°C)                 | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 8   | 0.03       | 372                                   | 457                   | 23               | 16             | 0.982  |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries



Lab. No. 8724 Date April 7, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-15-7

Starting Temperature °C: 320

Softening Temperature °C: 372

Max. Dilatation Temp. °C: 457

Contraction %: 23

Dilatation %: 16

Final Temperature °C:

G. Factor: 0.982

250

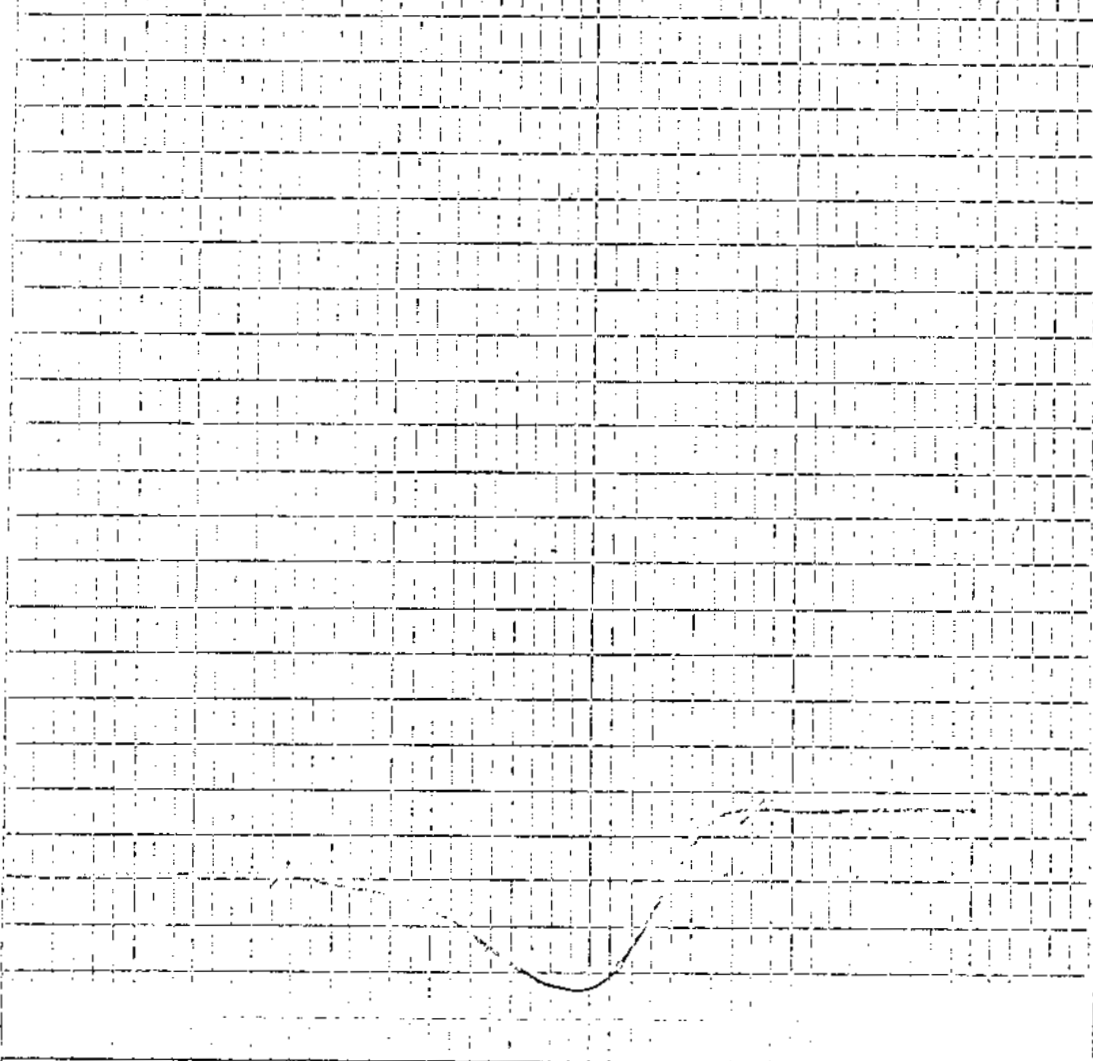
200

150

100

50

0



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R - 77 - 15 - 8 Lab. No. 8725 DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.8               | 70.2  | 11.6   | 17.4   | 0.56 | 50     | Air Dried Basis |
|                   | 70.8  | 11.7   | 17.5   | 0.56 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 91.1  | 0.8    | 72.2  | 0.52 | 91.1       | 72.2  | 0.52 | A.D.B. |
|                     | 91.1  |        | 72.8  | 0.52 | 91.1       | 72.8  | 0.52 | D.B.   |
| 65M x 0             | 8.9   | 0.9    | 42.4  | 0.98 | 100.0      | 69.5  | 0.56 | A.D.B. |
|                     | 8.9   |        | 42.8  | 0.99 | 100.0      | 70.1  | 0.56 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 5.6   | 1.3    | 3.9   | 26.1   | 68.7   | 1.14 | 5.6        | 3.9   | A.D.B. |
|                                   | 5.5   |        | 4.0   | 26.4   | 69.6   | 1.16 | 5.5        | 4.0   | D.B.   |
| 1.40-1.50                         | 1.0   | 1.0    | 14.3  | 23.5   | 61.2   | 1.10 | 6.6        | 5.5   | A.D.B. |
|                                   | 1.0   |        | 14.4  | 23.7   | 61.9   | 1.11 | 6.5        | 5.6   | D.B.   |
| 1.50-1.60                         | 1.1   | 0.9    | 28.8  |        |        |      | 7.7        | 8.8   | A.D.B. |
|                                   | 1.1   |        | 29.1  |        |        |      | 7.6        | 9.0   | D.B.   |
| +1.60                             | 92.3  | 1.2    | 77.4  |        |        |      | 100.0      | 72.1  | A.D.B. |
|                                   | 92.4  |        | 78.3  |        |        |      | 100.0      | 73.0  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                       |                  |                |        |
|---|------------|---------------------------------------|-----------------------|------------------|----------------|--------|
| F.S.I.  | PZ ON COAL | DILATATION TEST (Initial Temp.=320°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP.* (°C)                 | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 9   | 0.02       | 357                                   | 447                   | 12               | 279            | 1.114  |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lab. No. 8725 Date April 7, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-15-8

Starting Temperature °C: 320

Softening Temperature °C: 357

Max. Dilatation Temp. °C: 447

Contraction %: 12

Dilatation %: 279

Final Temperature °C:

G. Factor: 1.114

250

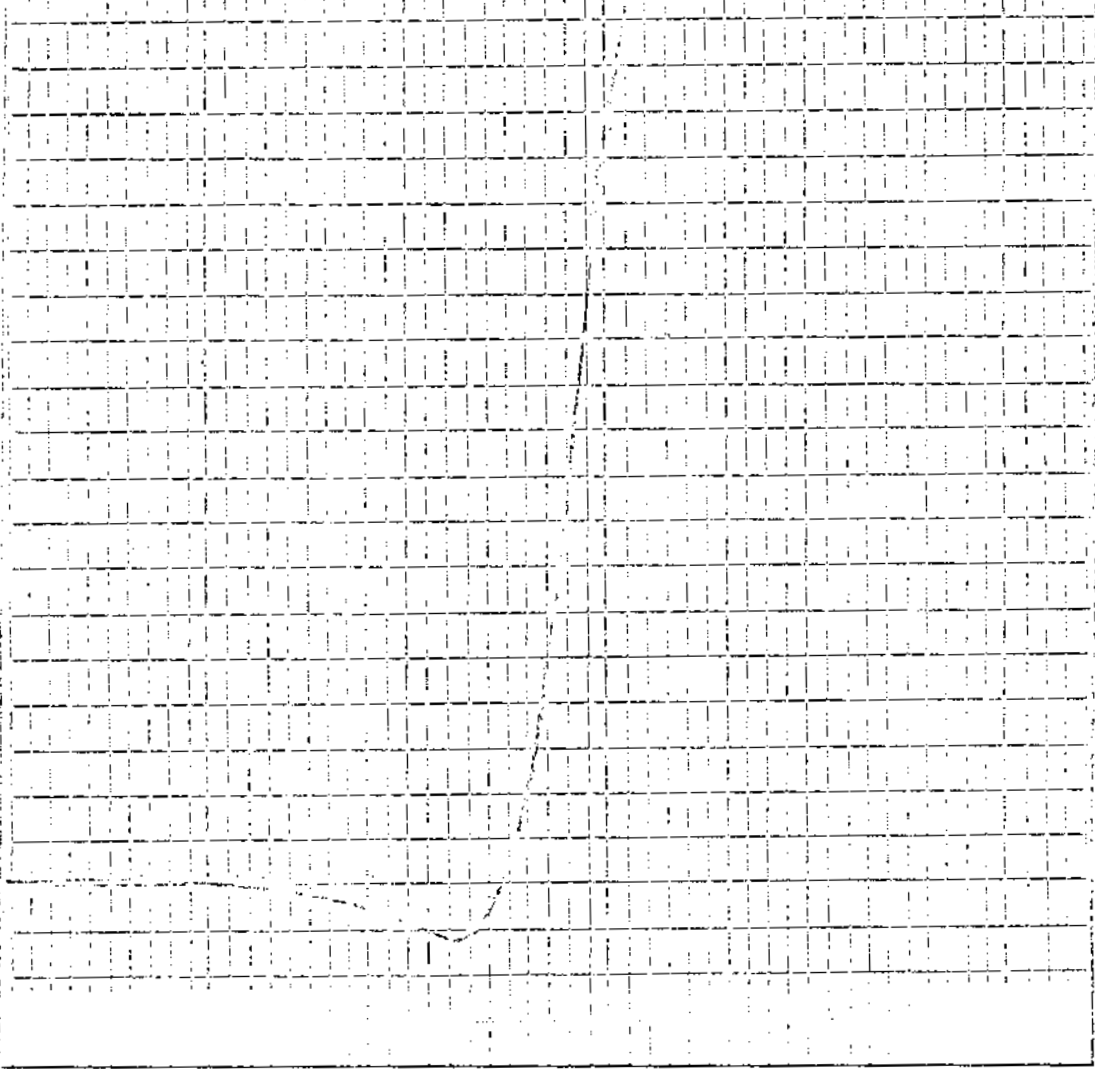
200

150

100

50

0



DIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R - 77 - 15 - 9      Lab. No. 8726      DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.9               | 68.3  | 12.7   | 18.1   | 0.51 | 48     | Air Dried Basis |
|                   | 68.9  | 12.8   | 18.3   | 0.51 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 89.5  | 0.9    | 72.1  | 0.47 | 89.5       | 72.1  | 0.47 | A.D.B. |
|                     | 89.5  |        | 72.8  | 0.47 | 89.5       | 72.8  | 0.47 | D.B.   |
| 65M x 0             | 10.5  | 0.9    | 28.8  | 0.85 | 100.0      | 67.6  | 0.51 | A.D.B. |
|                     | 10.5  |        | 29.1  | 0.86 | 100.0      | 68.2  | 0.51 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 14.6  | 0.9    | 5.0   | 24.7   | 69.4   | 0.94 | 14.6       | 5.0   | A.D.B. |
|                                   | 14.6  |        | 5.0   | 24.9   | 70.1   | 0.95 | 14.6       | 5.0   | D.B.   |
| 1.40-1.50                         | 1.7   | 0.9    | 9.4   | 23.0   | 66.7   | 0.91 | 16.3       | 5.5   | A.D.B. |
|                                   | 1.7   |        | 9.5   | 23.2   | 67.3   | 0.92 | 16.3       | 5.5   | D.B.   |
| 1.50-1.60                         | 2.2   | 0.8    | 14.5  |        |        |      | 18.5       | 6.5   | A.D.B. |
|                                   | 2.2   |        | 14.6  |        |        |      | 18.5       | 6.6   | D.B.   |
| +1.60                             | 81.5  | 0.8    | 86.3  |        |        |      | 100.0      | 71.5  | A.D.B. |
|                                   | 81.5  |        | 87.0  |        |        |      | 100.0      | 72.1  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |   |                       |                  |                |        |
|---|------------|---|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp. = 320°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP* (°C)                    | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 8   | 0.03       | 374                                     | 457                   | 18               | 80             | 1.067  |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lab. No. 8726 Date April 7, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-15-9

Starting Temperature °C: 320

Softening Temperature °C: 374

Max. Dilatation Temp. °C: 457

250

Contraction %: 18

Dilatation %: 80

Final Temperature °C:

G. Factor: 1.067

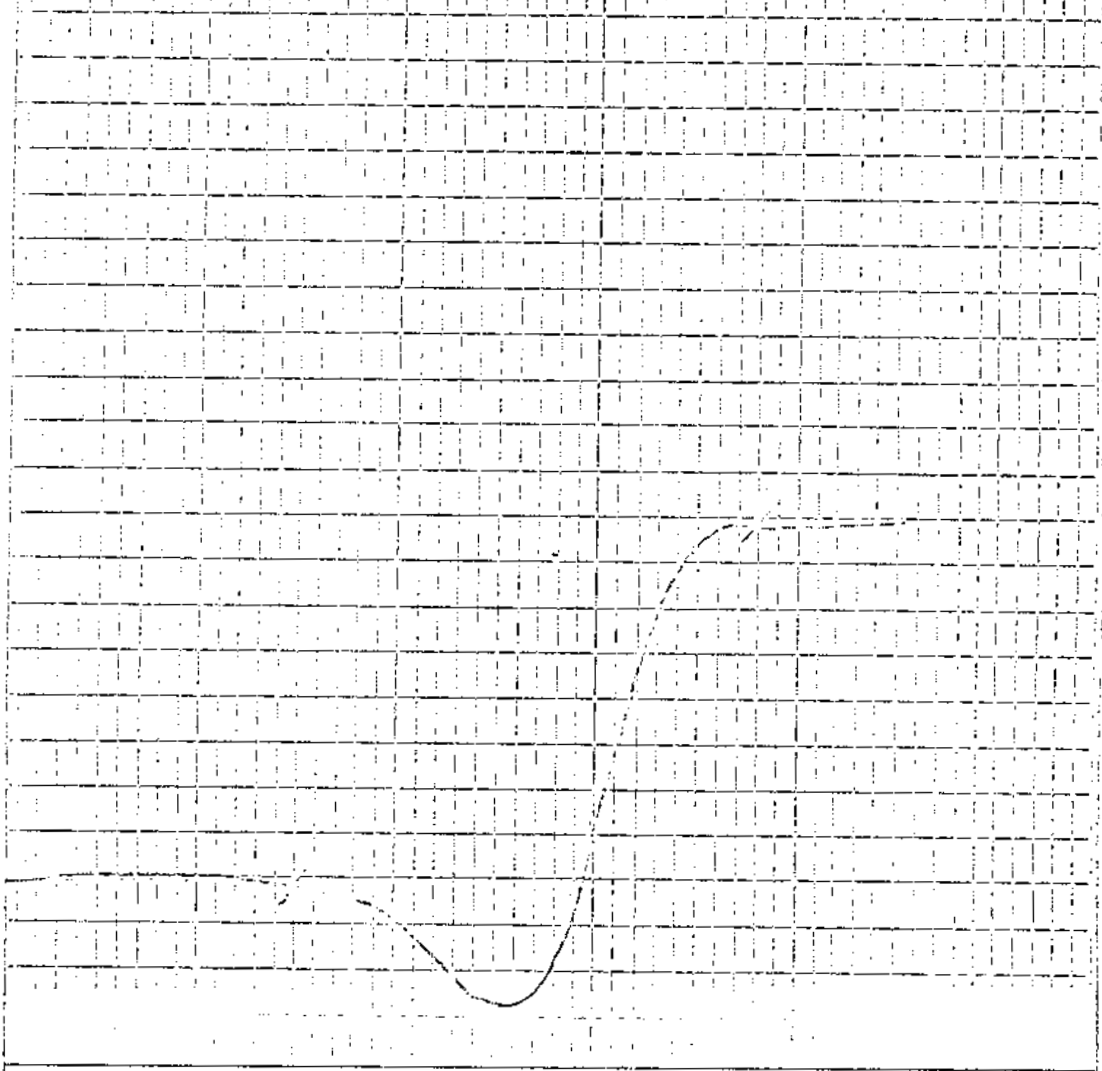
200

150

100

50

0



SIBLEY ENGINEERING (CANADA) LTD.

Title

Date

RUHR DILATOMETER TEST

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R - 77 - 15 - 10 Lab. No. 8727 DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.8               | 28.8  | 17.5   | 52.9   | 0.48 | 80     | Air Dried Basis |
|                   | 29.0  | 17.6   | 53.4   | 0.48 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 94.7  | 0.9    | 30.1  | 0.48 | 94.7       | 30.1  | 0.48 | A.D.B. |
|                     | 94.8  |        | 30.4  | 0.48 | 94.8       | 30.4  | 0.48 | D.B.   |
| 65M x 0             | 5.3   | 1.7    | 14.1  | 0.56 | 100.0      | 29.3  | 0.48 | A.D.B. |
|                     | 5.2   |        | 14.3  | 0.57 | 100.0      | 29.6  | 0.48 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 40.0  | 0.9    | 6.4   | 19.0   | 73.7   | 0.58 | 40.0       | 6.4   | A.D.B. |
|                                   | 40.0  |        | 6.5   | 19.2   | 74.3   | 0.59 | 40.0       | 6.5   | D.B.   |
| 1.40-1.50                         | 15.8  | 0.9    | 14.7  | 17.0   | 67.4   | 0.49 | 55.8       | 8.8   | A.D.B. |
|                                   | 15.8  |        | 14.8  | 17.2   | 68.0   | 0.49 | 55.8       | 8.9   | D.B.   |
| 1.50-1.60                         | 9.4   | 0.9    | 20.9  |        |        |      | 65.2       | 10.5  | A.D.B. |
|                                   | 9.4   |        | 21.1  |        |        |      | 65.2       | 10.6  | D.B.   |
| +1.60                             | 34.8  | 1.0    | 66.9  |        |        |      | 100.0      | 30.1  | A.D.B. |
|                                   | 34.8  |        | 67.6  |        |        |      | 100.0      | 30.4  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                       |                  |                |        |
|---|------------|---------------------------------------|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP.* (°C)                 | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 3   | 0.07       | 410                                   | ---                   | 16% @ 482°C      | ---            | ---    |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lab. No. 8727 Date April 7, 1977

Client: ELCO MINING LTD.

Sample Identification: R77-15-10

Starting Temperature °C: 320

Softening Temperature °C: 410

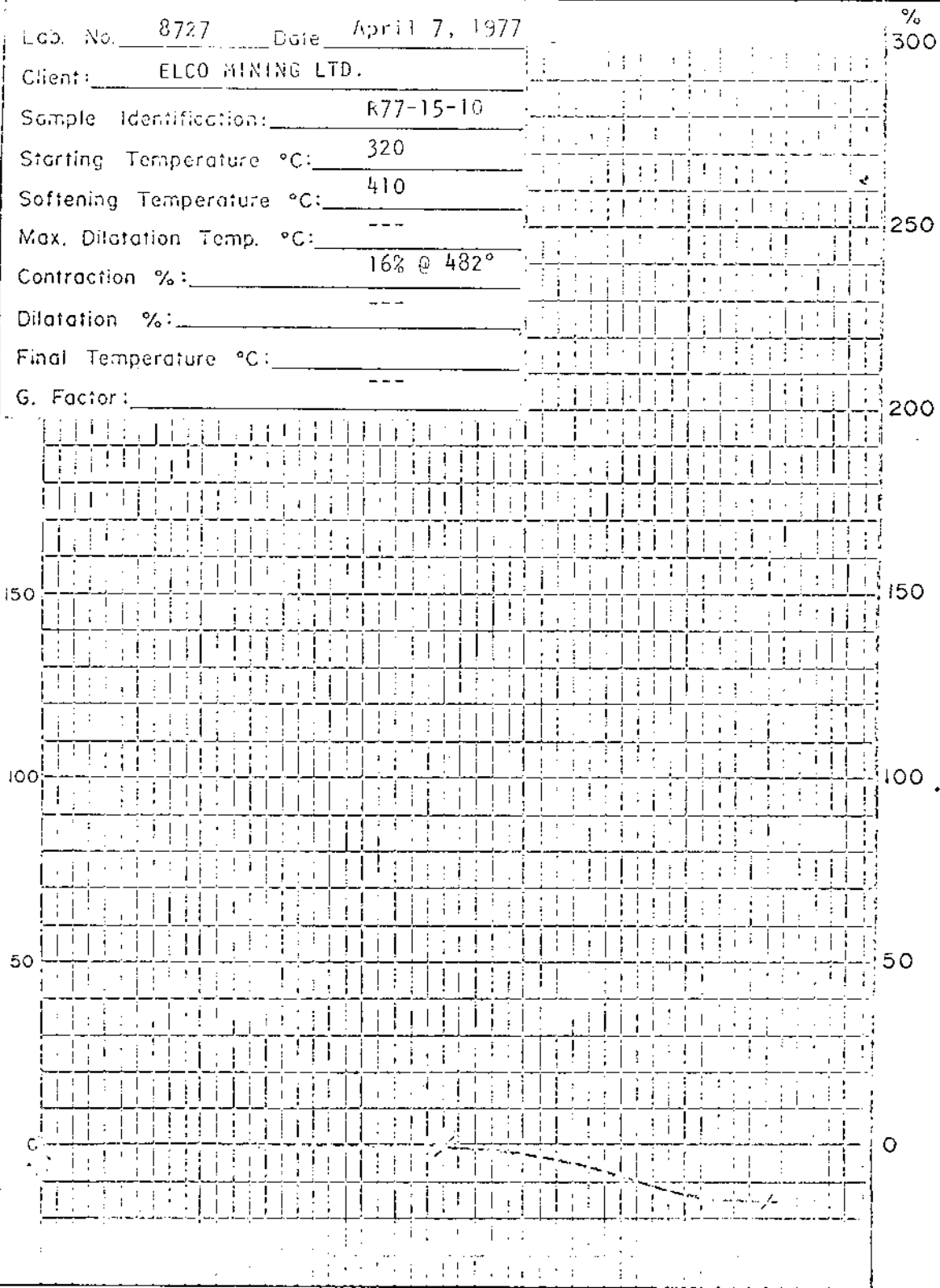
Max. Dilatation Temp. °C: ---

Contraction %: 16% @ 482°

Dilatation %: ---

Final Temperature °C: ---

G. Factor: ---



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R - 77-16 - 1 Lab. No.: 77 - 3022 Date: April 13, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.7               | 70.6  | 12.4  | 16.3  | 0.38 | 50.4   | Air Dried Basis |
| --                | 71.1  | 12.5  | 16.4  | 0.38 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M. % | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | Wt. %      | Ash % | S. % |        |
| 1/4 x 65            | 93.2  | 0.7    | 72.3  | 0.38 | 93.2       | 72.3  | 0.38 | A.D.B. |
|                     | 93.2  | --     | 72.8  | 0.38 | 93.2       | 72.8  | 0.38 | D.B.   |
| 65 x 0              | 6.8   | 0.8    | 53.1  | 0.62 | 100.0      | 71.0  | 0.40 | A.D.B. |
|                     | 6.8   | --     | 53.5  | 0.62 | 100.0      | 71.5  | 0.40 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65 M |       |        |       |        |        |      |            |       |        |
|------------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S.G.                               | Wt. % | R.M. % | Ash % | V.M. % | F.C. % | S. % | Cumulative |       |        |
|                                    |       |        |       |        |        |      | Wt. %      | Ash % |        |
| -1.40                              | 4.8   | 0.7    | 3.3   | 33.7   | 62.3   | 1.11 | 4.8        | 3.3   | A.D.B. |
|                                    | 4.8   | --     | 3.3   | 33.9   | 62.8   | 1.12 | 4.8        | 3.3   | D.B.   |
| 1.40-1.50                          | 1.8   | 0.7    | 19.2  | 24.7   | 55.4   | 0.89 | 6.6        | 7.6   | A.D.B. |
|                                    | 1.8   | --     | 19.4  | 24.9   | 55.7   | 0.90 | 6.6        | 7.7   | D.B.   |
| 1.50-1.60                          | 5.8   | 0.4    | 31.4  | --     | --     | --   | 12.4       | 18.8  | A.D.B. |
|                                    | 5.8   | --     | 31.6  | --     | --     | --   | 12.4       | 18.9  | D.B.   |
| +1.60                              | 87.6  | 1.0    | 79.9  | --     | --     | --   | 100.0      | 72.3  | A.D.B. |
|                                    | 87.6  | --     | 80.7  | --     | --     | --   | 100.0      | 73.0  | D.B.   |

| COMPOSITE 1/4" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                      |                      |                  |                |       |
|--|-------------|----------------------|----------------------|------------------|----------------|-------|
| F.S.I.   | P % on Coal | Softening Temp. (°C) | Max. Dil. Temp. (°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 9  | 0.006       |                      |                      |                  |                |       |



Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R 77 - 16 - 2 Lab. No.: 77 - 3023 Date: April 13, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.8               | 74.8  | 11.4  | 13.0  | 0.72 | 46.3   | Air Dried Basis |
| --                | 75.4  | 11.5  | 13.1  | 0.72 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 94.8 | 0.8   | 74.5  | 0.70 | 94.8       | 74.5  | 0.70 | A.D.B. |
|                     | 94.8 | --    | 75.0  | 0.70 | 94.8       | 75.0  | 0.70 | D.B.   |
| 65 x 0              | 5.2  | 0.8   | 62.4  | 0.93 | 100.0      | 73.9  | 0.71 | A.D.B. |
|                     | 5.2  | ---   | 62.8  | 0.94 | 100.0      | 74.4  | 0.71 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 4.4  | 0.7   | 7.5  | 31.7  | 60.1  | 1.66 | 4.4        | 7.5  | A.D.B. |
|                                  | 4.4  | --    | 7.6  | 31.9  | 60.5  | 1.67 | 4.4        | 7.6  | D.B.   |
| 1.40-1.50                        | 2.5  | 0.6   | 16.6 | 25.8  | 57.0  | 2.16 | 6.9        | 10.8 | A.D.B. |
|                                  | 2.5  | --    | 16.7 | 25.9  | 57.4  | 2.17 | 6.9        | 10.9 | D.B.   |
| 1.50-1.60                        | 1.9  | 0.5   | 28.8 | --    | --    | --   | 8.8        | 14.7 | A.D.B. |
|                                  | 1.9  | --    | 28.9 | --    | --    | --   | 8.8        | 14.8 | D.B.   |
| +1.60                            | 91.2 | 0.8   | 78.9 | --    | --    | --   | 100.0      | 73.2 | A.D.B. |
|                                  | 91.2 | --    | 79.6 | --    | --    | --   | 100.0      | 73.9 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                      |                      |                  |                |       |
|--|-------------|----------------------|----------------------|------------------|----------------|-------|
| F.S.I.   | P % on Coal | Softening Temp. (°C) | Max. Dil. Temp. (°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 8%   | 0.015       |                      |                      |                  |                |       |

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R 77 - 16 - 3 Lab. No.: 77 - 3024 Date: April 13, 1977

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | Ash % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.8               | 61.3  | 16.2   | 21.7   | 1.58 | 60.1   | Air Dried Basis |
| --                | 61.8  | 16.3   | 21.9   | 1.59 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M. % | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 92.0  | 0.7    | 62.6  | 1.54 | 92.0       | 62.6  | 1.54 | A.D.B. |
|                     | 92.0  | --     | 63.0  | 1.55 | 92.0       | 63.0  | 1.55 | D.B.   |
| 65 x 0              | 8.0   | 0.8    | 33.2  | 1.57 | 100.0      | 60.2  | 1.54 | A.D.B. |
|                     | 8.0   | --     | 33.4  | 1.58 | 100.0      | 60.6  | 1.55 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |       |        |      |        |        |      |            |      |        |
|----------------------------------|-------|--------|------|--------|--------|------|------------|------|--------|
| S.G.                             | Wt. % | R.M. % | Ash% | V.M. % | F.C. % | S. % | Cumulative |      |        |
|                                  |       |        |      |        |        |      | Wt. %      | Ash% |        |
| -1.40                            | 14.5  | 0.7    | 5.9  | 31.7   | 61.7   | 1.31 | 14.5       | 5.9  | A.D.B. |
|                                  | 14.5  | --     | 5.9  | 31.9   | 62.2   | 1.32 | 14.5       | 5.9  | D.B.   |
| 1.40-1.50                        | 3.2   | 0.7    | 17.0 | 26.2   | 56.1   | 1.32 | 17.7       | 7.9  | A.D.B. |
|                                  | 3.2   | --     | 17.1 | 26.4   | 56.5   | 1.33 | 17.7       | 7.9  | D.B.   |
| 1.50-1.60                        | 2.9   | 0.6    | 26.9 | --     | --     | --   | 20.6       | 10.6 | A.D.B. |
|                                  | 2.9   | --     | 27.0 | --     | --     | --   | 20.6       | 10.6 | D.B.   |
| +1.60                            | 79.4  | 0.9    | 77.0 | --     | --     | --   | 100.0      | 63.3 | A.D.B. |
|                                  | 79.4  | --     | 77.7 | --     | --     | --   | 100.0      | 63.9 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                      |                      |                  |                |       |
|--|-------------|----------------------|----------------------|------------------|----------------|-------|
| F.S.I.   | P % on Coal | Softening Temp. (°C) | Max. Dil. Temp. (°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 3½   | 0.030       |                      |                      |                  |                |       |

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R 77 - 16 - 4 Lab. No.: 77 - 3025 Date: April 13, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 1.0               | 30.7  | 20.4  | 47.9  | 0.71 | 105.5  | Air Dried Basis |
| --                | 31.0  | 20.6  | 48.4  | 0.72 | --     | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 89.5 | 0.8   | 33.2  | 0.71 | 89.5       | 33.2  | 0.71 | A.D.B. |
|                     | 89.5 | --    | 33.5  | 0.71 | 89.5       | 33.5  | 0.71 | D.B.   |
| 65 x 0              | 10.5 | 0.8   | 9.6   | 0.85 | 100.0      | 30.7  | 0.72 | A.D.B. |
|                     | 10.5 | --    | 9.7   | 0.86 | 100.0      | 31.0  | 0.72 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 55.9 | 1.1   | 3.4  | 27.1  | 68.4  | 0.84 | 55.9       | 3.4  | A.D.B. |
|                                  | 55.9 | --    | 3.4  | 27.4  | 69.2  | 0.85 | 55.9       | 3.4  | D.B.   |
| 1.40-1.50                        | 3.4  | 0.9   | 11.8 | 25.3  | 62.0  | 0.85 | 59.3       | 3.9  | A.D.B. |
|                                  | 3.4  | --    | 11.9 | 25.5  | 62.6  | 0.86 | 59.3       | 3.9  | D.B.   |
| 1.50-1.60                        | 1.2  | 0.7   | 34.1 | --    | --    | --   | 60.5       | 4.3  | A.D.B. |
|                                  | 1.2  | --    | 34.3 | --    | --    | --   | 60.5       | 4.3  | D.B.   |
| 11.60                            | 39.5 | 1.0   | 77.0 | --    | --    | --   | 100.0      | 33.0 | A.D.B. |
|                                  | 39.5 | --    | 77.8 | --    | --    | --   | 100.0      | 33.3 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                      |                      |                  |                |       |
|--|-------------|----------------------|----------------------|------------------|----------------|-------|
| F.S.I.   | P % on Coal | Softening Temp. (°C) | Max. Dil. Temp. (°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 8½   | 0.005       |                      |                      |                  |                |       |

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R 77 - 16 - 5 Lab. No.: 77 - 3026 Date: April 13, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 1.0               | 39.7  | 18.5  | 40.8  | 0.66 | 105.5  | Air Dried Basis |
| ----              | 40.1  | 18.7  | 41.2  | 0.67 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M. % | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 81.8  | 0.9    | 46.6  | 0.67 | 81.8       | 46.6  | 0.67 | A.D.B. |
|                     | 81.8  | --     | 46.9  | 0.68 | 81.8       | 46.9  | 0.68 | D.B.   |
| 65 x 0              | 18.2  | 0.8    | 11.6  | 0.77 | 100.0      | 40.2  | 0.69 | A.D.B. |
|                     | 18.2  | --     | 11.7  | 0.78 | 100.0      | 40.5  | 0.70 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |       |        |      |        |        |      |            |      |        |
|----------------------------------|-------|--------|------|--------|--------|------|------------|------|--------|
| S.G.                             | Wt. % | R.M. % | Ash% | V.M. % | F.C. % | S. % | Cumulative |      |        |
|                                  |       |        |      |        |        |      | Wt. %      | Ash% |        |
| -1.40                            | 38.6  | 1.6    | 3.5  | 30.0   | 64.9   | 0.72 | 38.6       | 3.5  | A.D.B. |
|                                  | 38.6  | --     | 3.6  | 30.5   | 65.9   | 0.73 | 38.6       | 3.6  | D.B.   |
| 1.40-1.50                        | 2.7   | 1.0    | 13.4 | 24.2   | 61.4   | 0.73 | 41.3       | 4.2  | A.D.B. |
|                                  | 2.7   | ---    | 13.5 | 24.4   | 62.1   | 0.74 | 41.3       | 4.2  | D.B.   |
| 1.50-1.60                        | 2.6   | 1.0    | 21.5 | --     | --     | --   | 43.9       | 5.2  | A.D.B. |
|                                  | 2.6   | --     | 21.7 | --     | --     | --   | 43.9       | 5.3  | D.B.   |
| +1.60                            | 56.1  | 1.4    | 78.7 | --     | --     | --   | 100.0      | 46.4 | A.D.B. |
|                                  | 56.1  | --     | 79.8 | --     | --     | --   | 100.0      | 47.1 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |            |            |          |         |       |
|--|-------------------|------------|------------|----------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening  | Max. Dil.  | Maximum  | Maximum | G.No. |
|  |                   | Temp. (°C) | Temp. (°C) | Contr. % | Dil. %  |       |
| 8½   | 0.036             |            |            |          |         |       |

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R 77 - 16 - 6 Lab. No.: 77 - 3027 Date: April 13, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.7               | 23.5  | 22.5  | 53.3  | 0.55 | 153.7  | Air Dried Basis |
| --                | 23.7  | 22.7  | 53.6  | 0.55 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 83.9 | 0.7   | 26.6  | 0.52 | 83.9       | 26.6  | 0.52 | A.D.B. |
|                     | 83.9 | --    | 26.8  | 0.52 | 83.9       | 26.8  | 0.52 | D.B.   |
| 65 x 0              | 16.1 | 0.8   | 9.6   | 0.65 | 100.0      | 23.9  | 0.54 | A.D.B. |
|                     | 16.1 | --    | 9.6   | 0.66 | 100.0      | 24.0  | 0.54 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 64.3 | 2.1   | 3.2  | 27.4  | 67.3  | 0.61 | 64.3       | 3.2  | A.D.B. |
|                                  | 64.6 | --    | 3.2  | 27.9  | 68.9  | 0.62 | 64.6       | 3.2  | D.B.   |
| 1.40-1.50                        | 2.9  | 1.2   | 13.2 | 23.9  | 61.7  | 0.58 | 67.2       | 3.6  | A.D.B. |
|                                  | 2.8  | --    | 13.4 | 24.2  | 62.4  | 0.59 | 67.4       | 3.6  | D.B.   |
| 1.50-1.60                        | 1.9  | 1.1   | 19.7 | --    | --    | --   | 69.1       | 4.1  | A.D.B. |
|                                  | 1.9  | --    | 19.9 | --    | --    | --   | 69.3       | 4.1  | D.B.   |
| +1.60                            | 30.9 | 1.1   | 76.1 | --    | --    | --   | 100.0      | 26.3 | A.D.B. |
|                                  | 30.7 | --    | 77.0 | --    | --    | --   | 100.0      | 26.4 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |                         |                         |                     |                   |       |
|--|-------------------|-------------------------|-------------------------|---------------------|-------------------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening<br>Temp. (°C) | Max. Dil.<br>Temp. (°C) | Maximum<br>Contr. % | Maximum<br>Dil. % | G.No. |
| 8½   | 0.016             |                         |                         |                     |                   |       |

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R 77 - 16 - 7 Lab. No.: 77 - 3028 Date: April 14, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.9               | 45.5  | 20.0  | 33.6  | 0.57 | 126.7  | Air Dried Basis |
| --                | 45.7  | 20.2  | 34.1  | 0.58 | --     | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| 1/4 x 65            | 91.1 | 0.8   | 49.1  | 0.56 | 91.1       | 49.1  | 0.56 | A.D.B. |
|                     | 91.1 | --    | 49.5  | 0.56 | 91.1       | 49.5  | 0.56 | D.B.   |
| 65 x 0              | 8.9  | 0.8   | 21.3  | 0.79 | 100.0      | 46.6  | 0.58 | A.D.B. |
|                     | 8.9  | --    | 21.5  | 0.80 | 100.0      | 47.0  | 0.58 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65 M |      |       |      |       |       |      |            |      |        |
|------------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                               | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                    |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                              | 30.3 | 1.3   | 2.7  | 32.3  | 63.7  | 0.83 | 30.3       | 2.7  | A.D.B. |
|                                    | 30.4 | --    | 2.8  | 32.7  | 64.5  | 0.84 | 30.4       | 2.8  | D.B.   |
| 1.40-1.50                          | 3.0  | 0.8   | 15.4 | 25.5  | 58.3  | 0.74 | 33.3       | 3.8  | A.D.B. |
|                                    | 3.0  | --    | 15.5 | 25.7  | 58.8  | 0.75 | 33.4       | 3.9  | D.B.   |
| 1.50-1.60                          | 2.7  | 0.7   | 25.7 | --    | --    | --   | 36.0       | 5.5  | A.D.B. |
|                                    | 2.7  | --    | 25.9 | --    | --    | --   | 36.1       | 5.6  | D.B.   |
| +1.60                              | 64.0 | 0.6   | 74.7 | --    | --    | --   | 100.0      | 49.8 | A.D.B. |
|                                    | 63.9 | --    | 75.1 | --    | --    | --   | 100.0      | 50.0 | D.B.   |

| COMPOSITE 1/4" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |            |            |          |         |       |
|--|-------------------|------------|------------|----------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening  | Max. Dil.  | Maximum  | Maximum | G.No. |
|  |                   | Temp. (°C) | Temp. (°C) | Contr. % | Dil. %  |       |
| 9  | 0.005             |            |            |          |         |       |

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R 77 - 10 - 8 Lab. No.: 7 - 3029 Date: April 14, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 1.0               | 25.1  | 22.4  | 51.5  | 0.56 | 99.6   | Air Dried Basis |
| --                | 25.4  | 22.7  | 51.9  | 0.56 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| 1/4 x 65            | 83.5 | 0.7   | 26.7  | 0.58 | 83.5       | 26.7  | 0.58 | A.D.B. |
|                     | 83.5 | --    | 26.9  | 0.58 | 83.5       | 26.9  | 0.58 | D.B.   |
| 65 x 0              | 16.5 | 0.8   | 11.6  | 0.65 | 100.0      | 24.2  | 0.59 | A.D.B. |
|                     | 16.5 | --    | 11.7  | 0.65 | 100.0      | 24.4  | 0.59 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65 M |      |       |      |       |       |      |            |      |        |
|------------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.C.                               | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                    |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                              | 60.0 | 1.8   | 3.7  | 28.4  | 60.1  | 0.65 | 60.0       | 3.7  | A.D.B. |
|                                    | 60.1 | --    | 3.7  | 28.9  | 67.4  | 0.66 | 60.1       | 3.7  | D.B.   |
| 1.40-1.50                          | 5.6  | 1.0   | 17.0 | 24.4  | 57.6  | 0.55 | 65.6       | 4.8  | A.D.B. |
|                                    | 5.6  | --    | 17.1 | 24.6  | 58.3  | 0.56 | 65.7       | 4.8  | D.B.   |
| 1.50-1.60                          | 5.7  | 0.9   | 23.2 | --    | --    | ---  | 71.3       | 6.3  | A.D.B. |
|                                    | 5.7  | --    | 23.4 | --    | --    | ---  | 71.4       | 6.3  | D.B.   |
| H.60                               | 28.7 | 0.8   | 76.1 | --    | --    | ---  | 100.0      | 26.3 | A.D.B. |
|                                    | 28.6 | --    | 76.7 | --    | --    | ---  | 100.0      | 26.4 | D.B.   |

| COMPOSITE 1/4" x 65 m FLOATS @ 1.50 S.C., A.D.B. |                   |            |            |          |         |       |
|--|-------------------|------------|------------|----------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening  | Max. Dil.  | Maximum  | Maximum | G.No. |
|  |                   | Temp. (°C) | Temp. (°C) | Contr. % | Dil. %  |       |
| 8 1/2  | 0.026             |            |            |          |         |       |

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R 77 - 16 - 9 Lab. No.: 77 - 3030 Date: April 15, 1977

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | Ash % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 1.0               | 50.7  | 16.8   | 31.5   | 0.67 | 69.8   | Air Dried Basis |
| --                | 51.3  | 16.9   | 31.8   | 0.68 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M. % | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 80.7  | 0.8    | 55.6  | 0.66 | 80.7       | 55.6  | 0.66 | A.D.B. |
|                     | 80.7  | --     | 56.0  | 0.66 | 80.7       | 56.0  | 0.66 | D.B.   |
| 65 x 0              | 19.3  | 0.7    | 29.1  | 0.86 | 100.0      | 50.5  | 0.70 | A.D.B. |
|                     | 19.3  | --     | 29.3  | 0.87 | 100.0      | 50.8  | 0.70 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |       |        |      |        |        |      |            |      |        |
|----------------------------------|-------|--------|------|--------|--------|------|------------|------|--------|
| S.G.                             | Wt. % | R.M. % | Ash% | V.M. % | F.C. % | S. % | Cumulative |      |        |
|                                  |       |        |      |        |        |      | Wt. %      | Ash% |        |
| -1.40                            | 20.5  | 1.1    | 4.2  | 28.4   | 66.3   | 0.76 | 20.5       | 4.2  | A.D.B. |
|                                  | 20.5  | --     | 4.2  | 28.7   | 67.1   | 0.77 | 20.5       | 4.2  | D.B.   |
| 1.40-1.50                        | 4.0   | 0.8    | 14.7 | 24.9   | 59.6   | 0.76 | 24.5       | 5.9  | A.D.B. |
|                                  | 4.0   | --     | 14.8 | 25.1   | 60.1   | 0.77 | 24.5       | 5.9  | D.B.   |
| 1.50-1.60                        | 2.9   | 0.8    | 25.9 | --     | --     | --   | 27.4       | 8.0  | A.D.B. |
|                                  | 2.9   | --     | 26.1 | --     | --     | --   | 27.4       | 8.1  | D.B.   |
| +1.60                            | 72.6  | 1.3    | 73.5 | --     | --     | --   | 100.0      | 55.6 | A.D.B. |
|                                  | 72.6  | --     | 74.4 | --     | --     | --   | 100.0      | 56.2 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |            |            |          |         |       |
|--|-------------------|------------|------------|----------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening  | Max. Dil.  | Maximum  | Maximum | G.No. |
|  |                   | Temp. (°C) | Temp. (°C) | Contr. % | Dil. %  |       |
| 9  | 0.026             |            |            |          |         |       |



Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R 77 - 16 - 10 Lab. No.: 77 - 3031 Date: April 14, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.9               | 38.2  | 18.8  | 42.1  | 0.56 | 74.0   | Air Dried Basis |
| --                | 38.6  | 19.0  | 42.4  | 0.56 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 94.4 | 0.8   | 38.9  | 0.59 | 94.4       | 38.9  | 0.59 | A.D.B. |
|                     | 94.4 | --    | 39.2  | 0.59 | 94.4       | 39.2  | 0.59 | D.B.   |
| 65 x 0              | 5.6  | 0.7   | 13.1  | 0.73 | 100.0      | 37.4  | 0.60 | A.D.B. |
|                     | 5.6  | --    | 13.2  | 0.74 | 100.0      | 37.7  | 0.60 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 43.8 | 0.9   | 4.1  | 28.9  | 66.1  | 0.65 | 43.8       | 4.1  | A.D.B. |
|                                  | 43.8 | --    | 4.2  | 29.2  | 66.6  | 0.66 | 43.8       | 4.2  | D.B.   |
| 1.40-1.50                        | 7.2  | 0.7   | 18.6 | 23.0  | 57.7  | 0.65 | 51.0       | 6.1  | A.D.B. |
|                                  | 7.2  | --    | 18.7 | 23.2  | 58.1  | 0.65 | 51.0       | 6.2  | D.B.   |
| 1.50-1.60                        | 5.0  | 0.6   | 29.4 | --    | --    | --   | 56.0       | 8.2  | A.D.B. |
|                                  | 5.0  | --    | 29.5 | --    | --    | --   | 56.0       | 8.3  | D.B.   |
| +1.60                            | 44.0 | 1.0   | 76.3 | --    | --    | --   | 100.0      | 38.2 | A.D.B. |
|                                  | 44.0 | --    | 77.0 | --    | --    | --   | 100.0      | 38.5 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |                         |                         |                     |                   |       |
|--|-------------------|-------------------------|-------------------------|---------------------|-------------------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening<br>Temp. (°C) | Max. Dil.<br>Temp. (°C) | Maximum<br>Contr. % | Maximum<br>Dil. % | G.No. |
|  |                   |                         |                         |                     |                   |       |

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R 77 - 16 - 11 Lab. No.: 77 - 3032 Date: April 14, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.9               | 20.0  | 23.4  | 55.7  | 0.64 | 88.5   | Air Dried Basis |
| --                | 20.2  | 23.6  | 56.2  | 0.64 | --     | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| 1/4 x 65            | 88.4 | 0.8   | 21.6  | 0.65 | 88.4       | 21.6  | 0.65 | A.D.B. |
|                     | 88.4 | --    | 21.8  | 0.65 | 88.4       | 21.8  | 0.65 | D.B.   |
| 65 x 0              | 11.6 | 0.8   | 12.8  | 0.72 | 100.0      | 20.6  | 0.66 | A.D.B. |
|                     | 11.6 | --    | 12.9  | 0.72 | 100.0      | 20.8  | 0.66 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65 M |      |       |      |       |       |      |            |      |        |
|------------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                               | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                    |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                              | 68.8 | 1.0   | 3.8  | 29.1  | 66.1  | 0.68 | 68.8       | 3.8  | A.D.B. |
|                                    | 68.8 | --    | 3.9  | 29.4  | 66.7  | 0.69 | 68.8       | 3.9  | D.B.   |
| 1.40-1.50                          | 4.3  | 0.9   | 18.1 | 22.6  | 58.4  | 0.58 | 73.1       | 4.6  | A.D.B. |
|                                    | 4.3  | --    | 18.3 | 22.8  | 58.9  | 0.58 | 73.1       | 4.7  | D.B.   |
| 1.50-1.60                          | 2.1  | 0.5   | 29.0 | --    | --    | --   | 75.2       | 5.3  | A.D.B. |
|                                    | 2.1  | --    | 29.2 | --    | --    | --   | 75.2       | 5.4  | D.B.   |
| +1.60                              | 24.8 | 1.3   | 71.1 | --    | --    | --   | 100.0      | 21.6 | A.D.B. |
|                                    | 24.8 | --    | 72.1 | --    | --    | --   | 100.0      | 22.0 | D.B.   |

| COMPOSITE 1/4" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |            |            |          |         |       |
|--|-------------------|------------|------------|----------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening  | Max. Dil.  | Maximum  | Maximum | G.No. |
|  |                   | Temp. (°C) | Temp. (°C) | Contr. % | Dil. %  |       |
| 9  | 0.021             |            |            |          |         |       |

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R 77 - 16 - 12 Lab. No.: 77 - 3033 Date: April 14, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 1.1               | 81.9  | 9.7   | 7.3   | 0.31 | 40.0   | Air Dried Basis |
| --                | 82.8  | 9.8   | 7.4   | 0.31 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 89.6 | 1.0   | 84.2  | 0.27 | 89.6       | 84.2  | 0.27 | A.D.B. |
|                     | 89.6 | --    | 85.1  | 0.27 | 89.6       | 85.1  | 0.27 | D.B.   |
| 65 x 0              | 10.4 | 0.9   | 64.1  | 0.60 | 100.0      | 82.1  | 0.30 | A.D.B. |
|                     | 10.4 | --    | 64.7  | 0.60 | 100.0      | 83.0  | 0.30 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 3.8  | 1.4   | 4.5  | 30.8  | 63.3  | 1.09 | 3.8        | 4.5  | A.D.B. |
|                                  | 3.8  | --    | 4.6  | 31.2  | 64.2  | 1.10 | 3.8        | 4.6  | D.B.   |
| 1.40-1.50                        | 0.6  | 1.2   | 13.6 | 25.8  | 59.4  | 0.97 | 4.4        | 5.7  | A.D.B. |
|                                  | 0.6  | --    | 13.7 | 26.1  | 60.2  | 0.98 | 4.4        | 5.8  | D.B.   |
| 1.50-1.60                        | 0.3  | 1.1   | 23.3 | --    | --    | --   | 4.7        | 6.9  | A.D.B. |
|                                  | 0.3  | --    | 23.6 | --    | --    | --   | 4.7        | 7.0  | D.B.   |
| +1.60                            | 95.3 | 1.1   | 89.3 | --    | --    | --   | 100.0      | 85.4 | A.D.B. |
|                                  | 95.3 | --    | 90.3 | --    | --    | --   | 100.0      | 86.4 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |            |            |          |         |       |
|--|-------------------|------------|------------|----------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening  | Max. Dil.  | Maximum  | Maximum | G.No. |
|  |                   | Temp. (°C) | Temp. (°C) | Contr. % | Dil. %  |       |
| 9  | 0.018             |            |            |          |         |       |

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R 77 - 16 - 13 Lab. No.: 77 - 3034 Date: April 14, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.9               | 65.1  | 14.2  | 19.8  | 0.77 | 52.5   | Air Dried Basis |
| --                | 65.8  | 14.4  | 19.8  | 0.78 | --     | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 88.5 | 0.9   | 66.3  | 0.84 | 88.5       | 66.3  | 0.84 | A.D.B. |
|                     | 88.5 | --    | 66.9  | 0.85 | 88.5       | 66.9  | 0.85 | D.B.   |
| 65 x 0              | 11.5 | 0.9   | 52.8  | 0.72 | 100.0      | 64.8  | 0.83 | A.D.B. |
|                     | 11.5 | --    | 53.3  | 0.73 | 100.0      | 65.3  | 0.84 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 10.4 | 0.8   | 3.5  | 30.9  | 64.8  | 1.02 | 10.4       | 3.5  | A.D.B. |
|                                  | 10.4 | --    | 3.6  | 31.1  | 65.3  | 1.03 | 10.4       | 3.6  | D.B.   |
| 1.40-1.50                        | 1.7  | 0.8   | 18.0 | 24.2  | 57.0  | 0.98 | 12.1       | 5.5  | A.D.B. |
|                                  | 1.7  | --    | 18.1 | 24.4  | 57.5  | 0.99 | 12.1       | 5.6  | D.B.   |
| 1.50-1.60                        | 2.3  | 0.5   | 31.6 | --    | --    | --   | 14.4       | 9.7  | A.D.B. |
|                                  | 2.3  | --    | 31.7 | --    | --    | --   | 14.4       | 9.8  | D.B.   |
| +1.60                            | 85.6 | 1.0   | 75.0 | --    | --    | --   | 100.0      | 65.6 | A.D.B. |
|                                  | 85.6 | --    | 75.7 | --    | --    | --   | 100.0      | 66.2 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |            |            |          |         |       |
|--|-------------------|------------|------------|----------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening  | Max. Dil.  | Maximum  | Maximum | G.No. |
|  |                   | Temp. (°C) | Temp. (°C) | Contr. % | Dil. %  |       |
| 8½   | 0.016             |            |            |          |         |       |

CLIENT: WARNOCK HERSEY

PROJECT: DILATATION TESTS \*

SAMPLE : -8 Mesh, 1.50 S.G. Composite DATE: April/77  
Float

| CS&MT<br>LAB. NO. | W.H.<br>I.D. No. | INITIAL<br>TEMP(°C) | SOFTENING<br>TEMP(°C) | MAX.<br>DILAT'N<br>TEMP(°C) | MAX.<br>CONTRACT'N<br>% | MAX.<br>DILATATION<br>% | G.No. |
|-------------------|------------------|---------------------|-----------------------|-----------------------------|-------------------------|-------------------------|-------|
| 8932              | 77-3001          | 320                 | 363                   | 453                         | 24                      | 191                     | 1.094 |
| 8933              | 77-3002          | 320                 | 361                   | 459                         | 23                      | 212                     | 1.106 |
| 8934              | 77-3003          | 320                 | 356                   | 457                         | 29                      | 251                     | 1.109 |
| 8935              | 77-3004          | 320                 | 363                   | 453                         | 28                      | 88                      | 1.061 |
| 8936              | 77-3005          | 320                 | 367                   | 459                         | 26                      | 216                     | 1.096 |
| 8937              | 77-3006          | 320                 | 360                   | 459                         | 22                      | 250                     | 1.113 |
| 8938              | 77-3007          | 320                 | 356                   | 452                         | 27                      | 187                     | 1.097 |
| 8939              | 77-3008          | 320                 | 352                   | 450                         | 16                      | 295                     | 1.123 |
| 8940              | 77-3009          | 320                 | 363                   | 458                         | 30                      | 289                     | 1.104 |
| 8941              | 77-3010          | 320                 | 360                   | 460                         | 23                      | 297                     | 1.117 |
| 8942              | 77-3011          | 320                 | 367                   | 456                         | 23                      | 17                      | 0.984 |
| 8943              | 77-3012          | 320                 | 372                   | 458                         | 28                      | 21                      | 0.985 |
| 8944              | 77-3013          | 320                 | 367                   | 460                         | 24                      | 175                     | 1.093 |
| 8945              | 77-3014          | 320                 | 367                   | 458                         | 29                      | 229                     | 1.094 |
| 8946              | 77-3015          | 320                 | 374                   | 456                         | 23                      | 181                     | 1.083 |
| 8947              | 77-3016          | 320                 | 370                   | 457                         | 19                      | 193                     | 1.095 |
| 8948              | 77-3017          | 320                 | 379                   | 466                         | 27                      | 57                      | 1.038 |
| 8949              | 77-3018          | 320                 | 370                   | 465                         | 23                      | 179                     | 1.096 |
| 8950              | 77-3019          | 320                 | 363                   | 460                         | 25                      | 183                     | 1.098 |
| 8951              | 77-3020          | 320                 | 368                   | 456                         | 25                      | 96                      | 1.067 |
| 8952              | 77-3021          | 320                 | 367                   | 457                         | 28                      | 223                     | 1.099 |
| 8953              | 77-3022          | 320                 | 354                   | 463                         | 26                      | 308                     | 1.127 |
| 8954              | 77-3023          | 320                 | 350                   | 452                         | 24                      | 222                     | 1.114 |

\* Softening Temp., Maximum Dilatation/Contraction Temp.  
are corrected with factor = 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

CLIENT: WARNOCK HERSEY

PROJECT: DILATATION TESTS \*

SAMPLE : -8Mesh, 1.50 S.G. Composite  
Float

DATE: April/77

|       | CS&MT<br>LAB. NO. | W.H.<br>I.D. No.   | INITIAL<br>TEMP(°C) | SOFTENING<br>TEMP(°C) | MAX.<br>DILAT'N<br>TEMP(°C) | MAX.<br>CONTRACT'N<br>% | MAX.<br>DILATATION<br>% | G.No.            |
|-------|-------------------|--------------------|---------------------|-----------------------|-----------------------------|-------------------------|-------------------------|------------------|
| 16-3  | 8955              | 77-3024            | 320                 | 345                   | 453                         | 26                      | 278                     | 1.126            |
| 2-4   | 8956              | 77-3025            | 320                 | 370                   | 457                         | 24                      | 83                      | 1.062            |
| 4-5   | 8957              | 77-3026            | 320                 | 367                   | 458                         | 31                      | 83                      | 1.053            |
| 6-6   | 8958              | 77-3027            | 320                 | 367                   | 462                         | 30                      | 29                      | 0.998            |
| 11-7  | 8959              | 77-3028            | 320                 | 350                   | 453                         | 26                      | 291                     | 1.120            |
| 14-8  | 8960              | 77-3029            | 320                 | 367                   | 453                         | 30                      | 124                     | 1.068            |
| 2-9   | 8961              | 77-3030            | 320                 | 360                   | 458                         | 25                      | 203                     | 1.103            |
| 11-10 | 8962              | 77-3031            | 320                 | 367                   | 456                         | 25                      | 180                     | 1.089            |
| 6-11  | 8963              | 77-3032            | 320                 | 367                   | 454                         | 21                      | 181                     | 1.092            |
| 11-12 | 8964              | 77-3033            | 320                 | 367                   | 458                         | 31                      | 291                     | 1.098            |
| 15    | 8965              | 77-3034            | 320                 | 363                   | 465                         | 26                      | 309                     | 1.116            |
|       | <del>8966</del>   | <del>77-3035</del> | <del>320</del>      | <del>363</del>        | <del>453</del>              | <del>23</del>           | <del>145</del>          | <del>1.087</del> |
|       |                   |                    |                     |                       |                             |                         |                         |                  |
|       |                   |                    |                     |                       |                             |                         |                         |                  |
|       |                   |                    |                     |                       |                             |                         |                         |                  |
|       |                   |                    |                     |                       |                             |                         |                         |                  |
|       |                   |                    |                     |                       |                             |                         |                         |                  |
|       |                   |                    |                     |                       |                             |                         |                         |                  |
|       |                   |                    |                     |                       |                             |                         |                         |                  |
|       |                   |                    |                     |                       |                             |                         |                         |                  |
|       |                   |                    |                     |                       |                             |                         |                         |                  |
|       |                   |                    |                     |                       |                             |                         |                         |                  |
|       |                   |                    |                     |                       |                             |                         |                         |                  |
|       |                   |                    |                     |                       |                             |                         |                         |                  |
|       |                   |                    |                     |                       |                             |                         |                         |                  |
|       |                   |                    |                     |                       |                             |                         |                         |                  |
|       |                   |                    |                     |                       |                             |                         |                         |                  |
|       |                   |                    |                     |                       |                             |                         |                         |                  |
|       |                   |                    |                     |                       |                             |                         |                         |                  |

\* Softening Temp., Maximum Dilatation/Contraction Temp.  
are corrected with factor = 6/5

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R - 77 - 17 - 1 Lab. No. 8542 DATE: March/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                      |
|-------------------|-------|--------|--------|------|--------|----------------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS <sup>c</sup> |
| 0.9               | 57.7  | 15.8   | 25.6   | 0.39 | 61     | Air Dried Basis      |
|                   | 58.2  | 15.9   | 25.9   | 0.39 | --     | Dry Basis            |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 78.4  | 0.9    | 61.0  | 0.40 | 78.4       | 61.0  | 0.40 | A.D.B. |
|                     | 78.4  |        | 61.6  | 0.40 | 78.4       | 61.6  | 0.40 | D.B.   |
| 65M x 0             | 21.6  | 1.1    | 41.8  | 0.53 | 100.0      | 56.9  | 0.43 | A.D.B. |
|                     | 21.6  |        | 42.3  | 0.54 | 100.0      | 57.4  | 0.43 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 27.0  | 0.9    | 5.2   | 30.0   | 63.9   | 0.79 | 27.0       | 5.2   | A.D.B. |
|                                   | 27.0  |        | 5.2   | 30.3   | 64.5   | 0.80 | 27.0       | 5.2   | D.B.   |
| 1.40-1.50                         | 2.3   | 1.2    | 21.9  | 24.0   | 52.9   | 0.70 | 29.3       | 6.5   | A.D.B. |
|                                   | 2.3   |        | 22.2  | 24.3   | 53.5   | 0.71 | 29.3       | 6.5   | D.B.   |
| 1.50-1.60                         | 1.3   | 1.4    | 31.0  |        |        |      | 30.6       | 7.6   | A.D.B. |
|                                   | 1.3   |        | 31.4  |        |        |      | 30.6       | 7.6   | D.B.   |
| +1.60                             | 69.4  | 1.1    | 84.1  |        |        |      | 100.0      | 60.7  | A.D.B. |
|                                   | 69.4  |        | 85.0  |        |        |      | 100.0      | 61.3  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |  |                       |                  |                |       |        |
|---|------------|--|-----------------------|------------------|----------------|-------|--------|
| F.S.I.  | PG ON COAL | DILATATION TEST (Starting Temp.=350°C) |                       |                  |                |       | G. NO. |
|   |            | SOFTENING TEMP. *(°C)                  | MAX. DIL. TEMP. *(°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % |       |        |
| 9   | 0.07       | 354                                    | 456                   | 28               | 200            | 1.105 |        |

\* S.T. & M.D.T. corrected with factor 6/5

Lab. No. 8542 Date March 21, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-17-1

Starting Temperature °C: 350

Softening Temperature °C: 354

Max. Dilatation Temp. °C: 456

250

Contraction %: 28

Dilatation %: 200

Final Temperature °C:

G. Factor: 1.105

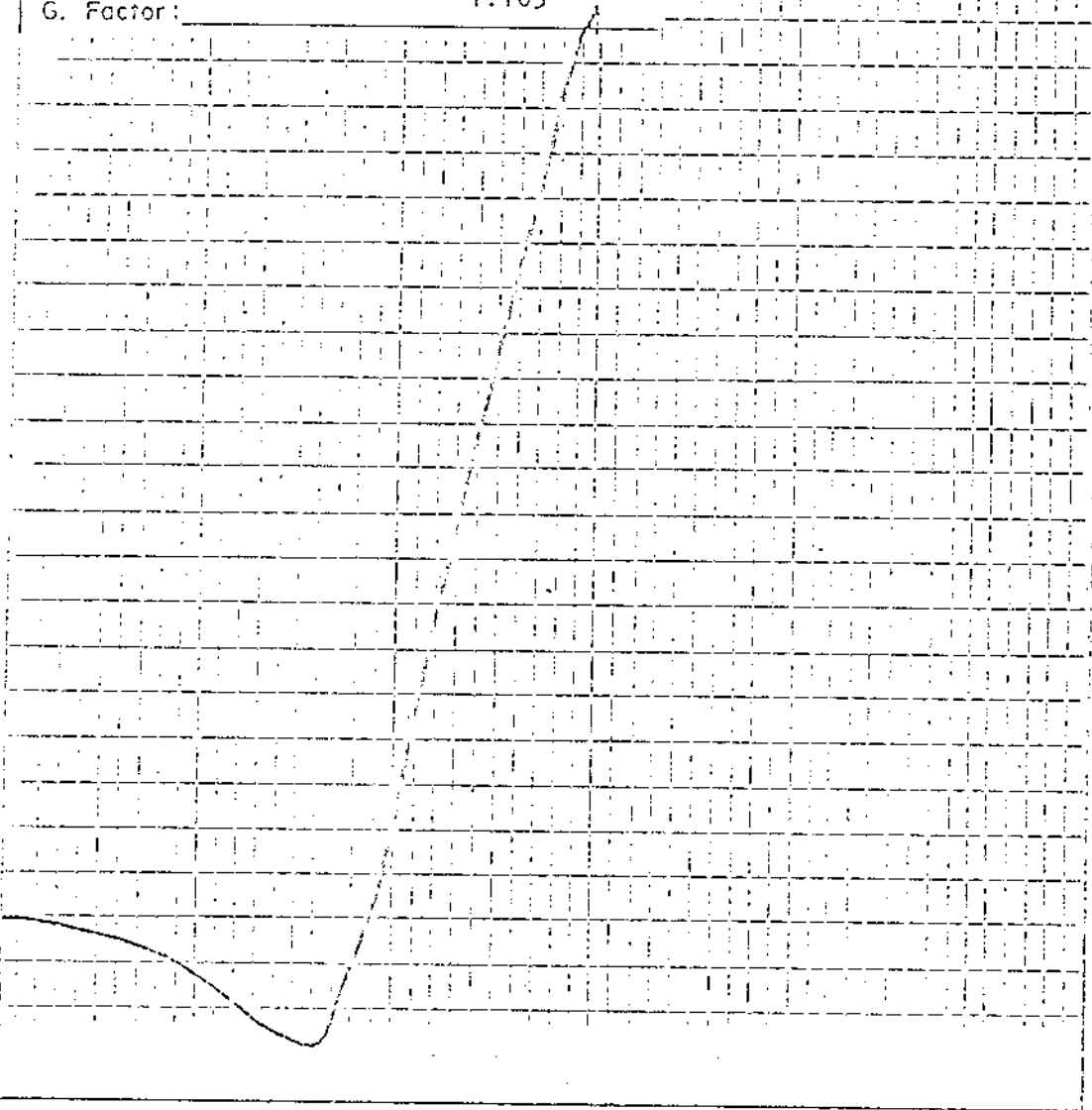
200

150

100

50

0



SIMPLY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn



ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-17-2      Lab. No. 8543      DATE: March/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.8               | 43.5  | 18.9   | 36.8   | 0.68 | 58     | Air Dried Basis |
|                   | 43.9  | 19.1   | 37.0   | 0.69 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 77.5  | 0.8    | 47.4  | 0.62 | 77.5       | 47.4  | 0.62 | A.D.B. |
|                     | 77.5  |        | 47.8  | 0.63 | 77.5       | 47.8  | 0.63 | D.B.   |
| 65M x 0             | 22.5  | 0.8    | 26.8  | 0.92 | 100.0      | 42.8  | 0.69 | A.D.B. |
|                     | 22.5  |        | 27.0  | 0.93 | 100.0      | 43.1  | 0.70 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 35.3  | 0.6    | 5.2   | 30.3   | 63.9   | 1.12 | 35.3       | 5.2   | A.D.B. |
|                                   | 35.4  |        | 5.2   | 30.5   | 64.3   | 1.13 | 35.4       | 5.2   | D.B.   |
| 1.40-1.50                         | 3.5   | 0.9    | 22.2  | 23.5   | 53.4   | 0.83 | 38.8       | 6.7   | A.D.B. |
|                                   | 3.5   |        | 22.4  | 23.7   | 53.9   | 0.84 | 38.9       | 6.7   | D.B.   |
| 1.50-1.60                         | 3.3   | 1.1    | 33.1  |        |        |      | 42.1       | 8.8   | A.D.B. |
|                                   | 3.2   |        | 33.5  |        |        |      | 42.1       | 8.8   | D.B.   |
| +1.60                             | 57.9  | 0.9    | 76.6  |        |        |      | 100.0      | 48.1  | A.D.B. |
|                                   | 57.9  |        | 77.3  |        |        |      | 100.0      | 48.5  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |  |                      |                  |                |        |
|---|------------|--|----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Starting Temp.=350°C) |                      |                  |                |        |
|   |            | SOFTENING TEMP* (°C)                   | MAX. DIL. TEMP* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 9   | 0.03       | 356                                    | 439                  | 24               | 95             | 1.066  |

\* S.T. & M.D.T. corrected with factor 6/5

Lab. No. 8543 Date March 21, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-17-2

Starting Temperature °C: 350

Softening Temperature °C: 356

Max. Dilatation Temp. °C: 439

Contraction %: 24

Dilatation %: 95

Final Temperature °C:

G. Factor: 1.066

250

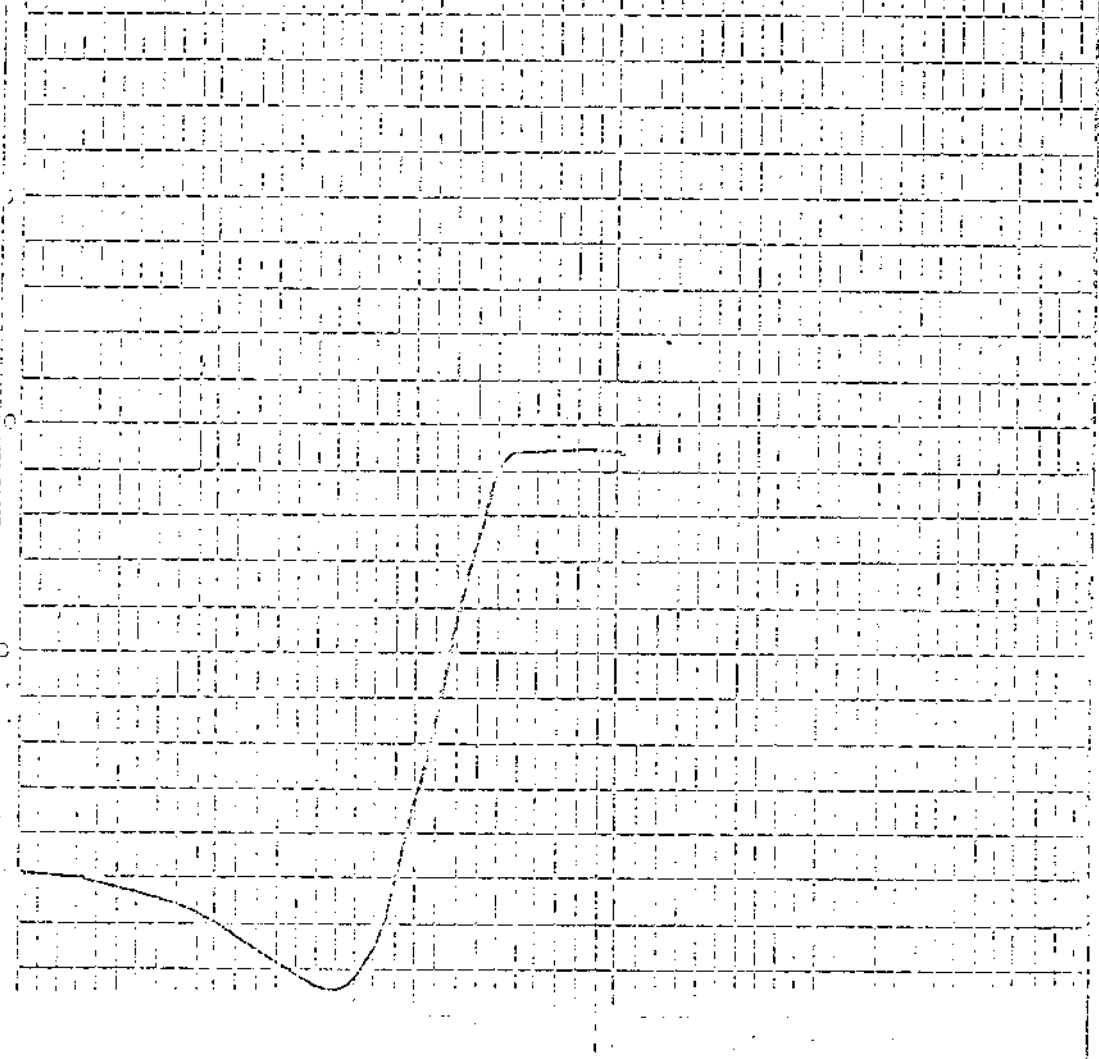
200

150

100

50

0



BENTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-17-3 Lab. No. 8544 DATE: March/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.9               | 40.5  | 20.4   | 38.2   | 0.56 | 67     | Air Dried Basis |
|                   | 40.9  | 20.6   | 38.5   | 0.57 | --     | Dry Basis       |

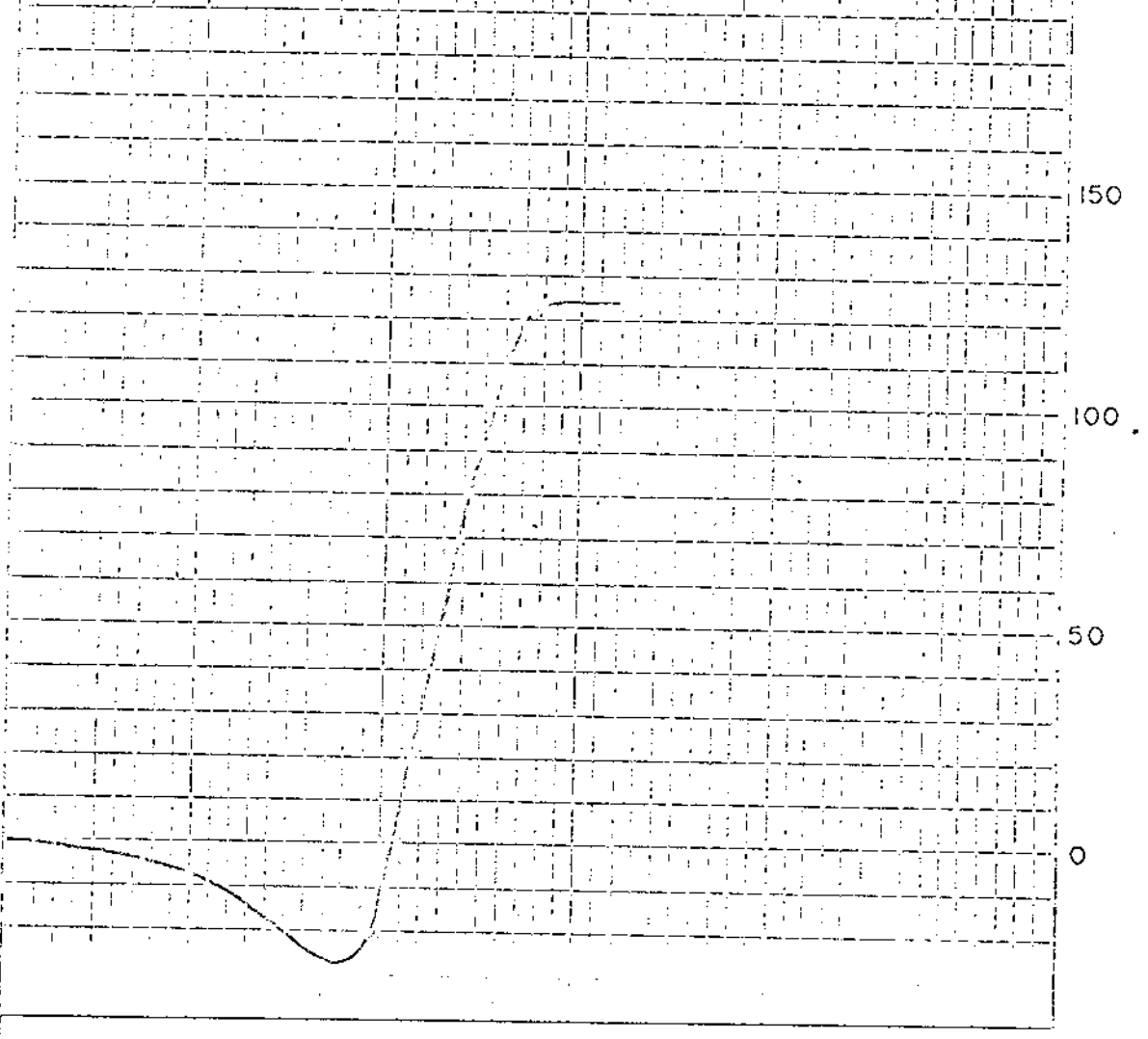
| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | Wt. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 85.8  | 1.0    | 43.0  | 0.52 | 85.8       | 43.0  | 0.52 | A.D.B. |
|                     | 85.8  |        | 43.4  | 0.53 | 85.8       | 43.4  | 0.53 | D.B.   |
| 65M x 0             | 14.2  | 1.0    | 27.9  | 0.66 | 100.0      | 40.9  | 0.54 | A.D.B. |
|                     | 14.2  |        | 28.2  | 0.67 | 100.0      | 41.2  | 0.55 | D.B.   |

| SINK-FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|---------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                           | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                 |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                           | 38.6  | 1.1    | 4.6   | 29.0   | 65.3   | 0.76 | 38.6       | 4.6   | A.D.B. |
|                                 | 38.7  |        | 4.7   | 29.3   | 66.0   | 0.77 | 38.7       | 4.7   | D.B.   |
| 1.40-1.50                       | 4.2   | 1.1    | 16.5  | 25.6   | 56.8   | 0.73 | 42.8       | 5.8   | A.D.B. |
|                                 | 4.2   |        | 16.7  | 25.9   | 56.4   | 0.74 | 42.9       | 5.9   | D.B.   |
| 1.50-1.60                       | 3.0   | 1.3    | 28.9  |        |        |      | 45.8       | 7.3   | A.D.B. |
|                                 | 3.0   |        | 29.3  |        |        |      | 45.9       | 7.4   | D.B.   |
| +1.60                           | 54.2  | 1.6    | 74.2  |        |        |      | 100.0      | 43.6  | A.D.B. |
|                                 | 54.1  |        | 75.4  |        |        |      | 100.0      | 44.2  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |  |                       |                  |                |        |
|---|------------|--|-----------------------|------------------|----------------|--------|
| F.S.I.  | PX ON COAL | DILATATION TEST (Starting Temp. = 350°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP. *(°C)                    | MAX. DIL. TEMP. *(°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 9   | 0.01       | 364                                      | 450                   | 26               | 123            | 1.074  |

\* S.T. & M.D.T corrected with factor 6/5

Lab. No. 8544 Date March 21, 1977 %  
 Client: ELCO MINING LTD. 300  
 Sample Identification: R77-17-3  
 Starting Temperature °C: 350  
 Softening Temperature °C: 364  
 Max. Dilatation Temp. °C: 450 250  
 Contraction %: 26  
 Dilatation %: 123  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 1.074 200



BIRTLEY ENGINEERING (CANADA) LTD.

Title RUHR DILATOMETER TEST

Date \_\_\_\_\_

Drawn \_\_\_\_\_

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-17-4      Lab. No. 8545      DATE: March/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 1.0               | 10.1  | 28.2   | 60.7   | 0.47 | 99     | Air Dried Basis |
|                   | 10.2  | 28.5   | 61.3   | 0.48 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 78.0  | 1.1    | 11.6  | 0.50 | 78.0       | 11.6  | 0.50 | A.D.B. |
|                     | 78.0  |        | 11.7  | 0.51 | 78.0       | 11.7  | 0.51 | D.B.   |
| 65M x 0             | 22.0  | 1.1    | 6.4   | 0.49 | 100.0      | 10.5  | 0.50 | A.D.B. |
|                     | 22.0  |        | 6.5   | 0.50 | 100.0      | 10.6  | 0.51 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 83.5  | 2.4    | 3.0   | 28.3   | 66.3   | 0.59 | 83.5       | 3.0   | A.D.B. |
|                                   | 83.4  |        | 3.1   | 29.0   | 67.9   | 0.60 | 83.4       | 3.1   | D.B.   |
| 1.40-1.50                         | 2.9   | 2.1    | 16.2  | 23.7   | 58.0   | 0.55 | 86.4       | 3.4   | A.D.B. |
|                                   | 2.9   |        | 16.5  | 24.2   | 59.3   | 0.56 | 86.3       | 3.6   | D.B.   |
| 1.50-1.60                         | 1.5   | 2.1    | 23.8  | X      | X      | X    | 87.9       | 3.8   | A.D.B. |
|                                   | 1.5   |        | 24.3  |        |        |      | 87.8       | 3.9   | D.B.   |
| +1.60                             | 12.1  | 1.8    | 68.0  | X      | X      | X    | 100.0      | 11.6  | A.D.B. |
|                                   | 12.2  |        | 69.2  |        |        |      | 100.0      | 11.9  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |  |                       |                  |                |        |
|---|------------|--|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Starting Temp.=350°C) |                       |                  |                | G. NO. |
|   |            | SOFTENING TEMP. *(°C)                  | MAX. DIL. TEMP. *(°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % |        |
| 9   | 0.05       | 372                                    | 457                   | 28               | 122            | 1.069  |

\* S.T. & M.D.T. corrected with factor 6/5

Lab. No. 8545 Date March 21, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-17-4

Starting Temperature °C: 350

Softening Temperature °C: 372

Max. Dilatation Temp. °C: 457

250

Contraction %: 28

Dilatation %: 122

Final Temperature °C: 1.069

200

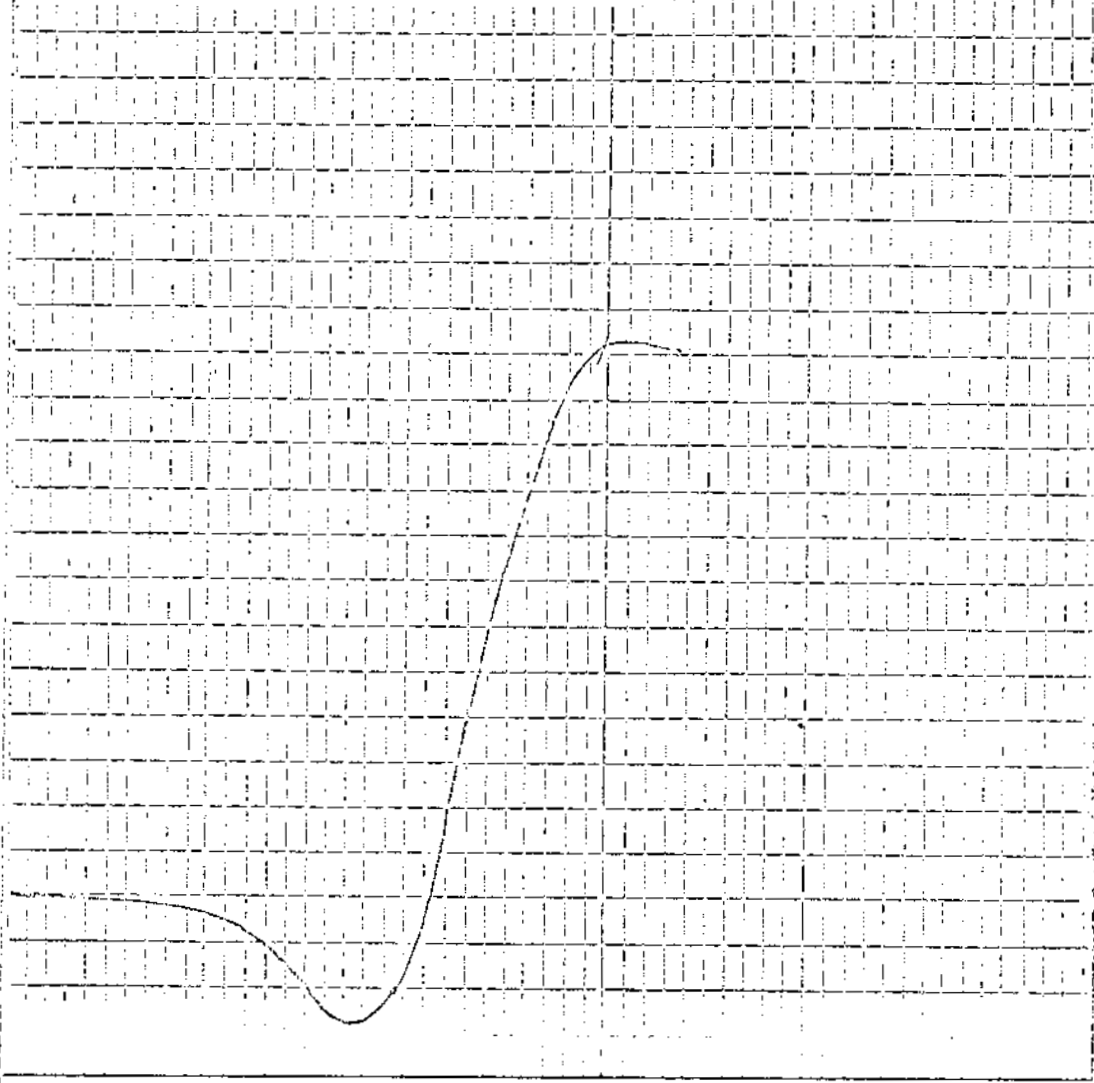
G. Factor: 1.069

150

100

50

0



DIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R-77-17-5 Lab. No. 8546 DATE: March/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.6               | 27.8  | 22.8   | 48.8   | 0.86 | 75     | Air Dried Basis |
|                   | 28.0  | 22.9   | 49.1   | 0.87 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 91.4  | 0.6    | 29.6  | 0.81 | 91.4       | 29.6  | 0.81 | A.D.B. |
|                     | 91.4  |        | 29.8  | 0.81 | 91.4       | 29.8  | 0.81 | D.B.   |
| 65M x 0             | 8.6   | 0.7    | 8.2   | 1.05 | 100.0      | 27.8  | 0.83 | A.D.B. |
|                     | 8.6   |        | 8.3   | 1.06 | 100.0      | 28.0  | 0.83 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 57.8  | 0.9    | 2.7   | 27.0   | 69.4   | 1.02 | 57.8       | 2.7   | A.D.B. |
|                                   | 57.8  |        | 2.7   | 27.2   | 70.1   | 1.03 | 57.8       | 2.7   | D.B.   |
| 1.40-1.50                         | 5.2   | 1.1    | 9.5   | 26.3   | 63.1   | 0.99 | 63.0       | 3.3   | A.D.B. |
|                                   | 5.2   |        | 9.6   | 26.6   | 63.8   | 1.00 | 63.0       | 3.3   | D.B.   |
| 1.50-1.60                         | 1.5   | 1.0    | 24.9  |        |        |      | 64.5       | 3.8   | A.D.B. |
|                                   | 1.5   |        | 25.2  |        |        |      | 64.5       | 3.8   | D.B.   |
| +1.60                             | 35.5  | 0.9    | 75.5  |        |        |      | 100.0      | 29.2  | A.D.B. |
|                                   | 35.5  |        | 76.2  |        |        |      | 100.0      | 29.5  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |  |                      |                  |                |        |
|---|------------|--|----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Starting Temp.=350°C) |                      |                  |                |        |
|   |            | SOFTENING TEMP* (°C)                   | MAX. DIL. TEMP.*(°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 9   | 0.04       | 373                                    | 464                  | 20               | 120            | 1.084  |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lab. No. 6546 Date March 21, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-17-5

Starting Temperature °C: 320

Softening Temperature °C: 373

Max. Dilatation Temp. °C: 464

250

Contraction %: 20

Dilatation %: 120

Final Temperature °C: \_\_\_\_\_

G. Factor: 1.084

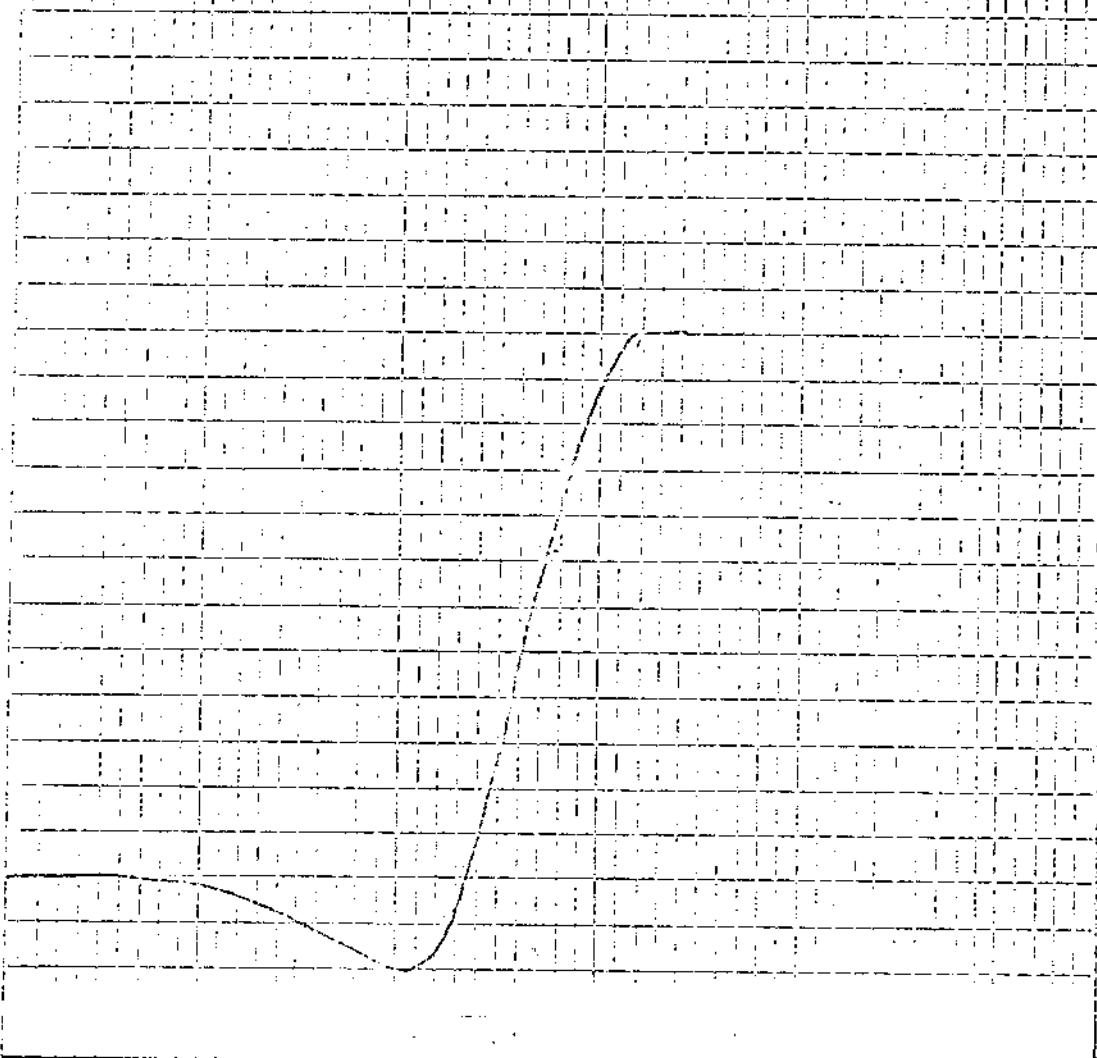
200

150

100

50

0



SIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn



ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R-77-17-6

Lab. No. 8547

DATE: March/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.6               | 63.9  | 13.6   | 21.9   | 0.98 | 54     | Air Dried Basis |
|                   | 64.3  | 13.7   | 22.0   | 0.99 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 94.4  | 0.6    | 64.6  | 0.95 | 94.4       | 64.6  | 0.95 | A.D.B. |
|                     | 94.4  |        | 65.0  | 0.96 | 94.4       | 65.0  | 0.96 | D.B.   |
| 65M x 0             | 5.6   | 0.7    | 45.1  | 1.45 | 100.0      | 63.5  | 0.98 | A.D.B. |
|                     | 5.6   |        | 45.4  | 1.46 | 100.0      | 63.9  | 0.99 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 13.4  | 0.5    | 8.1   | 28.8   | 62.6   | 1.57 | 13.4       | 8.1   | A.D.B. |
|                                   | 13.4  |        | 8.1   | 28.9   | 63.0   | 1.58 | 13.4       | 8.1   | D.B.   |
| 1.40-1.50                         | 3.2   | 0.7    | 16.4  | 26.5   | 56.4   | 1.49 | 16.6       | 9.7   | A.D.B. |
|                                   | 3.2   |        | 16.5  | 26.7   | 56.8   | 1.50 | 16.6       | 9.7   | D.B.   |
| 1.50-1.60                         | 3.9   | 0.8    | 30.2  |        |        |      | 20.5       | 13.6  | A.D.B. |
|                                   | 3.9   |        | 30.4  |        |        |      | 20.5       | 13.7  | D.B.   |
| +1.60                             | 79.5  | 0.8    | 78.1  |        |        |      | 100.0      | 64.9  | A.D.B. |
|                                   | 79.5  |        | 78.7  |        |        |      | 100.0      | 65.4  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |  |                       |                  |                |       |        |
|---|------------|--|-----------------------|------------------|----------------|-------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Starting Temp.=350°C) |                       |                  |                |       | G. NO. |
|   |            | SOFTENING TEMP.* (°C)                  | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % |       |        |
| 9   | 0.04       | 362                                    | 458                   | 26               | 270            | 1.107 |        |

\* S.T. & M.D.T corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lab. No. 8547 Date March 21, 1977

%  
300

Client: ELCO MILLS LTD.

Sample Identification: R77-17-6

Starting Temperature °C: 350

Softening Temperature °C: 362

Max. Dilatation Temp. °C: 458

250

Contraction %: 26

Dilatation %: 270

Final Temperature °C:

G. Factor: 1.107

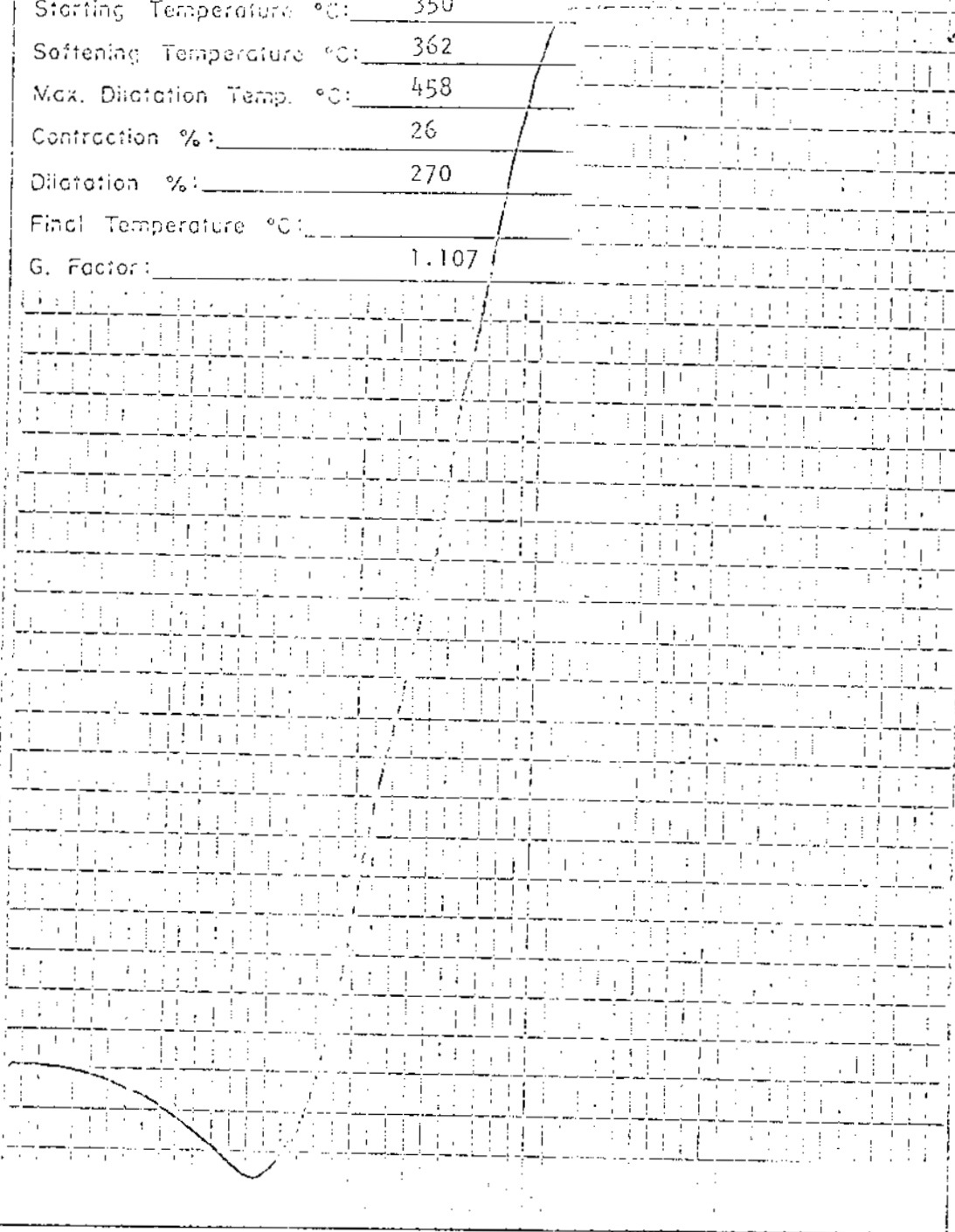
200

150

100

50

0



SIMLEY ENGINEERING (CANADA) LTD.

Title  
RUHR DILATOMETER TEST

Date  
Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R-77-17-7 Lab. No. 8548 DATE: March/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.6               | 21.2  | 24.5   | 53.7   | 0.81 | 79     | Air Dried Basis |
|                   | 21.3  | 24.6   | 54.1   | 0.81 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 94.9  | 0.6    | 21.9  | 0.81 | 94.9       | 21.9  | 0.81 | A.D.B. |
|                     | 94.9  |        | 22.0  | 0.81 | 94.9       | 22.0  | 0.81 | D.B.   |
| 65M x 0             | 5.1   | 0.8    | 10.3  | 1.08 | 100.0      | 21.3  | 0.82 | A.D.B. |
|                     | 5.1   |        | 10.4  | 1.09 | 100.0      | 21.4  | 0.82 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 68.6  | 1.1    | 3.4   | 27.6   | 67.9   | 0.88 | 68.6       | 3.4   | A.D.B. |
|                                   | 68.5  |        | 3.4   | 27.9   | 68.7   | 0.89 | 68.5       | 3.4   | D.B.   |
| 1.40-1.50                         | 5.1   | 1.1    | 18.1  | 23.1   | 57.7   | 0.80 | 73.7       | 4.4   | A.D.B. |
|                                   | 5.1   |        | 18.3  | 23.4   | 58.3   | 0.81 | 73.6       | 4.4   | D.B.   |
| 1.50-1.60                         | 2.5   | 0.9    | 31.4  |        |        |      | 76.2       | 5.3   | A.D.B. |
|                                   | 2.5   |        | 31.7  |        |        |      | 76.1       | 5.3   | D.B.   |
| +1.60                             | 23.8  | 0.7    | 73.1  |        |        |      | 100.0      | 21.4  | A.D.B. |
|                                   | 23.9  |        | 73.8  |        |        |      | 100.0      | 21.7  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |  |                       |                  |                |        |
|---|------------|--|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATION TEST (Starting Temp. = 350°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP.* (°C)                  | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 9   | 0.06       | 368                                    | 451                   | 26               | 152            | 1.077  |

\* S.T. & M.D.T corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lab. No. 8548 Date March 22, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-17-7

Starting Temperature °C: 350

Softening Temperature °C: 368

Max. Dilatation Temp. °C: 451

250

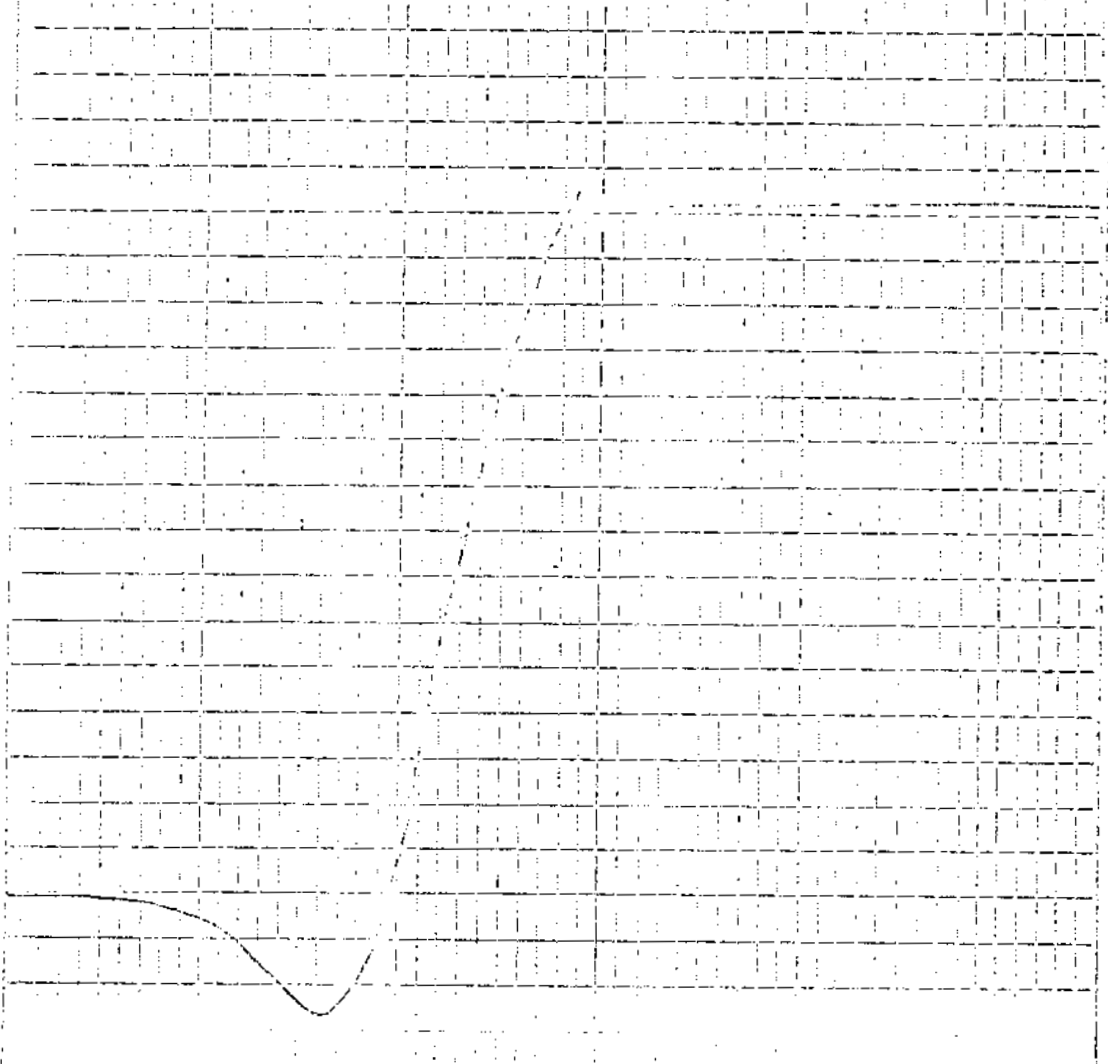
Contraction %: 26

Dilatation %: 152

Final Temperature °C:

G. Factor: 1.077

200



BENTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R-77-17-8

Lab. No. 8549

DATE: March/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.6               | 36.2  | 19.8   | 43.4   | 0.45 | 76     | Air Dried Basis |
|                   | 36.4  | 19.9   | 43.7   | 0.45 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 85.8  | 0.8    | 39.9  | 0.46 | 85.8       | 39.9  | 0.46 | A.D.B. |
|                     | 85.8  |        | 40.2  | 0.46 | 85.8       | 40.2  | 0.46 | D.B.   |
| 65M x 0             | 14.2  | 0.8    | 10.4  | 0.70 | 100.0      | 35.7  | 0.49 | A.D.B. |
|                     | 14.2  |        | 10.5  | 0.71 | 100.0      | 36.0  | 0.50 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 45.7  | 1.0    | 3.7   | 27.2   | 68.1   | 0.70 | 45.7       | 3.7   | A.D.B. |
|                                   | 45.7  |        | 3.7   | 27.5   | 68.8   | 0.71 | 45.7       | 3.7   | D.B.   |
| 1.40-1.50                         | 3.0   | 1.4    | 16.3  | 22.4   | 59.9   | 0.65 | 48.7       | 4.5   | A.D.B. |
|                                   | 3.0   |        | 16.5  | 22.7   | 60.8   | 0.66 | 48.7       | 4.5   | D.B.   |
| 1.50-1.60                         | 2.2   | 1.6    | 27.7  |        |        |      | 50.9       | 5.5   | A.D.B. |
|                                   | 2.2   |        | 28.2  |        |        |      | 50.9       | 5.5   | D.B.   |
| +1.60                             | 49.1  | 1.2    | 74.9  |        |        |      | 100.0      | 39.6  | A.D.B. |
|                                   | 49.1  |        | 75.8  |        |        |      | 100.0      | 40.0  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |  |                       |                  |                |       |        |
|---|------------|--|-----------------------|------------------|----------------|-------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Starting Temp. = 350°C) |                       |                  |                |       | G. NO. |
|   |            | SOFTENING TEMP. *(°C)                    | MAX. DIL. TEMP. *(°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % |       |        |
| 9   | 0.03       | 379                                      | 454                   | 25               | 49             | 1.030 |        |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lab. No. 8549 Date March 22, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-17-8

Starting Temperature °C: 350

Softening Temperature °C: 379

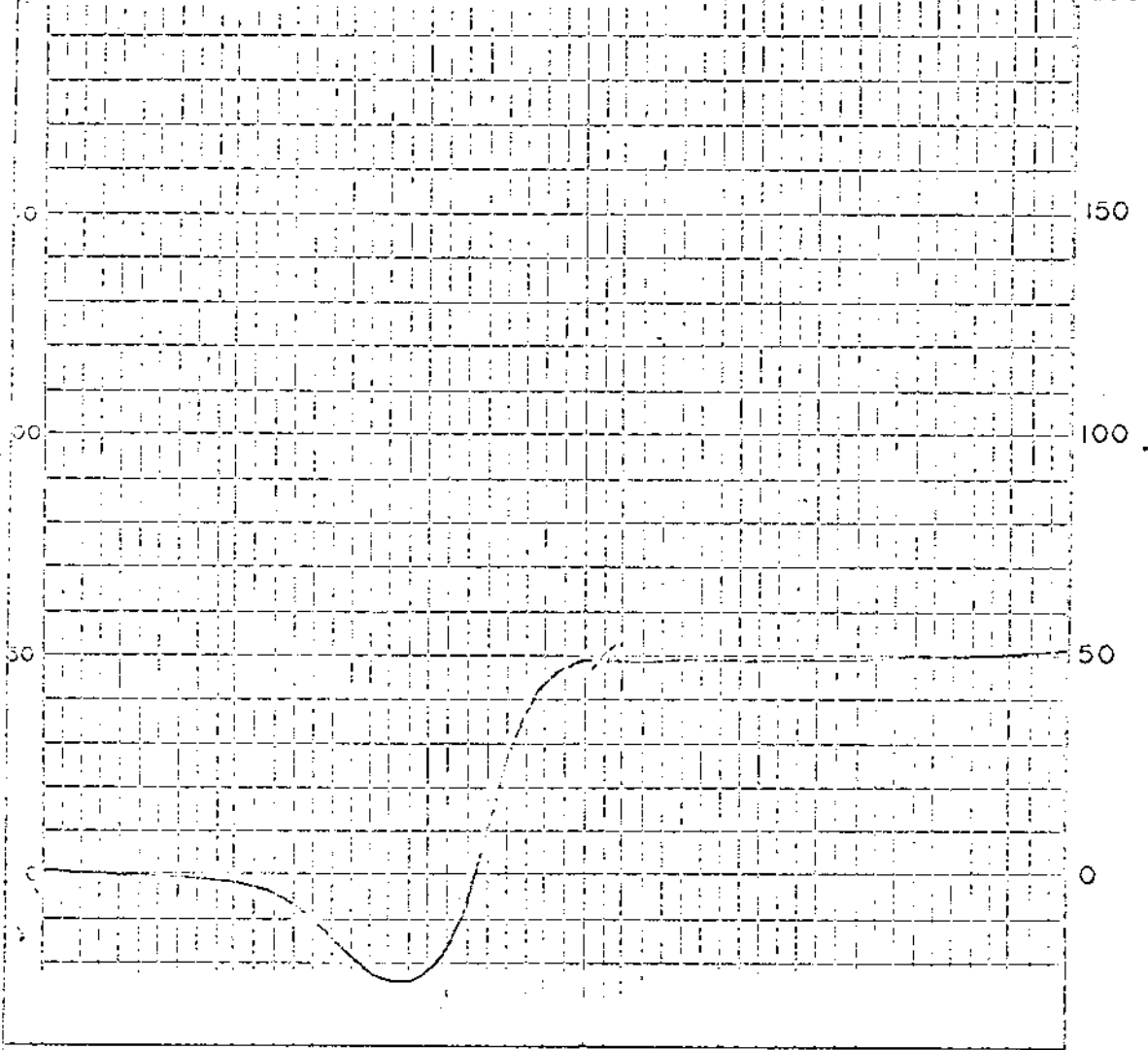
Max. Dilatation Temp. °C: 454

Contraction %: 25

Dilatation %: 49

Final Temperature °C:

G. Factor: 1.030



BIRTLEY ENGINEERING (CANADA) LTD.

Title  
RUHR DILATOMETER TEST

Date  
Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R-77-17-9

Lab. No. 8550

DATE: March/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.9               | 29.4  | 20.8   | 48.9   | 0.68 | 85     | Air Dried Basis |
|                   | 29.7  | 21.0   | 49.3   | 0.69 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 89.6  | 0.8    | 31.2  | 0.70 | 89.6       | 31.2  | 0.70 | A.D.B. |
|                     | 89.6  |        | 31.5  | 0.71 | 89.6       | 31.5  | 0.71 | D.B.   |
| 65M x 0             | 10.4  | 0.8    | 18.3  | 0.75 | 100.0      | 29.9  | 0.71 | A.D.B. |
|                     | 10.4  |        | 18.4  | 0.76 | 100.0      | 30.1  | 0.72 | D.B.   |

| SINK-FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|---------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                           | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                 |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                           | 53.9  | 1.3    | 3.0   | 26.7   | 68.5   | 0.81 | 53.9       | 3.0   | A.D.B. |
|                                 | 53.9  |        | 3.1   | 27.2   | 69.7   | 0.82 | 53.9       | 3.1   | D.B.   |
| 1.40-1.50                       | 3.4   | 2.4    | 16.7  | 23.4   | 57.5   | 0.75 | 57.3       | 3.8   | A.D.B. |
|                                 | 3.4   |        | 17.1  | 24.0   | 58.9   | 0.77 | 57.3       | 3.9   | D.B.   |
| 1.50-1.60                       | 3.3   | 2.9    | 26.2  |        |        |      | 60.6       | 3.0   | A.D.B. |
|                                 | 3.3   |        | 27.0  |        |        |      | 60.6       | 5.2   | D.B.   |
| +1.60                           | 39.4  | 2.0    | 71.7  |        |        |      | 100.0      | 31.3  | A.D.B. |
|                                 | 39.4  |        | 73.2  |        |        |      | 100.0      | 32.0  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |  |                       |                  |                |       |        |
|---|------------|--|-----------------------|------------------|----------------|-------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Starting Temp.=350°C) |                       |                  |                |       | G. NO. |
|   |            | SOFTENING TEMP. *(°C)                  | MAX. DIL. TEMP. *(°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % |       |        |
| 9   | 0.03       | 382                                    | 462                   | 22               | 97             | 1.064 |        |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lab. No. 8550 Date March 22, 1977

Client: ELCO MINING LTD.

Sample Identification: R77-17-9

Starting Temperature °C: 350

Softening Temperature °C: 382

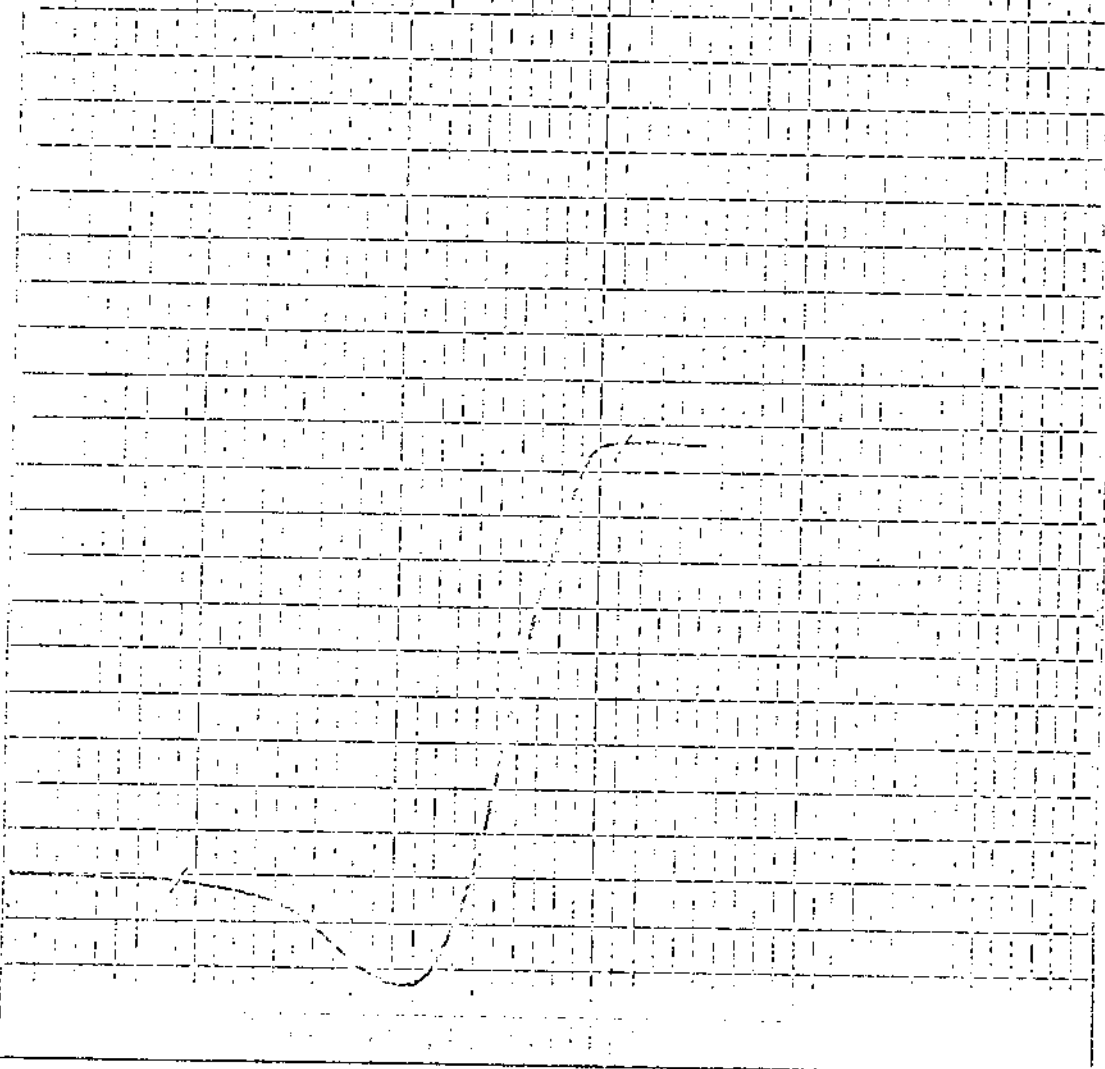
Max. Dilatation Temp. °C: 462

Contraction %: 22

Dilatation %: 97

Final Temperature °C:

G. Factor: 1.064



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn



ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-17-10      Lab. No. 8551      DATE: March/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.H. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.6               | 74.2  | 13.5   | 11.7   | 0.64 | 49     | Air Dried Basis |
|                   | 74.6  | 13.6   | 11.8   | 0.64 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 94.1  | 0.8    | 75.4  | 0.53 | 94.1       | 75.4  | 0.53 | A.D.B. |
|                     | 94.1  |        | 76.0  | 0.53 | 94.1       | 76.0  | 0.53 | D.B.   |
| 65M x 0             | 5.9   | 0.9    | 57.1  | 1.88 | 100.0      | 74.3  | 0.61 | A.D.B. |
|                     | 5.9   |        | 57.6  | 1.90 | 100.0      | 74.9  | 0.61 | D.B.   |

| SINK-FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|---------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                           | WT. % | R.M. % | ASH % | V.H. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                 |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                           | 7.4   | 1.0    | 3.0   | 28.1   | 67.9   | 1.09 | 7.4        | 3.0   | A.D.B. |
|                                 | 7.4   |        | 3.0   | 28.4   | 68.3   | 1.10 | 7.4        | 3.0   | D.B.   |
| 1.40-1.50                       | 1.1   | 1.0    | 8.6   | 26.6   | 63.8   | 1.07 | 8.5        | 3.7   | A.D.B. |
|                                 | 1.1   |        | 8.7   | 26.9   | 64.4   | 1.08 | 8.5        | 3.7   | D.B.   |
| 1.50-1.60                       | 0.7   | 1.8    | 19.7  |        |        |      | 9.2        | 4.9   | A.D.B. |
|                                 | 0.6   |        | 20.1  |        |        |      | 9.1        | 4.8   | D.B.   |
| +1.60                           | 90.8  | 0.6    | 82.0  |        |        |      | 100.0      | 74.9  | A.D.B. |
|                                 | 90.9  |        | 82.5  |        |        |      | 100.0      | 75.4  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |  |                       |                  |                |        |
|---|------------|--|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Starting Temp.=350°C) |                       |                  |                | G. NO. |
|   |            | SOFTENING TEMP.* (°C)                  | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % |        |
| 9   | 0.01       | 368                                    | 462                   | 26               | 265            | 1.103  |

\* S.T. & M.D.T. corrected with factor 6/5

Lab. No. 8551 Date March 22, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-17-10

Starting Temperature °C: 350

Softening Temperature °C: 368

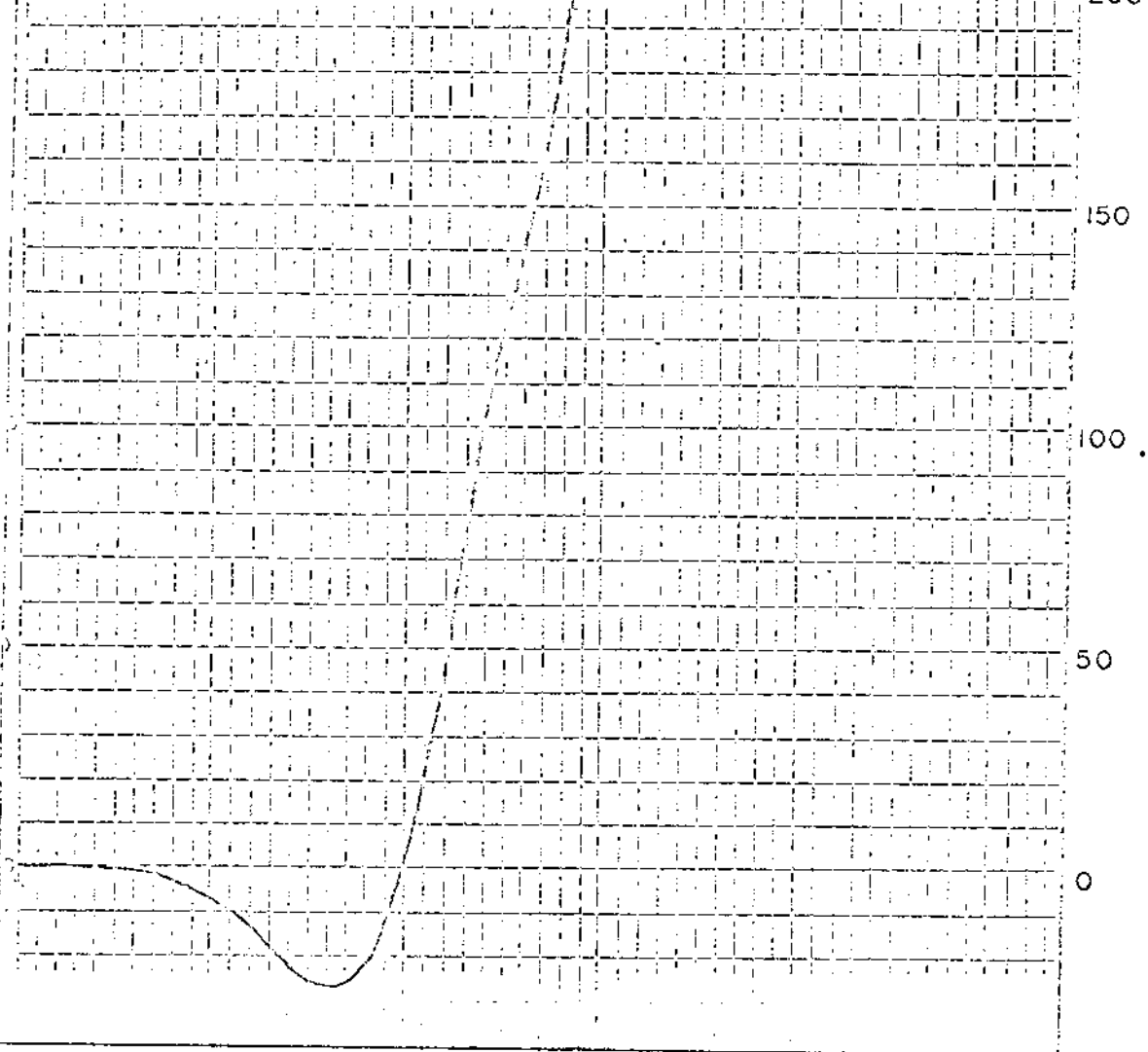
Max. Dilatation Temp. °C: 462

Contraction %: 26

Dilatation %: 265

Final Temperature °C:

G. Factor: 1.103



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RURR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R-77-17-11 Lab. No. 8552 DATE: March/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.6               | 25.9  | 14.0   | 59.5   | 0.57 | 86     | Air Dried Basis |
|                   | 26.1  | 14.1   | 59.8   | 0.57 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 90.3  | 0.6    | 27.7  | 0.52 | 90.3       | 27.7  | 0.52 | A.D.B. |
|                     | 90.3  |        | 27.9  | 0.52 | 90.3       | 27.9  | 0.52 | D.B.   |
| 65M x 0             | 9.7   | 0.9    | 10.8  | 0.73 | 100.0      | 25.8  | 0.54 | A.D.B. |
|                     | 9.7   |        | 10.9  | 0.74 | 100.0      | 26.0  | 0.54 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 59.5  | 2.0    | 3.6   | 26.4   | 68.0   | 0.68 | 59.5       | 3.6   | A.D.B. |
|                                   | 59.3  |        | 3.7   | 26.9   | 69.4   | 0.69 | 59.3       | 3.7   | D.B.   |
| 1.40-1.50                         | 5.0   | 1.1    | 18.7  | 22.9   | 57.3   | 0.55 | 64.5       | 4.8   | A.D.B. |
|                                   | 5.0   |        | 18.9  | 23.2   | 57.9   | 0.56 | 64.3       | 4.9   | D.B.   |
| 1.50-1.60                         | 3.1   | 1.3    | 30.8  |        |        |      | 67.6       | 6.0   | A.D.B. |
|                                   | 3.0   |        | 31.2  |        |        |      | 67.4       | 6.1   | D.B.   |
| +1.60                             | 32.4  | 1.0    | 73.2  |        |        |      | 100.0      | 27.7  | A.D.B. |
|                                   | 32.6  |        | 73.9  |        |        |      | 100.0      | 28.2  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |  |                       |                  |                |        |
|---|------------|--|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Starting Temp.=350°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP. *(°C)                  | MAX. DIL. TEMP. *(°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 9   | 0.08       | 372                                    | 459                   | 25               | 147            | 1.080  |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lab. No. 8552 Date March 22, 1977

%  
300

Client: ELCO METALS LTD.

Sample Identification: R77-17-11

Starting Temperature °C: 350

Softening Temperature °C: 372

Max. Dilatation Temp. °C: 459

250

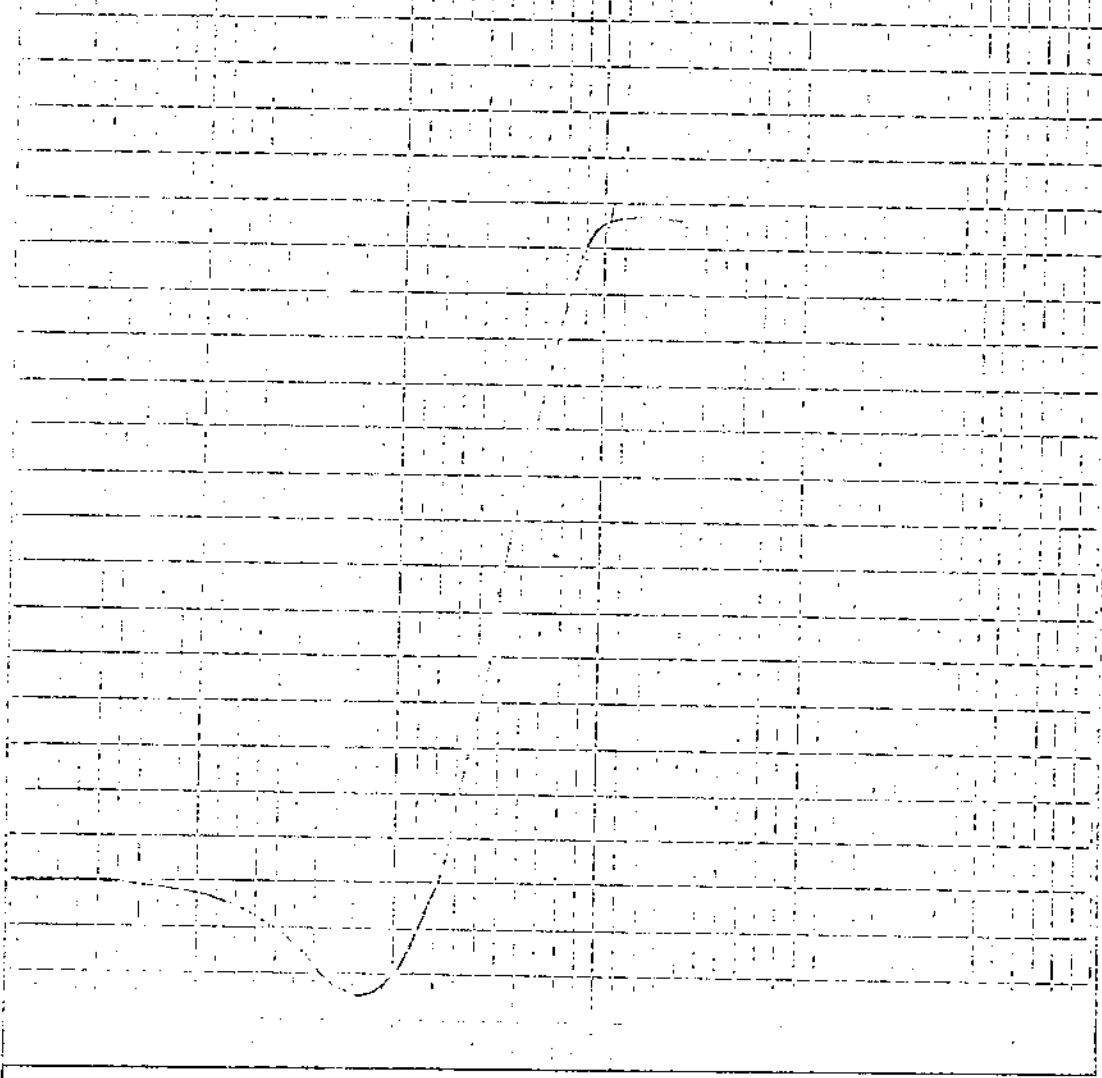
Contraction %: 25

Dilatation %: 147

Final Temperature °C:

G. Factor: 1.080

200



BENTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-17-12 Lab. No. 8553 DATE: March/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.7               | 45.6  | 18.1   | 35.6   | 0.62 | 75     | Air Dried Basis |
|                   | 45.9  | 18.2   | 35.9   | 0.62 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 94.5  | 0.7    | 47.0  | 0.63 | 94.5       | 47.0  | 0.63 | A.D.B. |
|                     | 94.5  |        | 47.3  | 0.63 | 94.5       | 47.3  | 0.63 | D.B.   |
| 65M x 0             | 5.5   | 0.7    | 27.3  | 0.81 | 100.0      | 45.9  | 0.64 | A.D.B. |
|                     | 5.5   |        | 27.5  | 0.82 | 100.0      | 46.2  | 0.64 | D.B.   |

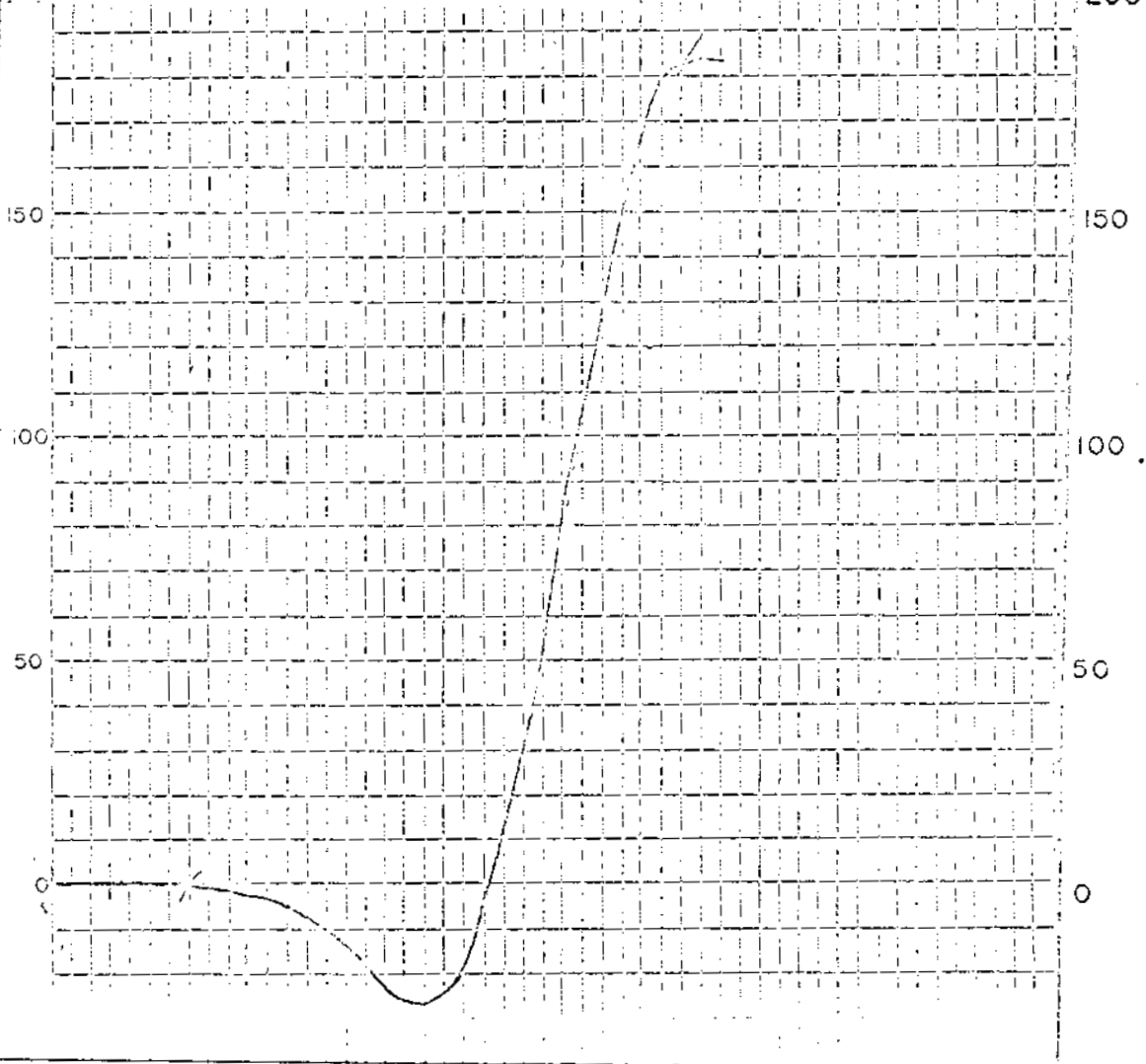
| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 33.0  | 1.0    | 4.2   | 27.0   | 67.8   | 0.90 | 33.0       | 4.2   | A.D.B. |
|                                   | 33.0  |        | 4.2   | 27.3   | 68.5   | 0.91 | 33.0       | 4.2   | D.B.   |
| 1.40-1.50                         | 5.7   | 1.3    | 16.5  | 24.4   | 57.8   | 1.00 | 38.7       | 6.0   | A.D.B. |
|                                   | 5.7   |        | 16.7  | 24.7   | 58.6   | 1.01 | 38.7       | 6.0   | D.B.   |
| 1.50-1.60                         | 4.2   | 1.4    | 28.6  | X      | X      | X    | 42.9       | 8.2   | A.D.B. |
|                                   | 4.2   |        | 29.0  |        |        |      | 42.9       | 8.3   | D.B.   |
| +1.60                             | 57.1  | 1.0    | 75.0  | X      | X      | X    | 100.0      | 46.4  | A.D.B. |
|                                   | 57.1  |        | 75.8  |        |        |      | 100.0      | 46.8  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS + 1.50 S.G., A.D.B. |                           |  |                          |                     |                   |        |
|---|---------------------------|--|--------------------------|---------------------|-------------------|--------|
| F.S.I.  | PER<br>CENT<br>ON<br>COAL | DILATATION TEST (Starting Temp. = 350°C) |                          |                     |                   |        |
|   |                           | SOFTENING<br>TEMP. *(°C)                 | MAX. DIL.<br>TEMP. *(°C) | MAXIMUM<br>CONTR. % | MAXIMUM<br>DIL. % | G. NO. |
| 9   | 0.04                      | 375                                      | 465                      | 28                  | 182               | 1.085  |

\* S.T. & M.D.T. corrected with factor 6/5

Lab. No. 8553 Date March 22, 1977  
 Client: ELCO MINING LTD.  
 Sample Identification: R77-17-12  
 Starting Temperature °C: 350  
 Softening Temperature °C: 375  
 Max. Dilatation Temp. °C: 465  
 Contraction %: 28  
 Dilatation %: 182  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 1.085

%  
300  
250  
200



BENTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R-77-18-1 Lab. No. 8554 DATE: March/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.8               | 53.4  | 16.2   | 29.6   | 0.39 | 57     | Air Dried Basis |
|                   | 53.8  | 16.3   | 29.9   | 0.39 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 76.7  | 1.0    | 56.6  | 0.39 | 76.7       | 56.6  | 0.39 | A.D.B. |
|                     | 76.7  |        | 57.2  | 0.39 | 76.7       | 57.2  | 0.39 | D.B.   |
| 65M x 0             | 23.3  | 1.1    | 41.9  | 0.52 | 100.0      | 53.2  | 0.42 | A.D.B. |
|                     | 23.3  |        | 42.4  | 0.53 | 100.0      | 53.8  | 0.42 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 22.9  | 1.1    | 5.2   | 29.1   | 64.6   | 0.78 | 22.9       | 5.2   | A.D.B. |
|                                   | 22.9  |        | 5.3   | 29.4   | 65.3   | 0.79 | 22.9       | 5.3   | D.B.   |
| 1.40-1.50                         | 4.6   | 1.2    | 16.5  | 26.5   | 55.8   | 0.73 | 27.6       | 7.1   | A.D.B. |
|                                   | 4.7   |        | 16.7  | 26.8   | 56.5   | 0.74 | 27.6       | 7.2   | D.B.   |
| 1.50-1.60                         | 5.0   | 1.6    | 27.8  |        |        |      | 32.6       | 10.3  | A.D.B. |
|                                   | 5.0   |        | 28.3  |        |        |      | 32.6       | 10.5  | D.B.   |
| +1.60                             | 67.4  | 1.0    | 80.1  |        |        |      | 100.0      | 57.3  | A.D.B. |
|                                   | 67.4  |        | 80.9  |        |        |      | 100.0      | 57.9  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |  |                      |                  |                |       |        |
|---|------------|--|----------------------|------------------|----------------|-------|--------|
| F.S.I.  | PR ON COAL | DILATATION TEST (Starting Temp.=320°C) |                      |                  |                |       | G. NO. |
|   |            | SOFTENING TEMP. (°C)                   | MAX. DIL. TEMP. (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % |       |        |
| 9   | 0.07       | 362                                    | 453                  | 25               | 180            | 1.105 |        |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lab. No. 8554 Date March 23, 1977

%  
300

Client: ELCO MIXING LTD.

Sample Identification: R77-18-1

Starting Temperature °C: 320

Softening Temperature °C: 352

Max. Dilatation Temp. °C: 453

Contraction %: 25

Dilatation %: 180

Final Temperature °C:

G. Factor: 1.105

250

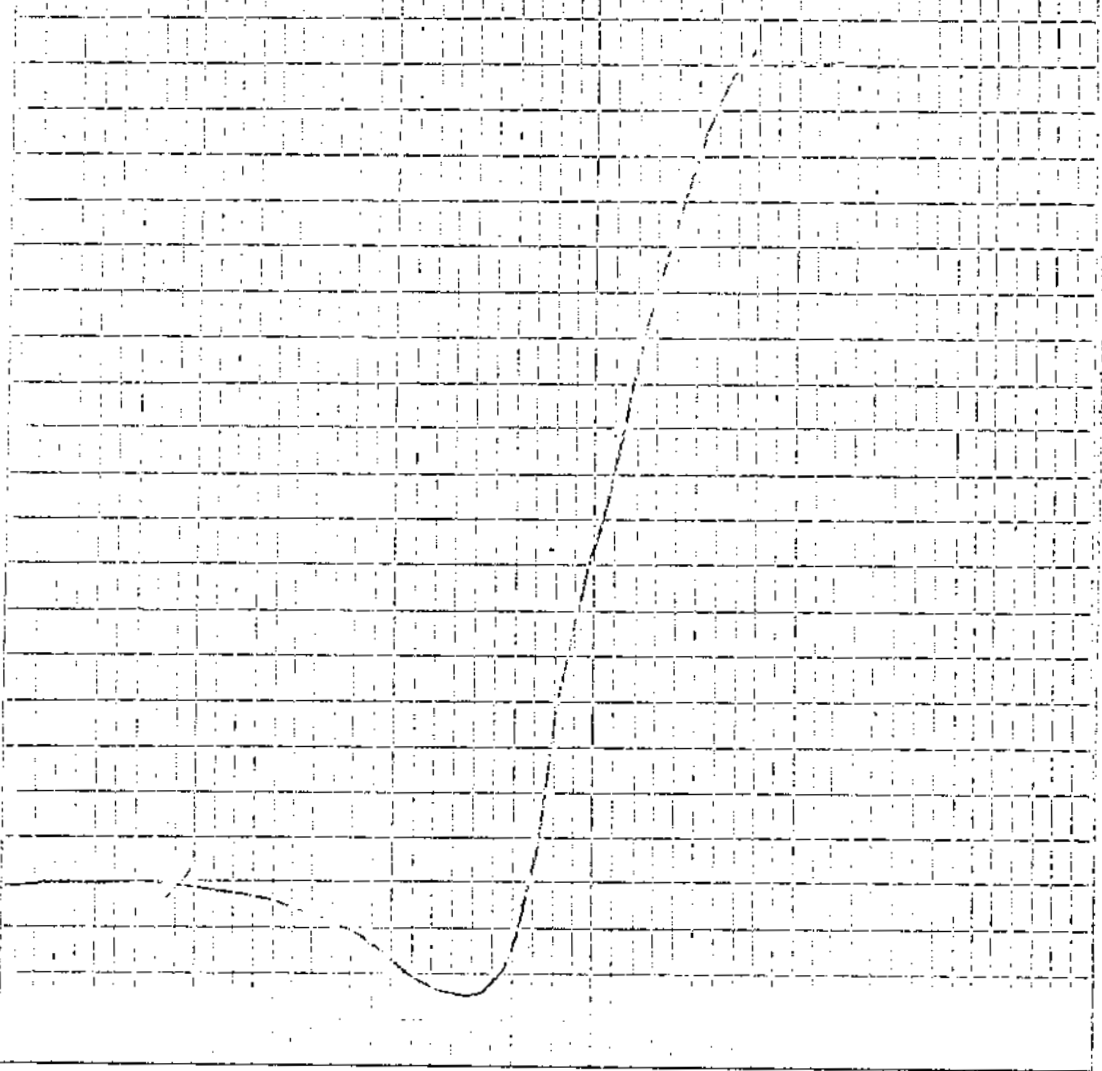
200

150

100

50

0



BIRTMET BIRTLEY ENGINEERING (CANADA) LTD.

Title  
RUHR DILATOMETER TEST

Date  
Drawn



ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-18-2      Lab. No. 8555      DATE: March/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.8               | 12.5  | 26.6   | 60.1   | 0.58 | 88     | Air Dried Basis |
|                   | 12.6  | 26.8   | 60.6   | 0.59 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 89.8  | 0.8    | 13.5  | 0.60 | 89.8       | 13.5  | 0.60 | A.D.B. |
|                     | 89.8  |        | 13.6  | 0.60 | 89.8       | 13.6  | 0.60 | D.B.   |
| 65M x 0             | 10.2  | 1.0    | 7.7   | 0.66 | 100.0      | 12.9  | 0.61 | A.D.B. |
|                     | 10.2  |        | 7.8   | 0.67 | 100.0      | 13.0  | 0.61 | D.B.   |

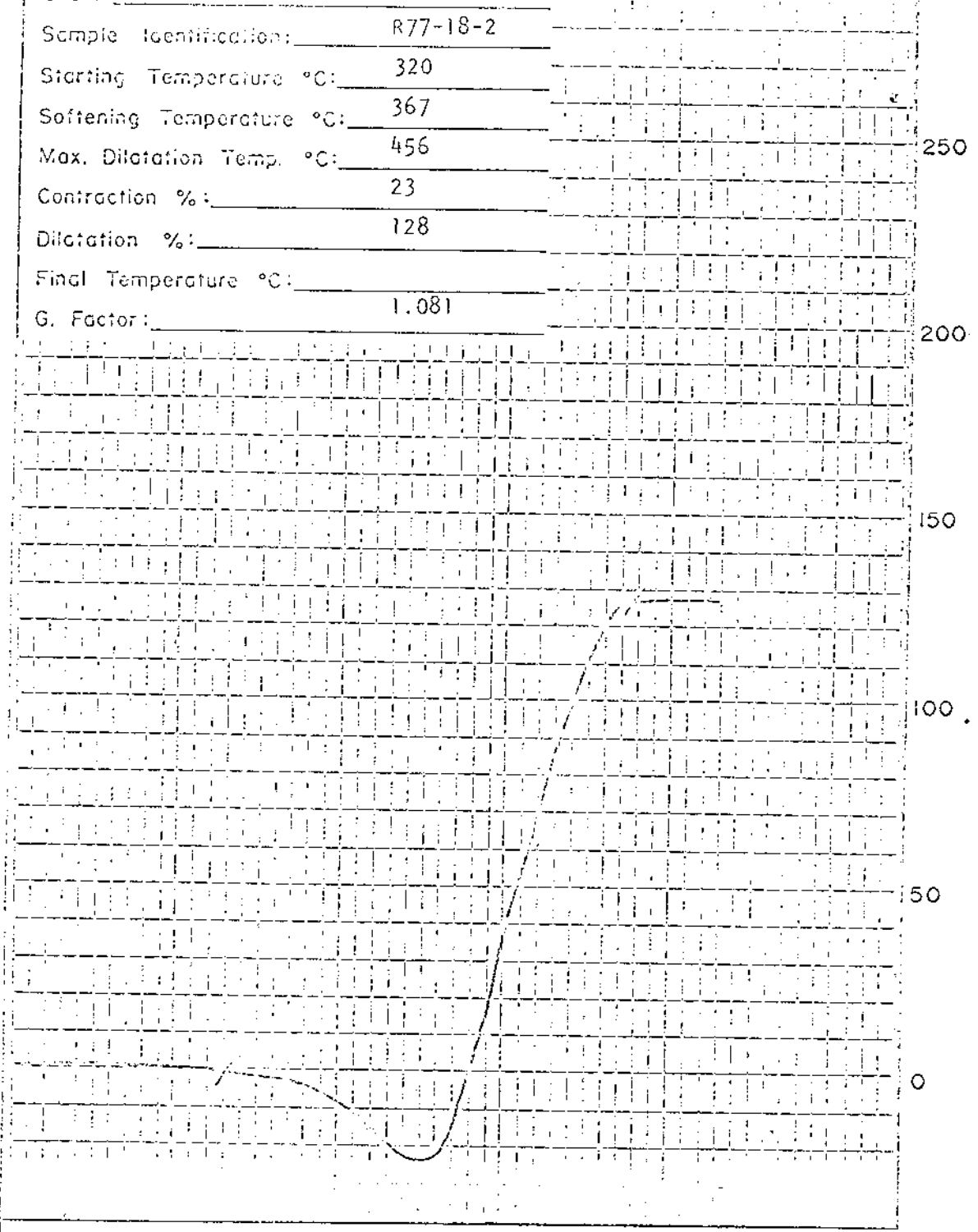
| SINK-FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|---------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                           | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                 |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                           | 77.2  | 1.6    | 3.6   | 29.1   | 65.7   | 0.68 | 77.2       | 3.6   | A.D.B. |
|                                 | 77.1  |        | 3.7   | 29.6   | 66.7   | 0.69 | 77.1       | 3.7   | D.B.   |
| 1.40-1.50                       | 4.2   | 1.5    | 18.2  | 24.6   | 55.7   | 0.69 | 81.4       | 4.4   | A.D.B. |
|                                 | 4.2   |        | 18.5  | 25.0   | 56.5   | 0.70 | 81.3       | 4.5   | D.B.   |
| 1.50-1.60                       | 3.5   | 1.8    | 25.9  |        |        |      | 84.9       | 5.2   | A.D.B. |
|                                 | 3.5   |        | 26.4  |        |        |      | 84.8       | 5.4   | D.B.   |
| +1.60                           | 15.1  | 1.1    | 64.2  |        |        |      | 100.0      | 14.1  | A.D.B. |
|                                 | 15.2  |        | 64.9  |        |        |      | 100.0      | 14.4  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |  |                      |                  |                |       |        |
|---|------------|--|----------------------|------------------|----------------|-------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Starting Temp.=320°C) |                      |                  |                |       | G. NO. |
|   |            | SOFTENING TEMP.*(°C)                   | MAX. DIL. TEMP.*(°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % |       |        |
| 9   | 0.04       | 367                                    | 456                  | 23               | 128            | 1.081 |        |

\* S.T. & M.D.T. corrected with factor 6/5

Lab. No. 8555 Date March 23, 1977  
 Client: ELCO MINING LTD.  
 Sample Identification: R77-18-2  
 Starting Temperature °C: 320  
 Softening Temperature °C: 367  
 Max. Dilatation Temp. °C: 456  
 Contraction %: 23  
 Dilatation %: 128  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 1.081

%  
300



DIRTLEY ENGINEERING (CANADA) LTD.

|                                    |       |
|------------------------------------|-------|
| Title<br><br>RUHR DILATOMETER TEST | Date  |
|                                    | Drawn |

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-18-3      Lab. No. 8556      DATE: March/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS ✓       |
| 0.8               | 55.9  | 16.1   | 27.2   | 0.56 | 58     | Air Dried Basis |
|                   | 56.4  | 16.2   | 27.4   | 0.56 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 96.1  | 0.8    | 56.2  | 0.52 | 96.1       | 56.2  | 0.52 | A.D.B. |
|                     | 96.1  |        | 56.7  | 0.52 | 96.1       | 56.7  | 0.52 | D.B.   |
| 65M x 0             | 3.9   | 0.8    | 33.9  | 0.83 | 100.0      | 55.3  | 0.53 | A.D.B. |
|                     | 3.9   |        | 34.2  | 0.84 | 100.0      | 55.8  | 0.53 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 16.3  | 0.7    | 4.8   | 30.4   | 64.1   | 1.07 | 16.3       | 4.8   | A.D.B. |
|                                   | 16.3  |        | 4.8   | 30.6   | 64.6   | 1.08 | 16.3       | 4.8   | D.B.   |
| 1.40-1.50                         | 2.4   | 0.9    | 24.5  | 24.2   | 50.4   | 0.90 | 18.7       | 7.3   | A.D.B. |
|                                   | 2.4   |        | 24.7  | 24.4   | 50.9   | 0.91 | 18.7       | 7.4   | D.B.   |
| 1.50-1.60                         | 3.0   | 0.8    | 36.0  | X      | X      | X    | 21.7       | 11.3  | A.D.B. |
|                                   | 3.0   |        | 36.3  |        |        |      | 21.7       | 11.4  | D.B.   |
| +1.60                             | 78.3  | 0.8    | 68.7  | X      | X      | X    | 100.0      | 56.2  | A.D.B. |
|                                   | 78.3  |        | 69.3  |        |        |      | 100.0      | 56.7  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |  |                        |                  |                |        |
|---|------------|--|------------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Starting Temp. = 320°C) |                        |                  |                |        |
|   |            | SOFTENING TEMP. * (°C)                   | MAX. DIL. TEMP. * (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 9   | 0.01       | 345                                      | 450                    | 29               | 272            | 1.119  |

\* S.T. & M.D.T. corrected with factor 6/5

Lcb. No. 8556 Date March 23, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: P.77-18-3

Starting Temperature °C: 320

Softening Temperature °C: 345

Max. Dilatation Temp. °C: 450

Contraction %: 29

Dilatation %: 272

Final Temperature °C:

G. Factor: 1.119

250

200

150

100

50

0



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-18-4 Lab. NO. 8557 DATE: March/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.8               | 24.8  | 22.3   | 52.1   | 0.81 | 76     | Air Dried Basis |
|                   | 25.0  | 22.5   | 52.5   | 0.82 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 93.2  | 0.8    | 26.7  | 0.78 | 93.2       | 26.7  | 0.78 | A.D.B. |
|                     | 93.2  |        | 26.9  | 0.79 | 93.2       | 26.9  | 0.79 | D.B.   |
| 65M x 0             | 6.8   | 0.8    | 9.8   | 1.01 | 100.0      | 25.6  | 0.80 | A.D.B. |
|                     | 6.8   |        | 9.9   | 1.02 | 100.0      | 25.7  | 0.81 | D.B.   |

| SINK-FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|---------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                           | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                 |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                           | 59.0  | 1.3    | 2.0   | 28.2   | 68.5   | 1.09 | 59.0       | 2.0   | A.D.B. |
|                                 | 58.9  |        | 2.0   | 28.6   | 69.4   | 1.10 | 58.9       | 2.0   | D.B.   |
| 1.40-1.50                       | 8.8   | 1.3    | 8.2   | 27.1   | 63.4   | 1.03 | 67.8       | 2.8   | A.D.B. |
|                                 | 8.8   |        | 8.3   | 27.5   | 64.2   | 1.04 | 67.7       | 2.8   | D.B.   |
| 1.50-1.60                       | 1.3   | 1.8    | 21.0  | X      | X      | X    | 69.1       | 3.1   | A.D.B. |
|                                 | 1.3   |        | 21.4  |        |        |      | 69.0       | 3.2   | D.B.   |
| +1.60                           | 30.9  | 0.8    | 80.3  | X      | X      | X    | 100.0      | 27.0  | A.D.B. |
|                                 | 31.0  |        | 80.9  |        |        |      | 100.0      | 27.3  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |  |                       |                  |                |        |
|---|------------|--|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Starting Temp. = 320°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP.* (°C)                    | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 9   | 0.01       | 363                                      | 450                   | 29               | 123            | 1.071  |

\* S.T. & M.D.T. corrected with factor 6/5

Lab. No. 8557 Date March 23, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-18-4

Starting Temperature °C: 320

Softening Temperature °C: 363

Max. Dilatation Temp. °C: 450

Contraction %: 29

Dilatation %: 123

Final Temperature °C: 1.071

G. Factor: 1.071

250

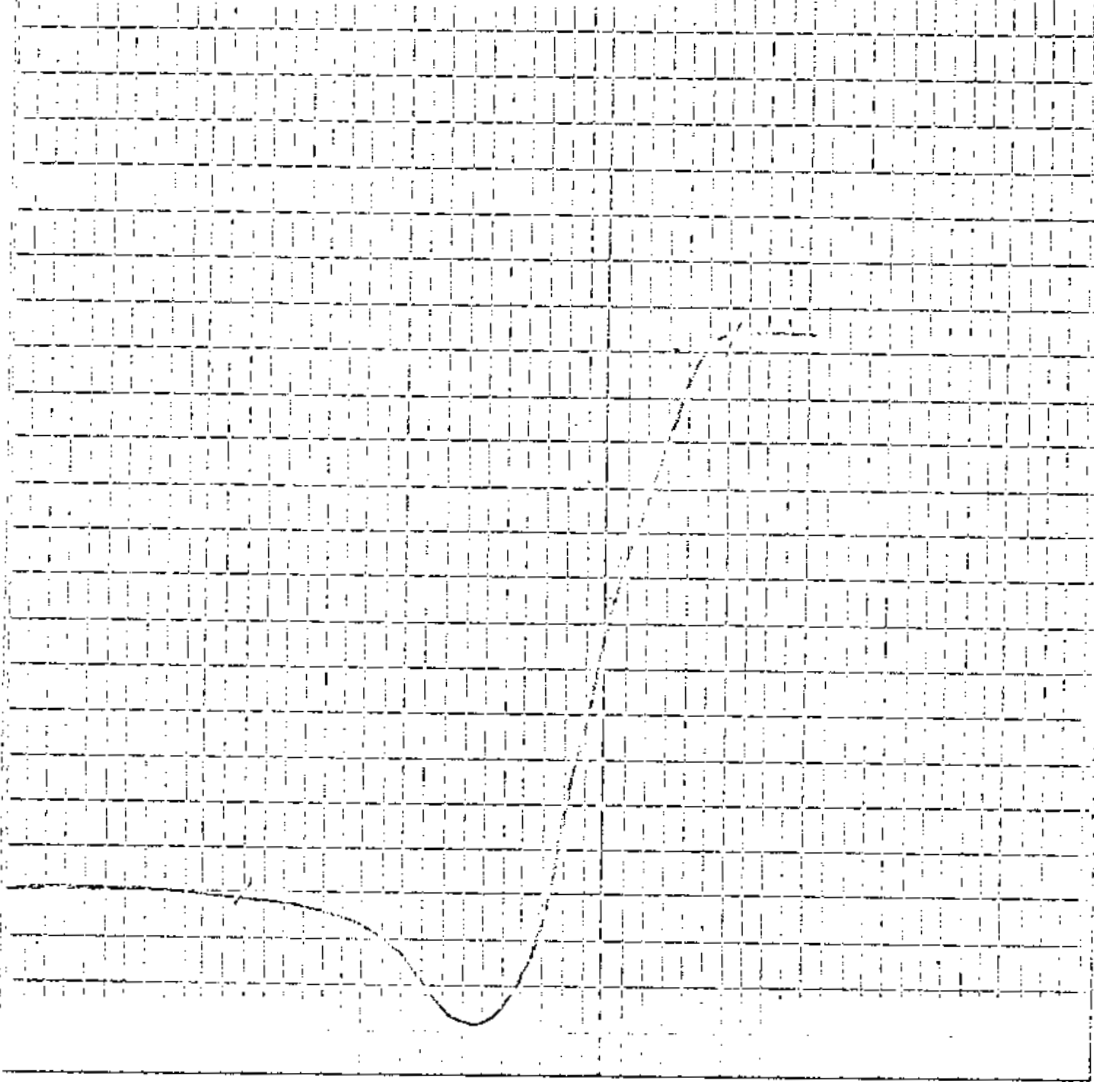
200

150

100

50

0



BENTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.  
CORE SAMPLE NO. 4515

HOLE NO.: R-77-18-5 Lab. No. 8558 DATE: March/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.9               | 8.5   | 26.8   | 63.8   | 0.75 | 86     | Air Dried Basis |
|                   | 8.6   | 27.0   | 64.4   | 0.76 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 92.9  | 1.0    | 8.7   | 0.73 | 92.9       | 8.7   | 0.73 | A.D.B. |
|                     | 92.9  |        | 8.8   | 0.74 | 92.9       | 8.8   | 0.74 | D.B.   |
| 65M x 0             | 7.1   | 0.9    | 4.3   | 0.81 | 100.0      | 8.4   | 0.74 | A.D.B. |
|                     | 7.1   |        | 4.3   | 0.82 | 100.0      | 8.5   | 0.75 | D.B.   |

| SINK-FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|---------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                           | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                 |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                           | 86.3  | 1.2    | 3.0   | 28.2   | 67.6   | 0.83 | 86.3       | 3.0   | A.D.B. |
|                                 | 86.3  |        | 3.0   | 28.5   | 68.5   | 0.84 | 86.3       | 3.0   | D.B.   |
| 1.40-1.50                       | 5.2   | 1.5    | 15.3  | 24.8   | 58.4   | 0.68 | 91.5       | 3.7   | A.D.B. |
|                                 | 5.2   |        | 15.5  | 25.2   | 59.3   | 0.69 | 91.5       | 3.7   | D.B.   |
| 1.50-1.60                       | 1.7   | 1.5    | 22.8  |        |        |      | 93.2       | 4.0   | A.D.B. |
|                                 | 1.7   |        | 23.1  |        |        |      | 93.2       | 4.1   | D.B.   |
| +1.60                           | 6.8   | 0.8    | 75.6  |        |        |      | 100.0      | 8.9   | A.D.B. |
|                                 | 6.8   |        | 76.2  |        |        |      | 100.0      | 9.0   | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |             |  |                        |                  |                |       |        |
|---|-------------|--|------------------------|------------------|----------------|-------|--------|
| F.S.I.  | PK OIL COAL | DILATATION TEST (Starting Temp. = 320°C) |                        |                  |                |       | G. NO. |
|   |             | SOFTENING TEMP. * (°C)                   | MAX. DIL. TEMP. * (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % |       |        |
| 9   | 0.04        | 367                                      | 457                    | 26               | 124            | 1.077 |        |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lab. No. 8558 Date March 23, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-18-5

Starting Temperature °C: 320

Softening Temperature °C: 367

Max. Dilatation Temp. °C: 457

Contraction %: 26

Dilatation %: 124

Final Temperature °C:

G. Factor: 1.077

250

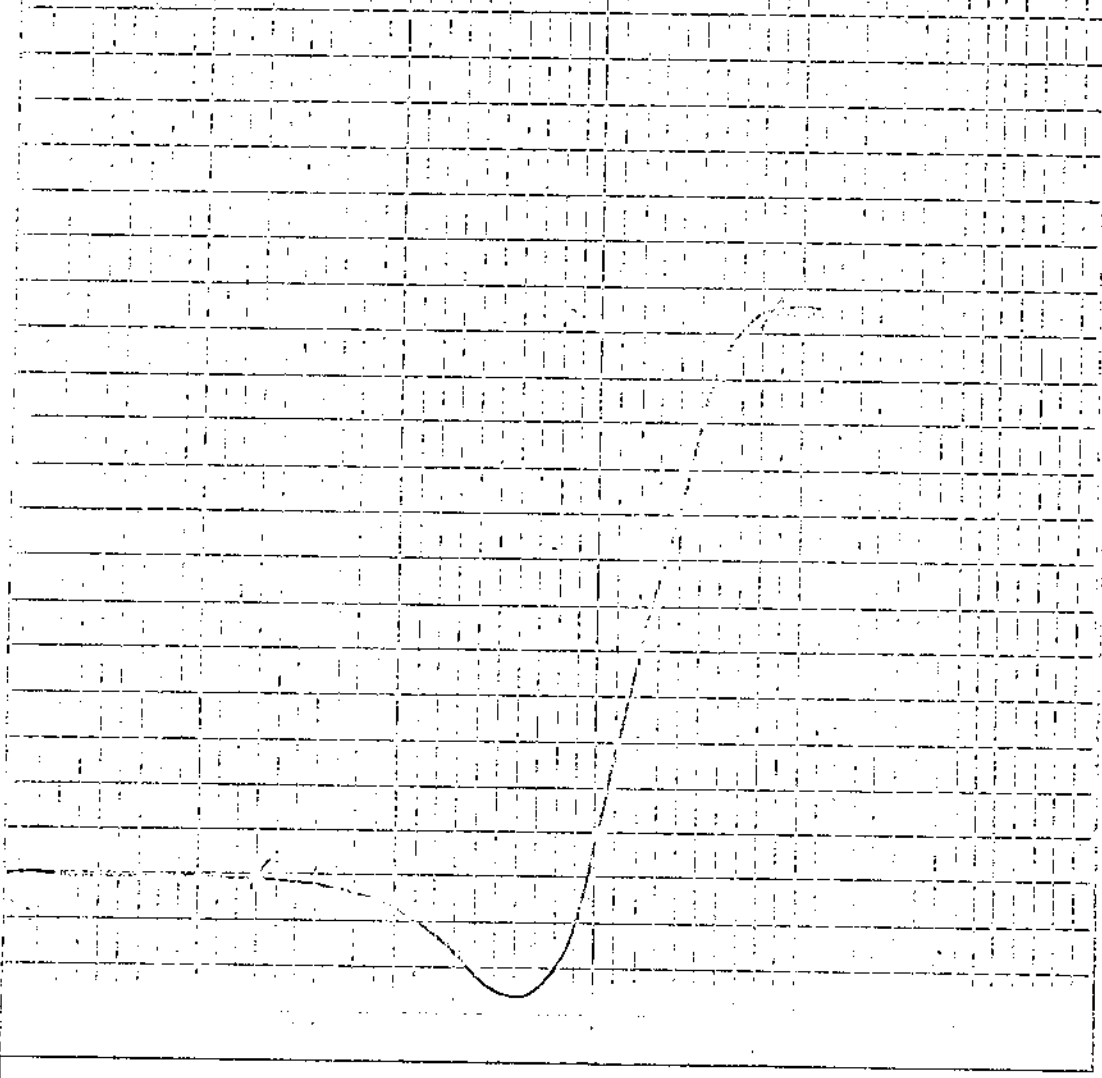
200

150

100

50

0



BENTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn



ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-18-6      Lab. No. 8559      DATE: March/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 1.0               | 29.1  | 20.6   | 49.3   | 0.47 | 95     | Air Dried Basis |
|                   | 29.4  | 20.8   | 49.8   | 0.47 | --     | Dry Basis       |

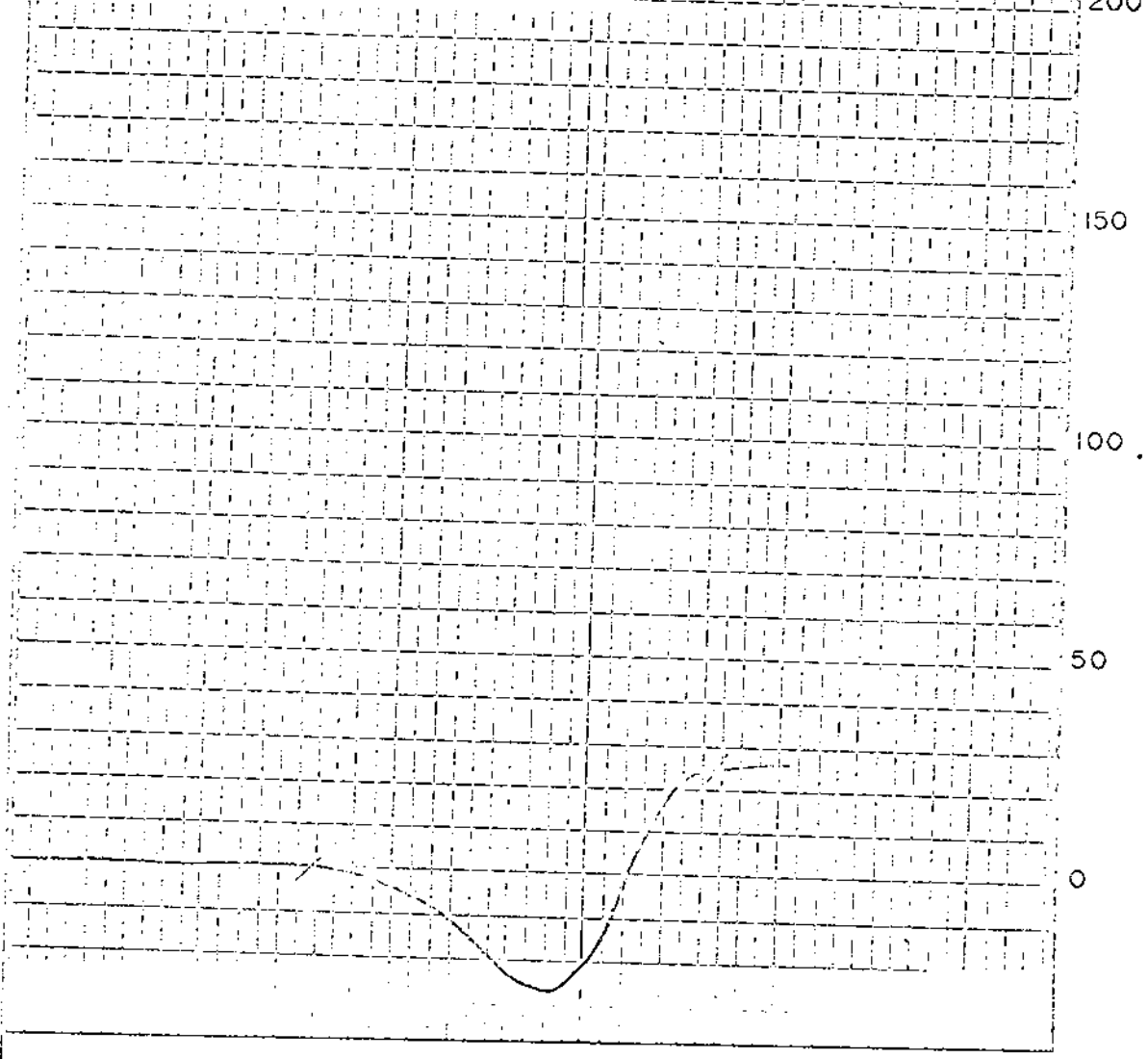
| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 88.9  | 0.8    | 30.5  | 0.48 | 88.9       | 30.5  | 0.48 | A.D.B. |
|                     | 88.9  |        | 30.7  | 0.48 | 88.9       | 30.7  | 0.48 | D.B.   |
| 65M x 0             | 11.1  | 1.0    | 12.4  | 0.60 | 100.0      | 28.5  | 0.49 | A.D.B. |
|                     | 11.1  |        | 12.5  | 0.61 | 100.0      | 28.7  | 0.49 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 59.4  | 4.8    | 3.1   | 26.1   | 66.0   | 0.77 | 59.4       | 3.1   | A.D.B. |
|                                   | 58.6  |        | 3.3   | 27.4   | 69.3   | 0.81 | 58.6       | 3.3   | D.B.   |
| 1.40-1.50                         | 5.3   | 2.4    | 12.8  | 21.5   | 63.3   | 0.60 | 64.7       | 3.9   | A.D.B. |
|                                   | 5.4   |        | 13.1  | 22.0   | 64.9   | 0.61 | 64.0       | 4.1   | D.B.   |
| 1.50-1.60                         | 1.7   | 1.8    | 22.3  | X      | X      | X    | 66.4       | 4.4   | A.D.B. |
|                                   | 1.7   |        | 22.7  |        |        |      | 65.7       | 4.6   | D.B.   |
| +1.60                             | 33.6  | 1.4    | 80.7  | X      | X      | X    | 100.0      | 30.0  | A.D.B. |
|                                   | 34.3  |        | 81.8  |        |        |      | 100.0      | 31.1  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |  |                       |                  |                |        |
|---|------------|--|-----------------------|------------------|----------------|--------|
| F.S.I.  | P3 ON COAL | DILATATION TEST (Starting Temp.=320°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP.* (°C)                  | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 9   | 0.02       | 378                                    | 453                   | 28               | 25             | 0.995  |

\* S.T. & M.D.T. corrected with factor 6/5

Lab. No. 8559 Date March 23, 1977 %  
 Client: ELCO MINING LTD. 300  
 Sample identification: R77-18-6  
 Starting Temperature °C: 320  
 Softening Temperature °C: 378  
 Max. Dilatation Temp. °C: 453 250  
 Contraction %: 28  
 Dilatation %: 25  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 0.995 200



**BIRTLEY ENGINEERING (CANADA) LTD.**

|   |       |
|---|-------|
| Title<br><br><u>RUHR DILATOMETER TEST</u> | Date  |
|   | Drawn |

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-18-7

Lab. No. 8560

DATE: March/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.7               | 34.7  | 20.1   | 44.5   | 0.47 | 87     | Air Dried Basis |
|                   | 34.9  | 20.2   | 44.9   | 0.47 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.H. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 92.9  | 0.7    | 36.0  | 0.46 | 92.9       | 36.0  | 0.46 | A.D.B. |
|                     | 92.9  |        | 36.3  | 0.46 | 92.9       | 36.3  | 0.46 | D.B.   |
| 65M x 0             | 7.1   | 0.8    | 10.3  | 0.67 | 100.0      | 34.2  | 0.47 | A.O.B. |
|                     | 7.1   |        | 10.4  | 0.68 | 100.0      | 34.5  | 0.48 | D.B.   |

| SINK-FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|---------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                           | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                 |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                           | 50.6  | 3.9    | 3.0   | 27.0   | 66.1   | 0.77 | 50.6       | 3.0   | A.D.B. |
|                                 | 49.9  |        | 3.1   | 28.1   | 68.8   | 0.80 | 49.9       | 3.1   | D.B.   |
| 1.40-1.50                       | 5.5   | 1.6    | 16.1  | 24.1   | 58.2   | 0.61 | 56.1       | 4.3   | A.D.B. |
|                                 | 5.6   |        | 16.4  | 24.5   | 59.1   | 0.62 | 55.5       | 4.4   | D.B.   |
| 1.50-1.60                       | 2.7   | 2.0    | 27.2  | X      | X      | X    | 58.8       | 5.3   | A.D.B. |
|                                 | 2.7   |        | 27.8  |        |        |      | 58.2       | 5.5   | D.B.   |
| +1.60                           | 41.2  | 1.3    | 77.7  | X      | X      | X    | 100.0      | 35.2  | A.D.B. |
|                                 | 41.8  |        | 78.7  |        |        |      | 100.0      | 36.1  | D.B.   |

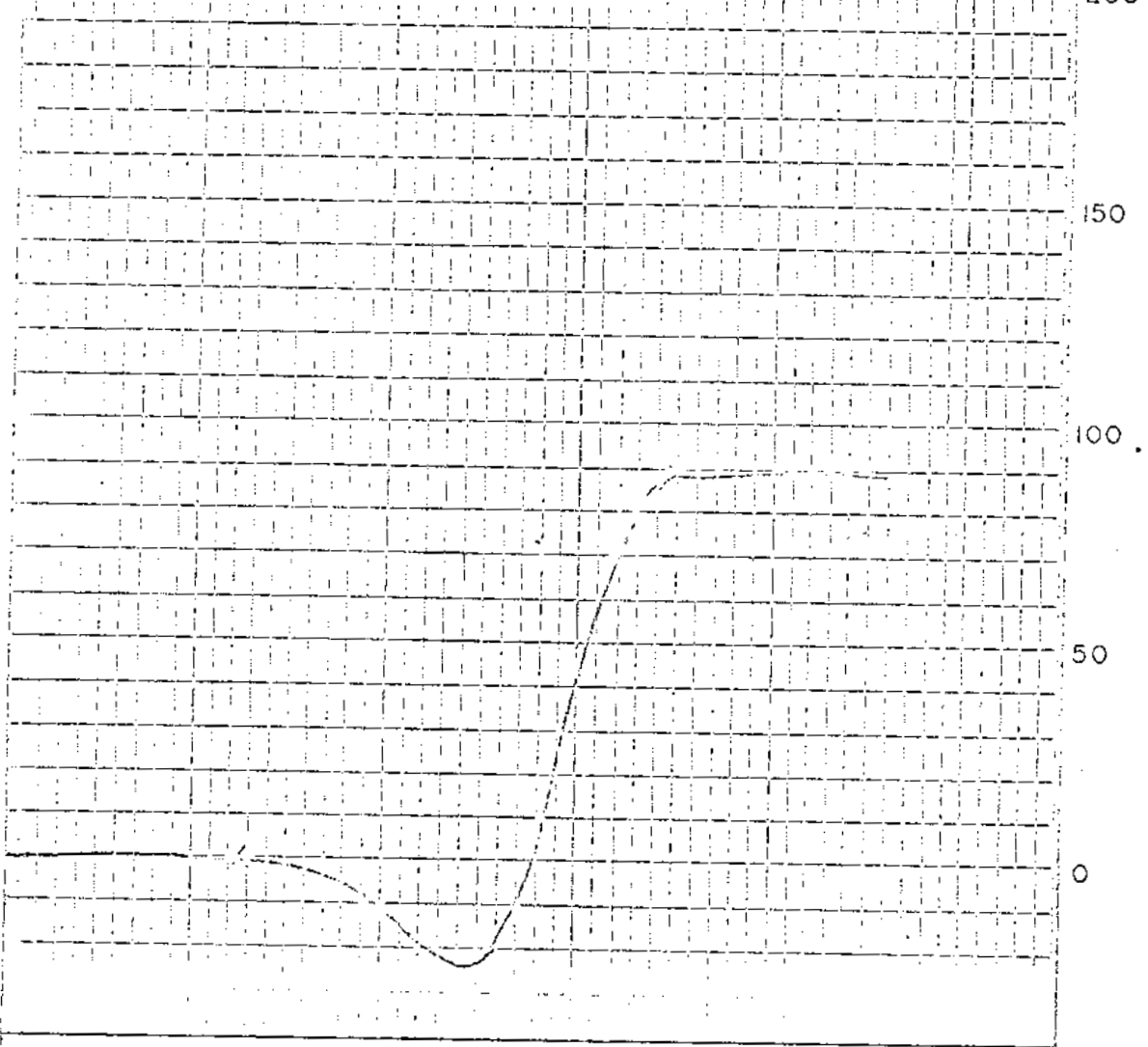
| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |  |                       |                  |                |        |
|---|------------|--|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% OH COAL | DILATATION TEST (Starting Temp.=320°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP.* (°C)                  | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 9   | 0.06       | 366                                    | 444                   | 25               | 89             | 1.057  |

\* S.T. & M.D.T. corrected with factor 6/5

*Birtley Engineering*

*Subsidiary of Great West Steel Industries*

Lab. No. 8560 Date March 23, 1977  
 Client: ELCO MINING LTD.  
 Sample Identification: R77-18-7  
 Starting Temperature °C: 320  
 Softening Temperature °C: 366  
 Max. Dilatation Temp. °C: 444  
 Contraction %: 25  
 Dilatation %: 89  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 1.057



SIRTLEY ENGINEERING (CANADA) LTD.

|       |                       |       |
|-------|-----------------------|-------|
| Title | RUHR DILATOMETER TEST | Date  |
|       |                       | Drawn |

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-18-8 Lab. No. 8561 DATE: March/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.8               | 26.8  | 22.0   | 50.4   | 0.51 | 104    | Air Dried Basis |
|                   | 27.0  | 22.2   | 50.8   | 0.51 | ---    | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 92.0  | 0.8    | 27.6  | 0.48 | 92.0       | 27.6  | 0.48 | A.D.B. |
|                     | 92.0  |        | 27.8  | 0.48 | 92.0       | 27.8  | 0.48 | D.B.   |
| 65M x 0             | 8.0   | 0.9    | 9.7   | 0.60 | 100.0      | 26.2  | 0.49 | A.D.B. |
|                     | 8.0   |        | 9.8   | 0.61 | 100.0      | 26.4  | 0.49 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 61.6  | 2.7    | 3.5   | 26.9   | 66.9   | 0.66 | 61.6       | 3.5   | A.D.B. |
|                                   | 60.9  |        | 3.6   | 27.6   | 68.8   | 0.68 | 60.9       | 3.6   | D.B.   |
| 1.40-1.50                         | 5.4   | 2.1    | 18.9  | 23.7   | 55.3   | 0.58 | 67.0       | 4.7   | A.D.B. |
|                                   | 5.9   |        | 19.3  | 24.2   | 56.5   | 0.59 | 66.8       | 5.0   | D.B.   |
| 1.50-1.60                         | 3.0   | 2.5    | 28.0  |        |        |      | 70.0       | 5.7   | A.D.B. |
|                                   | 3.0   |        | 28.7  |        |        |      | 69.8       | 6.0   | D.B.   |
| +1.60                             | 30.0  | 1.1    | 75.7  |        |        |      | 100.0      | 26.7  | A.D.B. |
|                                   | 30.2  |        | 76.5  |        |        |      | 100.0      | 27.3  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |  |                       |                  |                |        |
|---|------------|--|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Starting Temp.=320°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP.* (°C)                  | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 9   | 0.08       | 374                                    | 446                   | 29               | 118            | 1.056  |

\* S.T. & M.D.T. corrected with factor 6/5

Lab. No. 8561 Date March 23, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-18-8

Starting Temperature °C: 320

Softening Temperature °C: 374

Max. Dilatation Temp. °C: 446

250

Contraction %: 29

Dilatation %: 118

Final Temperature °C:

G. Factor: 1.056

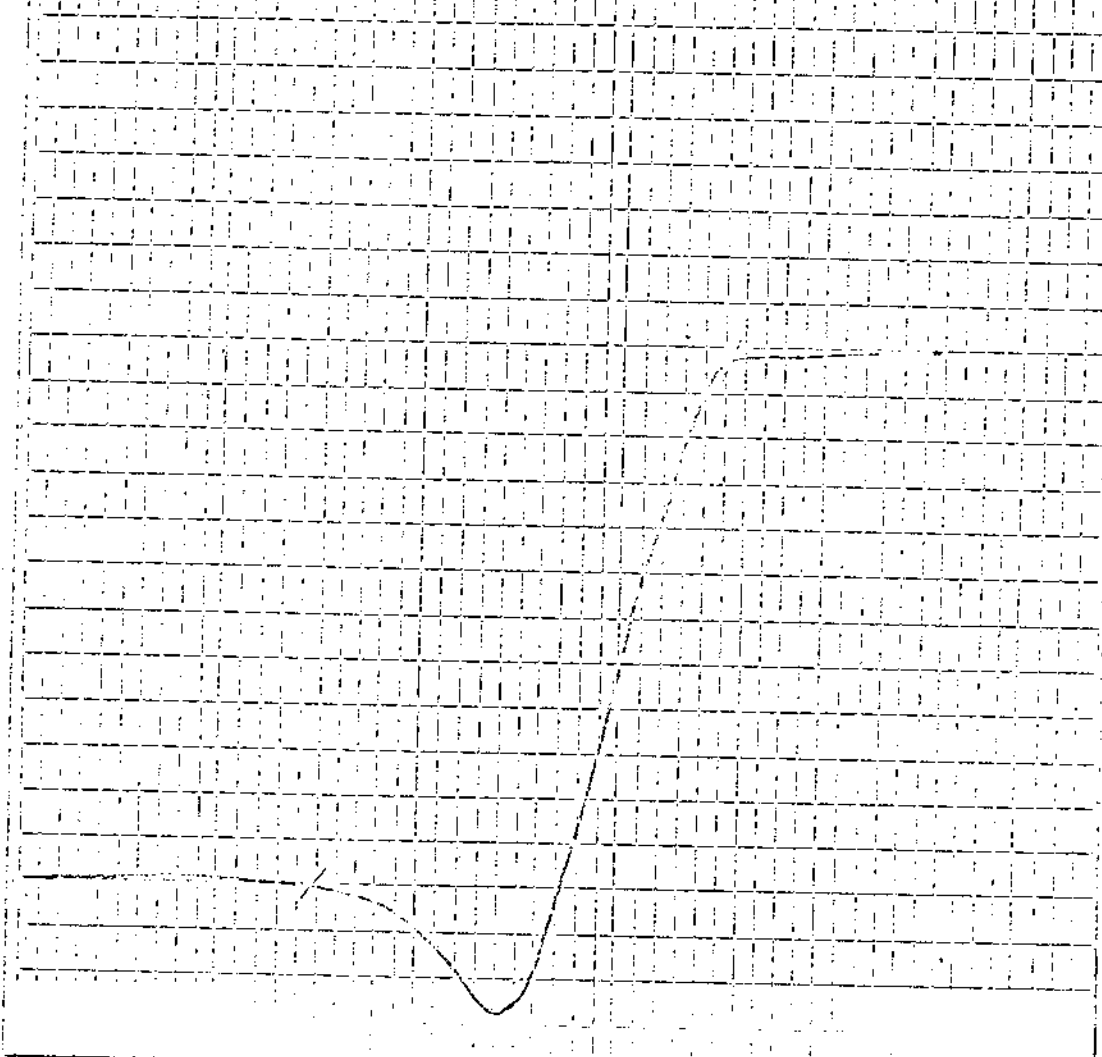
200

150

100

50

0



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-18-9      Lab. No. 8562      DATE: March/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.5               | 25.3  | 27.5   | 46.7   | 0.56 | 88     | Air Dried Basis |
|                   | 25.4  | 27.6   | 47.0   | 0.56 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 86.5  | 0.5    | 27.8  | 0.53 | 86.5       | 27.8  | 0.53 | A.D.B. |
|                     | 86.5  |        | 26.9  | 0.53 | 86.5       | 26.9  | 0.53 | D.B.   |
| 65M x 0             | 13.5  | 0.6    | 11.1  | 0.73 | 100.0      | 24.7  | 0.56 | A.D.B. |
|                     | 13.5  |        | 11.2  | 0.73 | 100.0      | 24.8  | 0.56 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |                       |                       |                       |            |       |        |
|-----------------------------------|-------|--------|-------|-----------------------|-----------------------|-----------------------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. %                | F.C. %                | S. %                  | CUMULATIVE |       |        |
|                                   |       |        |       |                       |                       |                       | WT. %      | ASH % |        |
| -1.40                             | 54.0  | 1.6    | 4.5   | 27.9                  | 66.0                  | 0.76                  | 54.9       | 4.5   | A.D.B. |
|                                   | 54.8  |        | 4.6   | 28.4                  | 67.0                  | 0.77                  | 54.8       | 4.6   | D.B.   |
| 1.40-1.50                         | 7.7   | 1.5    | 19.1  | 23.8                  | 55.6                  | 0.68                  | 62.6       | 6.3   | A.D.B. |
|                                   | 7.7   |        | 19.4  | 24.2                  | 56.4                  | 0.69                  | 62.5       | 6.4   | D.B.   |
| 1.50-1.60                         | 4.0   | 2.2    | 26.6  | <del>          </del> | <del>          </del> | <del>          </del> | 66.6       | 7.5   | A.D.B. |
|                                   | 4.0   |        | 27.2  | <del>          </del> | <del>          </del> | <del>          </del> | 66.5       | 7.7   | D.B.   |
| +1.60                             | 33.4  | 1.1    | 63.3  | <del>          </del> | <del>          </del> | <del>          </del> | 100.0      | 26.1  | A.D.B. |
|                                   | 33.5  |        | 64.0  | <del>          </del> | <del>          </del> | <del>          </del> | 100.0      | 26.5  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |  |                       |                  |                |        |
|---|------------|--|-----------------------|------------------|----------------|--------|
| F.S.I.  | PK ON COAL | DILATATION TEST (Starting Temp.=320°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP.* (°C)                  | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 9   | 0.05       | 366                                    | 452                   | 30               | 204            | 1.085  |

\* S.T. & M.D.T. corrected with factor 6/5

Lab. No. 8562 Date March 23, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-18-9

Starting Temperature °C: 320

Softening Temperature °C: 366

Max. Dilatation Temp. °C: 452

250

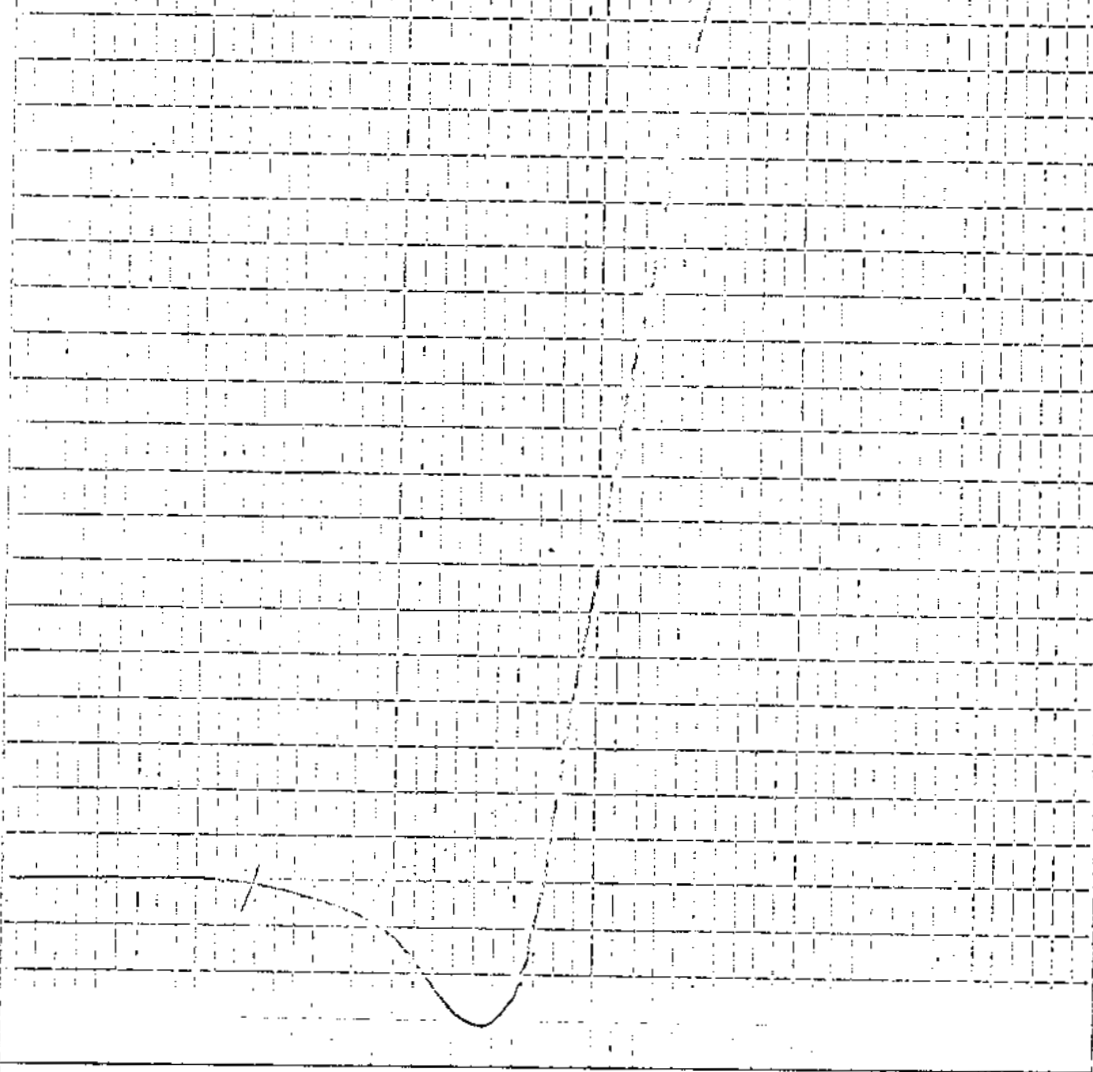
Contraction %: 30

Dilatation %: 204

Final Temperature °C: \_\_\_\_\_

G. Factor: 1.085

200



**BIRTLEY ENGINEERING (CANADA) LTD.**

Title

**RUHR DILATOMETER TEST**

Date

Drawn



ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-19-2

Lab. No. 8570

DATE: March/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 1.0               | 53.7  | 16.8   | 28.5   | 0.42 | 67     | Air Dried Basis |
|                   | 54.2  | 17.0   | 28.8   | 0.42 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 68.4  | 0.9    | 58.9  | 0.39 | 68.4       | 58.9  | 0.39 | A.D.B. |
|                     | 68.5  |        | 59.4  | 0.39 | 68.5       | 59.4  | 0.39 | D.B.   |
| 65M x 0             | 31.6  | 1.2    | 40.7  | 0.51 | 100.0      | 53.1  | 0.43 | A.D.B. |
|                     | 31.5  |        | 41.2  | 0.52 | 100.0      | 53.7  | 0.43 | D.B.   |

| SINK-FLOAT ANALYSIS: 1/4" x 65M |       |        |       |              |              |              |            |       |        |
|---------------------------------|-------|--------|-------|--------------|--------------|--------------|------------|-------|--------|
| S. G.                           | WT. % | R.M. % | ASH % | V.M. %       | F.C. %       | S. %         | CUMULATIVE |       |        |
|                                 |       |        |       |              |              |              | WT. %      | ASH % |        |
| -1.40                           | 20.7  | 1.1    | 5.2   | 29.8         | 63.9         | 0.73         | 20.7       | 5.2   | A.D.B. |
|                                 | 20.7  |        | 5.3   | 30.1         | 64.6         | 0.74         | 20.7       | 5.3   | D.B.   |
| 1.40-1.50                       | 4.9   | 0.8    | 18.1  | 26.0         | 55.1         | 0.70         | 25.6       | 7.7   | A.D.B. |
|                                 | 4.9   |        | 18.2  | 26.2         | 55.6         | 0.71         | 25.6       | 7.8   | D.B.   |
| 1.50-1.60                       | 3.5   | 0.9    | 29.9  | <del>X</del> | <del>X</del> | <del>X</del> | 29.1       | 10.3  | A.D.B. |
|                                 | 3.5   |        | 30.2  |              |              |              |            | 10.5  | D.B.   |
| +1.60                           | 70.9  | 0.9    | 78.8  | <del>X</del> | <del>X</del> | <del>X</del> | 100.0      | 58.9  | A.D.B. |
|                                 | 70.9  |        | 79.5  |              |              |              | 100.0      | 59.4  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |  |                      |                  |                |        |
|---|------------|--|----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Starting Temp.=320°C) |                      |                  |                |        |
|   |            | SOFTENING TEMP. (°C)                   | MAX. DIL. TEMP. (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 9   | 0.07       | 356                                    | 452                  | 25               | 165            | 1.096  |

\* S.T. & M.D.T. corrected with factor 6/5

Lab. No. 8570 Date March 23, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-19-2

Starting Temperature °C: 320

Softening Temperature °C: 356

Max. Dilatation Temp. °C: 452

250

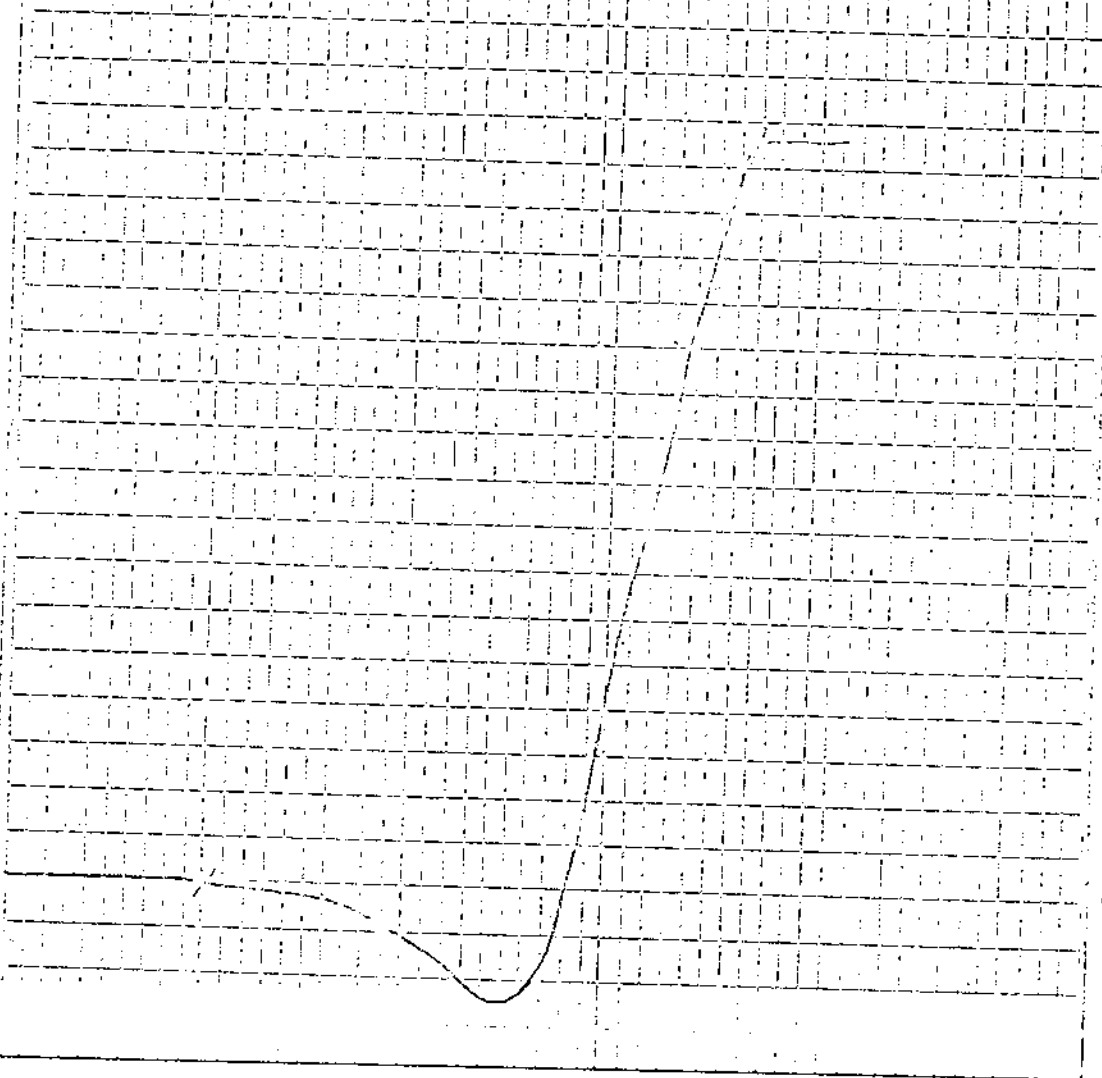
Contraction %: 25

Dilatation %: 165

Final Temperature °C:

G. Factor: 1.096

200



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R-77-19-3

Lab. No. 8571

DATE: March/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 1.8               | 20.9  | 24.3   | 53.0   | 0.60 | 95     | Air Dried Basis |
|                   | 21.3  | 24.7   | 54.0   | 0.61 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 95.5  | 1.8    | 22.1  | 0.61 | 95.5       | 22.1  | 0.61 | A.D.B. |
|                     | 95.5  |        | 22.5  | 0.62 | 95.5       | 22.5  | 0.62 | D.B.   |
| 65M x 0             | 4.5   | 2.0    | 10.7  | 0.62 | 100.0      | 21.6  | 0.61 | A.D.B. |
|                     | 4.5   |        | 10.9  | 0.63 | 100.0      | 22.0  | 0.62 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 69.0  | 2.2    | 5.2   | 28.7   | 63.9   | 0.75 | 69.0       | 5.2   | A.D.B. |
|                                   | 68.7  |        | 5.3   | 29.3   | 65.4   | 0.77 | 68.7       | 5.3   | D.B.   |
| 1.40-1.50                         | 4.7   | 2.0    | 17.6  | 24.4   | 56.0   | 0.66 | 73.7       | 6.0   | A.D.B. |
|                                   | 4.7   |        | 18.0  | 24.9   | 57.1   | 0.67 | 73.4       | 6.1   | D.B.   |
| 1.50-1.60                         | 4.0   | 1.7    | 27.0  |        |        |      | 77.7       | 7.1   | A.D.B. |
|                                   | 4.0   |        | 27.5  |        |        |      | 77.4       | 7.2   | D.B.   |
| +1.60                             | 22.3  | 0.9    | 76.8  |        |        |      | 100.0      | 22.6  | A.D.B. |
|                                   | 22.6  |        | 77.5  |        |        |      | 100.0      | 23.1  | D.B.   |

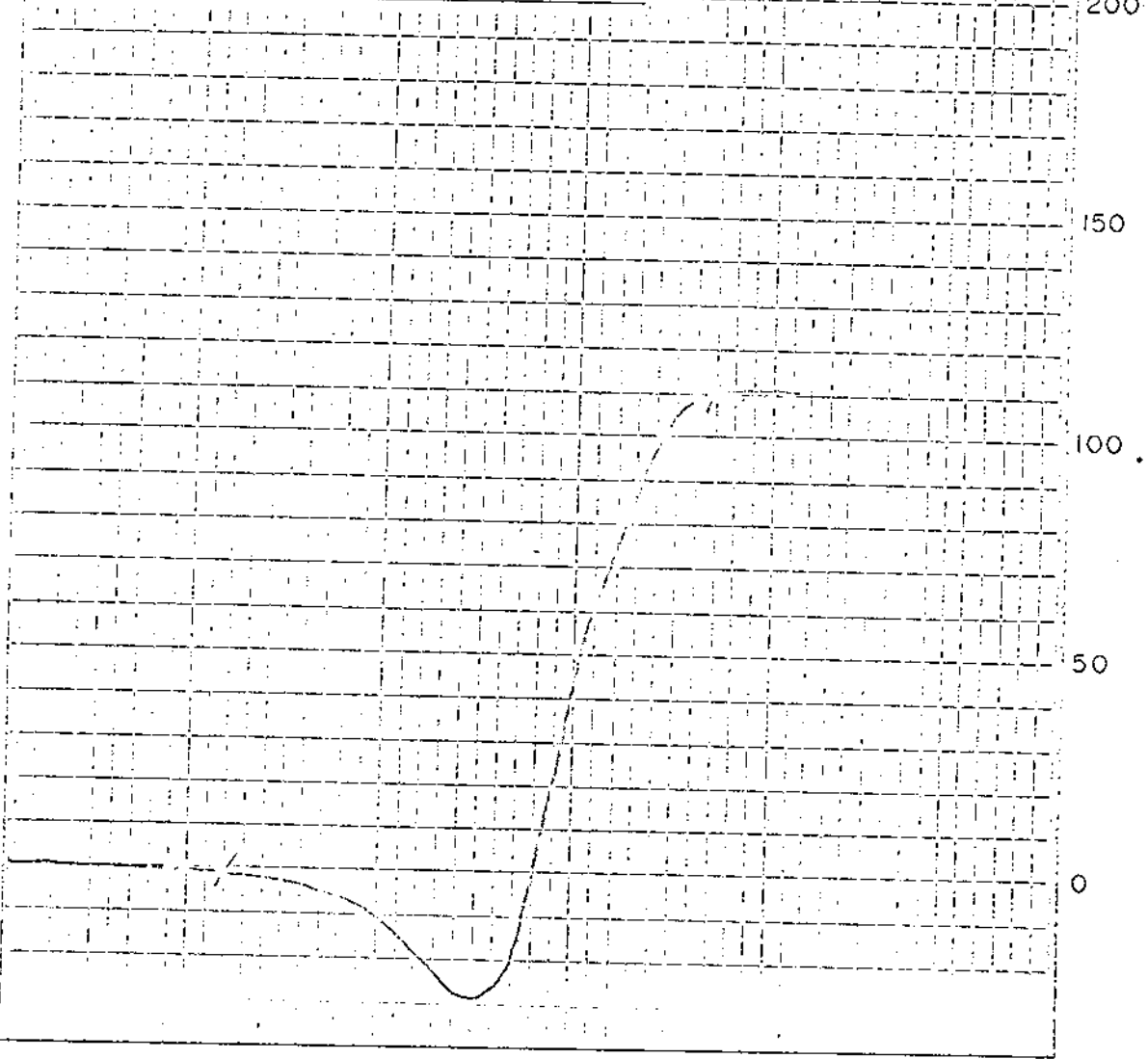
| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |  |                       |                  |                |       |        |
|---|------------|--|-----------------------|------------------|----------------|-------|--------|
| F.S.I.  | PR ON COAL | DILATATION TEST (Starting Temp. = 320°C) |                       |                  |                |       | G. NO. |
|   |            | SOFTENING TEMP. *(°C)                    | MAX. DIL. TEMP. *(°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % |       |        |
| 9   | 0.05       | 363                                      | 452                   | 28               | 109            | 1.069 |        |

\* S.T. & M.D.T corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lab. No. 8571      Date March 24, 1977      %  
 Client: ELCO MINING LTD.      300  
 Sample Identification: R77-19-3  
 Starting Temperature °C: 320  
 Softening Temperature °C: 363  
 Max. Dilatation Temp. °C: 452      250  
 Contraction %: 28  
 Dilatation %: 109  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 1.069      200



BENTLEY ENGINEERING (CANADA) LTD.

Title  
RUHR DILATOMETER TEST

Date  
 \_\_\_\_\_  
 Drawn  
 \_\_\_\_\_

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-19-4 Lab. No. 8572 DATE: March/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.8               | 52.8  | 18.0   | 28.4   | 0.45 | 63     | Air Dried Basis |
|                   | 53.2  | 18.1   | 28.7   | 0.45 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 83.6  | 0.6    | 60.0  | 0.41 | 83.6       | 60.0  | 0.41 | A.D.B. |
|                     | 83.6  |        | 60.4  | 0.41 | 83.6       | 60.4  | 0.41 | D.B.   |
| 65M x 0             | 16.4  | 1.1    | 20.4  | 0.75 | 100.0      | 53.5  | 0.47 | A.D.B. |
|                     | 16.4  |        | 20.6  | 0.76 | 100.0      | 53.9  | 0.47 | D.B.   |

| SINK-FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|---------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                           | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                 |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                           | 19.7  | 1.5    | 4.4   | 27.3   | 66.8   | 0.83 | 19.7       | 4.4   | A.D.B. |
|                                 | 19.5  |        | 4.5   | 27.7   | 67.8   | 0.84 | 19.5       | 4.5   | D.B.   |
| 1.40-1.50                       | 4.6   | 1.2    | 16.8  | 24.0   | 58.0   | 0.70 | 24.3       | 6.7   | A.D.B. |
|                                 | 4.6   |        | 17.0  | 24.3   | 58.7   | 0.71 | 24.1       | 6.9   | D.B.   |
| 1.50-1.60                       | 2.5   | 0.8    | 30.6  |        |        |      | 26.8       | 9.0   | A.D.B. |
|                                 | 2.5   |        | 30.8  |        |        |      | 26.6       | 9.1   | D.B.   |
| +1.60                           | 73.2  | 0.7    | 79.3  |        |        |      | 100.0      | 60.5  | A.D.B. |
|                                 | 73.4  |        | 79.9  |        |        |      | 100.0      | 61.1  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |  |                       |                  |                |        |
|---|------------|--|-----------------------|------------------|----------------|--------|
| F.S.I.  | PZ ON COAL | DILATATION TEST (Starting Temp. = 320°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP. *(°C)                    | MAX. DIL. TEMP. *(°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 9   | 0.06       | 363                                      | 457                   | 27               | 121            | 1.079  |

\* S.T. & M.D.T. corrected with factor 6/5

Lab. No. 8572 Date March 24, 1977

Client: ELCO MINING LTD.

Sample Identification: R77-19-4

Starting Temperature °C: 320

Softening Temperature °C: 363

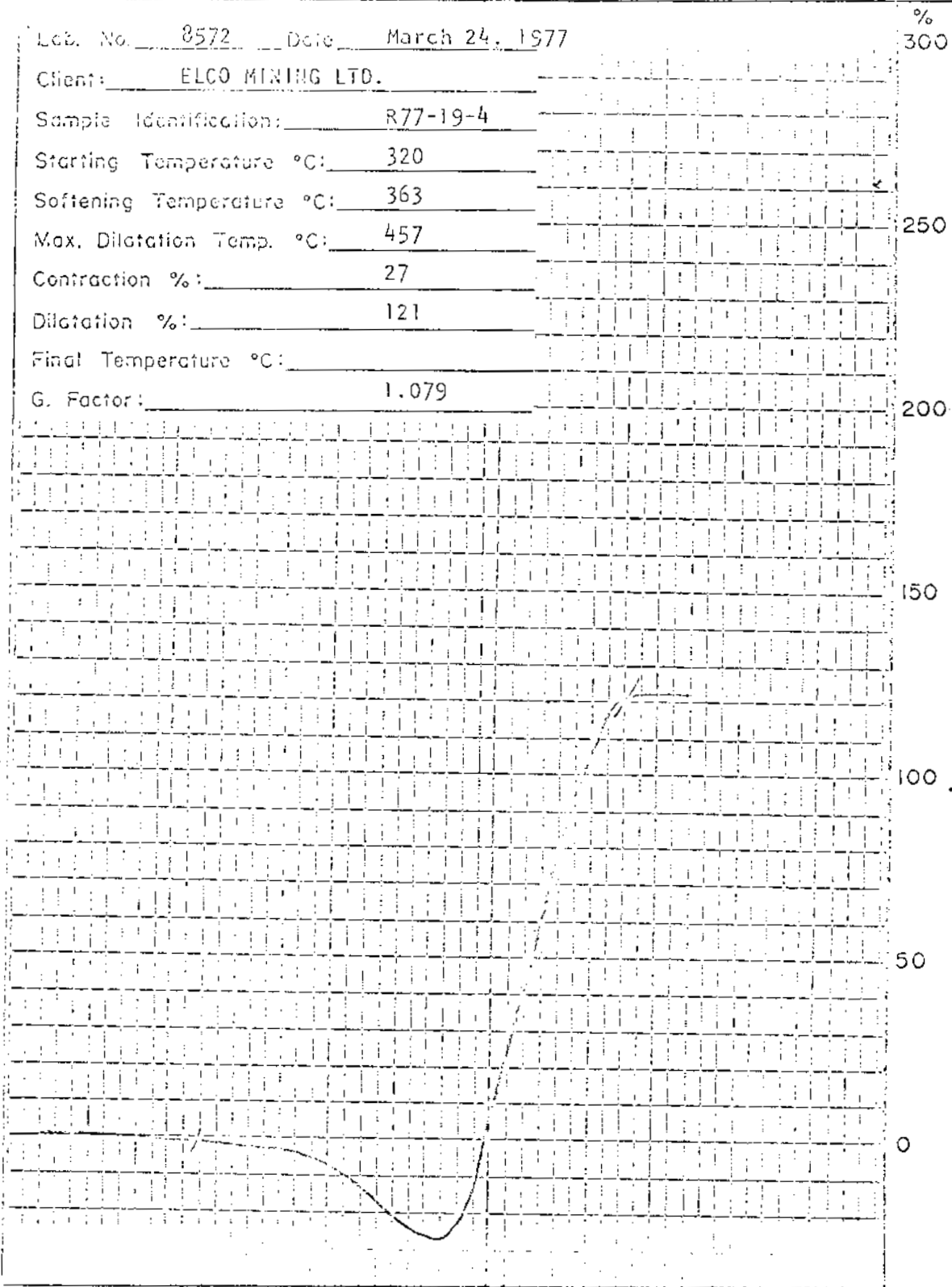
Max. Dilatation Temp. °C: 457

Contraction %: 27

Dilatation %: 121

Final Temperature °C: \_\_\_\_\_

G. Factor: 1.079



**BIRTLEY ENGINEERING (CANADA) LTD.**

Title

**RUHR DILATOMETER TEST**

Date

Drawn

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-19-5

Lab. NO. 8573

DATE: March/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 1.2               | 27.1  | 20.4   | 51.3   | 0.65 | 85     | Air Dried Basis |
|                   | 27.4  | 20.6   | 52.0   | 0.66 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 68.8  | 1.0    | 32.9  | 0.59 | 68.8       | 32.9  | 0.59 | A.D.B. |
|                     | 69.1  |        | 33.2  | 0.60 | 69.1       | 33.2  | 0.60 | D.B.   |
| 65M x 0             | 31.2  | 2.3    | 13.4  | 0.73 | 100.0      | 26.8  | 0.63 | A.D.B. |
|                     | 30.9  |        | 13.7  | 0.75 | 100.0      | 27.2  | 0.65 | D.B.   |

| SINK-FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|---------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                           | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                 |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                           | 56.2  | 2.3    | 3.6   | 26.2   | 67.9   | 0.77 | 56.2       | 3.6   | A.D.B. |
|                                 | 55.9  |        | 3.7   | 26.8   | 69.5   | 0.79 | 55.9       | 3.7   | D.B.   |
| 1.40-1.50                       | 3.9   | 1.4    | 14.8  | 22.0   | 61.8   | 0.64 | 60.1       | 4.3   | A.D.B. |
|                                 | 3.9   |        | 15.0  | 22.3   | 62.7   | 0.65 | 59.8       | 4.4   | D.B.   |
| 1.50-1.60                       | 1.7   | 1.2    | 27.1  |        |        |      | 61.8       | 5.0   | A.D.B. |
|                                 | 1.7   |        | 27.4  |        |        |      | 61.5       | 5.1   | D.B.   |
| +1.60                           | 38.2  | 1.2    | 78.2  |        |        |      | 100.0      | 32.9  | A.D.B. |
|                                 | 38.5  |        | 79.1  |        |        |      | 100.0      | 33.6  | D.B.   |

| COMPOSITE 1/4" x 65M FLOALS - 1.50 S.G., A.D.B. |               |  |                       |                  |                |       |        |
|---|---------------|--|-----------------------|------------------|----------------|-------|--------|
| F.S.I.  | P/100 ON COAL | DILATATION TEST (Starting Temp.=320°C) |                       |                  |                |       | G. NO. |
|   |               | SOFTENING TEMP* (°C)                   | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % |       |        |
| 8 1/2   | 0.04          | 378                                    | 450                   | 23               | 41             | 1.025 |        |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lab. No. 3573 Date March 23, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-19-5

Starting Temperature °C: 320

Softening Temperature °C: 378

Max. Dilatation Temp. °C: 450

250

Contraction %: 23

Dilatation %: 41

Final Temperature °C:

G. Factor: 1.025

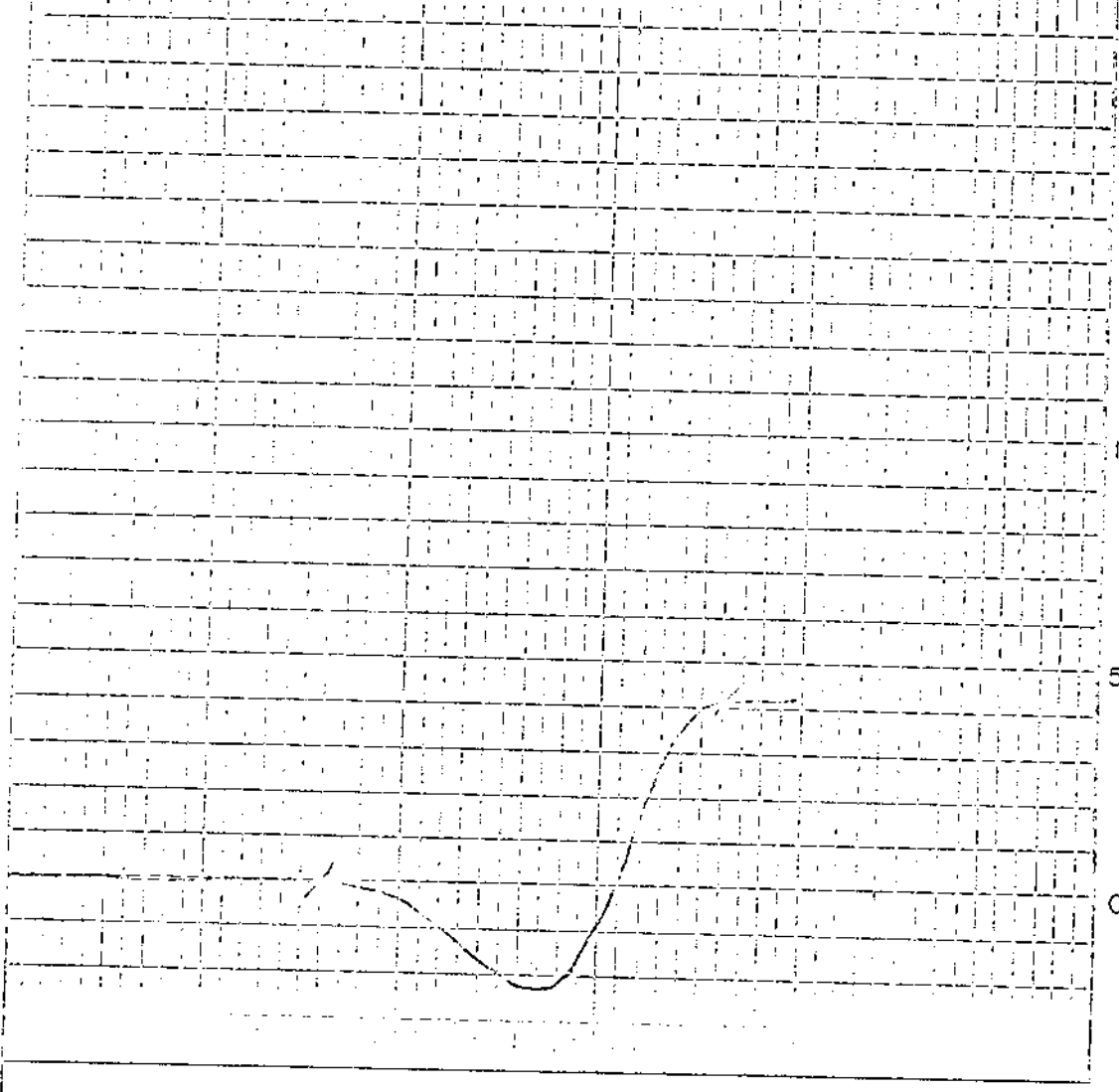
200

150

100

50

0



BIRTLEY ENGINEERING (CANADA) LTD.

Title  
RUHR DILATOMETER TEST

Date  
Drawn



ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R-77-19-6 Lab. No. 8574 DATE: March/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 1.0               | 63.8  | 15.2   | 20.0   | 0.86 | 53     | Air Dried Basis |
|                   | 64.4  | 15.4   | 20.2   | 0.87 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 77.7  | 0.9    | 70.2  | 0.85 | 77.7       | 70.2  | 0.85 | A.D.B. |
|                     | 77.8  |        | 70.8  | 0.86 | 77.8       | 70.8  | 0.86 | D.B.   |
| 65M x 0             | 22.3  | 1.1    | 45.2  | 0.87 | 100.0      | 64.6  | 0.85 | A.D.B. |
|                     | 22.2  |        | 45.7  | 0.88 | 100.0      | 65.2  | 0.86 | D.B.   |

| SINK-FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|---------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                           | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                 |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                           | 11.2  | 0.9    | 3.0   | 29.5   | 66.6   | 1.07 | 11.2       | 3.0   | A.D.B. |
|                                 | 11.2  |        | 3.0   | 29.8   | 67.2   | 1.08 | 11.2       | 3.0   | D.B.   |
| 1.40-1.50                       | 0.9   | 0.9    | 11.8  | 26.9   | 60.4   | 1.00 | 12.1       | 3.7   | A.D.B. |
|                                 | 0.9   |        | 11.9  | 27.1   | 61.0   | 1.01 | 12.1       | 3.7   | D.B.   |
| 1.50-1.60                       | 1.0   | 0.8    | 28.4  |        |        |      | 13.1       | 5.5   | A.D.B. |
|                                 | 1.0   |        | 28.6  |        |        |      | 13.1       | 5.6   | D.B.   |
| +1.60                           | 86.9  | 0.9    | 80.9  |        |        |      | 100.0      | 71.0  | A.D.B. |
|                                 | 86.9  |        | 81.6  |        |        |      | 100.0      | 71.6  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |  |                       |                  |                |        |
|---|------------|--|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% GR COAL | DILATATION TEST (Starting Temp.=320°C) |                       |                  |                | G. NO. |
|   |            | SOFTENING TEMP. *(°C)                  | MAX. DIL. TEMP. *(°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % |        |
| 9   | 0.01       | 352                                    | 452                   | 25               | 261            | 1.114  |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lab. No. 8574 Date March 23, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-19-6

Starting Temperature °C: 320

Softening Temperature °C: 352

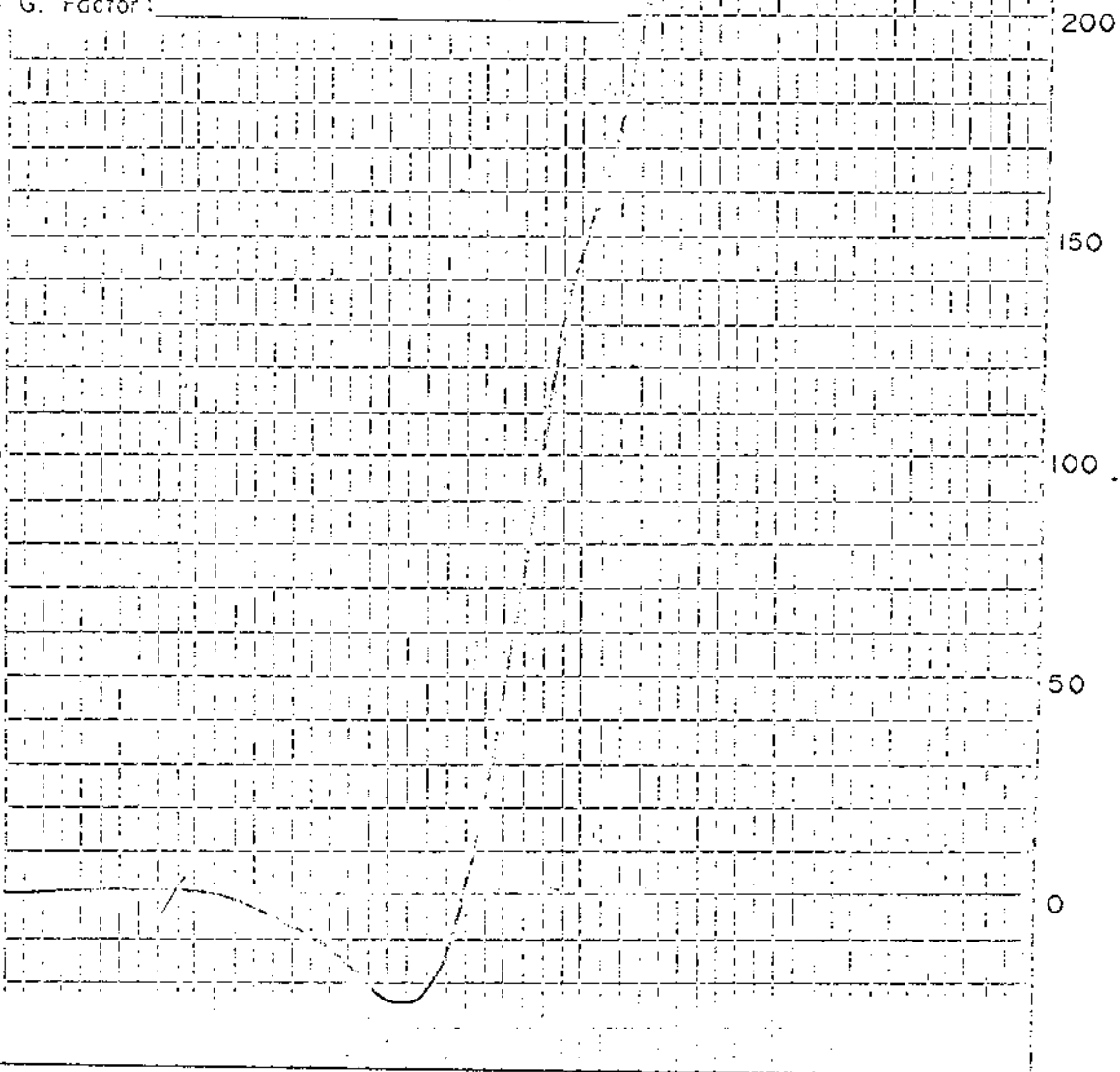
Max. Dilatation Temp. °C: 452

Contraction %: 25

Dilatation %: 261

Final Temperature °C:

G. Factor: 1.114



BENTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Note No.: R 77 - 19-7

Lab. No.: 77 - 3035

Date: April 14, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 1.2               | 58.2  | 17.8  | 22.8  | 0.30 | 59.4   | Air Dried Basis |
| --                | 58.9  | 18.0  | 23.1  | 0.30 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 65.5 | 0.8   | 69.9  | 0.15 | 65.5       | 69.9  | 0.15 | A.D.B. |
|                     | 65.7 | --    | 70.4  | 0.15 | 65.7       | 70.4  | 0.15 | D.B.   |
| 65 x 0              | 34.5 | 1.8   | 38.3  | 0.50 | 100.0      | 59.0  | 0.27 | A.D.B. |
|                     | 34.3 | --    | 40.0  | 0.50 | 100.0      | 60.0  | 0.27 | D.B.   |

| SINK - FLOCAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|-----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                              | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                   |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                             | 12.3 | 1.4   | 5.2  | 27.6  | 65.8  | 0.72 | 12.3       | 5.2  | A.D.B. |
|                                   | 12.3 | --    | 5.2  | 28.0  | 66.8  | 0.73 | 12.3       | 5.2  | D.B.   |
| 1.40-1.50                         | 2.5  | 1.0   | 14.4 | 25.7  | 58.9  | 0.69 | 14.8       | 6.8  | A.D.B. |
|                                   | 2.5  | --    | 14.6 | 26.0  | 59.4  | 0.70 | 14.8       | 6.8  | D.B.   |
| 1.50-1.60                         | 1.6  | 1.0   | 24.9 | --    | --    | --   | 16.4       | 8.5  | A.D.B. |
|                                   | 1.6  | --    | 25.2 | --    | --    | --   | 16.4       | 8.6  | D.B.   |
| +1.60                             | 83.6 | 0.9   | 81.7 | --    | --    | --   | 100.0      | 69.7 | A.D.B. |
|                                   | 83.6 | --    | 82.5 | --    | --    | --   | 100.0      | 70.4 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |            |            |          |         |       |
|--|-------------------|------------|------------|----------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening  | Max. Dil.  | Maximum  | Maximum | G.No. |
|  |                   | Temp. (°C) | Temp. (°C) | Contr. % | Dil. %  |       |
| 8½   | 0.031             |            |            |          |         |       |

CLIENT: WARNOCK HERSEY

PROJECT: DILATATION TESTS \*

SAMPLE : -8Mesh, 1.50 S.G. Composite Float

DATE: Apr11/77

| CS&MT<br>LAB. NO. | W.H.<br>I.D. No.   | INITIAL<br>TEMP(°C) | SOFTENING<br>TEMP(°C) | MAX.<br>DILAT'N<br>TEMP(°C) | MAX.<br>CONTRACT'N<br>% | MAX. $\alpha$<br>DILATATION<br>% | G.No.            |
|-------------------|--------------------|---------------------|-----------------------|-----------------------------|-------------------------|----------------------------------|------------------|
| <del>8955</del>   | <del>77-3024</del> | <del>320</del>      | <del>345</del>        | <del>453</del>              | <del>26</del>           | <del>278</del>                   | <del>1.126</del> |
| 8956              | 77-3025            | 320                 | 370                   | 457                         | 24                      | 83                               | 1.062            |
| 8957              | 77-3026            | 320                 | 367                   | 458                         | 31                      | 83                               | 1.053            |
| 8958              | 77-3027            | 320                 | 367                   | 462                         | 30                      | 29                               | 0.998            |
| 8959              | 77-3028            | 320                 | 350                   | 453                         | 26                      | 291                              | 1.120            |
| 8960              | 77-3029            | 320                 | 367                   | 453                         | 30                      | 124                              | 1.068            |
| 8961              | 77-3030            | 320                 | 360                   | 458                         | 25                      | 203                              | 1.103            |
| 8962              | 77-3031            | 320                 | 367                   | 456                         | 25                      | 180                              | 1.089            |
| 8963              | 77-3032            | 320                 | 367                   | 454                         | 21                      | 181                              | 1.092            |
| 8964              | 77-3033            | 320                 | 367                   | 458                         | 31                      | 291                              | 1.098            |
| <del>8965</del>   | <del>77-3034</del> | <del>320</del>      | <del>363</del>        | <del>465</del>              | <del>26</del>           | <del>309</del>                   | <del>1.116</del> |
| 8966              | 77-3035            | 320                 | 363                   | 453                         | 23                      | 145                              | 1.087            |
|                   |                    |                     |                       |                             |                         |                                  |                  |
|                   |                    |                     |                       |                             |                         |                                  |                  |
|                   |                    |                     |                       |                             |                         |                                  |                  |
|                   |                    |                     |                       |                             |                         |                                  |                  |
|                   |                    |                     |                       |                             |                         |                                  |                  |
|                   |                    |                     |                       |                             |                         |                                  |                  |
|                   |                    |                     |                       |                             |                         |                                  |                  |
|                   |                    |                     |                       |                             |                         |                                  |                  |
|                   |                    |                     |                       |                             |                         |                                  |                  |
|                   |                    |                     |                       |                             |                         |                                  |                  |
|                   |                    |                     |                       |                             |                         |                                  |                  |
|                   |                    |                     |                       |                             |                         |                                  |                  |
|                   |                    |                     |                       |                             |                         |                                  |                  |
|                   |                    |                     |                       |                             |                         |                                  |                  |
|                   |                    |                     |                       |                             |                         |                                  |                  |

\* Softening Temp., Maximum Dilatation/Contraction Temp. are corrected with factor = 6/5

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-20-1

Lab. No. 8563

DATE: March/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.8               | 47.1  | 21.6   | 30.5   | 1.01 | 59     | Air Dried Basis |
|                   | 47.5  | 21.8   | 30.7   | 1.02 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 61.7  | 0.8    | 51.3  | 0.96 | 61.7       | 51.3  | 0.96 | A.D.B. |
|                     | 61.7  |        | 51.7  | 0.97 | 61.7       | 51.7  | 0.97 | D.B.   |
| 65M x 0             | 38.3  | 0.8    | 38.8  | 1.11 | 100.0      | 46.5  | 1.02 | A.D.B. |
|                     | 38.3  |        | 39.1  | 1.12 | 100.0      | 46.9  | 1.03 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 35.2  | 0.7    | 8.1   | 32.5   | 58.7   | 1.31 | 35.2       | 8.1   | A.D.B. |
|                                   | 35.2  |        | 8.2   | 32.7   | 59.1   | 1.32 | 35.2       | 8.2   | D.B.   |
| 1.40-1.50                         | 6.1   | 0.9    | 18.2  | 31.0   | 49.9   | 1.80 | 41.3       | 9.6   | A.D.B. |
|                                   | 6.1   |        | 18.4  | 31.3   | 50.3   | 1.82 | 41.3       | 9.7   | D.B.   |
| 1.50-1.60                         | 2.6   | 1.0    | 26.1  | X      | X      | X    | 43.9       | 10.6  | A.D.B. |
|                                   | 2.6   |        | 26.4  |        |        |      | 43.9       | 10.7  | D.B.   |
| +1.60                             | 56.1  | 0.7    | 81.6  | X      | X      | X    | 100.0      | 50.4  | A.D.B. |
|                                   | 56.1  |        | 82.2  |        |        |      | 100.0      | 50.8  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS < 1.50 S.G., A.D.B. |            |  |                      |                  |                |        |
|---|------------|--|----------------------|------------------|----------------|--------|
| F.S.I.  | PH ON COAL | DILATATION TEST (Starting Temp. = 320°C) |                      |                  |                |        |
|   |            | SOFTENING TEMP. (°C)                     | MAX. DIL. TEMP. (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 7   | **<br>0.33 | 350                                      | 457                  | 24               | 210            | 1.118  |

\* S.T. & M.D.T. corrected with factor 6/5

\*\*Check was 0.34

*Birtley Engineering*

*Subsidiary of Great West Steel Industries*

Lab. No. 8563 Date March 23, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-20-1

Starting Temperature °C: 320

Softening Temperature °C: 350

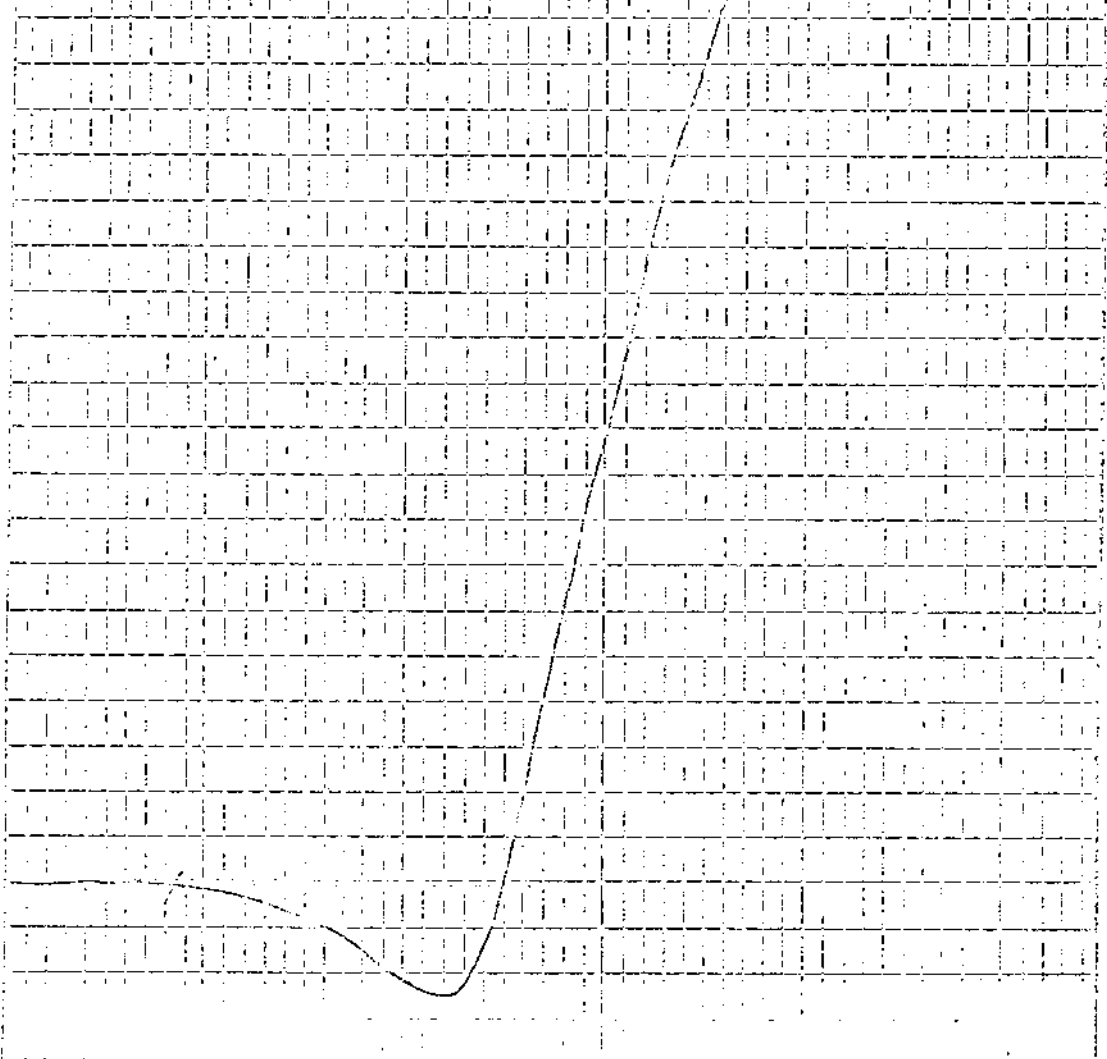
Max. Dilatation Temp. °C: 457

Contraction %: 24

Dilatation %: 210

Final Temperature °C:

G. Factor: 1.118



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO INDUSTRIES LTD.  
 CONE SAMPLE ANALYSIS

HOLE NO.: R-77-20-2      Lab. No. 8564      DATE: March/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 1.1               | 29.0  | 23.4   | 46.5   | 0.74 | 66     | Air Dried Basis |
|                   | 29.3  | 23.7   | 47.0   | 0.75 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 75.2  | 1.1    | 32.5  | 0.71 | 75.2       | 32.5  | 0.71 | A.D.B. |
|                     | 75.2  |        | 32.9  | 0.72 | 75.2       | 32.9  | 0.72 | D.B.   |
| 65M x 0             | 24.8  | 1.5    | 20.9  | 0.81 | 100.0      | 29.6  | 0.73 | A.D.B. |
|                     | 24.8  |        | 21.2  | 0.82 | 100.0      | 30.0  | 0.74 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 54.0  | 1.2    | 2.8   | 30.2   | 65.8   | 0.83 | 54.0       | 2.8   | A.D.B. |
|                                   | 54.0  |        | 2.8   | 30.6   | 66.6   | 0.84 | 54.0       | 2.8   | D.B.   |
| 1.40-1.50                         | 3.8   | 1.2    | 16.4  | 25.4   | 57.0   | 1.07 | 57.8       | 3.7   | A.D.B. |
|                                   | 3.8   |        | 16.6  | 25.7   | 57.7   | 1.08 | 57.8       | 3.7   | D.B.   |
| 1.50-1.60                         | 3.5   | 1.2    | 28.9  |        |        |      | 61.3       | 5.1   | A.D.B. |
|                                   | 3.5   |        | 29.3  |        |        |      | 61.3       | 5.2   | D.B.   |
| +1.60                             | 38.7  | 1.3    | 77.3  |        |        |      | 100.0      | 33.1  | A.D.B. |
|                                   | 38.7  |        | 78.2  |        |        |      | 100.0      | 33.4  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |  |                       |                  |                |        |
|---|------------|--|-----------------------|------------------|----------------|--------|
| F.S.I.  | PZ ON COAL | DILATATION TEST (Starting Temp.=320°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP. *(°C)                  | MAX. DIL. TEMP. *(°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 9   | 0.02       | 360                                    | 448                   | 23               | 53             | 1.045  |

\* S.T. & M.D.T. corrected with factor 6/5

Lab. No. 8564 Date March 23, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-20-2

Starting Temperature °C: 320

Softening Temperature °C: 360

Max. Dilatation Temp. °C: 448

250

Contraction %: 23

Dilatation %: 53

Final Temperature °C:

G. Factor: 1.045

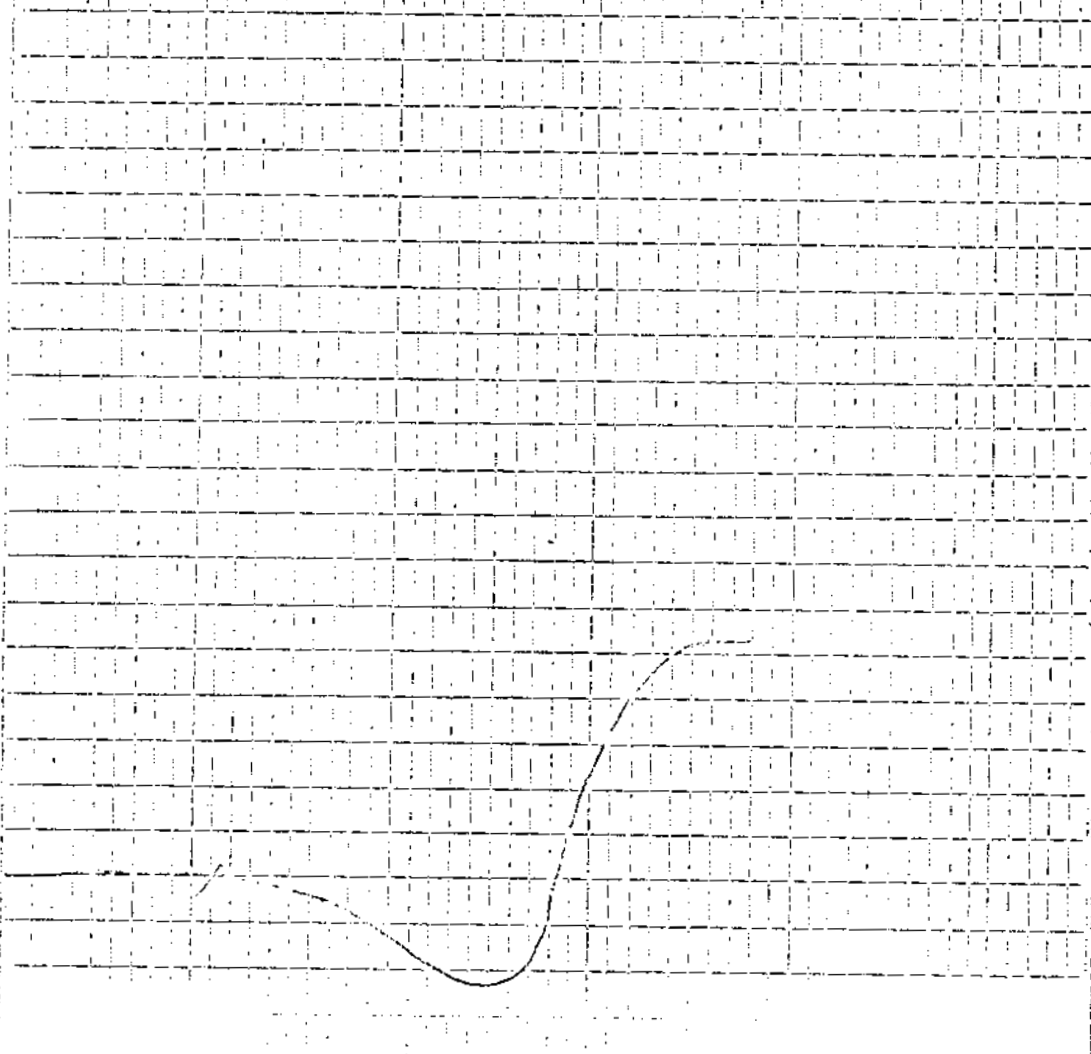
200

150

100

50

0



BENTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn



ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R-77-20-3

Lab. No. 8565

DATE: March/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 1.1               | 23.7  | 25.1   | 50.1   | 0.45 | 89     | Air Dried Basis |
|                   | 24.0  | 25.4   | 50.6   | 0.46 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 89.5  | 1.1    | 24.1  | 0.45 | 89.5       | 24.1  | 0.45 | A.D.B. |
|                     | 89.5  |        | 24.4  | 0.46 | 89.5       | 24.4  | 0.46 | D.B.   |
| 65M x 0             | 10.5  | 1.3    | 15.4  | 0.48 | 100.0      | 23.2  | 0.45 | A.D.B. |
|                     | 10.5  |        | 15.6  | 0.49 | 100.0      | 23.5  | 0.46 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 68.0  | 2.0    | 4.2   | 28.9   | 64.9   | 0.55 | 68.0       | 4.2   | A.D.B. |
|                                   | 67.9  |        | 4.3   | 29.5   | 66.2   | 0.56 | 67.9       | 4.3   | D.B.   |
| 1.40-1.50                         | 2.4   | 2.1    | 16.2  | 24.8   | 56.9   | 0.55 | 70.4       | 4.6   | A.D.B. |
|                                   | 2.4   |        | 16.5  | 25.3   | 58.2   | 0.56 | 70.3       | 4.7   | D.B.   |
| 1.50-1.60                         | 2.1   | 2.1    | 25.4  |        |        |      | 72.5       | 5.2   | A.D.B. |
|                                   | 2.0   |        | 25.9  |        |        |      | 72.3       | 5.3   | D.B.   |
| +1.60                             | 27.5  | 1.2    | 73.4  |        |        |      | 100.0      | 24.0  | A.D.B. |
|                                   | 27.7  |        | 74.3  |        |        |      | 100.0      | 24.4  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |  |                       |                  |                |       |        |
|---|------------|--|-----------------------|------------------|----------------|-------|--------|
| F.S.I.  | PZ ON COAL | DILATATION TEST (Starting Temp.=320°C) |                       |                  |                |       | G. NO. |
|   |            | SOFTENING TEMP. *(°C)                  | MAX. DIL. TEMP. *(°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % |       |        |
| 9   | 0.03       | 360                                    | 442                   | 24               | 53             | 1.040 |        |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lab. No. 8565 Date March 23, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-20-3

Starting Temperature °C: 320

Softening Temperature °C: 360

Max. Dilatation Temp. °C: 442

Contraction %: 24

Dilatation %: 53

Final Temperature °C: 1.040

G. Factor:

1.040

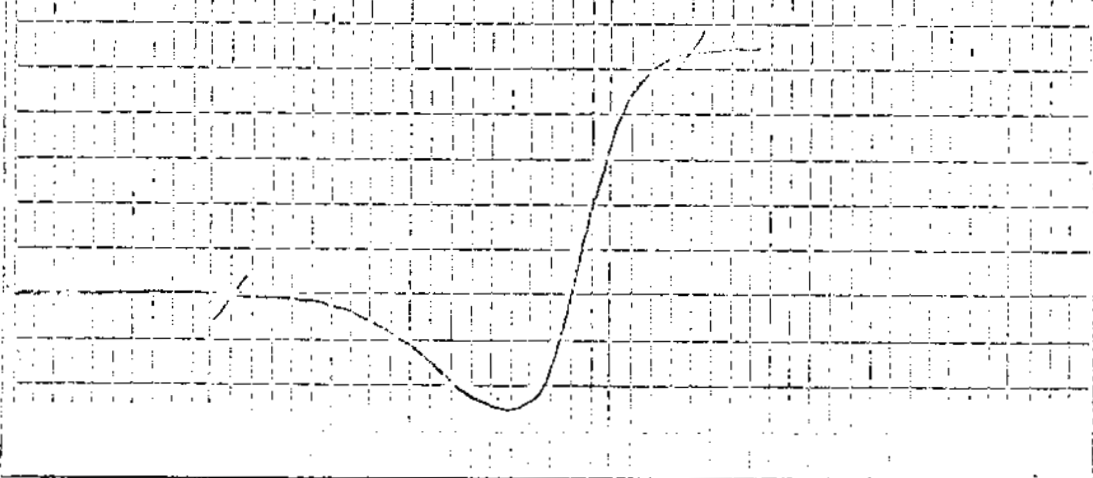
200

150

100

50

0



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-20-4      Lab. No. 8566      DATE: March/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.6               | 27.3  | 24.6   | 47.5   | 0.60 | 67     | Air Dried Basis |
|                   | 27.5  | 24.7   | 47.8   | 0.60 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 96.1  | 0.6    | 28.3  | 0.63 | 96.1       | 28.3  | 0.63 | A.D.B. |
|                     | 96.1  |        | 28.5  | 0.63 | 96.1       | 28.5  | 0.63 | D.B.   |
| 65M x 0             | 3.9   | 0.8    | 16.1  | 0.70 | 100.0      | 27.8  | 0.63 | A.D.B. |
|                     | 3.9   |        | 16.2  | 0.71 | 100.0      | 27.0  | 0.63 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 57.0  | 1.7    | 6.8   | 29.7   | 61.8   | 0.71 | 57.0       | 6.8   | A.D.B. |
|                                   | 56.8  |        | 6.9   | 30.2   | 62.9   | 0.72 | 56.8       | 6.9   | D.B.   |
| 1.40-1.50                         | 3.4   | 1.0    | 22.1  | 24.5   | 52.4   | 0.58 | 60.4       | 7.7   | A.D.B. |
|                                   | 3.4   |        | 22.3  | 24.7   | 53.0   | 0.59 | 60.2       | 7.8   | D.B.   |
| 1.50-1.60                         | 4.3   | 1.0    | 34.2  |        |        |      | 64.7       | 9.4   | A.D.B. |
|                                   | 4.3   |        | 34.5  |        |        |      | 64.5       | 9.6   | D.B.   |
| +1.60                             | 35.3  | 0.9    | 64.2  |        |        |      | 100.0      | 28.8  | A.D.B. |
|                                   | 35.5  |        | 64.8  |        |        |      | 100.0      | 29.2  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |  |                       |                  |                |        |
|---|------------|--|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% OF COAL | DILATATION TEST (Starting Temp.=320°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP. *(°C)                  | MAX. DIL. TEMP. *(°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 9   | 0.07       | 356                                    | 457                   | 29               | 188            | 1.100  |

\* S.T. & M.D.T. corrected with factor 6/5

Lab. No. 8566 Date March 23, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-20-4

Starting Temperature °C: 320

Softening Temperature °C: 356

Max. Dilatation Temp. °C: 457

Contraction %: 29

Dilatation %: 188

Final Temperature °C:

G. Factor: 1.100

250

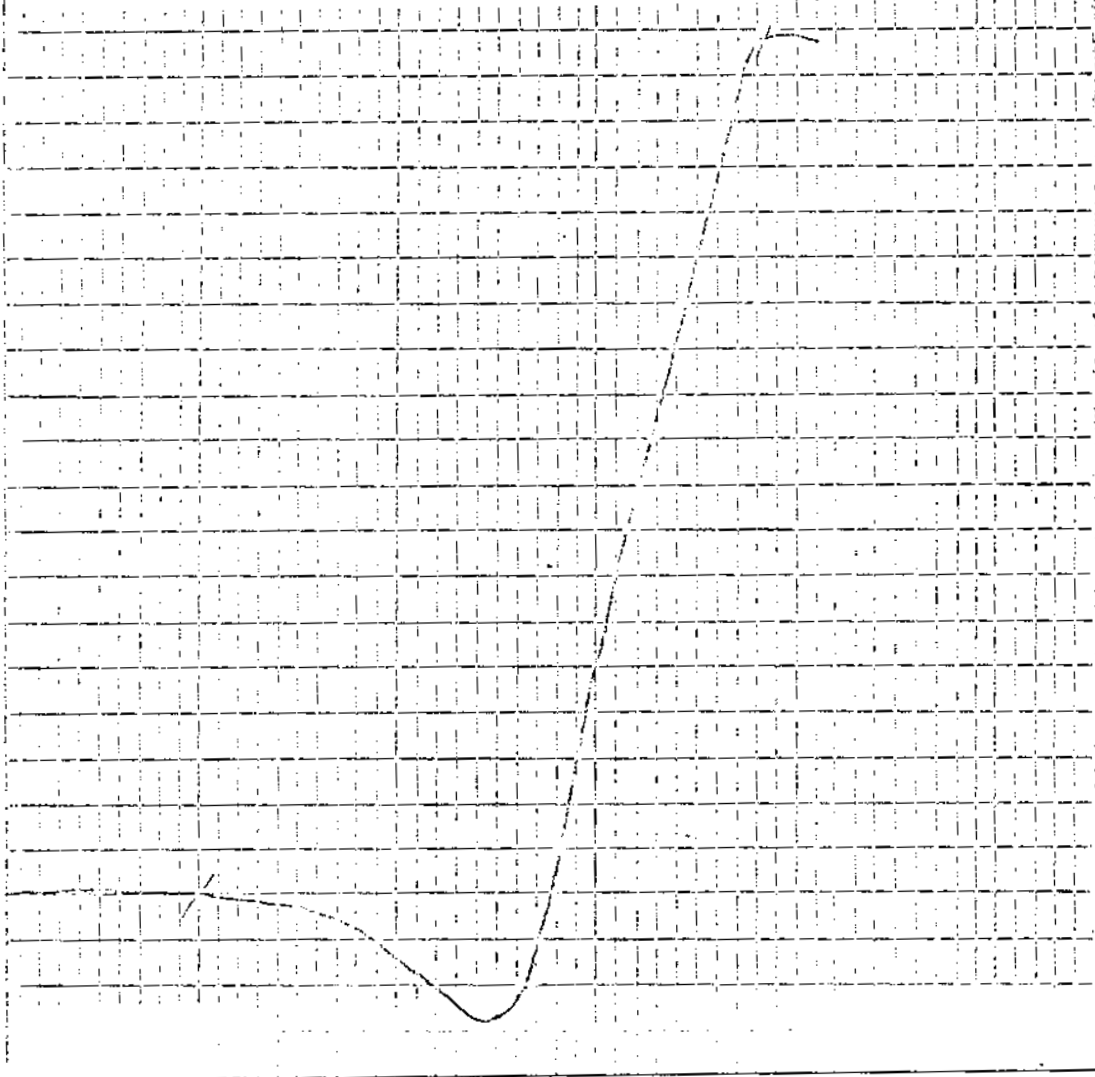
200

150

100

50

0



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-20-5      Lab. No. 8567      DATE: March/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.9               | 64.3  | 14.3   | 20.5   | 0.71 | 51     | Air Dried Basis |
|                   | 64.9  | 14.4   | 20.7   | 0.72 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 96.6  | 0.9    | 64.7  | 0.70 | 96.6       | 64.7  | 0.70 | A.D.B. |
|                     | 96.6  |        | 65.3  | 0.71 | 96.6       | 65.3  | 0.71 | D.B.   |
| 65M x 0             | 3.4   | 0.9    | 44.7  | 1.02 | 100.0      | 64.0  | 0.71 | A.D.B. |
|                     | 3.4   |        | 45.1  | 1.03 | 100.0      | 64.6  | 0.72 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 14.7  | 0.7    | 8.3   | 28.1   | 62.9   | 1.25 | 14.7       | 8.3   | A.D.B. |
|                                   | 14.7  |        | 8.4   | 28.3   | 63.3   | 1.26 | 14.7       | 8.4   | D.B.   |
| 1.40-1.50                         | 7.8   | 0.7    | 17.9  | 25.7   | 55.7   | 1.34 | 22.5       | 11.6  | A.D.B. |
|                                   | 7.8   |        | 18.0  | 25.9   | 56.1   | 1.35 | 22.5       | 11.7  | D.B.   |
| 1.50-1.60                         | 2.7   | 1.0    | 28.3  |        |        |      | 25.2       | 13.4  | A.D.B. |
|                                   | 2.7   |        | 28.6  |        |        |      | 25.2       | 13.5  | D.B.   |
| +1.60                             | 74.8  | 0.9    | 82.5  |        |        |      | 100.0      | 65.1  | A.D.B. |
|                                   | 74.8  |        | 83.2  |        |        |      | 100.0      | 65.6  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |  |                      |                  |                |        |
|---|------------|--|----------------------|------------------|----------------|--------|
| F.S.I.  | P3 OR COAL | DILATATION TEST (Starting Temp.=320°C) |                      |                  |                |        |
|   |            | SOFTENING TEMP.*(°C)                   | MAX. DIL. TEMP.*(°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 9   | 0.02       | 360                                    | 460                  | 27               | 258            | 1.110  |

\* S.T. & M.D.T. corrected with factor 6/5

*Birtley Engineering*

*Subsidiary of Great West Steel Industries*

Lab. No. 8567 Date March 23, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-20-5

Starting Temperature °C: 320

Softening Temperature °C: 360

Max. Dilatation Temp. °C: 460

Contraction %: 27

Dilatation %: 258

Final Temperature °C:

G. Factor: 1.110

250

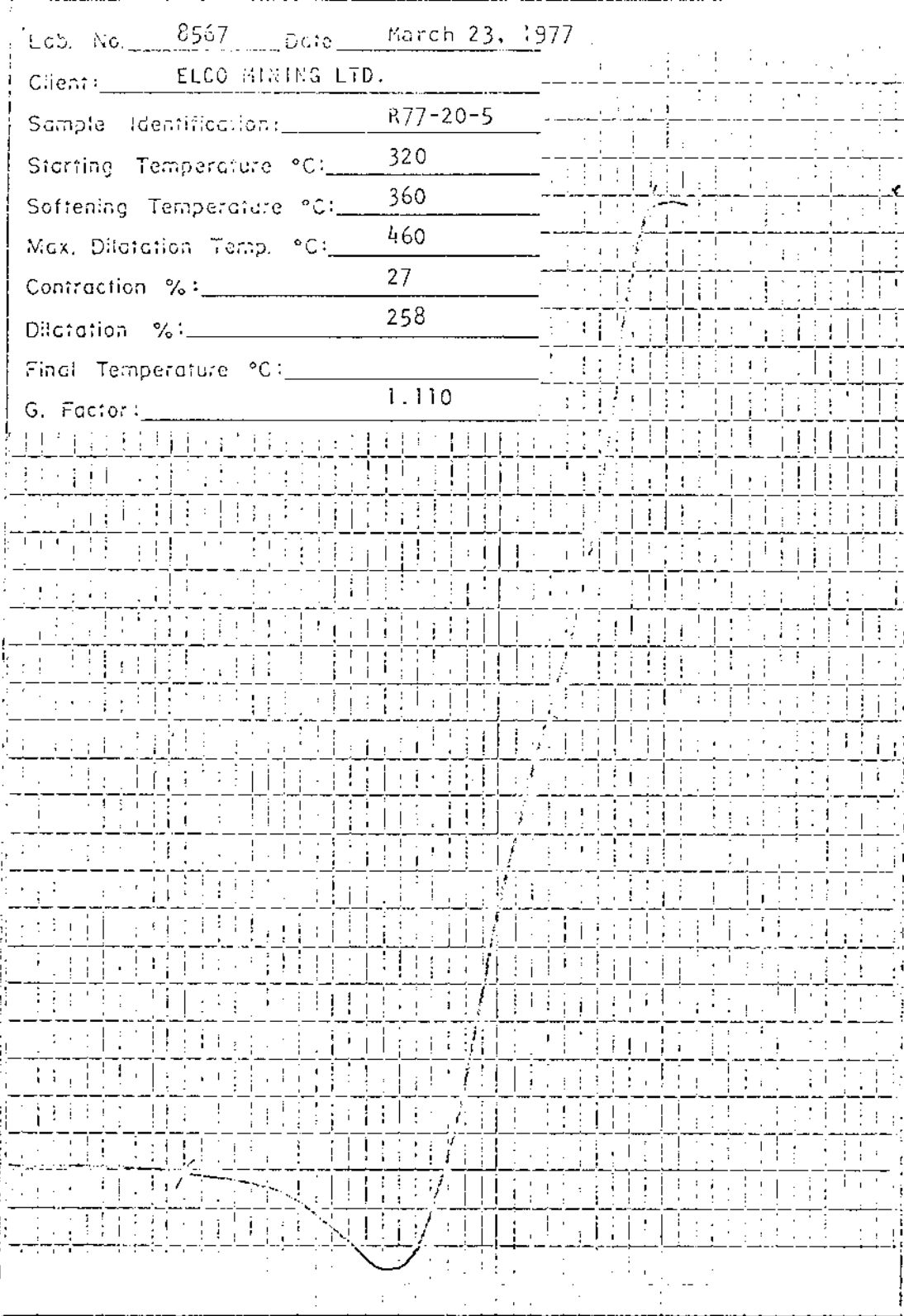
200

150

100

50

0



DINLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R-77-20-6 Lab. No. 8568 DATE: March/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.9               | 18.5  | 25.2   | 55.4   | 0.60 | 89     | Air Dried Basis |
|                   | 18.7  | 25.4   | 55.9   | 0.61 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 88.2  | 1.0    | 20.0  | 0.60 | 88.2       | 20.0  | 0.60 | A.D.B. |
|                     | 88.2  |        | 20.2  | 0.61 | 88.2       | 20.2  | 0.61 | D.B.   |
| 65M x 0             | 11.8  | 0.9    | 12.4  | 0.76 | 100.0      | 19.1  | 0.62 | A.D.B. |
|                     | 11.8  |        | 12.5  | 0.77 | 100.0      | 19.3  | 0.63 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 70.5  | 1.8    | 3.2   | 28.1   | 66.9   | 0.62 | 70.5       | 3.2   | A.D.B. |
|                                   | 70.4  |        | 3.3   | 28.6   | 68.1   | 0.63 | 70.4       | 3.3   | D.B.   |
| 1.40-1.50                         | 3.4   | 1.5    | 16.8  | 24.0   | 57.7   | 0.66 | 73.9       | 3.8   | A.D.B. |
|                                   | 3.4   |        | 17.1  | 24.4   | 58.5   | 0.67 | 73.8       | 3.9   | D.B.   |
| 1.50-1.60                         | 2.2   | 1.5    | 28.1  |        |        |      | 76.1       | 4.5   | A.D.B. |
|                                   | 2.2   |        | 28.5  |        |        |      | 76.0       | 4.6   | D.B.   |
| +1.60                             | 23.9  | 1.2    | 72.3  |        |        |      | 100.0      | 20.7  | A.D.B. |
|                                   | 24.0  |        | 73.2  |        |        |      | 100.0      | 21.1  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |  |                       |                  |                |        |
|---|------------|--|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Starting Temp.=320°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP.* (°C)                  | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 9   | 0.04       | 363                                    | 452                   | 22               | 139            | 1.086  |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lab. No. 8563 Date March 23, 1977

Client: ELCO MINING LTD.

Sample Identification: R77-20-6

Starting Temperature °C: 320

Softening Temperature °C: 363

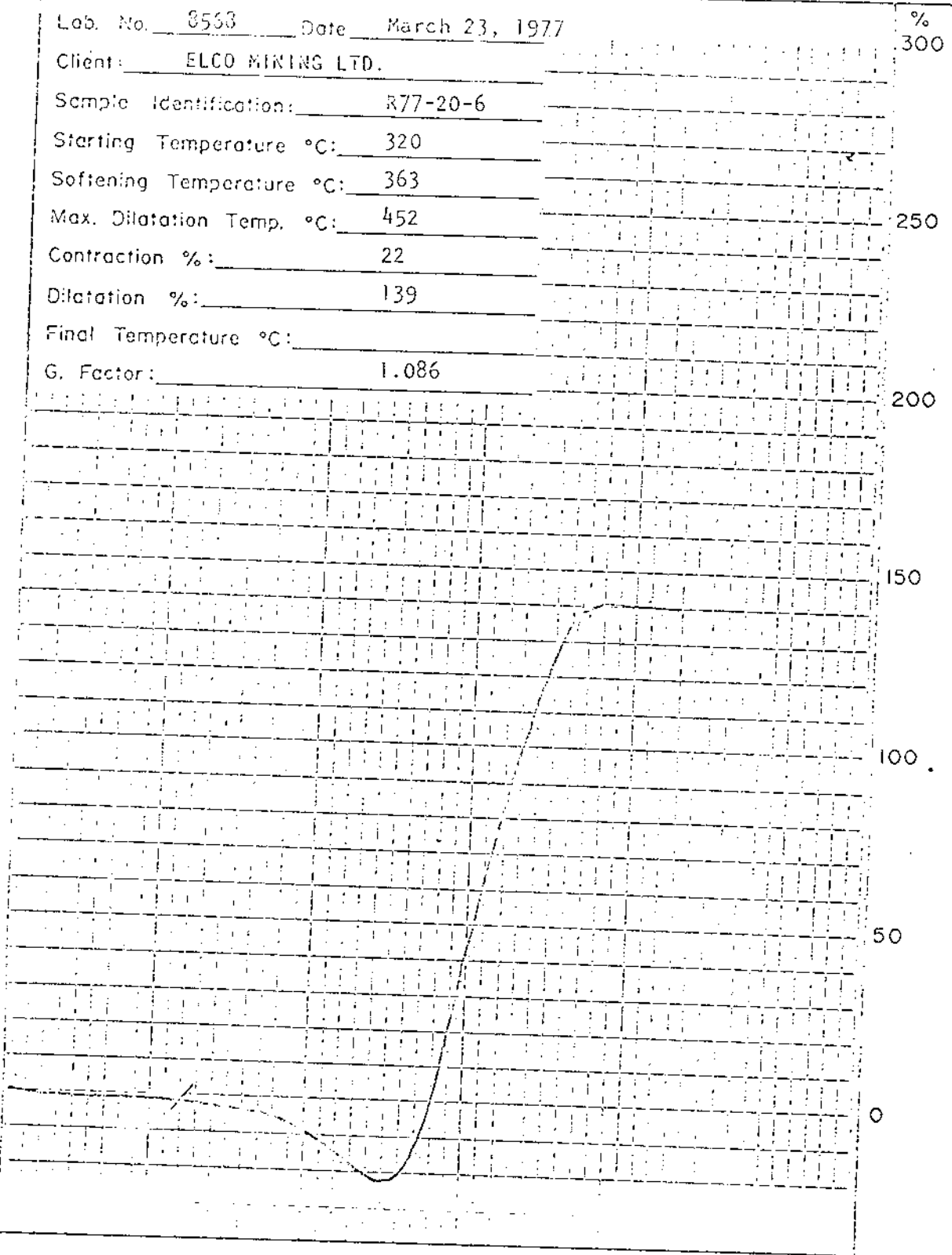
Max. Dilatation Temp. °C: 452

Contraction %: 22

Dilatation %: 139

Final Temperature °C:

G. Factor: 1.086



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn



# Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No: R-77-22-1 Lab. No.: 77-2171 Date: March 11, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash% | V.M.% | F.C % | S.%  | H.G.I. | REMARKS         |
| 0.9               | 34.9 | 23.5  | 40.7  | 0.67 | 67.1   | Air Dried Basis |
| --                | 35.2 | 23.7  | 41.1  | 0.68 | --     | Dry Basis       |

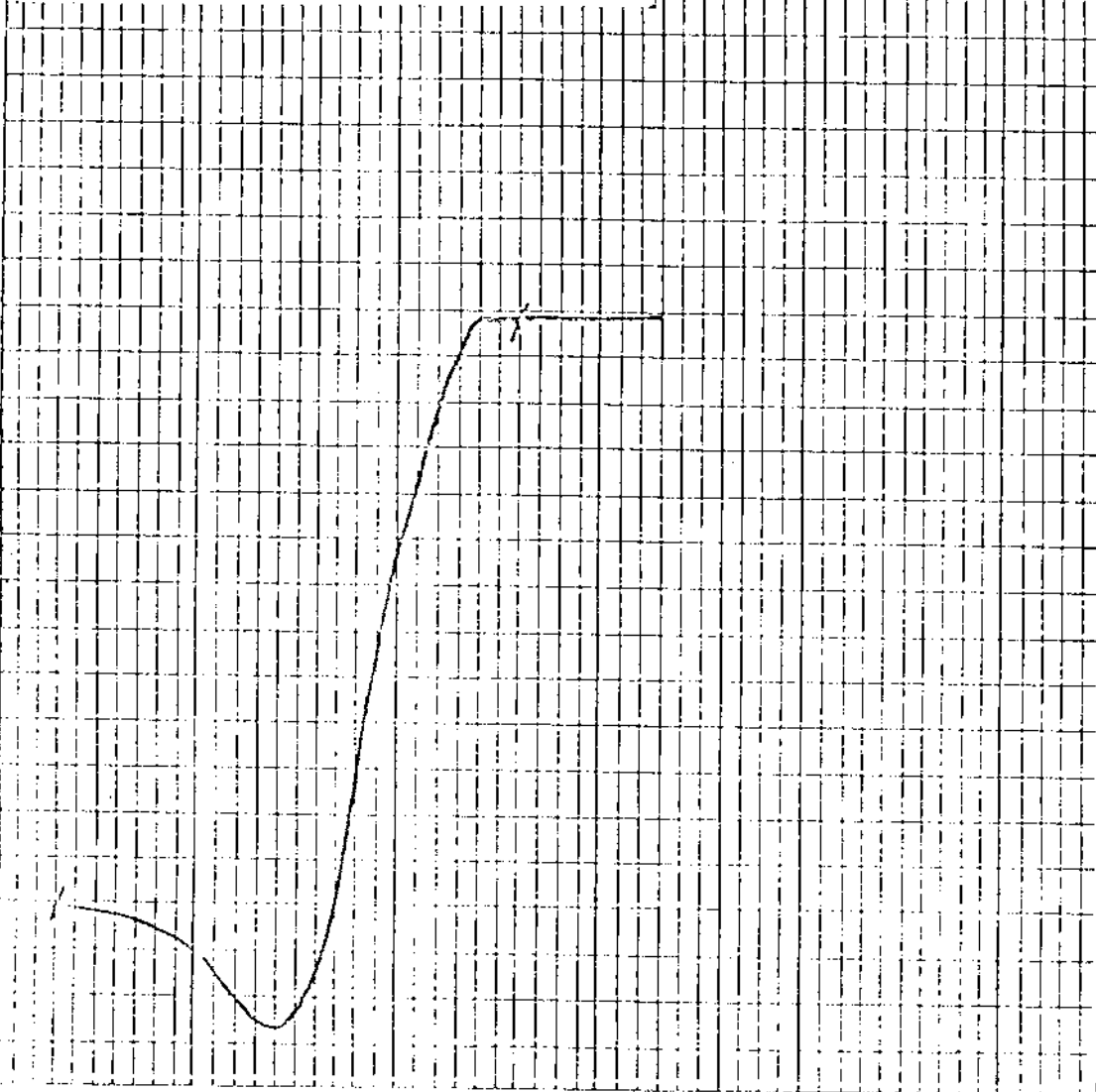
| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 68.0  | 1.1   | 41.1  | 0.62 | 68.0       | 41.1  | 0.62 | A.D.B. |
|                     | 68.0  | --    | 41.6  | 0.63 | 68.0       | 41.6  | 0.63 | D.B.   |
| 65 x 0              | 32.0  | 1.1   | 24.1  | 0.76 | 100.0      | 35.7  | 0.66 | A.D.B. |
|                     | 32.0  | --    | 24.3  | 0.77 | 100.0      | 36.1  | 0.67 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |       |       |      |      |            |       |        |
|----------------------------------|------|-------|-------|-------|------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M.% | Ash % | V.M.% | F.C% | S.%  | Cumulative |       |        |
|                                  |      |       |       |       |      |      | Wt. %      | Ash % |        |
| -1.40                            | 41.9 | 1.0   | 5.7   | 33.8  | 59.5 | 0.90 | 41.9       | 5.7   | A.D.B. |
|                                  | 41.9 | --    | 5.8   | 34.2  | 60.0 | 0.91 | 41.9       | 5.8   | D.B.   |
| 1.40-1.50                        | 4.1  | 0.4   | 17.3  | 30.6  | 51.7 | 0.85 | 46.0       | 6.7   | A.D.B. |
|                                  | 4.1  | --    | 17.4  | 30.8  | 51.8 | 0.85 | 46.0       | 6.8   | D.B.   |
| 1.50-1.60                        | 3.9  | 0.8   | 27.0  | --    | --   | --   | 49.9       | 8.3   | A.D.B. |
|                                  | 3.9  | --    | 27.2  | --    | --   | --   | 49.9       | 8.4   | D.B.   |
| +1.60                            | 50.1 | 0.9   | 75.6  | --    | --   | --   | 100.0      | 42.0  | A.D.B. |
|                                  | 50.1 | --    | 76.3  | --    | --   | --   | 100.0      | 42.4  | D.B.   |

| COMPOSITE |            | FLOATS - 1.50 S.G., A.D.B. |                      |                  |                |       |
|-----------|------------|----------------------------|----------------------|------------------|----------------|-------|
| F.S.I.    | F% on Coal | DILATATION TESTS           |                      |                  |                |       |
|           |            | Softening Temp. (°C)       | Max. Dil. Temp. (°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 8%        | .044       | 350                        | 428                  | 26%              | 128%           | 1.061 |

Lab. No. 8617 Date March/77  
 Client: Warnock Hersey  
 Sample Identification: 77-2171  
 Starting Temperature °C: 350  
 Softening Temperature °C: 359  
 Max. Dilatation Temp. °C: 428  
 Contraction %: 26  
 Dilatation %: 128  
 Final Temperature °C:  
 G. Factor: 1.061

%  
 300  
 250  
 200  
 150  
 100  
 50  
 0



BIRTEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No. R-77-22-2

Lab. No. 77 - 2172

Date: March 11, 1977.

| HEAD RAW ANALYSIS |      |       |      |      |        |                 |
|-------------------|------|-------|------|------|--------|-----------------|
| F.M.%             | Ash% | V.M.% | F.C% | S.%  | H.G.I. | REMARKS         |
| 0.6               | 53.0 | 20.0  | 26.4 | 0.84 | 70.5   | Air Dried Basis |
| --                | 53.3 | 20.1  | 26.6 | 0.84 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| 1/4 x 65            | 90.2  | 0.7   | 53.6  | 0.87 | 90.2       | 53.6  | 0.87 | A.D.B. |
|                     | 90.2  | --    | 54.0  | 0.88 | 90.2       | 54.0  | 0.88 | D.B.   |
| 65 x 0              | 9.8   | 0.7   | 47.3  | 0.94 | 100.0      | 53.0  | 0.88 | A.D.B. |
|                     | 9.8   | --    | 47.7  | 0.95 | 100.0      | 53.4  | 0.89 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65 M |      |       |       |      |      |      |            |       |        |
|------------------------------------|------|-------|-------|------|------|------|------------|-------|--------|
| S. G.                              | Wt.% | R.M.% | Ash % | V.M% | F.C% | S.%  | Cumulative |       |        |
|                                    |      |       |       |      |      |      | Wt. %      | Ash % |        |
| -1.40                              | 14.3 | 1.3   | 5.8   | 34.3 | 58.6 | 1.08 | 14.3       | 5.8   | A.D.B. |
|                                    | 14.3 | --    | 5.9   | 34.7 | 59.4 | 1.09 | 14.3       | 5.9   | D.B.   |
| 1.40-1.50                          | 1.7  | 1.5   | 16.8  | 30.6 | 51.1 | 0.93 | 16.0       | 7.0   | A.D.B. |
|                                    | 1.7  | --    | 17.1  | 31.1 | 51.8 | 0.94 | 16.0       | 7.1   | D.B.   |
| 1.50-1.60                          | 3.4  | 0.7   | 32.7  | --   | --   | --   | 19.4       | 11.5  | A.D.B. |
|                                    | 3.4  | --    | 33.0  | --   | --   | --   | 19.4       | 11.6  | D.B.   |
| +1.60                              | 80.6 | 0.7   | 65.4  | --   | --   | --   | 100.0      | 54.9  | A.D.B. |
|                                    | 80.6 | --    | 65.8  | --   | --   | --   | 100.0      | 55.3  | D.B.   |

| COMPOSITE 1/4" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                      |                      |                  |                |       |
|--|-------------|----------------------|----------------------|------------------|----------------|-------|
| H.S.I.   | I % on Coal | DILATION TESTS       |                      |                  |                | G.No. |
|  |             | Softening Temp. (°C) | Max. Dil. Temp. (°C) | Maximum Contr. % | Maximum Dil. % |       |
| 8  | .044        | 353                  | 428                  | 25               | 187            | 1.079 |

Lab. No. 8618 Date March/77

Client: Warnock Hersey

Sample Identification: 77-2172

Starting Temperature °C: 350

Softening Temperature °C: 353

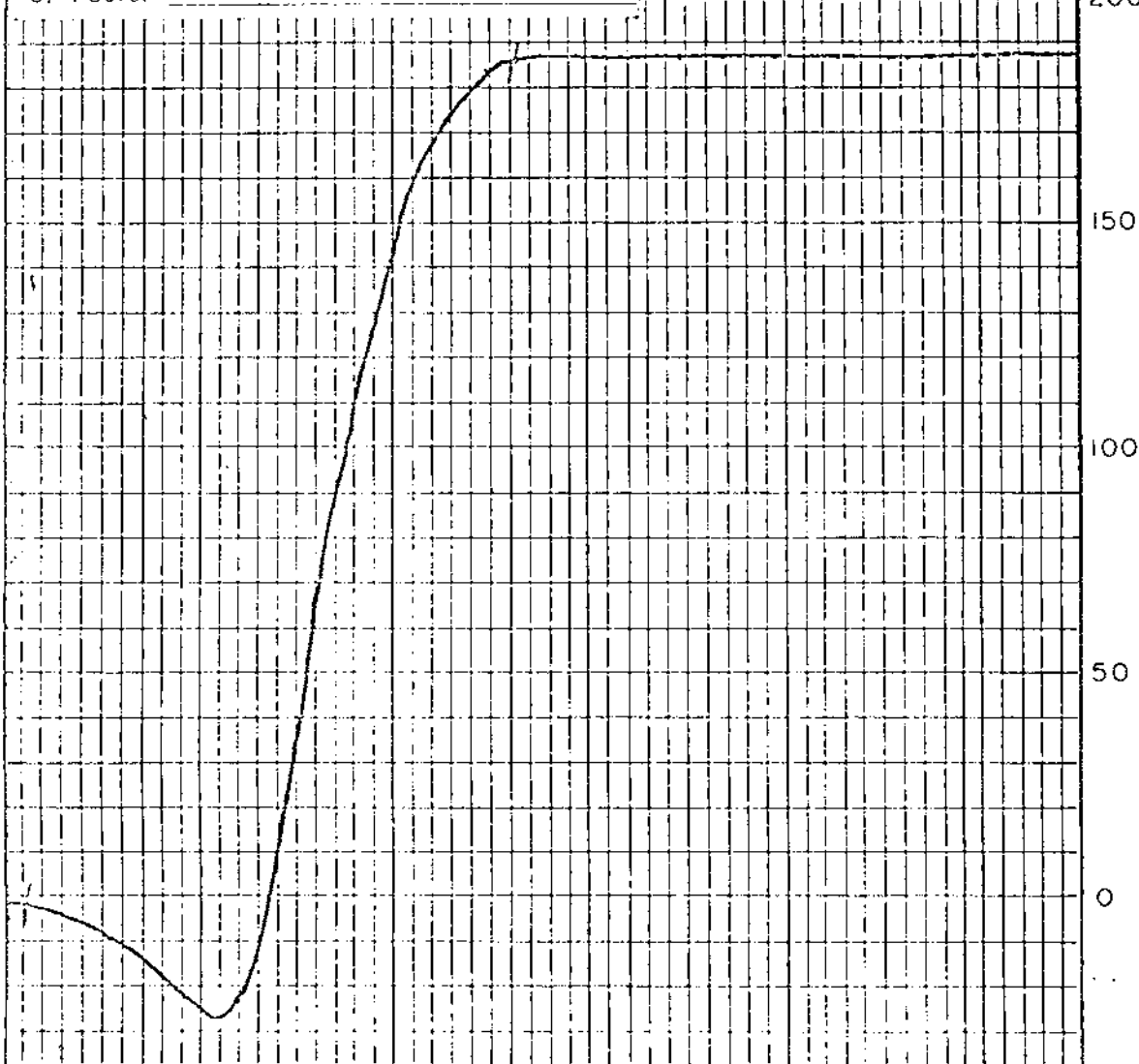
Max. Dilatation Temp. °C: 428

Contraction %: 25

Dilatation %: 187

Final Temperature °C:

G. Factor: 1.079



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No. R-77-22-3 Lab. No.: 77 - 2173 Date: March 11, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| F.M.%             | Ash% | V.M.% | F.C % | S. % | H.C.I. | REMARKS         |
| 1.0               | 19.9 | 27.9  | 51.2  | 0.85 | 120.4  | Air Dried Basis |
| --                | 20.1 | 28.2  | 51.7  | 0.86 | --     | Dry Basis       |

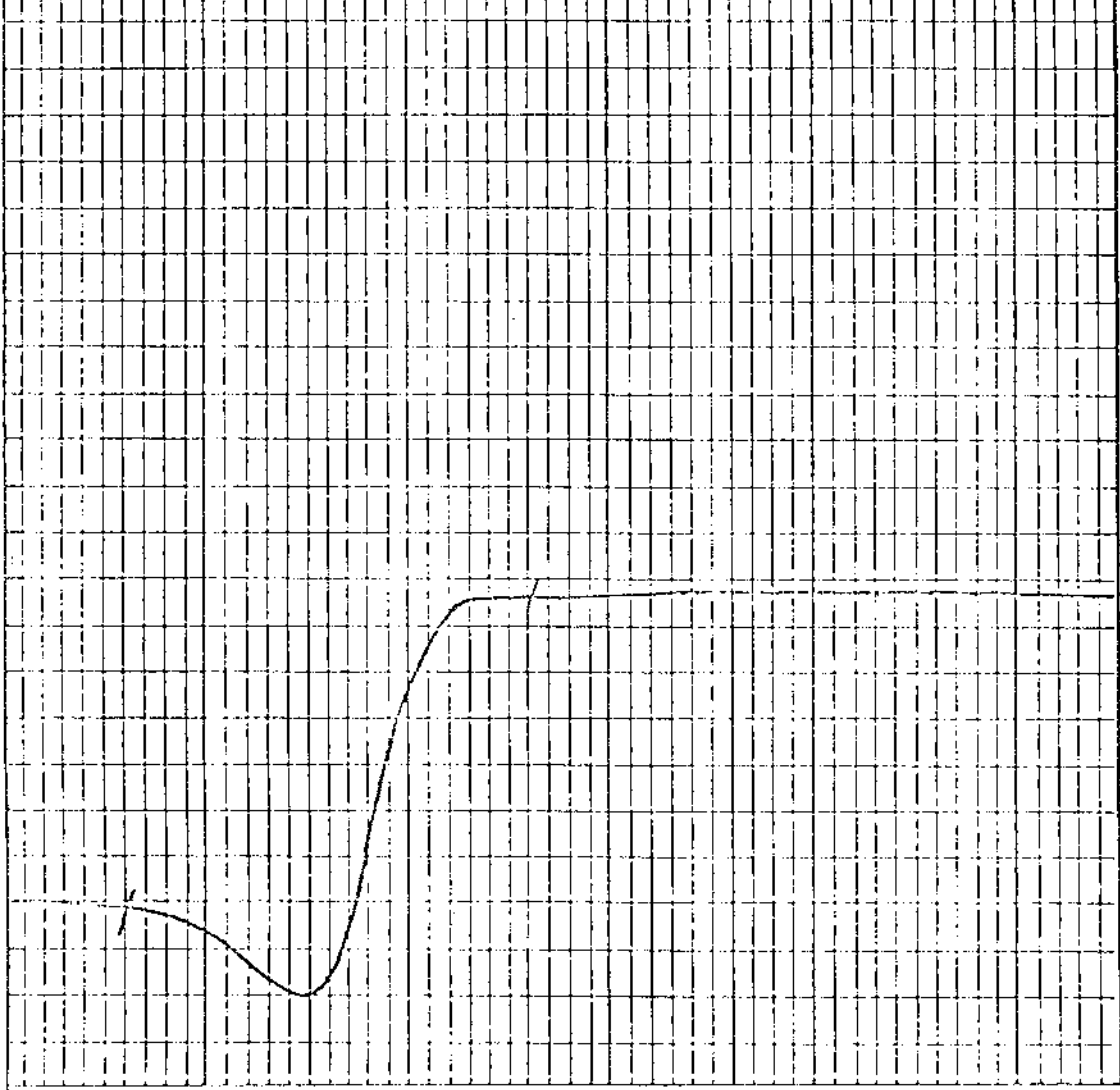
| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 66.7  | 1.1   | 22.4  | 0.83 | 66.7       | 22.4  | 0.83 | A.D.B. |
|                     | 66.7  | --    | 22.7  | 0.84 | 66.7       | 22.7  | 0.84 | D.B.   |
| 65 x 0              | 93.3  | 1.1   | 11.0  | 0.93 | 100.0      | 18.6  | 0.86 | A.D.B. |
|                     | 33.3  | --    | 11.2  | 0.94 | 100.0      | 18.9  | 0.87 | D.B.   |

| SINK - FLOCAT ANALYSIS ¼" x 65 M |      |       |       |       |      |      |            |       |        |
|----------------------------------|------|-------|-------|-------|------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M.% | Ash % | V.M.% | F.C% | S.%  | Cumulative |       |        |
|                                  |      |       |       |       |      |      | Wt. %      | Ash % |        |
| -1.40                            | 67.6 | 2.6   | 3.8   | 32.6  | 61.0 | 0.97 | 67.6       | 3.8   | A.D.B. |
|                                  | 68.0 | --    | 3.8   | 33.5  | 62.7 | 1.00 | 68.0       | 3.8   | D.B.   |
| 1.40-1.50                        | 4.3  | 1.1   | 9.5   | 30.3  | 59.1 | 0.95 | 71.9       | 4.1   | A.D.B. |
|                                  | 4.3  | --    | 9.6   | 30.7  | 59.7 | 0.96 | 72.3       | 4.1   | D.B.   |
| 1.50-1.60                        | 0.9  | 1.0   | 10.0  | --    | --   | --   | 72.8       | 4.2   | A.D.B. |
|                                  | 0.9  | --    | 10.1  | --    | --   | --   | 73.2       | 4.2   | D.B.   |
| +1.60                            | 27.2 | 1.1   | 70.2  | --    | --   | --   | 100.0      | 22.2  | A.D.B. |
|                                  | 26.8 | --    | 70.9  | --    | --   | --   | 100.0      | 22.2  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                     |                     |                  |                |       |
|--|-------------|---------------------|---------------------|------------------|----------------|-------|
| F.S.I.   | F % on Coal | DILATATION TESTS    |                     |                  |                |       |
|  |             | Softening Temp.(°C) | Max. Dil. Temp.(°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 8  | .012        | 368                 | 428                 | 21               | 66             | 1,040 |

Lab No. 8619 Date March/77  
 Client: Warnock Hersey  
 Sample Identification: 77-2173  
 Starting Temperature °C: 350  
 Softening Temperature °C: 368  
 Max. Dilatation Temp. °C: 428  
 Contraction %: 21  
 Dilatation %: 66  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 1.040

%  
 300  
 250  
 200  
 150  
 100  
 50  
 0



**BIRTLEY ENGINEERING (CANADA) LTD.**

Title: RUHR DILATOMETER TEST

Date: \_\_\_\_\_  
 Drawn: \_\_\_\_\_

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No. R-77-22-4 Lab. No. 77 - 2174 Date March 11, 1977

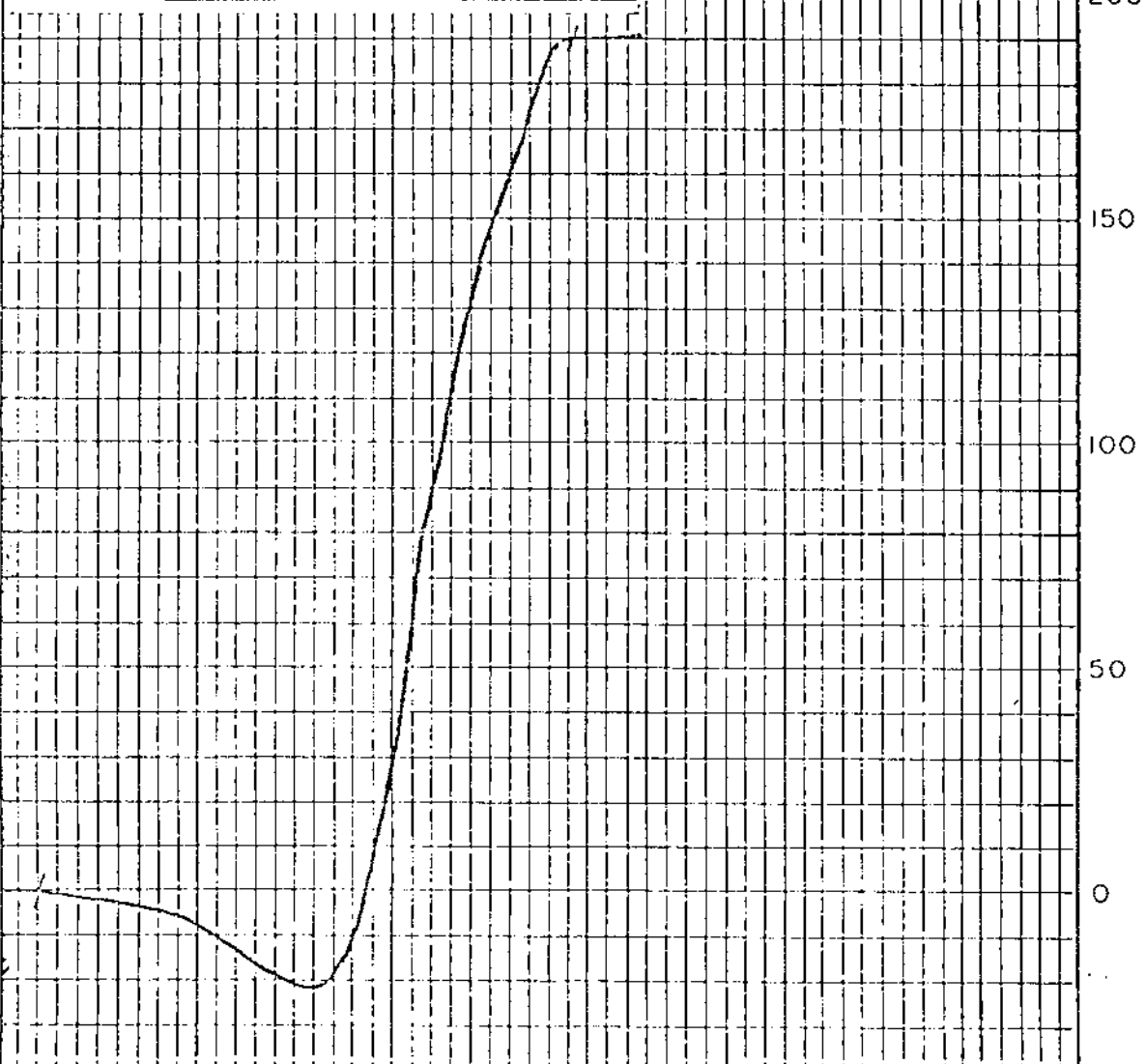
| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| F.M.%             | Ash% | V.M.% | F.C % | S. % | H.G.I. | REMARKS         |
| 0.7               | 33.2 | 25.5  | 40.6  | 0.79 | 75.4   | Air Dried Basis |
| --                | 33.4 | 25.7  | 40.9  | 0.80 | ---    | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 81.3  | 0.7   | 32.6  | 0.75 | 81.3       | 32.6  | 0.75 | A.D.B. |
|                     | 81.3  | --    | 32.8  | 0.76 | 81.3       | 32.8  | 0.76 | D.B.   |
| 65 x 0              | 18.7  | 0.8   | 28.9  | 0.89 | 100.0      | 31.9  | 0.78 | A.D.B. |
|                     | 18.7  | --    | 29.1  | 0.90 | 100.0      | 32.1  | 0.79 | D.B.   |

| SINK - FLOAT ANALYSIS - ¼" x 65 N |      |      |       |      |      |      |            |       |        |
|-----------------------------------|------|------|-------|------|------|------|------------|-------|--------|
| S. G.                             | Wt.% | R.M% | Ash % | V.M% | F.C% | S.%  | Cumulative |       |        |
|                                   |      |      |       |      |      |      | Wt. %      | Ash % |        |
| -1.40                             | 56.7 | 1.3  | 5.9   | 34.7 | 58.1 | 1.02 | 56.7       | 5.9   | A.D.B. |
|                                   | 56.7 | --   | 6.0   | 35.2 | 58.8 | 1.03 | 56.7       | 6.0   | D.B.   |
| 1.40-1.50                         | 1.6  | 0.6  | 14.1  | 29.6 | 55.7 | 0.90 | 58.3       | 6.1   | A.D.B. |
|                                   | 1.6  | --   | 14.2  | 29.8 | 56.0 | 0.90 | 58.3       | 6.2   | D.B.   |
| 1.50-1.60                         | 0.8  | 0.7  | 22.4  | --   | --   | --   | 59.1       | 6.3   | A.D.B. |
|                                   | 0.8  | --   | 22.6  | --   | --   | --   | 59.1       | 6.4   | D.B.   |
| +1.60                             | 40.9 | 0.9  | 68.7  | --   | --   | --   | 100.0      | 31.8  | A.D.B. |
|                                   | 40.9 | --   | 69.3  | --   | --   | --   | 100.0      | 32.2  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                      |                      |                  |                |       |
|--|-------------|----------------------|----------------------|------------------|----------------|-------|
| F.S.I.   | P % on Coal | DILATATION TESTS     |                      |                  |                |       |
|  |             | Softening Temp. (°C) | Max. Dil. Temp. (°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 8½   | 0.024       | 356                  | 437                  | 22               | 190            | 1,088 |

Lab. No. 8620 Date March/77  
 Client: Warnock Hersey  
 Sample Identification: 77-2174  
 Starting Temperature °C: 350  
 Softening Temperature °C: 356  
 Max. Dilatation Temp. °C: 437  
 Contraction %: 22  
 Dilatation %: 190  
 Final Temperature °C:  
 G. Factor: 1.088



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn



Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No. R-77-22-5

Lab. No.: 77-2175

Date: March 11, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash% | V.M.% | F.C % | S.%  | H.G.I. | REMARKS         |
| 0.7               | 51.6 | 19.2  | 28.5  | 0.66 | 60.8   | Air Dried Basis |
| --                | 51.9 | 19.3  | 28.8  | 0.66 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| 1/4 x 65            | 90.4  | 0.8   | 52.6  | 0.66 | 90.4       | 52.6  | 0.66 | A.D.B. |
|                     | 90.4  | --    | 53.0  | 0.66 | 90.4       | 53.0  | 0.66 | D.B.   |
| 65 x 0              | 9.6   | 0.9   | 48.9  | 0.74 | 100.0      | 52.2  | 0.67 | A.D.B. |
|                     | 9.6   | --    | 49.4  | 0.75 | 100.0      | 52.6  | 0.67 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65 M |      |      |       |      |      |      |            |       |        |
|------------------------------------|------|------|-------|------|------|------|------------|-------|--------|
| S. G.                              | Wt.% | R.M% | Ash % | V.M% | F.C% | S.%  | Cumulative |       |        |
|                                    |      |      |       |      |      |      | Wt. %      | Ash % |        |
| -1.40                              | 9.4  | 0.9  | 7.6   | 33.4 | 58.1 | 1.22 | 9.4        | 7.6   | A.D.B. |
|                                    | 9.4  | --   | 7.7   | 33.7 | 58.6 | 1.23 | 9.4        | 7.7   | D.B.   |
| 1.40-1.50                          | 3.8  | 0.5  | 22.4  | 28.6 | 48.5 | 10.4 | 13.2       | 11.9  | A.D.B. |
|                                    | 3.8  | --   | 22.5  | 28.7 | 48.8 | 1.04 | 13.2       | 12.0  | D.B.   |
| 1.50-1.60                          | 6.3  | 0.8  | 33.9  | --   | --   | --   | 19.5       | 19.0  | A.D.B. |
|                                    | 6.3  | --   | 34.2  | --   | --   | --   | 19.5       | 19.1  | D.B.   |
| +1.60                              | 80.5 | 0.9  | 59.8  | --   | --   | --   | 100.0      | 51.8  | A.D.B. |
|                                    | 80.5 | --   | 60.3  | --   | --   | --   | 100.0      | 52.3  | D.B.   |

| COMPOSITE 1/4" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                     |                     |                  |                |       |
|--|-------------|---------------------|---------------------|------------------|----------------|-------|
| F.S.I.   | F % on Coal | DILATATION TESTS    |                     |                  |                |       |
|  |             | Softening Temp.(°C) | Max. Dil. Temp.(°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 9  | 0.010       | 362                 | 437                 | 25               | 191            | 1.077 |

Lab. No. 8621 Date March/77  
 Client: Warnock Hersey  
 Sample Identification: 77-2175  
 Starting Temperature °C: 350  
 Softening Temperature °C: 362  
 Max. Dilatation Temp. °C: 437  
 Contraction %: 25  
 Dilatation %: 191  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 1.077

%  
 300  
 250  
 200  
 150  
 100  
 50  
 0



**BIRTLEY ENGINEERING (CANADA) LTD.**

Title  
 RUHR DILATOMETER TEST

Date  
 Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No. R-77-22-6 Lab. No.: 77-2176 Date: March 11, 1977

| HEAD RAW ANALYSIS |      |       |      |      |        |                 |
|-------------------|------|-------|------|------|--------|-----------------|
| R.M.%             | Ash% | V.M.% | F.C% | S.%  | H.G.I. | REMARKS         |
| 0.6               | 39.2 | 23.6  | 36.6 | 0.76 | 68.4   | Air Dried Basis |
| --                | 39.5 | 23.8  | 36.7 | 0.76 | --     | Dry Basis       |

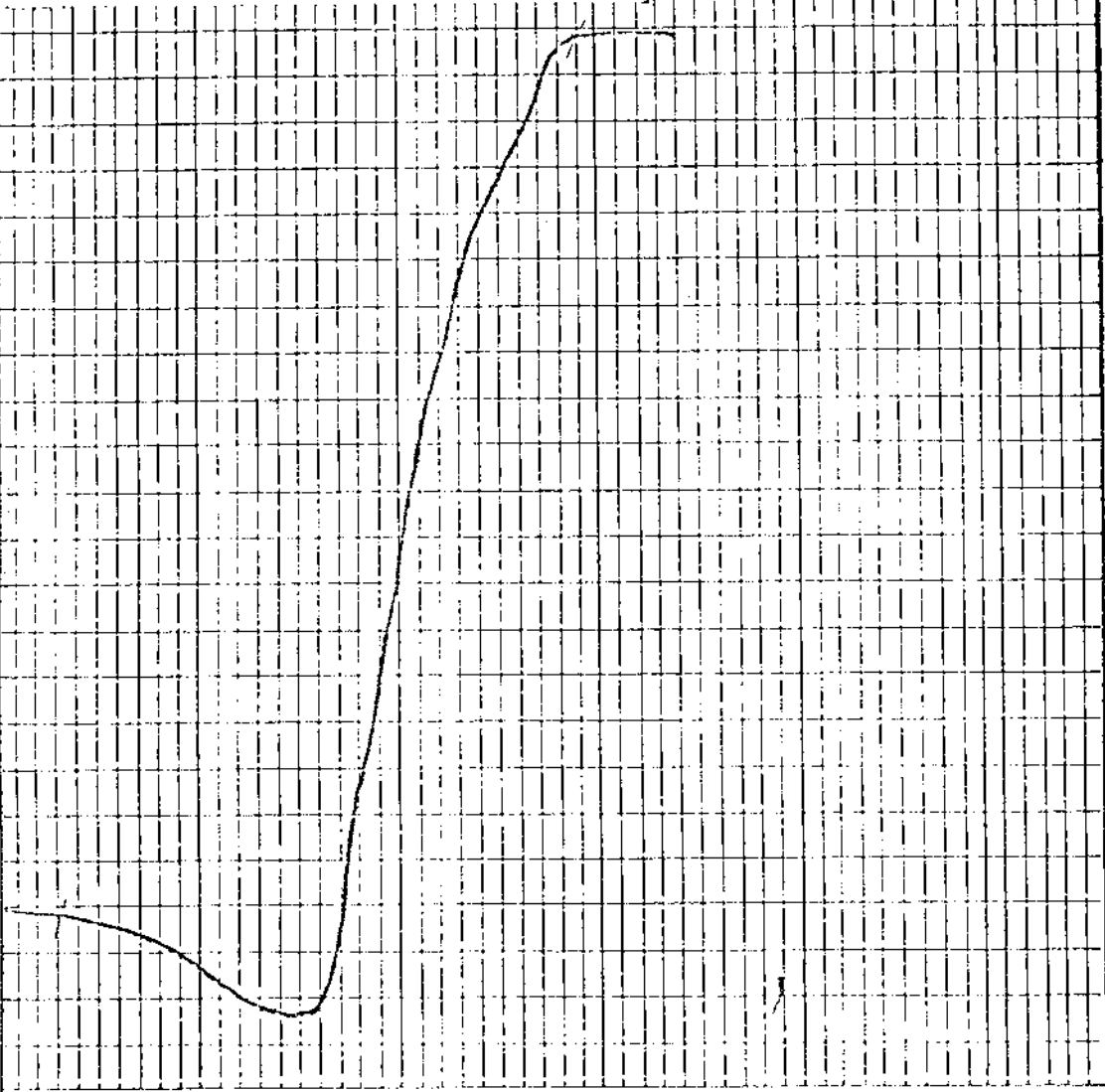
| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 92.0  | 0.7   | 40.1  | 0.72 | 92.0       | 40.1  | 0.72 | A.D.B. |
|                     | 92.0  | --    | 40.4  | 0.73 | 92.0       | 40.4  | 0.73 | D.B.   |
| 65 x 0              | 8.0   | 0.9   | 31.1  | 0.84 | 100.0      | 39.4  | 0.73 | A.D.B. |
|                     | 8.0   | --    | 31.4  | 0.85 | 100.0      | 39.7  | 0.74 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |      |       |      |      |      |            |       |        |
|----------------------------------|------|------|-------|------|------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M% | Ash % | V.M% | F.C% | S.%  | Cumulative |       |        |
|                                  |      |      |       |      |      |      | Wt. %      | Ash % |        |
| -1.40                            | 40.0 | 1.0  | 6.8   | 32.7 | 59.5 | 1.21 | 40.0       | 6.8   | A.D.B. |
|                                  | 40.0 | --   | 6.8   | 33.0 | 60.2 | 1.22 | 40.0       | 6.8   | D.B.   |
| 1.40-1.50                        | 6.5  | 0.6  | 18.7  | 30.8 | 49.9 | 1.27 | 46.5       | 8.5   | A.D.B. |
|                                  | 6.5  | --   | 18.8  | 31.0 | 50.2 | 1.28 | 46.5       | 8.5   | D.B.   |
| 1.50-1.60                        | 2.5  | 0.9  | 31.2  | --   | --   | --   | 49.0       | 9.6   | A.D.B. |
|                                  | 2.5  | --   | 31.5  | --   | --   | --   | 49.0       | 9.6   | D.B.   |
| +1.60                            | 51.0 | 0.9  | 69.6  | --   | --   | --   | 100.0      | 40.2  | A.D.B. |
|                                  | 51.0 | --   | 70.3  | --   | --   | --   | 100.0      | 40.6  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                     |                     |                  |                |       |       |
|--|-------------|---------------------|---------------------|------------------|----------------|-------|-------|
| F.S.I.   | F % on Coal | DILATION TESTS      |                     |                  |                |       | G.No. |
|  |             | Softening Temp.(°C) | Max. Dil. Temp.(°C) | Maximum Contr. % | Maximum Dil. % |       |       |
| 9  | 0.082       | 359                 | 437                 | 24               | 188            | 1.082 |       |

Lab. No. 8622 Date March 7/77  
 Client: Warnock Hersey  
 Sample Identification: 77-2176  
 Starting Temperature °C: 350  
 Softening Temperature °C: 359  
 Max. Dilatation Temp. °C: 437  
 Contraction %: 24  
 Dilatation %: 188  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 1.082

%  
 300  
 250  
 200  
 150  
 100  
 50  
 0



**BIRTLEY ENGINEERING (CANADA) LTD.**

Title  
 RUHR DILATOMETER TEST

Date  
 Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No. R-77-22-7 Lab. No.: 77 - 2177 Date: March 11, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| F.M.%             | Ash% | V.M.% | F.C % | S.%  | H.G.I. | REMARKS         |
| 0.6               | 29.8 | 28.7  | 40.9  | 0.98 | 70.5   | Air Dried Basis |
| --                | 29.9 | 28.9  | 41.2  | 0.99 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 86.2  | 0.6   | 31.8  | 0.95 | 86.2       | 31.8  | 0.95 | A.D.B. |
|                     | 86.2  | --    | 32.0  | 0.96 | 86.2       | 32.0  | 0.96 | D.B.   |
| 65 x 0              | 13.8  | 0.9   | 18.3  | 1.11 | 100.0      | 29.9  | 0.97 | A.D.B. |
|                     | 13.8  | --    | 18.5  | 1.12 | 100.0      | 30.1  | 0.98 | D.B.   |

| SINK - FLOAT ANALYSIS ¼" x 65 M |      |       |       |       |      |      |            |       |        |
|---------------------------------|------|-------|-------|-------|------|------|------------|-------|--------|
| S. G.                           | Wt.% | R.M.% | Ash % | V.M.% | F.C% | S.%  | Cumulative |       |        |
|                                 |      |       |       |       |      |      | Wt. %      | Ash % |        |
| -1.40                           | 63.8 | 0.9   | 5.7   | 33.4  | 60.0 | 1.23 | 63.8       | 5.7   | A.D.B. |
|                                 | 63.8 | --    | 5.8   | 33.7  | 60.5 | 1.24 | 63.8       | 5.8   | D.B.   |
| 1.40-1.50                       | 3.3  | 0.6   | 15.9  | 30.3  | 53.2 | 1.29 | 67.1       | 6.2   | A.D.B. |
|                                 | 3.3  | --    | 16.0  | 30.4  | 53.6 | 1.30 | 67.1       | 6.3   | D.B.   |
| 1.50-1.60                       | 1.5  | 0.9   | 23.0  | --    | --   | --   | 68.6       | 6.6   | A.D.B. |
|                                 | 1.5  | --    | 23.2  | --    | --   | --   | 68.6       | 6.7   | D.B.   |
| +1.60                           | 31.4 | 0.6   | 85.4  | --    | --   | --   | 100.0      | 31.3  | A.D.B. |
|                                 | 31.4 | --    | 85.9  | --    | --   | --   | 100.0      | 31.6  | D.B.   |

| COMPOSITE ¼" x 15 m FLOTS @ 1.50 S.G., A.D.B. |             |                      |                      |                  |                |        |
|---|-------------|----------------------|----------------------|------------------|----------------|--------|
| F.S.I.  | F % on Coal | DILATATION TESTS     |                      |                  |                | G. No. |
|   |             | Softening Temp. (°C) | Max. Dil. Temp. (°C) | Maximum Contr. % | Maximum Dil. % |        |
| 8½  | 0.057       | 356                  | 440                  | 24               | 249            | 1.095  |

Lab. No. 8623 Date March/77

Client: Warnock Hersey

Sample Identification: 77-2177

Starting Temperature °C: 350

Softening Temperature °C: 356

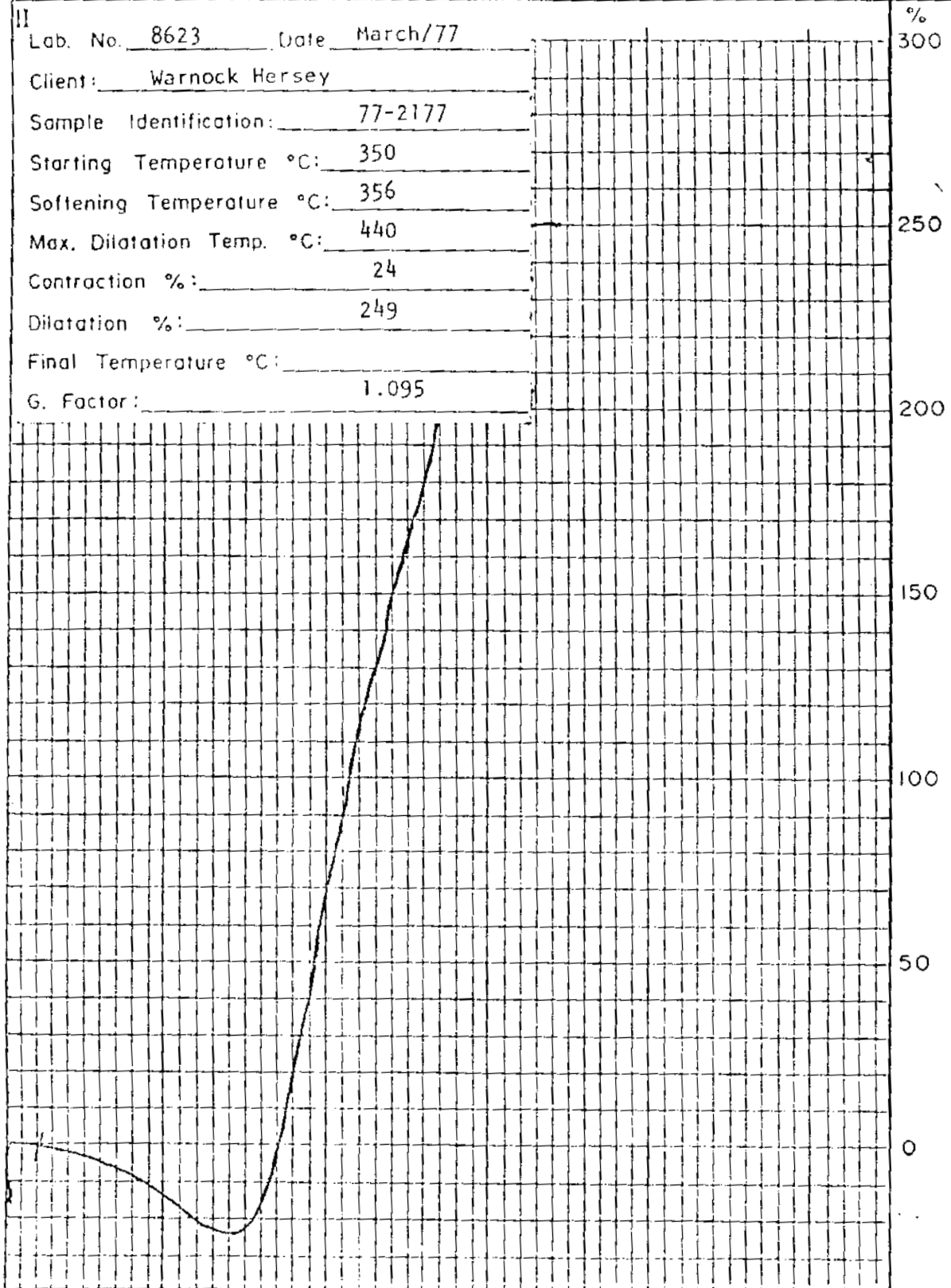
Max. Dilatation Temp. °C: 440

Contraction %: 24

Dilatation %: 249

Final Temperature °C:

G. Factor: 1.095



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.

COPE SAMPLE ANALYSIS

Hole No.: R-77-22-8 Lab. No.: 77 - 2178 Date: March 11, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash% | V.M.% | F.C % | S.%  | H.G.I. | REMARKS         |
| 1.0               | 16.1 | 26.3  | 56.6  | 0.59 | 75.4   | Air Dried Basis |
| ---               | 16.2 | 26.6  | 57.2  | 0.60 | ---    | Dry Basis       |

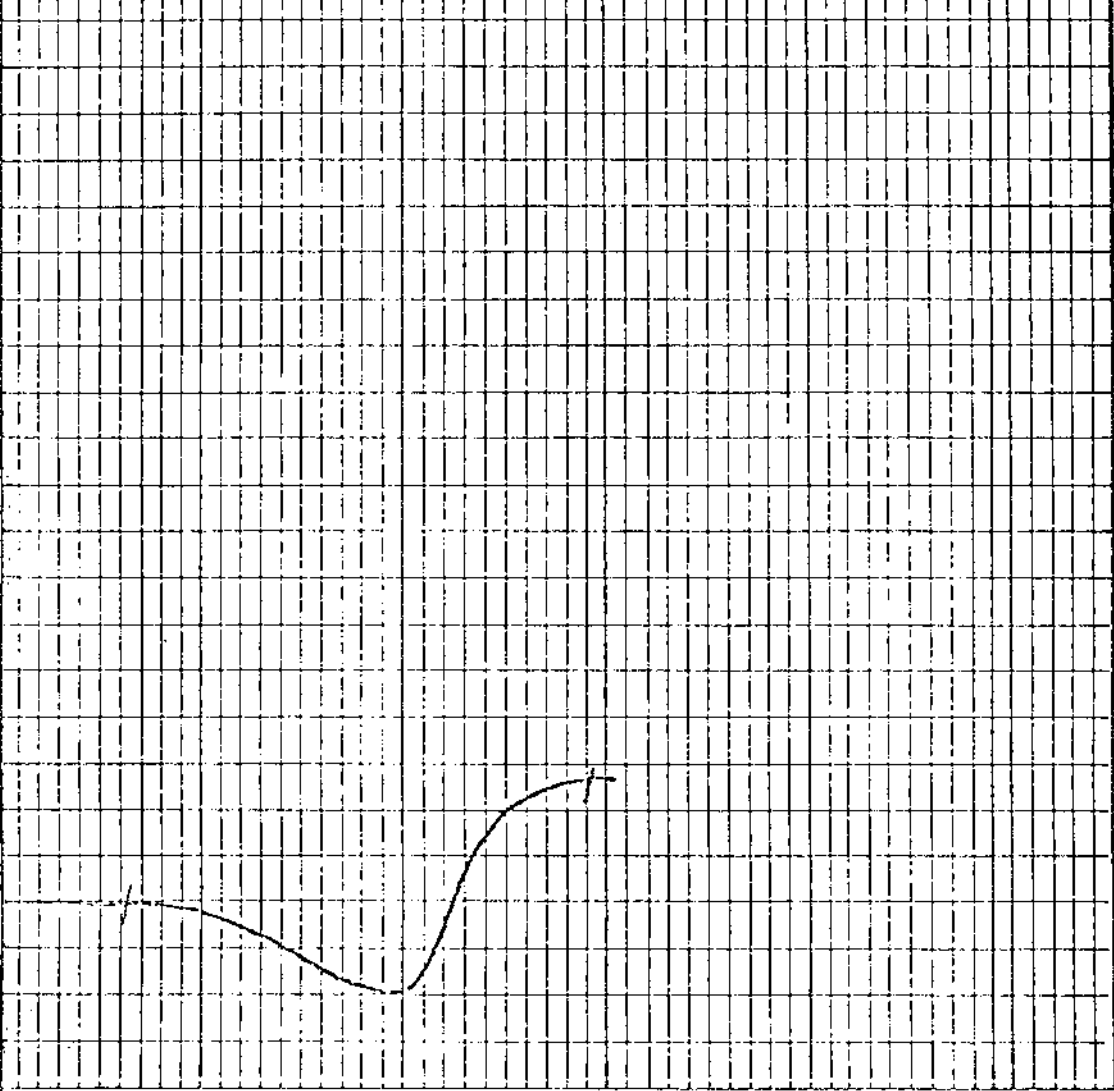
| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 91.4  | 1.2   | 16.3  | 0.61 | 91.4       | 16.3  | 0.61 | A.D.B. |
|                     | 91.4  | --    | 16.5  | 0.62 | 91.4       | 16.5  | 0.62 | D.B.   |
| 65 x 0              | 8.6   | 1.2   | 11.1  | 0.65 | 100.0      | 15.8  | 0.61 | A.D.B. |
|                     | 8.6   | --    | 11.2  | 0.66 | 100.0      | 16.0  | 0.62 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |       |       |      |      |            |       |        |
|----------------------------------|------|-------|-------|-------|------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M.% | Ash % | V.M.% | F.C% | S.%  | Cumulative |       |        |
|                                  |      |       |       |       |      |      | Wt. %      | Ash % |        |
| -1.40                            | 79.5 | 1.0   | 2.8   | 29.6  | 66.6 | 0.69 | 79.5       | 2.8   | A.D.B. |
|                                  | 79.5 | --    | 2.8   | 29.9  | 67.3 | 0.70 | 79.5       | 2.8   | D.B.   |
| 1.40-1.50                        | 2.9  | 1.0   | 13.0  | 25.7  | 60.3 | 0.60 | 82.4       | 3.2   | A.D.B. |
|                                  | 2.9  | --    | 13.2  | 25.9  | 60.9 | 0.61 | 82.4       | 3.2   | D.B.   |
| 1.50-1.60                        | 0.8  | 1.0   | 24.2  | --    | --   | --   | 83.2       | 3.4   | A.D.B. |
|                                  | 0.8  | --    | 24.4  | --    | --   | --   | 83.2       | 3.4   | D.B.   |
| +1.60                            | 16.8 | 0.9   | 77.8  | --    | --   | --   | 100.0      | 15.9  | A.D.B. |
|                                  | 16.8 | --    | 78.5  | --    | --   | --   | 100.0      | 16.0  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                     |                     |                  |                |       |
|--|-------------|---------------------|---------------------|------------------|----------------|-------|
| F.S.I.   | F % on Coal | DILATATION TESTS    |                     |                  |                | G.No. |
|  |             | Softening Temp.(°C) | Max. Dil. Temp.(°C) | Maximum Contr. % | Maximum Dil. % |       |
| 7  | 0.010       | 368                 | 437                 | 19               | 26             | 1.014 |

Lab. No. 8624 Date March/77  
 Client: Warnock Hersey  
 Sample Identification: 77-2178  
 Starting Temperature °C: 350  
 Softening Temperature °C: 368  
 Max. Dilatation Temp. °C: 437  
 Contraction %: 19  
 Dilatation %: 26  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 1.014

%  
 300  
 250  
 200  
 150  
 100  
 50  
 0




**BIRTLEY ENGINEERING (CANADA) LTD.**

Title  
 RUHR DILATOMETER TEST

Date  
 Drawn



ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No. R-77 - 22-9 Lab. No.: 77-2179 Date: March 11, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| P.M.%             | Ash% | V.M.% | F.C % | S. % | H.G.I. | REMARKS         |
| 0.8               | 60.5 | 15.3  | 23.4  | 0.39 | 47.7   | Air Dried Basis |
| --                | 61.0 | 15.4  | 23.6  | 0.39 | --     | Dry Basis       |

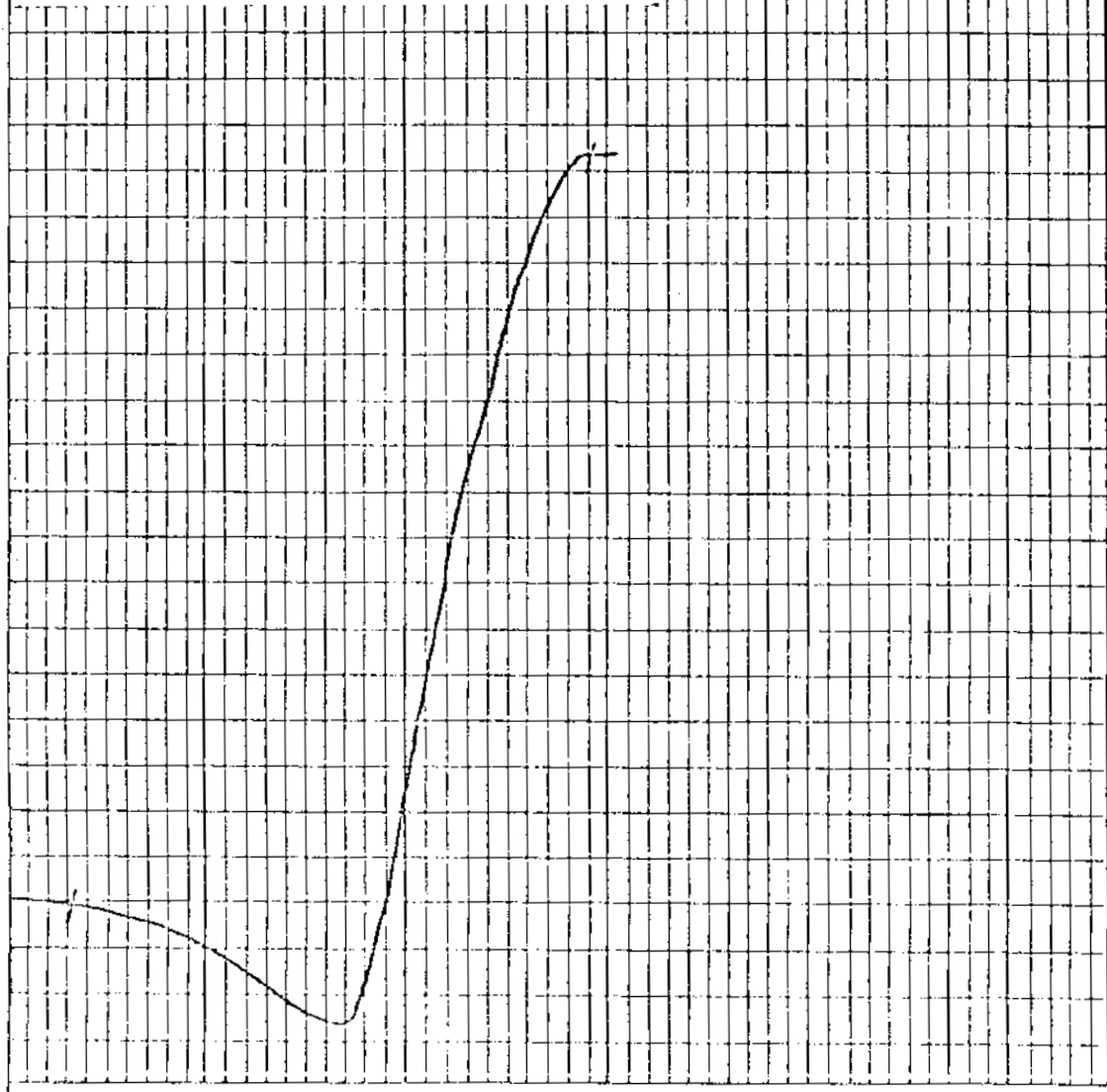
| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 95.4  | 0.8   | 62.4  | 0.33 | 95.4       | 62.4  | 0.33 | A.D.B. |
|                     | 95.4  | --    | 62.9  | 0.33 | 95.4       | 62.9  | 0.33 | D.B.   |
| 65 x 0              | 4.6   | 1.1   | 32.6  | 0.68 | 100.0      | 61.0  | 0.35 | A.D.B. |
|                     | 4.6   | --    | 33.0  | 0.69 | 100.0      | 61.5  | 0.35 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |      |       |      |      |      |            |       |        |
|----------------------------------|------|------|-------|------|------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M% | Ash % | V.M% | F.C% | S.%  | Cumulative |       |        |
|                                  |      |      |       |      |      |      | Wt. %      | Ash % |        |
| -1.40                            | 17.3 | 0.7  | 10.7  | 30.8 | 57.8 | 0.96 | 17.3       | 10.7  | A.D.B. |
|                                  | 17.3 | --   | 10.8  | 31.0 | 58.2 | 0.97 | 17.3       | 10.8  | D.B.   |
| 1.40-1.50                        | 1.9  | 0.5  | 16.4  | 29.2 | 53.9 | 0.83 | 19.2       | 11.3  | A.D.B. |
|                                  | 1.9  | --   | 16.5  | 29.4 | 54.1 | 0.84 | 19.2       | 11.4  | D.B.   |
| 1.50-1.60                        | 0.7  | 0.7  | 27.1  | --   | --   | --   | 19.9       | 11.8  | A.D.B. |
|                                  | 0.7  | --   | 27.3  | --   | --   | --   | 19.9       | 11.9  | D.B.   |
| +1.60                            | 80.1 | 0.8  | 74.9  | --   | --   | --   | 100.0      | 62.3  | A.D.B. |
|                                  | 80.1 | --   | 75.5  | --   | --   | --   | 100.0      | 62.8  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                     |                     |                  |                |       |
|--|-------------|---------------------|---------------------|------------------|----------------|-------|
| F.S.I.   | I % on Coal | DILATATION TESTS    |                     |                  |                | G.No. |
|  |             | Softening Temp.(°C) | Max. Dil. Temp.(°C) | Maximum Contr. % | Maximum Dil. % |       |
| 7½   | 0.011       | 359                 | 437                 | 25               | 164            | 1.078 |

II  
 Lab. No. 8625 Date March/77  
 Client: Warnock Hersey  
 Sample Identification: 77-2179  
 Starting Temperature °C: 350  
 Softening Temperature °C: 359  
 Max. Dilatation Temp. °C: 437  
 Contraction %: 25  
 Dilatation %: 164  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 1.078

%  
 300  
 250  
 200  
 150  
 100  
 50  
 0



**BIRTLEY ENGINEERING (CANADA) LTD.**

Title  
 RUHR DILATOMETER TEST

Date  
 Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.

Hole No. R-77-22-10

CORE SAMPLE ANALYSIS

Lab. No.: 77 - 2180

Date: March 11, 1977

| HEAD RAW ANALYSIS |      |       |       |      |      | H.G.I.          | REMARKS |
|-------------------|------|-------|-------|------|------|-----------------|---------|
| P.M.%             | Ash% | V.M.% | F.C % | S.%  |      |                 |         |
| 0.9               | 13.4 | 26.9  | 58.8  | 0.38 | 91.3 | Air Dried Basis |         |
| --                | 13.5 | 27.2  | 59.3  | 0.38 | --   | Dry Basis       |         |

| Size Fraction | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|---------------|-------|-------|-------|------|------------|-------|------|--------|
|               |       |       |       |      | Wt. %      | Ash % | S. % |        |
| 1/4 x 65      | 95.4  | 1.0   | 13.1  | 0.37 | 95.4       | 13.1  | 0.37 | A.D.B. |
|               | 95.4  | --    | 13.2  | 0.37 | 95.4       | 13.2  | 0.37 | D.B.   |
| 65 x 0        | 4.6   | 1.1   | 5.7   | 0.37 | 100.0      | 12.8  | 0.37 | A.D.B. |
|               | 4.6   | --    | 5.8   | 0.37 | 100.0      | 12.9  | 0.37 | D.B.   |

| S. G.     | Wt.% | R.M% | Ash % | V.M% | F.C% | S.%  | Cumulative |       |        |
|-----------|------|------|-------|------|------|------|------------|-------|--------|
|           |      |      |       |      |      |      | Wt. %      | Ash % |        |
| -1.40     | 84.8 | 1.2  | 4.6   | 29.5 | 64.7 | 0.37 | 84.8       | 4.6   | A.D.B. |
|           | 84.8 | --   | 4.6   | 29.8 | 65.6 | 0.37 | 84.8       | 4.6   | D.B.   |
| 1.40-1.50 | 3.8  | 0.7  | 16.4  | 23.7 | 59.2 | 0.30 | 88.6       | 5.1   | A.D.B. |
|           | 3.8  | --   | 16.5  | 23.9 | 59.6 | 0.30 | 88.6       | 5.1   | D.B.   |
| 1.50-1.60 | 1.4  | 1.1  | 25.9  | --   | --   | --   | 90.0       | 5.4   | A.D.B. |
|           | 1.4  | --   | 26.2  | --   | --   | --   | 90.0       | 5.5   | D.B.   |
| +1.60     | 10.0 | 0.9  | 79.8  | --   | --   | --   | 100.0      | 12.8  | A.D.B. |
|           | 10.0 | --   | 80.5  | --   | --   | --   | 100.0      | 13.0  | D.B.   |

| COMPOSITE 1/4" x 65 m |             | FLOATS @ 1.50 S.G., A.D.B. |                      |                  |                |       |
|-----------------------|-------------|----------------------------|----------------------|------------------|----------------|-------|
| F.S.I.                | F % on Coal | DILATATION TESTS           |                      |                  |                |       |
|                       |             | Softening Temp. (°C)       | Max. Dil. Temp. (°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 7                     | 0.012       | 371                        | 443                  | 20               | 29             | 1.017 |

# Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No. R 77-22-11    Lab. No.: 77 - 2181    Date: March 11, 1977

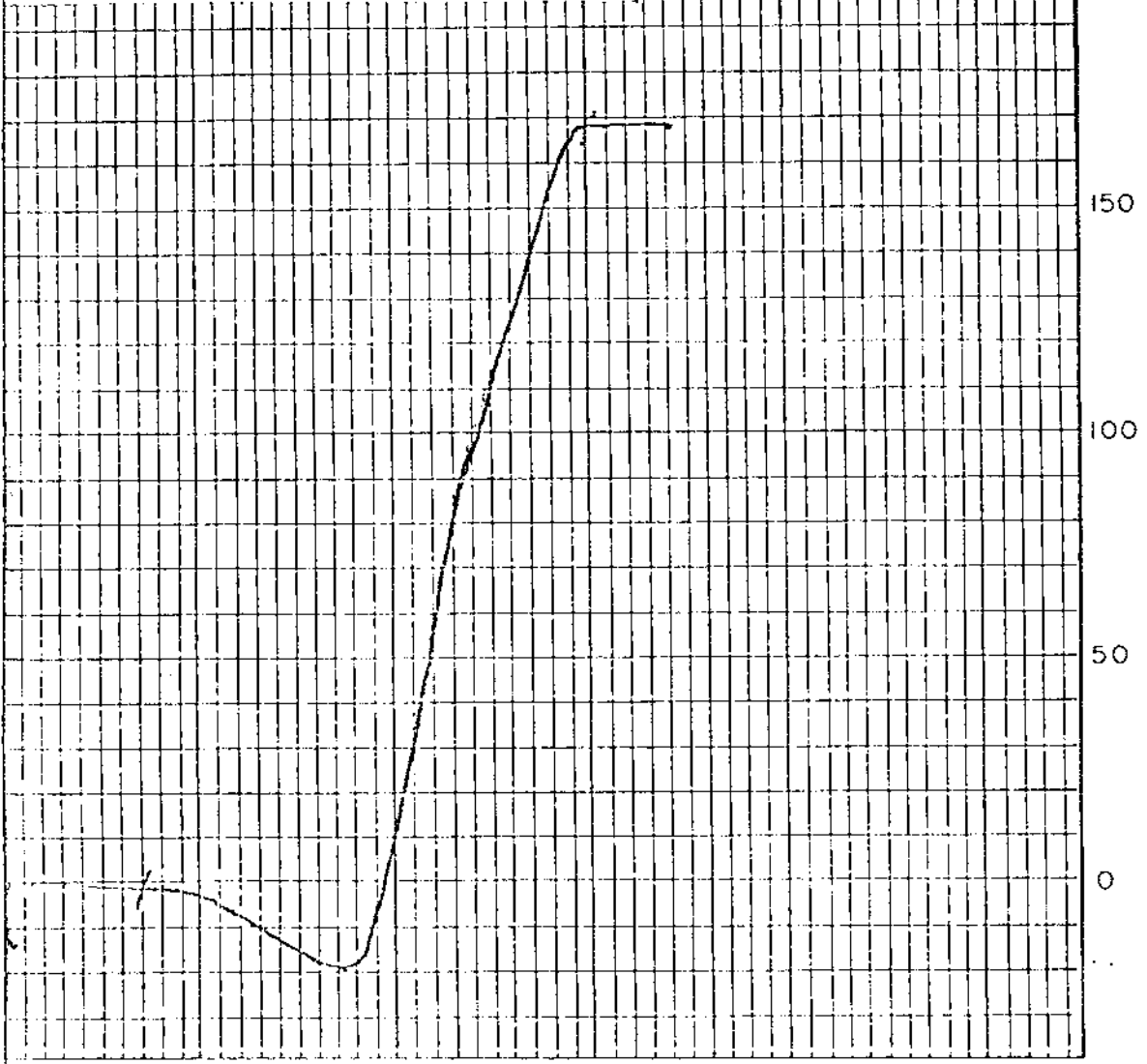
| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| F.M.%             | Ash% | V.M.% | F.C % | S.%  | H.G.I. | REMARKS         |
| 0.7               | 52.3 | 17.7  | 29.3  | 0.32 | 76.8   | Air Dried Basis |
| --                | 52.7 | 17.8  | 29.5  | 0.32 | ---    | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 97.8  | 0.8   | 52.2  | 0.33 | 97.8       | 52.2  | 0.33 | A.D.B. |
|                     | 97.8  | --    | 52.6  | 0.33 | 97.8       | 52.6  | 0.33 | D.B.   |
| 65 x 0              | 2.2   | 0.9   | 18.5  | 0.51 | 100.0      | 51.4  | 0.33 | A.D.B. |
|                     | 2.2   | --    | 18.7  | 0.51 | 100.0      | 51.8  | 0.33 | D.B.   |

| SINK - FLOAT ANALYSIS - ¼" x 65 M |      |      |       |      |      |      |            |       |        |
|-----------------------------------|------|------|-------|------|------|------|------------|-------|--------|
| S. G.                             | Wt.% | R.M% | Ash % | V.M% | F.C% | S.%  | Cumulative |       |        |
|                                   |      |      |       |      |      |      | Wt. %      | Ash % |        |
| -1.40                             | 29.5 | 0.9  | 5.9   | 31.3 | 61.9 | 0.63 | 29.5       | 5.9   | A.D.B. |
|                                   | 29.5 | --   | 5.9   | 31.6 | 62.5 | 0.64 | 29.5       | 5.9   | D.B.   |
| 1.40-1.50                         | 3.8  | 0.9  | 19.4  | 27.3 | 52.4 | 0.52 | 33.3       | 7.4   | A.D.B. |
|                                   | 3.8  | --   | 19.5  | 27.5 | 53.0 | 0.52 | 33.3       | 7.4   | D.B.   |
| 1.50-1.60                         | 2.5  | 0.9  | 31.0  | --   | --   | --   | 35.8       | 9.1   | A.D.B. |
|                                   | 2.5  | --   | 31.2  | --   | --   | --   | 35.8       | 9.1   | D.B.   |
| +1.60                             | 64.2 | 0.8  | 76.0  | --   | --   | --   | 100.0      | 52.0  | A.D.B. |
|                                   | 64.2 | --   | 76.6  | --   | --   | --   | 100.0      | 52.4  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |                        |                        |                     |                   |       |
|--|-------------------|------------------------|------------------------|---------------------|-------------------|-------|
| F.S.I.   | 1 %<br>on<br>Coal | DILATATION TESTS       |                        |                     |                   | G.No. |
|  |                   | Softening<br>Temp.(°C) | Max. Dil.<br>Temp.(°C) | Maximum<br>Contr. % | Maximum<br>Dil. % |       |
| 9  | 0.029             | 371                    | 440                    | 20                  | 168               | 1.072 |

Lab No. 8627 Date March/77  
 Client: Warnock Hersey  
 Sample Identification: 77-2181  
 Starting Temperature °C: 350  
 Softening Temperature °C: 371  
 Max. Dilatation Temp. °C: 440  
 Contraction %: 20  
 Dilatation %: 168  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 1.072




**BIRTLEY ENGINEERING (CANADA) LTD.**

|                       |       |
|-----------------------|-------|
| Title                 | Date  |
| RUHR DILATOMETER TEST | Drawn |

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No. R-77-22-12 Lab. No. 77 - 2182 Date March 14, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| F.M.%             | Ash% | V.M.% | F.C % | S.%  | H.G.I. | REMARKS*        |
| 0.8               | 67.9 | 14.6  | 16.7  | 0.57 | 54.6   | Air Dried Basis |
| --                | 68.4 | 14.7  | 16.9  | 0.57 | ---    | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 98.9  | 0.8   | 68.0  | 0.57 | 98.9       | 68.0  | 0.57 | A.D.B. |
|                     | 98.9  | --    | 68.5  | 0.57 | 98.9       | 68.5  | 0.57 | D.B.   |
| 65 x 0              | 1.1   | 0.9   | 37.9  | 0.86 | 100.0      | 67.7  | 0.57 | A.D.B. |
|                     | 1.1   | --    | 38.2  | 0.87 | 100.0      | 68.2  | 0.57 | D.B.   |

| SINK - FLOAT ANALYSIS ¼" x 65 M |      |      |       |      |      |      |            |       |        |
|---------------------------------|------|------|-------|------|------|------|------------|-------|--------|
| S. G.                           | Wt.% | R.M% | Ash % | V.M% | F.C% | S.%  | Cumulative |       |        |
|                                 |      |      |       |      |      |      | Wt. %      | Ash % |        |
| -1.40                           | 8.4  | 0.8  | 13.2  | 28.8 | 57.2 | 1.26 | 8.4        | 13.2  | A.D.B. |
|                                 | 8.4  | --   | 13.3  | 29.0 | 57.7 | 1.27 | 8.4        | 13.3  | D.B.   |
| 1.40-1.50                       | 2.1  | 0.6  | 16.4  | 23.9 | 42.8 | 1.04 | 10.5       | 13.8  | A.D.B. |
|                                 | 2.1  | --   | 16.5  | 24.0 | 43.1 | 1.05 | 10.5       | 13.9  | D.B.   |
| 1.50-1.60                       | 2.6  | 0.4  | 25.8  | --   | --   | --   | 13.1       | 16.2  | A.D.B. |
|                                 | 2.6  | --   | 25.9  | --   | --   | --   | 13.1       | 16.3  | D.B.   |
| >1.60                           | 86.9 | 0.6  | 76.3  | --   | --   | --   | 100.0      | 68.4  | A.D.B. |
|                                 | 86.9 | --   | 76.7  | --   | --   | --   | 100.0      | 68.8  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                      |                      |                  |                |        |
|--|-------------|----------------------|----------------------|------------------|----------------|--------|
| F.S.I.   | F % on Coal | DILATATION TESTS     |                      |                  |                |        |
|  |             | Softening Temp. (°C) | Max. Dil. Temp. (°C) | Maximum Contr. % | Maximum Dil. % | G. No. |
| 8½   | 0.024       | 356                  | 431                  | 18               | 208            | 1.087  |

Lab. No. 8628 Date March/77

Client: Warnock Hersey

Sample Identification: 77-2182

Starting Temperature °C: 350

Softening Temperature °C: 356

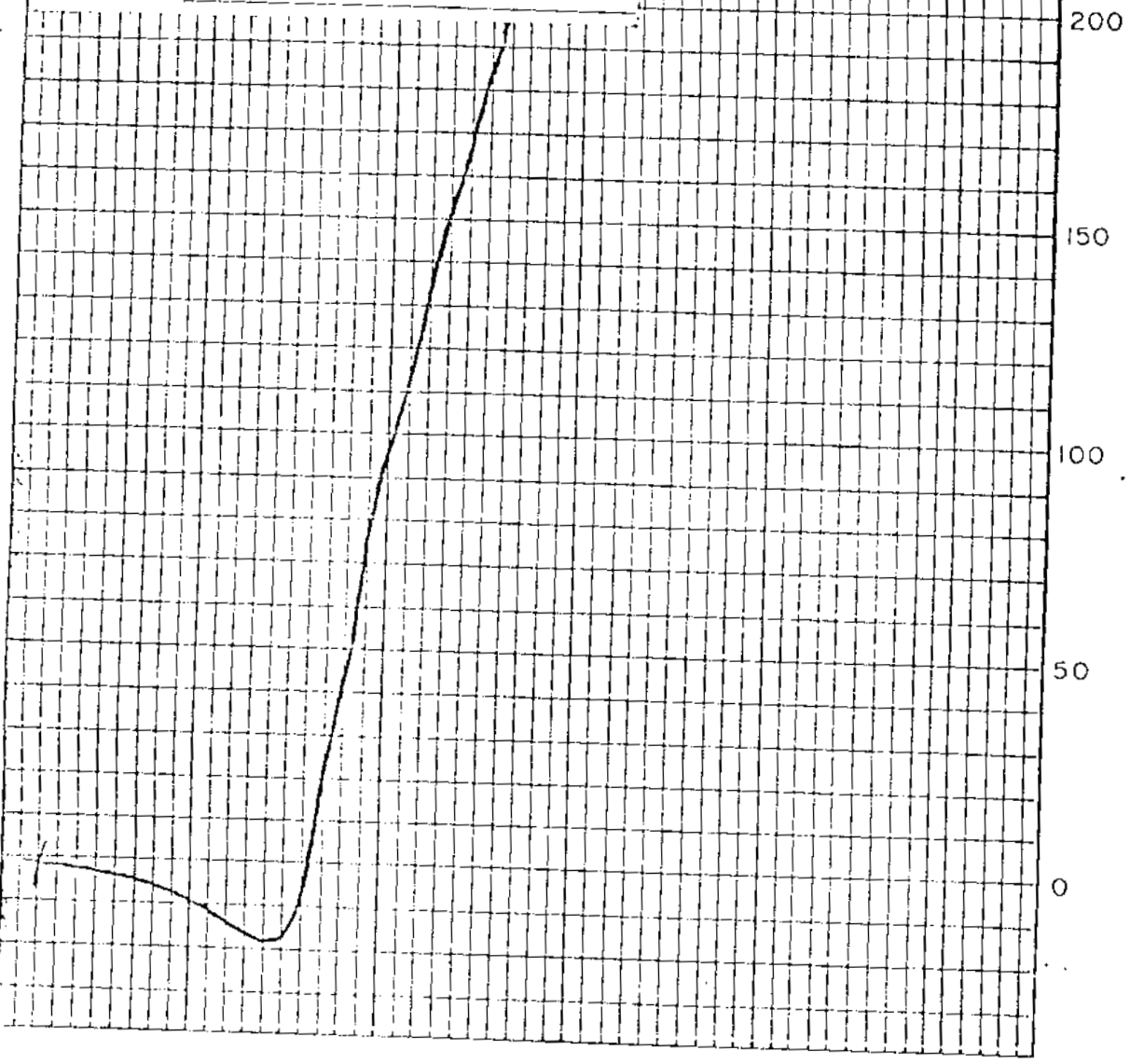
Max. Dilatation Temp. °C: 431

Contraction %: 18

Dilatation %: 208

Final Temperature °C:

G. Factor: 1.087



BIRTLLEY ENGINEERING (CANADA) LTD.

Title  
RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No.: R-77-22-13 Lab. No.: 77 - 2183 Date: March 11, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| F.M.%             | Ash% | V.M.% | F.C % | S. % | H.G.I. | REMARKS         |
| 0.8               | 19.0 | 26.2  | 54.0  | 0.53 | 112.8  | Air Dried Basis |
| --                | 19.1 | 26.4  | 54.5  | 0.53 | --     | Dry Basis       |

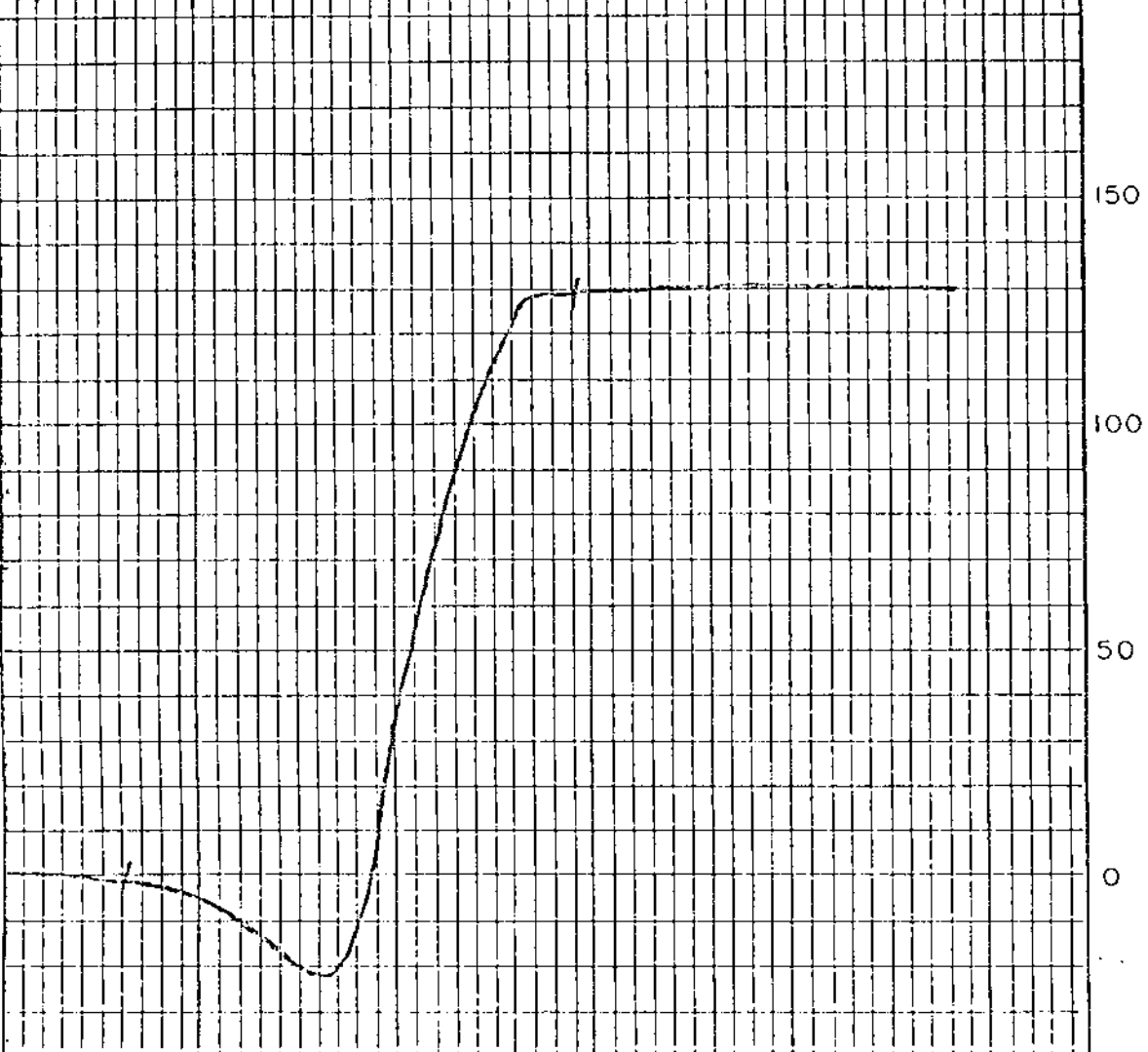
| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| 1/4 x 65            | 91.2  | 0.8   | 21.6  | 0.52 | 91.2       | 21.6  | 0.52 | A.D.B. |
|                     | 91.2  | --    | 21.8  | 0.52 | 91.2       | 21.8  | 0.52 | D.B.   |
| 65 x 0              | 8.8   | 1.2   | 5.4   | 0.57 | 100.0      | 20.2  | 0.52 | A.D.B. |
|                     | 8.8   | --    | 5.4   | 0.58 | 100.0      | 20.4  | 0.52 | D.B.   |

| SINK - FLOAT ANALYSIS 1/4 x 65 M |      |      |       |      |      |      |            |       |        |
|----------------------------------|------|------|-------|------|------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M% | Ash % | V.M% | F.C% | S.%  | Cumulative |       |        |
|                                  |      |      |       |      |      |      | Wt. %      | Ash % |        |
| -1.40                            | 72.6 | 1.6  | 5.3   | 30.6 | 62.5 | 0.58 | 72.6       | 5.3   | A.D.B. |
|                                  | 72.8 | --   | 5.4   | 31.0 | 63.6 | 0.59 | 72.8       | 5.4   | D.B.   |
| 1.40-1.50                        | 4.4  | 0.8  | 17.0  | 27.1 | 55.1 | 0.47 | 77.0       | 6.0   | A.D.B. |
|                                  | 4.4  | --   | 17.1  | 27.3 | 55.6 | 0.47 | 77.2       | 6.1   | D.B.   |
| 1.50-1.60                        | 1.8  | 1.0  | 24.8  | --   | --   | --   | 79.8       | 6.4   | A.D.B. |
|                                  | 1.8  | --   | 25.1  | --   | --   | --   | 79.0       | 6.5   | D.B.   |
| +1.60                            | 21.2 | 1.1  | 75.6  | --   | --   | --   | 100.0      | 21.1  | A.D.B. |
|                                  | 21.0 | --   | 76.4  | --   | --   | --   | 100.0      | 21.2  | D.B.   |

| COMPOSITE 1/4 x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                     |                     |                  |                |       |       |
|---|-------------|---------------------|---------------------|------------------|----------------|-------|-------|
| F.S.I.  | P % on Coal | DILATATION TESTS    |                     |                  |                |       | G.No. |
|   |             | Softening Temp.(°C) | Max. Dil. Temp.(°C) | Maximum Contr. % | Maximum Dil. % |       |       |
| 8 1/2   | 0.028       | 368                 | 437                 | 22               | 129            | 1.065 |       |



Lab. No. 8629 Date March/77  
 Client: Warncock Hersey  
 Sample Identification: 77-2183  
 Starting Temperature °C: 350  
 Softening Temperature °C: 368  
 Max. Dilatation Temp. °C: 437  
 Contraction %: 22  
 Dilatation %: 129  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 1.065

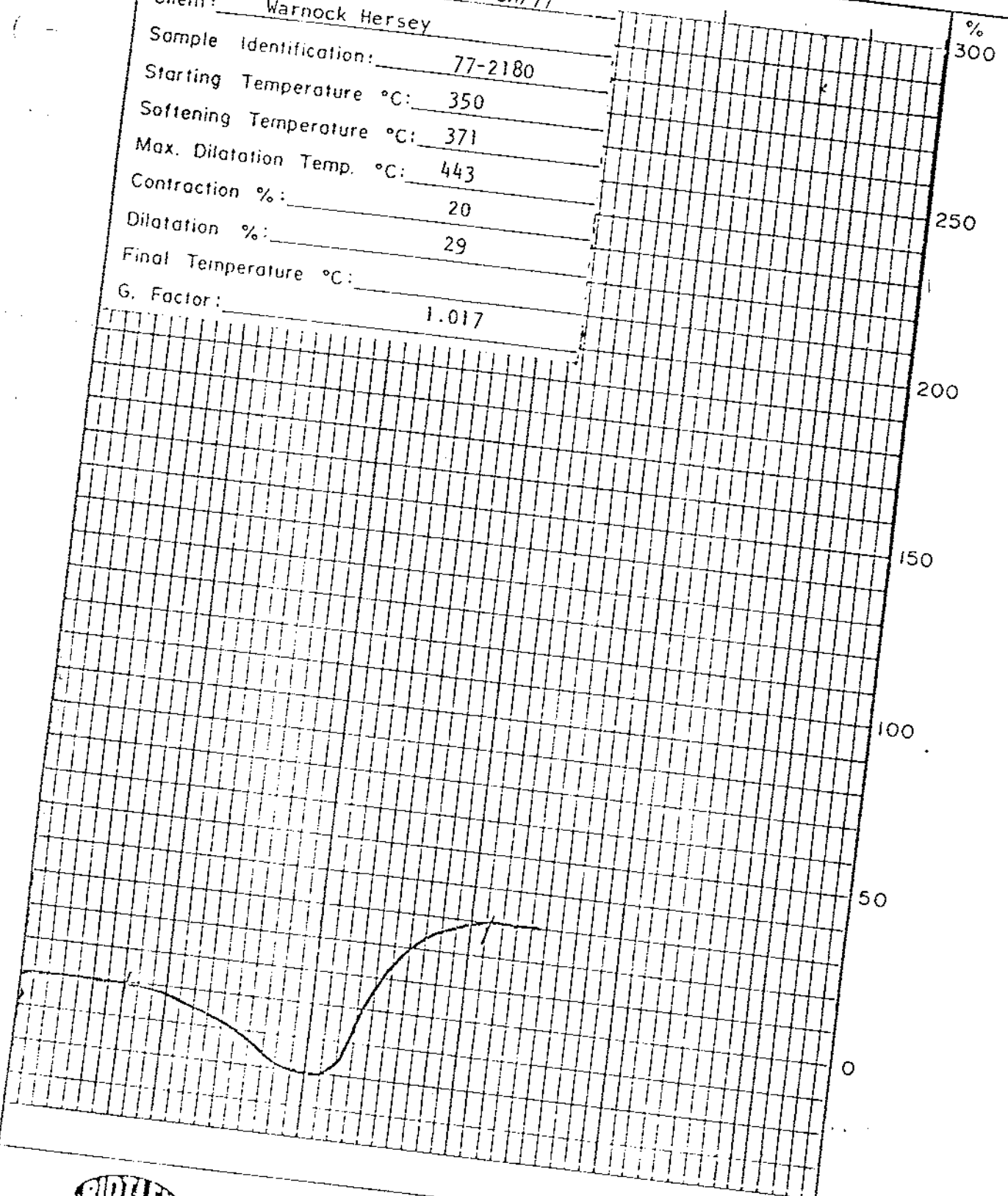


**BIRTLEY ENGINEERING (CANADA) LTD.**

Title RUHR DILATOMETER TEST

Date \_\_\_\_\_  
 Drawn \_\_\_\_\_

I  
 Lab. No. 8626 Date March/77  
 Client: Warnock Hersey  
 Sample Identification: 77-2180  
 Starting Temperature °C: 350  
 Softening Temperature °C: 371  
 Max. Dilatation Temp. °C: 443  
 Contraction %: 20  
 Dilatation %: 29  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 1.017



**BIRTLEY ENGINEERING (CANADA) LTD.**

Title

RUHR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No. R - 77-23-1 Lab. No. 77 - 2184 Date March 11, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| F.M.%             | Ash% | V.M.% | F.C % | S. % | H.G.I. | REMARKS         |
| 0.8               | 31.1 | 24.9  | 43.2  | 0.64 | 129.4  | Air Dried Basis |
| ---               | 31.4 | 25.1  | 43.5  | 0.64 | ---    | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| 1/4 x 65            | 73.4  | 0.8   | 31.4  | 0.65 | 73.4       | 31.4  | 0.65 | A.D.B. |
|                     | 73.4  | --    | 31.6  | 0.66 | 73.4       | 31.6  | 0.66 | D.B.   |
| 65 x 0              | 26.6  | 1.0   | 34.3  | 0.56 | 100.0      | 32.2  | 0.63 | A.D.B. |
|                     | 26.6  | --    | 34.6  | 0.56 | 100.0      | 32.4  | 0.63 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65 M |      |       |       |      |      |      |            |       |        |
|------------------------------------|------|-------|-------|------|------|------|------------|-------|--------|
| S. G.                              | Wt.% | R.M.% | Ash % | V.M% | F.C% | S.%  | Cumulative |       |        |
|                                    |      |       |       |      |      |      | Wt. %      | Ash % |        |
| -1.40                              | 54.1 | 1.0   | 7.0   | 32.5 | 59.5 | 0.73 | 54.1       | 7.0   | A.D.B. |
|                                    | 54.1 | --    | 7.1   | 32.8 | 60.1 | 0.74 | 54.1       | 7.1   | D.B.   |
| 1.40-1.50                          | 7.6  | 0.7   | 22.6  | 29.0 | 47.7 | 0.65 | 61.7       | 8.9   | A.D.B. |
|                                    | 7.6  | --    | 22.8  | 29.2 | 48.0 | 0.65 | 61.7       | 9.0   | D.B.   |
| 1.50-1.60                          | 5.5  | 1.0   | 32.4  | --   | --   | --   | 67.2       | 10.8  | A.D.B. |
|                                    | 5.5  | --    | 32.8  | --   | --   | --   | 67.2       | 11.0  | D.B.   |
| +1.60                              | 32.8 | 1.0   | 73.6  | --   | --   | --   | 100.0      | 31.1  | A.D.B. |
|                                    | 32.8 | --    | 73.3  | --   | --   | --   | 100.0      | 31.4  | D.B.   |

| COMPOSITE 1/4" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                     |                     |                  |                |       |
|--|-------------|---------------------|---------------------|------------------|----------------|-------|
| F.S.L.   | F % on Coal | DILATATION TESTS    |                     |                  |                |       |
|  |             | Softening Temp.(°C) | Max. Dil. Temp.(°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 8  | 0.038       | 80                  | 431                 | 23               | 153            | 1.072 |

Lab. No. 8630 Date March 9/77

Client: Warnock Hersey

Sample Identification: 77-2184

Starting Temperature °C: 350

Softening Temperature °C: 359

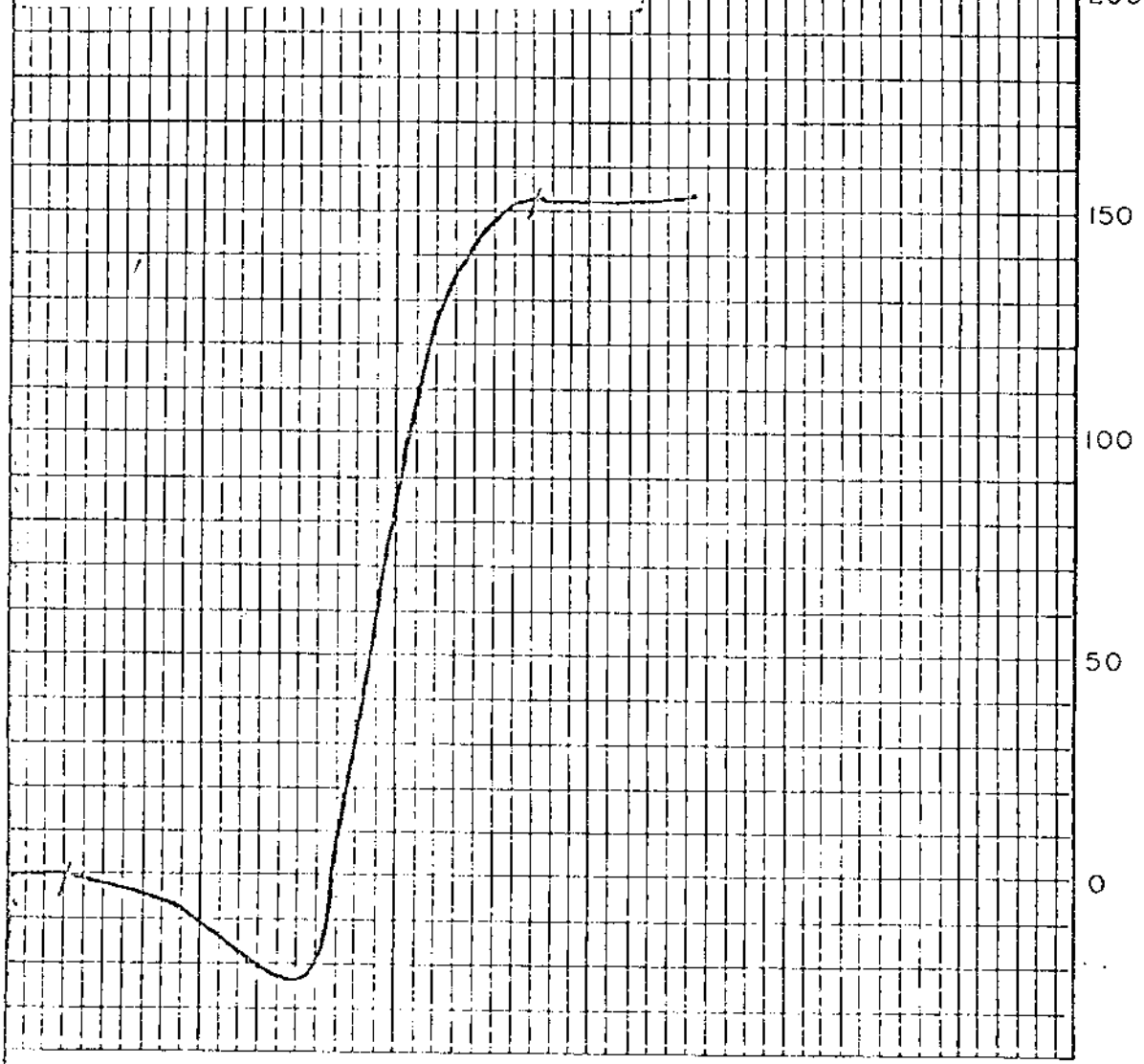
Max. Dilatation Temp. °C: 431

Contraction %: 23

Dilatation %: 153

Final Temperature °C:

G. Factor: 1.072



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No.: R-77 - 23-2 Lab. No.: 77 - 2185 Date: March 11, 1977

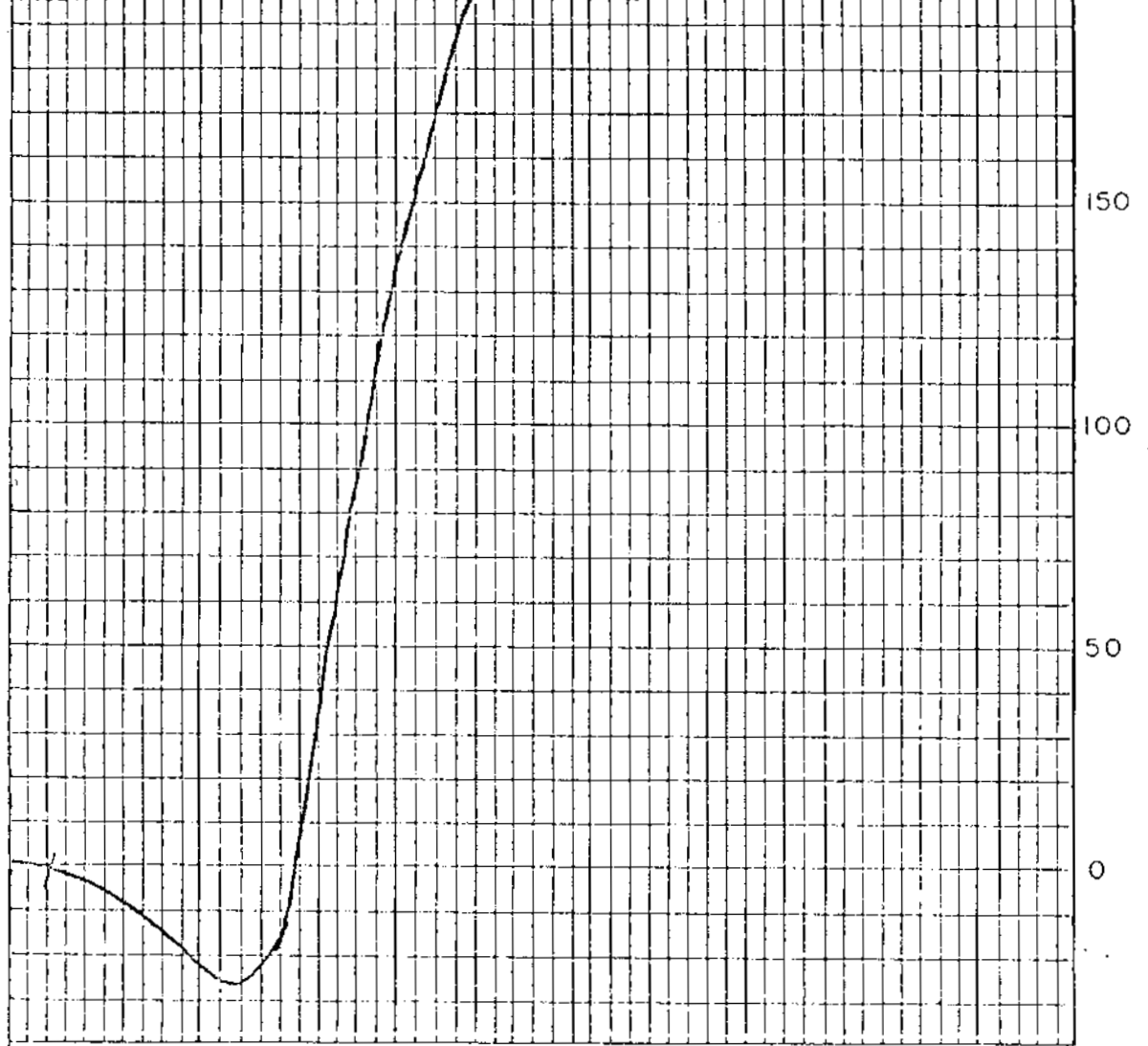
| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash% | V.M.% | F.C % | S.%  | H.G.I. | REMARKS         |
| 0.5               | 49.6 | 27.2  | 22.7  | 0.77 | 65.0   | Air Dried Basis |
| --                | 49.8 | 27.3  | 22.9  | 0.77 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| 1/4 x 65            | 97.5  | 0.5   | 51.8  | 0.82 | 97.5       | 51.8  | 0.82 | A.D.B. |
|                     | 97.5  | --    | 52.1  | 0.82 | 97.5       | 52.1  | 0.82 | D.B.   |
| 65 x 0              | 2.5   | 0.8   | 40.1  | 0.62 | 100.0      | 51.5  | 0.82 | A.D.B. |
|                     | 2.5   | --    | 40.4  | 0.62 | 100.0      | 51.8  | 0.82 | D.B.   |

| SINK - FLOAT ANALYSIS - 1/4" x 65 M |      |       |       |       |      |      |            |       |        |
|-------------------------------------|------|-------|-------|-------|------|------|------------|-------|--------|
| S. G.                               | Wt.% | R.M.% | Ash % | V.M.% | F.C% | S.%  | Cumulative |       |        |
|                                     |      |       |       |       |      |      | Wt. %      | Ash % |        |
| -1.40                               | 16.8 | 0.9   | 9.0   | 34.0  | 56.1 | 0.93 | 16.8       | 9.0   | A.D.B. |
|                                     | 16.8 | --    | 9.1   | 34.4  | 56.5 | 0.94 | 16.8       | 9.1   | D.B.   |
| 1.40-1.50                           | 1.9  | 0.5   | 17.1  | 31.3  | 51.1 | 0.83 | 18.7       | 9.8   | A.D.B. |
|                                     | 1.9  | --    | 17.2  | 31.4  | 51.4 | 0.83 | 18.7       | 9.8   | D.B.   |
| 1.50-1.60                           | 2.6  | 1.4   | 32.2  | --    | --   | --   | 21.3       | 12.6  | A.D.B. |
|                                     | 2.6  | --    | 32.6  | --    | --   | --   | 21.3       | 12.7  | D.B.   |
| +1.60                               | 78.7 | 0.8   | 61.9  | --    | --   | --   | 100.0      | 51.4  | A.D.B. |
|                                     | 78.7 | --    | 62.4  | --    | --   | --   | 100.0      | 51.8  | D.B.   |

| COMPOSITE 1/4" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                      |                      |                  |                |       |
|--|-------------|----------------------|----------------------|------------------|----------------|-------|
| F.S.I.   | F % on Coal | DILATATION TESTS     |                      |                  |                |       |
|  |             | Softening Temp. (°C) | Max. Dil. Temp. (°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 8  | 0.031       | 356                  | 434                  | 26               | 231            | 1.085 |

Lab. No. 8631 Date March/77  
 Client: Warnock Hersey  
 Sample Identification: 77-2185  
 Starting Temperature °C: 350  
 Softening Temperature °C: 356  
 Max. Dilatation Temp. °C: 434  
 Contraction %: 26  
 Dilatation %: 231  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 1.085




**BIRTLEY ENGINEERING (CANADA) LTD.**

|   |       |
|---|-------|
| Title<br><p style="text-align: center;">RUHR DILATOMETER TEST</p> | Date  |
|   | Drawn |

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No. R - 77-23-3 Lab. No. : 77 - 2186 Date: March 11, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| F.M.%             | Ash% | V.M.% | F.C % | S.%  | H.G.I. | REMARKS         |
| 0.7               | 58.3 | 17.6  | 23.4  | 0.45 | 69.1   | Air Dried Basis |
| --                | 58.7 | 17.7  | 23.6  | 0.45 | --     | Dry Basis       |

| SIZE / RAW ANALYSIS |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| 1/4 x 65            | 96.2  | 0.7   | 56.6  | 0.42 | 96.2       | 56.6  | 0.42 | A.D.B. |
|                     | 96.2  | --    | 57.1  | 0.42 | 96.2       | 57.1  | 0.42 | D.B.   |
| 65 x 0              | 3.8   | 1.1   | 42.3  | 0.67 | 100.0      | 56.0  | 0.43 | A.D.B. |
|                     | 3.8   | --    | 42.8  | 0.68 | 100.0      | 56.6  | 0.43 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65 N. |      |      |       |      |      |      |            |       |        |
|-------------------------------------|------|------|-------|------|------|------|------------|-------|--------|
| S. G.                               | Wt.% | R.M% | Ash % | V.M% | F.C% | S.%  | Cumulative |       |        |
|                                     |      |      |       |      |      |      | Wt. %      | Ash % |        |
| -1.40                               | 31.3 | 2.3  | 8.3   | 34.1 | 55.3 | 0.96 | 31.3       | 8.3   | A.D.B. |
|                                     | 31.0 | --   | 8.5   | 34.9 | 56.6 | 0.98 | 31.0       | 8.5   | D.B.   |
| 1.40-1.50                           | 1.0  | 1.6  | 14.7  | 30.4 | 53.3 | 0.82 | 32.3       | 8.5   | A.D.B. |
|                                     | 1.0  | --   | 14.8  | 30.6 | 54.6 | 0.83 | 32.0       | 8.7   | D.B.   |
| 1.50-1.60                           | 0.7  | 1.8  | 23.6  | --   | --   | --   | 33.0       | 8.8   | A.D.B. |
|                                     | 0.7  | --   | 34.1  | --   | --   | --   | 32.7       | 9.0   | D.B.   |
| +1.60                               | 67.0 | 1.1  | 77.7  | --   | --   | --   | 100.0      | 55.0  | A.D.B. |
|                                     | 67.3 | --   | 78.6  | --   | --   | --   | 100.0      | 55.8  | D.B.   |

| COMPOSITE 1/4" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                     |                     |                  |                |       |
|--|-------------|---------------------|---------------------|------------------|----------------|-------|
| ES.I.  | F % on Coal | DILATION TESTS      |                     |                  |                |       |
|  |             | Softening Temp.(°C) | Max. Dil. Temp.(°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 8  | 0.018       | 362                 | 425                 | 27               | 127            | 1,055 |

Lab. No. 8632      Date March/77  
 Client: Warnock Hersey  
 Sample Identification: 77-2186  
 Starting Temperature °C: 350  
 Softening Temperature °C: 362  
 Max. Dilatation Temp. °C: 425  
 Contraction %: 27  
 Dilatation %: 127  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 1.055

%  
 300  
 250  
 200  
 150  
 100  
 50  
 0



**BIRTLEY ENGINEERING (CANADA) LTD.**

Title

RUHR DILATOMETER TEST

Date

Drawn



ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No. R-77-23-4 Lab. No.: 77 - 2187 Date: March 14, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| P.M.%             | Ash% | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.7               | 49.3 | 18.2  | 31.8  | 1.65 | 56.0   | Air Dried Basis |
| --                | 49.7 | 18.3  | 32.0  | 1.66 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| 1/4 x 65            | 90.4  | 0.7   | 49.9  | 1.66 | 90.4       | 49.9  | 1.66 | A.D.B. |
|                     | 90.4  | --    | 50.3  | 1.67 | 90.4       | 50.3  | 1.67 | D.B.   |
| 65 x 0              | 9.6   | 1.0   | 38.7  | 1.76 | 100.0      | 48.8  | 1.67 | A.D.B. |
|                     | 9.6   | --    | 39.1  | 1.78 | 100.0      | 49.2  | 1.68 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65 M |      |      |       |      |      |      |            |       |        |
|------------------------------------|------|------|-------|------|------|------|------------|-------|--------|
| S. G.                              | Wt.% | R.M% | Ash % | V.M% | F.C% | S.%  | Cumulative |       |        |
|                                    |      |      |       |      |      |      | Wt. %      | Ash % |        |
| -1.40                              | 29.6 | 1.3  | 7.0   | 33.1 | 58.6 | 0.95 | 29.6       | 7.0   | A.D.B. |
|                                    | 29.6 | --   | 7.1   | 33.5 | 59.4 | 0.96 | 29.6       | 7.1   | D.B.   |
| 1.40-1.50                          | 4.2  | 0.7  | 20.7  | 28.0 | 50.6 | 0.70 | 33.8       | 8.7   | A.D.B. |
|                                    | 4.2  | --   | 20.9  | 28.2 | 50.9 | 0.91 | 33.8       | 8.8   | D.B.   |
| 1.50-1.60                          | 4.1  | 1.4  | 34.0  | --   | --   | --   | 37.9       | 11.4  | A.D.B. |
|                                    | 4.1  | --   | 34.5  | --   | --   | --   | 37.9       | 11.6  | D.B.   |
| +1.60                              | 62.1 | 0.9  | 71.9  | --   | --   | --   | 100.0      | 49.0  | A.D.B. |
|                                    | 62.1 | --   | 72.5  | --   | --   | --   | 100.0      | 49.4  | D.B.   |

| COMPOSITE 1/4" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |                        |                        |                     |                   |       |
|--|-------------------|------------------------|------------------------|---------------------|-------------------|-------|
| F.S.I.   | F %<br>on<br>Coal | DILATATION TESTS       |                        |                     |                   |       |
|  |                   | Softening<br>Temp.(°C) | Max. Dil.<br>Temp.(°C) | Maximum<br>Contr. % | Maximum<br>Dil. % | G.No. |
| 8 1/2  | 0.041             | 359                    | 431                    | 21                  | 180               | 1.078 |

Lab. No. 8633 Date March/77

Client: Warnock Hersey

Sample Identification: 77-2187

Starting Temperature °C: 350

Softening Temperature °C: 359

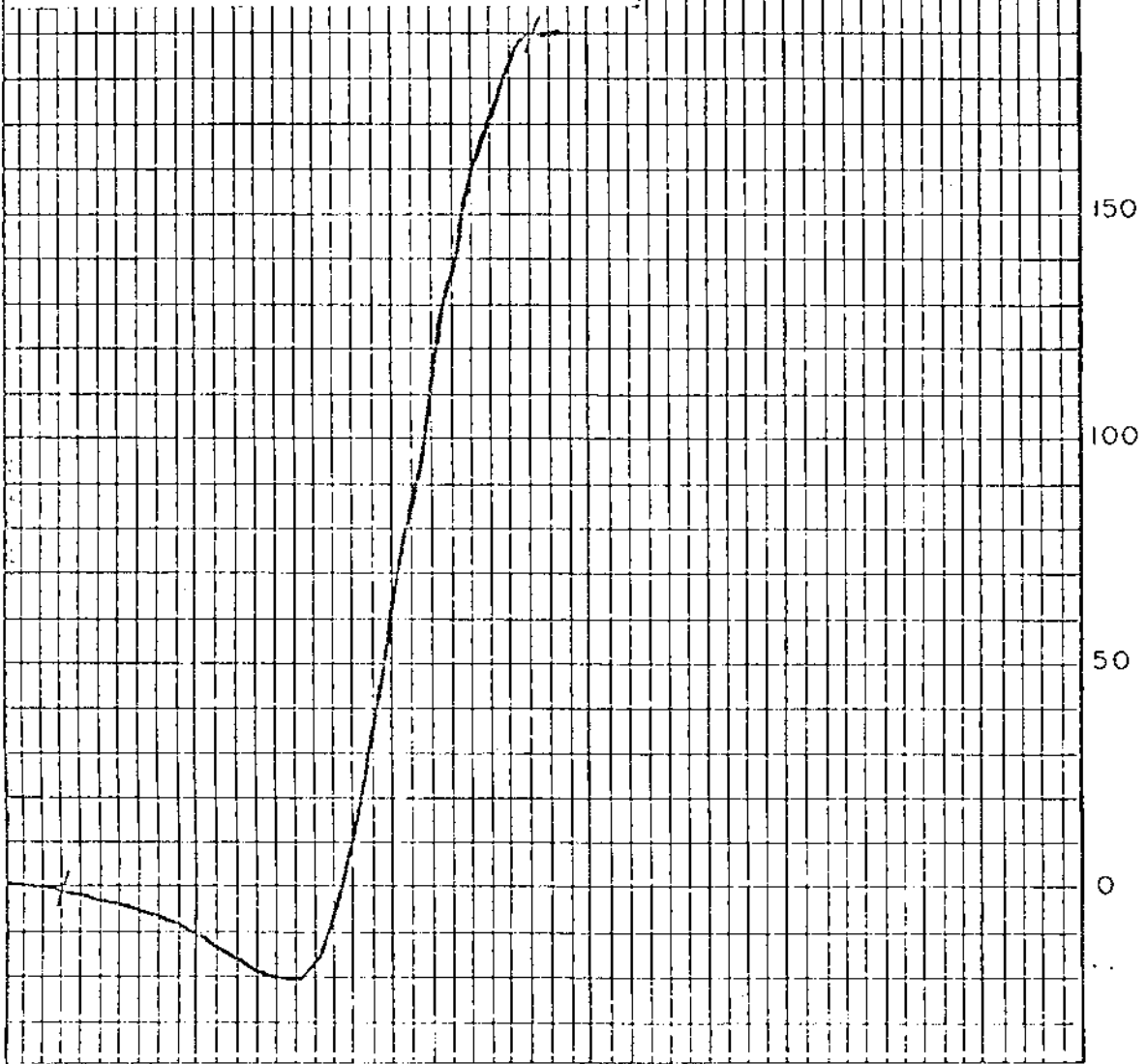
Max. Dilatation Temp. °C: 431

Contraction %: 21

Dilatation %: 180

Final Temperature °C: \_\_\_\_\_

G. Factor: 1.078



**BIRTLEY ENGINEERING (CANADA) LTD.**

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No. R-77-23-5 Lab. No.: 77-2188 Date: March 14, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| F.M.%             | Ash% | V.M.% | F.C % | S.%  | H.G.I. | REMARKS*        |
| 0.8               | 45.7 | 20.9  | 32.6  | 0.75 | 57.4   | Air Dried Basis |
| --                | 46.1 | 21.1  | 32.8  | 0.76 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 94.5  | 0.9   | 44.2  | 0.72 | 94.5       | 44.2  | 0.72 | A.D.B. |
|                     | 94.5  | --    | 44.6  | 0.73 | 94.5       | 44.6  | 0.73 | D.B.   |
| 65 x 0              | 5.5   | 1.1   | 39.1  | 0.74 | 100.0      | 43.9  | 0.72 | A.D.B. |
|                     | 5.5   | --    | 39.5  | 0.75 | 100.0      | 44.3  | 0.73 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |       |       |      |      |            |       |        |
|----------------------------------|------|-------|-------|-------|------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M.% | Ash % | V.M.% | F.C% | S.%  | Cumulative |       |        |
|                                  |      |       |       |       |      |      | Wt. %      | Ash % |        |
| -1.40                            | 22.8 | 0.8   | 12.6  | 29.6  | 57.0 | 1.26 | 22.8       | 12.6  | A.D.B. |
|                                  | 22.8 | --    | 12.7  | 29.8  | 57.5 | 1.27 | 22.8       | 12.7  | D.B.   |
| 1.40-1.50                        | 7.9  | 0.5   | 23.9  | 27.6  | 48.0 | 0.98 | 30.7       | 15.5  | A.D.B. |
|                                  | 7.9  | --    | 24.0  | 27.7  | 48.3 | 0.98 | 30.7       | 15.6  | D.B.   |
| 1.50-1.60                        | 6.6  | 0.8   | 32.1  | --    | --   | --   | 37.3       | 18.4  | A.D.B. |
|                                  | 6.6  | --    | 32.4  | --    | --   | --   | 37.3       | 18.6  | D.B.   |
| +1.60                            | 62.7 | 0.8   | 61.2  | --    | --   | --   | 100.0      | 45.2  | A.D.B. |
|                                  | 62.7 | --    | 61.7  | --    | --   | --   | 100.0      | 45.6  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.C., A.D.B. |             |                     |                     |                  |                |       |
|--|-------------|---------------------|---------------------|------------------|----------------|-------|
| F.S.I.   | F % on Coal | DILATATION TESTS    |                     |                  |                |       |
|  |             | Softening Temp.(°C) | Max. Dil. Temp.(°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 8  | 0.028       | 356                 | 437                 | 23               | 142            | 1.080 |

Lab. No. 8634 Date March/77

Client: Warnock Hersey

Sample Identification: 77-2188

Starting Temperature °C: 350

Softening Temperature °C: 356

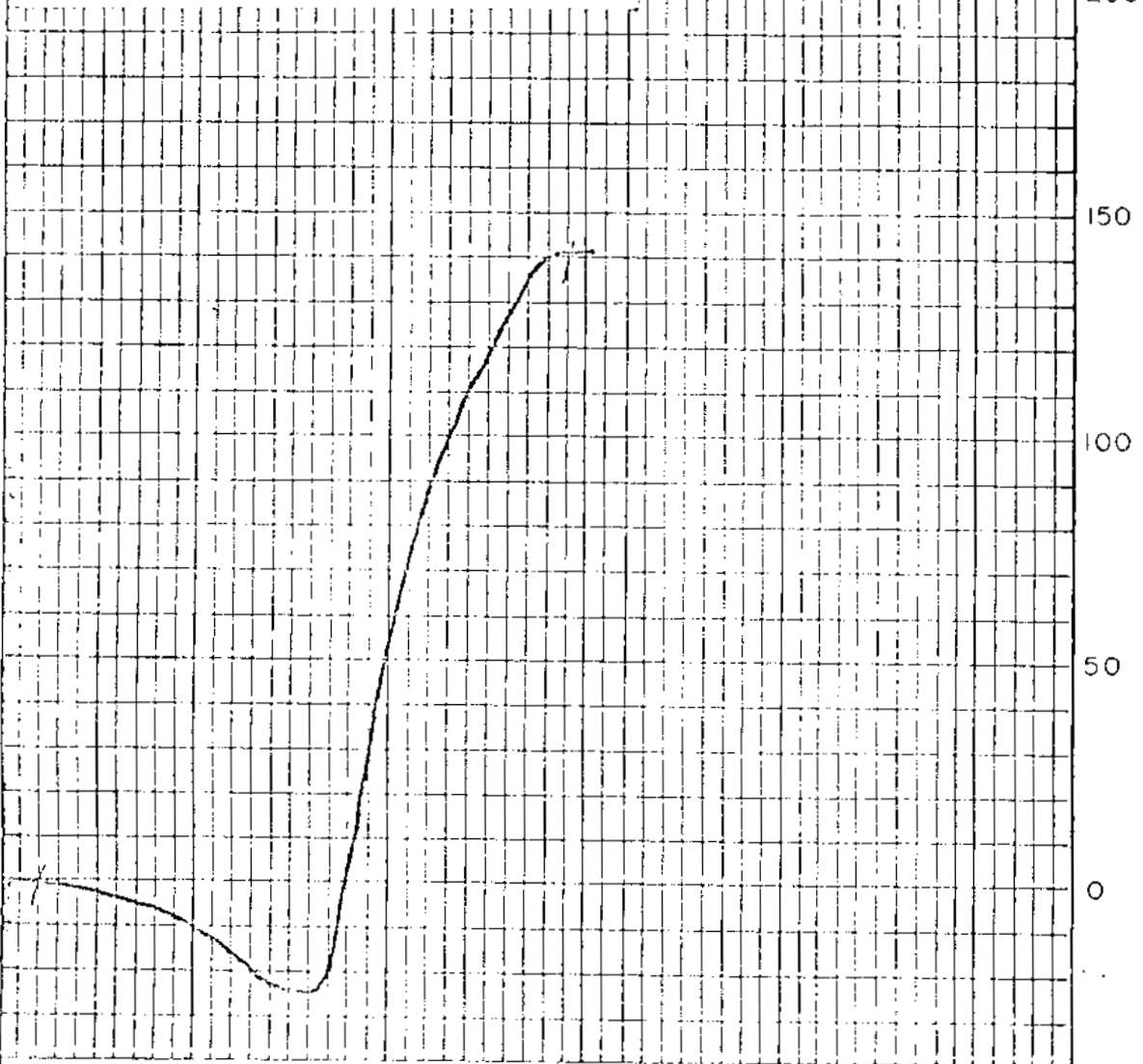
Max. Dilatation Temp. °C: 437

Contraction %: 23

Dilatation %: 142

Final Temperature °C:

G. Factor: 1.080



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No.: R-77-23-6 Lab. No.: 77 - 2189 Date: March 14, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| P.M.%             | Ash% | V.M.% | F.C % | S. % | H.G.I. | REMARKS         |
| 0.9               | 49.0 | 20.2  | 29.9  | 1.05 | 60.1   | Air Dried Basis |
| --                | 49.4 | 20.4  | 30.2  | 1.06 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| 1/2 x 65            | 94.9  | 0.9   | 50.7  | 1.06 | 94.9       | 50.7  | 1.06 | A.D.B. |
|                     | 94.9  | --    | 51.1  | 10.7 | 94.9       | 51.1  | 1.07 | D.B.   |
| 65 x 0              | 5.1   | 0.5   | 37.6  | 1.13 | 100.0      | 50.0  | 1.06 | A.D.B. |
|                     | 5.1   | --    | 37.8  | 1.14 | 100.0      | 50.4  | 1.07 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65 M |      |      |       |      |      |      |            |       |        |
|------------------------------------|------|------|-------|------|------|------|------------|-------|--------|
| S. G.                              | Wt.% | R.M% | Ash % | V.M% | F.C% | S. % | Cumulative |       |        |
|                                    |      |      |       |      |      |      | Wt. %      | Ash % |        |
| -1.40                              | 24.3 | 1.5  | 8.9   | 33.8 | 55.5 | 1.18 | 24.3       | 8.9   | A.D.B. |
|                                    | 24.3 | --   | 9.0   | 34.3 | 56.4 | 1.20 | 24.3       | 9.0   | D.B.   |
| 1.40-1.50                          | 6.1  | 0.8  | 22.1  | 29.1 | 48.0 | 1.13 | 30.4       | 11.5  | A.D.B. |
|                                    | 6.1  | --   | 22.3  | 29.3 | 48.4 | 1.14 | 30.4       | 11.7  | D.B.   |
| 1.50-1.60                          | 6.9  | 1.0  | 31.8  | --   | --   | --   | 37.3       | 15.3  | A.D.B. |
|                                    | 6.9  | --   | 32.2  | --   | --   | --   | 37.3       | 15.5  | D.B.   |
| +1.60                              | 62.7 | 1.0  | 72.7  | --   | --   | --   | 100.0      | 51.3  | A.D.B. |
|                                    | 62.7 | --   | 73.4  | --   | --   | --   | 100.0      | 51.8  | D.B.   |

| COMPOSITE 1/4" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                      |                      |                  |                |       |       |
|--|-------------|----------------------|----------------------|------------------|----------------|-------|-------|
| F.S.I.   | F % on Coal | DILATATION TESTS     |                      |                  |                |       | G.No. |
|  |             | Softening Temp. (°C) | Max. Dil. Temp. (°C) | Maximum Contr. % | Maximum Dil. % |       |       |
| 8  | 0.046       | 359                  | 437                  | 25               | 170            | 1.079 |       |

11

Lab. No. 8635 Date March/77

Client: Warnock Hersey

Sample Identification: 77-2189

Starting Temperature °C: 350

Softening Temperature °C: 359

Max. Dilatation Temp. °C: 437

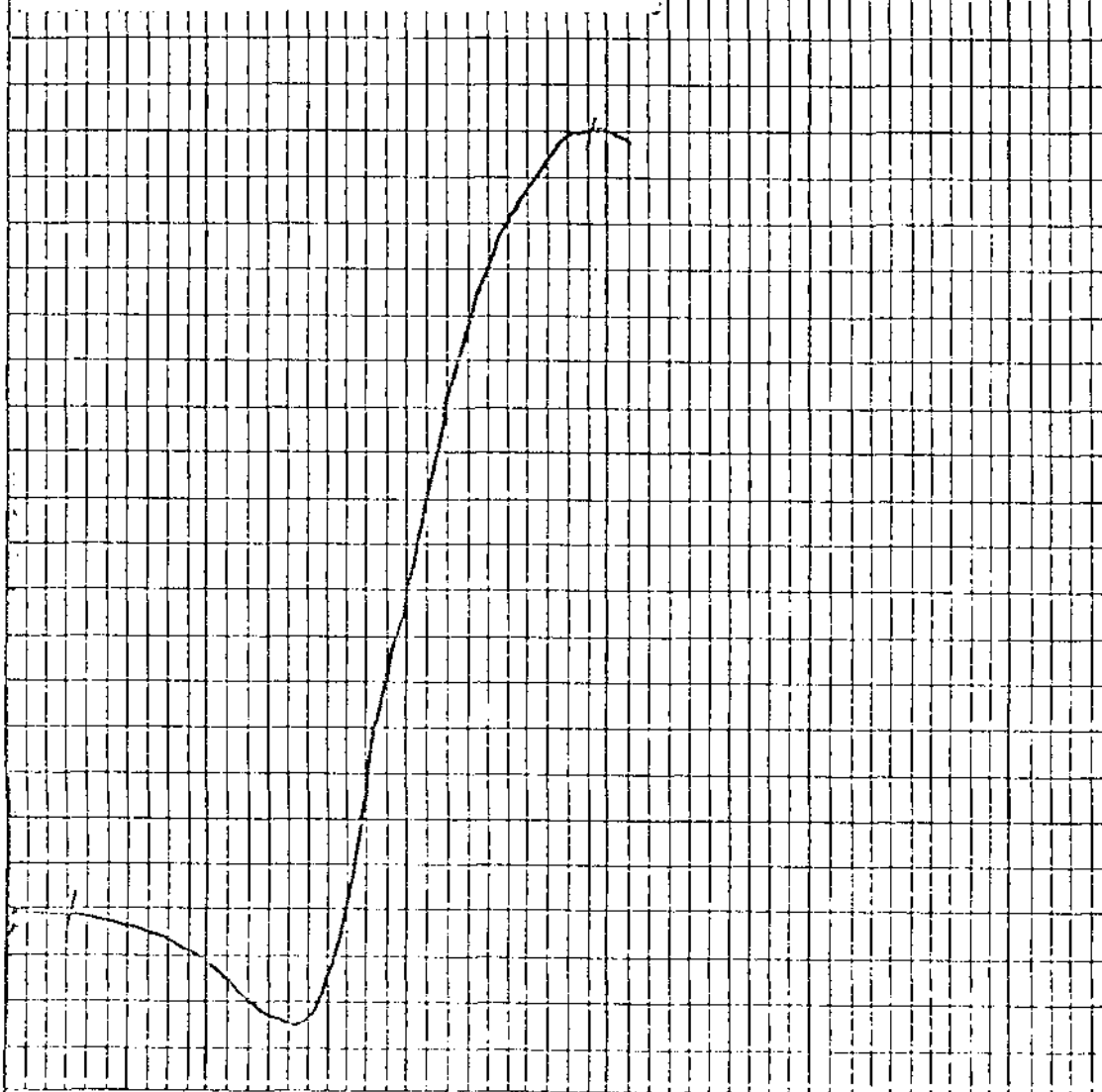
Contraction %: 25

Dilatation %: 170

Final Temperature °C:

G. Factor: 1.079

300  
250  
200  
150  
100  
50  
0



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No. R - 77-23-7 Lab. No. 77 - 2190 Date March 11, 1977

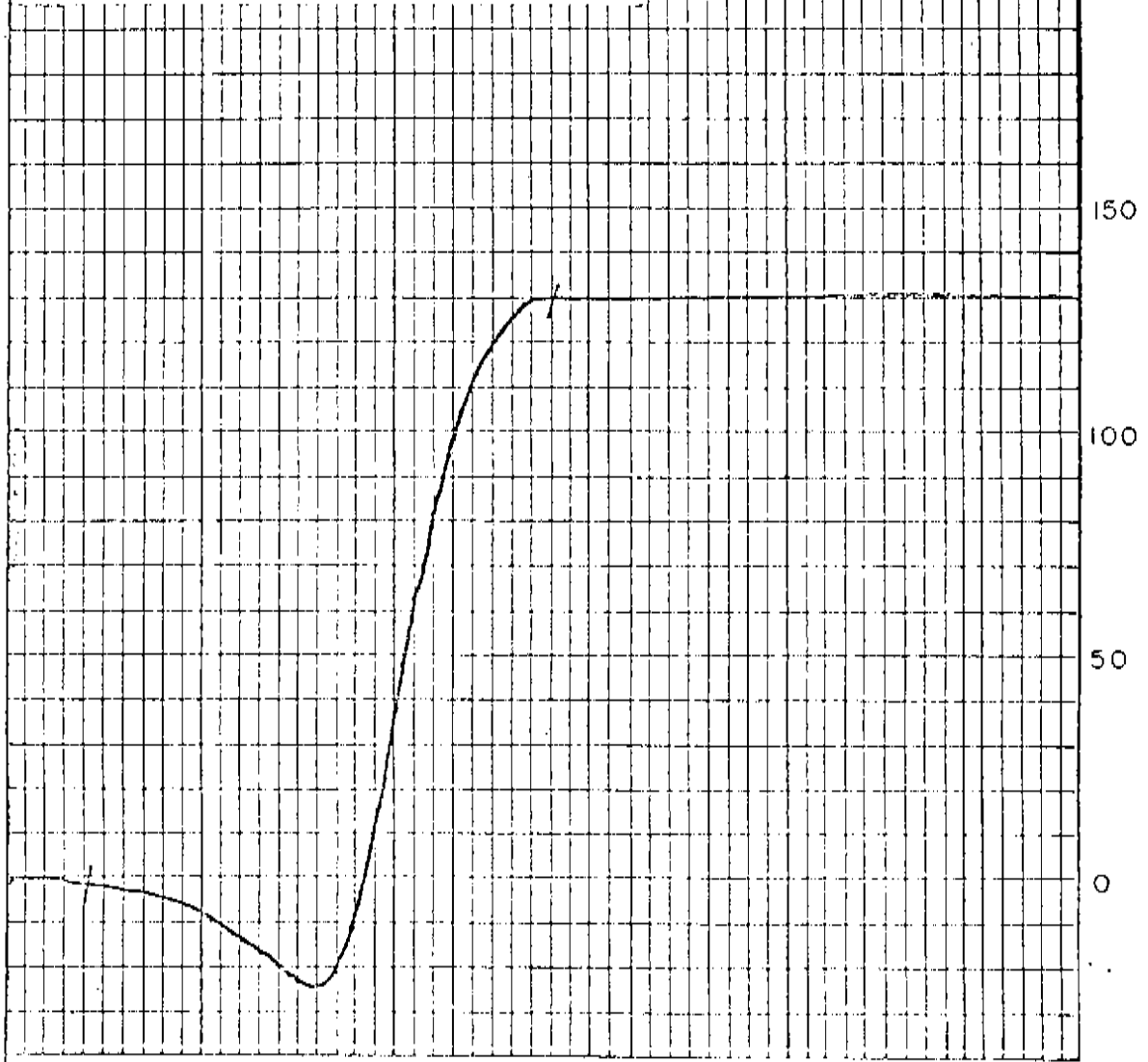
| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash% | V.M.% | F.C % | S.%  | H.G.I. | REMARKS *       |
| 0.8               | 53.6 | 16.8  | 28.8  | 0.57 | 54.6   | Air Dried Basis |
| --                | 54.1 | 17.0  | 28.9  | 0.57 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| 1/4 x 65            | 96.2  | 0.8   | 53.6  | 0.57 | 96.2       | 53.6  | 0.57 | A.D.B. |
|                     | 96.2  | --    | 54.0  | 0.57 | 96.2       | 54.0  | 0.57 | D.B.   |
| 65 x 0              | 3.8   | 0.4   | 38.9  | 0.76 | 100.0      | 53.0  | 0.58 | A.D.B. |
|                     | 3.8   | --    | 39.1  | 0.76 | 100.0      | 53.4  | 0.58 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65 M |      |       |       |       |       |      |            |       |        |
|------------------------------------|------|-------|-------|-------|-------|------|------------|-------|--------|
| S. G.                              | Wt.% | R.M.% | Ash % | V.M.% | F.C.% | S.%  | Cumulative |       |        |
|                                    |      |       |       |       |       |      | Wt. %      | Ash % |        |
| -1.40                              | 27.6 | 0.6   | 9.6   | 30.3  | 59.5  | 0.96 | 27.6       | 9.6   | A.D.B. |
|                                    | 27.6 | --    | 9.7   | 30.5  | 59.8  | 0.97 | 27.6       | 9.7   | D.B.   |
| 1.40-1.50                          | 1.6  | 0.6   | 19.0  | 25.9  | 54.5  | 0.81 | 29.2       | 10.1  | A.D.B. |
|                                    | 1.6  | --    | 19.2  | 26.0  | 54.8  | 0.82 | 29.2       | 10.2  | D.B.   |
| 1.50-1.60                          | 1.3  | 1.0   | 29.9  | --    | --    | --   | 30.5       | 11.0  | A.D.B. |
|                                    | 1.3  | --    | 30.2  | --    | --    | --   | 30.5       | 11.1  | D.B.   |
| +1.60                              | 69.5 | 0.7   | 72.1  | --    | --    | --   | 100.0      | 53.4  | A.D.B. |
|                                    | 69.5 | --    | 72.6  | --    | --    | --   | 100.0      | 53.8  | D.B.   |

| COMPOSITE 1/4" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                      |                      |                  |                |       |
|--|-------------|----------------------|----------------------|------------------|----------------|-------|
| F.S.I.   | F % on Coal | DILATATION TESTS     |                      |                  |                |       |
|  |             | Softening Temp. (°C) | Max. Dil. Temp. (°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 8  | 0.013       | 362                  | 434                  | 25               | 130            | 1.065 |

Lab No. 8636      Date March/77  
 Client: Warnock Hersey  
 Sample Identification: 77-2190  
 Starting Temperature °C: 350  
 Softening Temperature °C: 362  
 Max. Dilatation Temp. °C: 434  
 Contraction %: 25  
 Dilatation %: 130  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 1.065



**BIRTLLEY ENGINEERING (CANADA) LTD.**

Title RUHR DILATOMETER TEST

Date \_\_\_\_\_  
 Drawn \_\_\_\_\_



Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No. R-77-23-8 Lab. No.: 77 - 2191 Date: March 14, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| P.M.%             | Ash% | V.M.% | F.C % | S. % | H.G.I. | REMARKS         |
| 0.6               | 52.6 | 19.5  | 27.3  | 0.68 | 68.4   | Air Dried Basis |
| --                | 52.9 | 19.6  | 27.5  | 0.68 | --     | Dry Basis       |

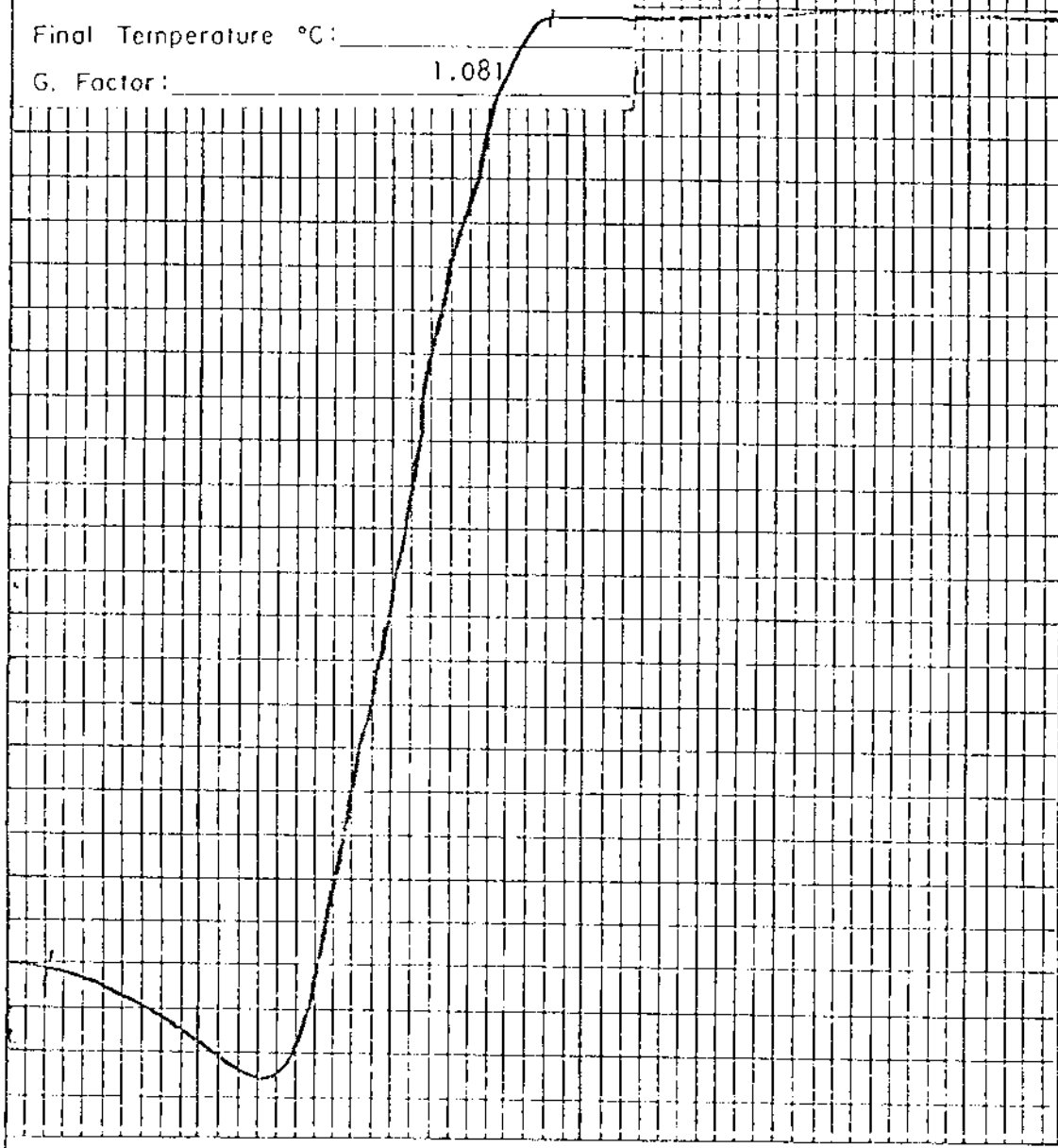
| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 95.0  | 0.4   | 52.6  | 0.72 | 95.0       | 52.6  | 0.72 | A.D.B. |
|                     | 95.0  | --    | 52.8  | 0.72 | 95.0       | 52.8  | 0.72 | D.B.   |
| 65 x 0              | 5.0   | 0.3   | 19.4  | 1.02 | 100.0      | 50.9  | 0.74 | A.D.B. |
|                     | 5.0   | --    | 19.4  | 1.02 | 100.0      | 51.1  | 0.74 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |      |       |      |      |      |            |       |        |
|----------------------------------|------|------|-------|------|------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M% | Ash % | V.M% | F.C% | S.%  | Cumulative |       |        |
|                                  |      |      |       |      |      |      | Wt. %      | Ash % |        |
| -1.40                            | 36.4 | 1.0  | 12.2  | 31.5 | 55.3 | 0.97 | 36.4       | 12.2  | A.D.B. |
|                                  | 36.4 | --   | 12.3  | 31.8 | 55.9 | 0.98 | 36.4       | 12.3  | D.B.   |
| 1.40-1.50                        | 6.8  | 0.9  | 20.9  | 31.2 | 47.0 | 1.13 | 43.2       | 13.6  | A.D.B. |
|                                  | 6.8  | --   | 21.1  | 31.5 | 47.4 | 1.14 | 43.2       | 13.7  | D.B.   |
| 1.50-1.60                        | 1.3  | 1.0  | 27.0  | --   | --   | --   | 44.5       | 14.0  | A.D.B. |
|                                  | 1.3  | --   | 27.2  | --   | --   | --   | 44.5       | 14.1  | D.B.   |
| +1.60                            | 55.5 | 0.6  | 82.7  | --   | --   | --   | 100.0      | 52.1  | A.D.B. |
|                                  | 55.5 | --   | 83.2  | --   | --   | --   | 100.0      | 52.4  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                     |                     |                  |                |       |       |
|--|-------------|---------------------|---------------------|------------------|----------------|-------|-------|
| F.S.I.   | F % on Coal | DILATATION TESTS    |                     |                  |                |       | G.No. |
|  |             | Softening Temp.(°C) | Max. Dil. Temp.(°C) | Maximum Contr. % | Maximum Dil. % |       |       |
| 7  | 0.073       | 356                 | 431                 | 26               | 217            | 1.081 |       |

Lab. No. 8637 Date March/77  
 Client: Warnock Hersey  
 Sample Identification: 77-2191  
 Starting Temperature °C: 350  
 Softening Temperature °C: 356  
 Max. Dilatation Temp. °C: 431  
 Contraction %: 26  
 Dilatation %: 217  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 1.081

%  
 300  
 250  
 200  
 150  
 100  
 50  
 0



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

# Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No.: R-77-23-9 Lab. No.: 77 - 2192 Date: March 14, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| F.M.%             | Ash% | V.M.% | F.C % | S. % | H.G.I. | REMARKS         |
| 0.9               | 30.3 | 22.2  | 46.6  | 0.62 | 74.0   | Air Dried Basis |
| --                | 30.6 | 22.4  | 47.0  | 0.63 | --     | Dry Basis       |

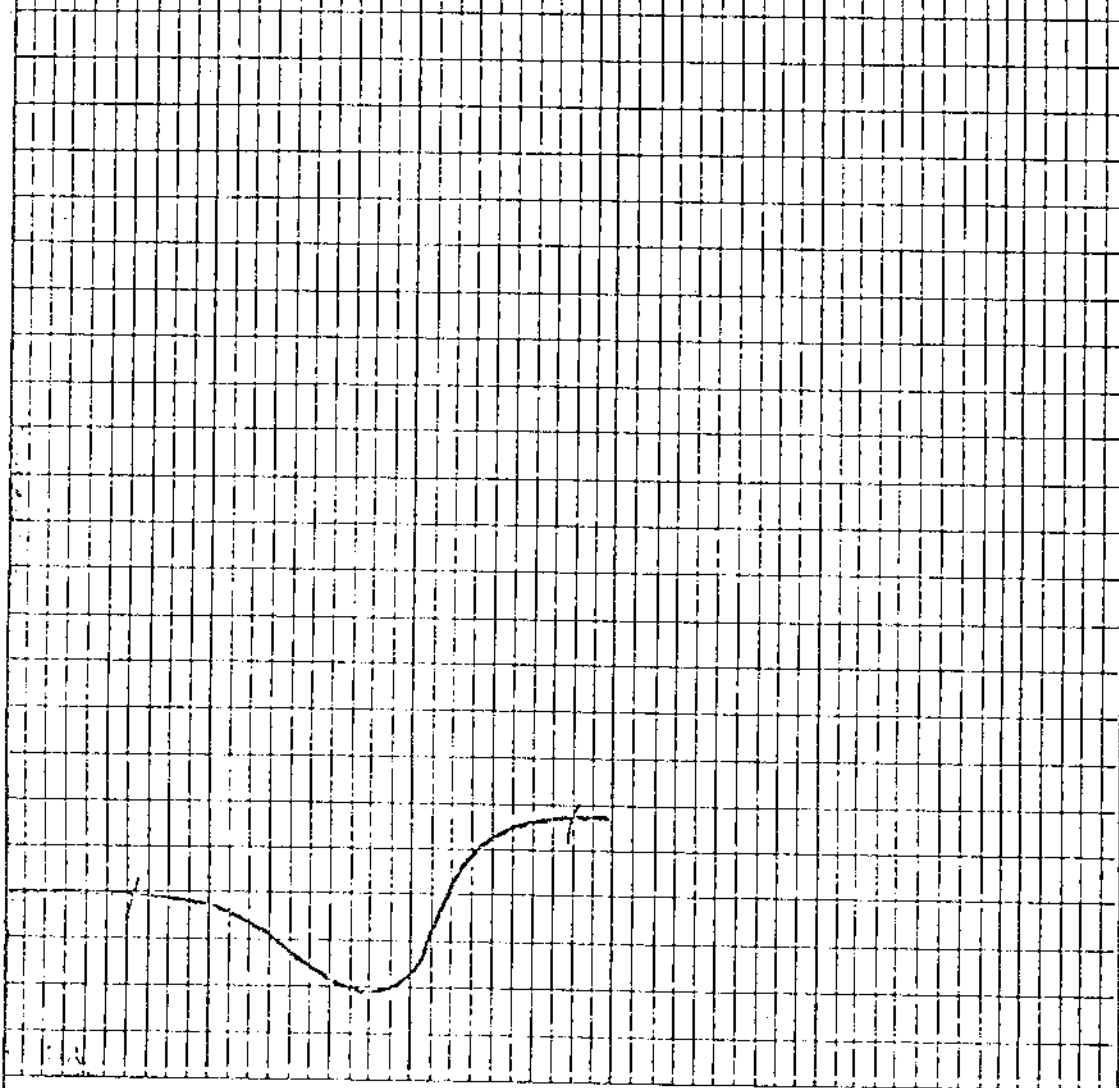
| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 91.8  | 0.6   | 30.5  | 0.61 | 91.8       | 30.5  | 0.61 | A.D.B. |
|                     | 91.8  | --    | 30.7  | 0.61 | 91.8       | 30.7  | 0.61 | D.B.   |
| 65 x 0              | 8.2   | 0.4   | 19.3  | 0.66 | 100.0      | 29.6  | 0.61 | A.D.B. |
|                     | 8.2   | --    | 19.4  | 0.66 | 100.0      | 29.8  | 0.61 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |       |       |      |      |            |       |        |
|----------------------------------|------|-------|-------|-------|------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M.% | Ash % | V.M.% | F.C% | S. % | Cumulative |       |        |
|                                  |      |       |       |       |      |      | Wt. %      | Ash % |        |
| -1.40                            | 62.9 | 1.4   | 6.1   | 28.7  | 63.1 | 0.65 | 62.9       | 6.1   | A.D.B. |
|                                  | 62.9 | --    | 6.2   | 29.1  | 64.0 | 0.66 | 62.9       | 6.2   | D.B.   |
| 1.40-1.50                        | 1.7  | 1.1   | 9.8   | 28.1  | 61.0 | 0.66 | 64.6       | 6.2   | A.D.B. |
|                                  | 1.7  | --    | 10.0  | 28.4  | 61.6 | 0.67 | 64.6       | 6.3   | D.B.   |
| 1.50-1.60                        | 0.1  | 1.2   | 15.5  | --    | --   | --   | 64.7       | 6.2   | A.D.B. |
|                                  | 0.1  | --    | 15.7  | --    | --   | --   | 64.7       | 6.3   | D.B.   |
| +1.60                            | 35.3 | 0.9   | 78.2  | --    | --   | --   | 100.0      | 31.6  | A.D.B. |
|                                  | 35.3 | --    | 78.9  | --    | --   | --   | 100.0      | 31.9  | D.B.   |

| COMPOSITE ¼" x 15 m FLOATS @ 1.50 S.G., A.D.B. |             |                      |                      |                  |                |       |
|--|-------------|----------------------|----------------------|------------------|----------------|-------|
| F.S.I.   | F % on Coal | DILATATION TESTS     |                      |                  |                |       |
|  |             | Softening Temp. (°C) | Max. Dil. Temp. (°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 8  | 0.007       | 368                  | 434                  | 20               | 17             | 0.993 |

Lab. No. 8638      Date March/77  
 Client: Warnock Hersey  
 Sample Identification: 77-2192  
 Starting Temperature °C: 350  
 Softening Temperature °C: 368  
 Max. Dilatation Temp. °C: 434  
 Contraction %: 20  
 Dilatation %: 17  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 0.993

%  
 300  
 250  
 200  
 150  
 100  
 50  
 0



**BIRTLEY ENGINEERING (CANADA) LTD.**

Title RUHR DILATOMETER TEST

Date \_\_\_\_\_

Drawn \_\_\_\_\_

# Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No. - R-77-23-10 Lab. No.: 77 - 2193 Date: March 14, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| F.M.%             | Ash% | V.M.% | F.C % | S.%  | H.G.I. | REMARKS         |
| 0.9               | 22.2 | 26.2  | 50.7  | 0.37 | 78.1   | Air Dried Basis |
| --                | 22.4 | 26.5  | 51.1  | 0.37 | --     | Dry Basis       |

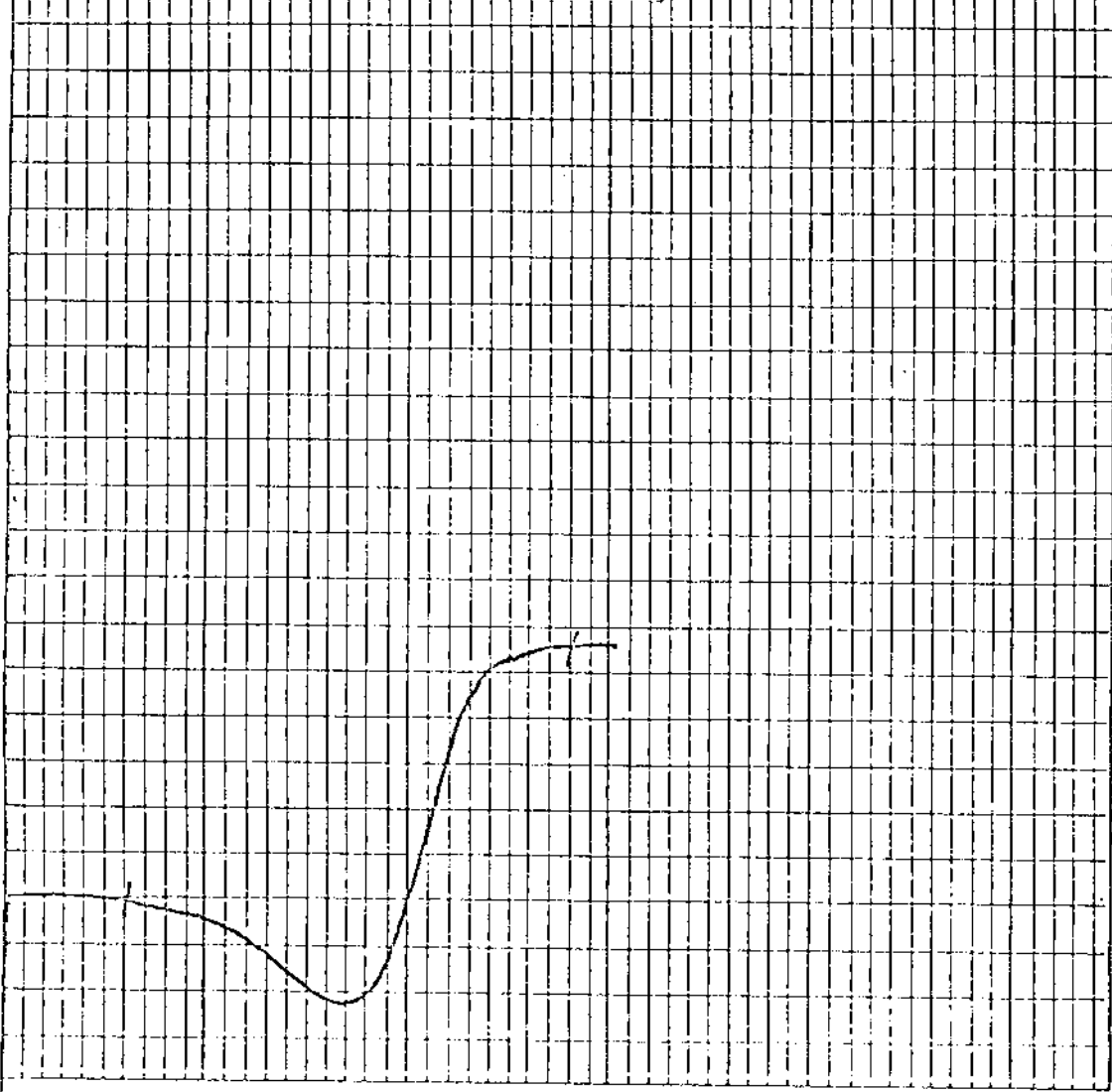
| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| ¼ x 65              | 97.8  | 0.8   | 23.2  | 0.36 | 97.8       | 23.2  | 0.36 | A.D.B. |
|                     | 97.8  | --    | 23.4  | 0.36 | 97.8       | 23.4  | 0.36 | D.B.   |
| 65 x 0              | 2.2   | 0.4   | 8.7   | 0.45 | 100.0      | 22.9  | 0.36 | A.D.B. |
|                     | 2.2   | --    | 8.7   | 0.45 | 100.0      | 23.1  | 0.36 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |       |       |      |      |            |       |        |
|----------------------------------|------|-------|-------|-------|------|------|------------|-------|--------|
| S. G.                            | Wt.% | R.M.% | Ash % | V.M.% | F.C% | S.%  | Cumulative |       |        |
|                                  |      |       |       |       |      |      | Wt. %      | Ash % |        |
| -1.40                            | 63.7 | 1.6   | 4.5   | 29.8  | 64.1 | 0.39 | 68.7       | 4.5   | A.D.B. |
|                                  | 68.7 | --    | 4.6   | 30.3  | 65.1 | 0.40 | 68.7       | 4.6   | D.B.   |
| 1.40-1.50                        | 3.5  | 1.0   | 16.4  | 27.2  | 55.4 | 0.30 | 72.2       | 5.1   | A.D.B. |
|                                  | 3.5  | --    | 16.5  | 27.4  | 56.1 | 0.30 | 72.2       | 5.2   | D.B.   |
| 1.50-1.60                        | 2.3  | 1.2   | 23.4  | --    | --   | --   | 74.5       | 5.6   | A.D.B. |
|                                  | 2.3  | --    | 23.7  | --    | --   | --   | 74.5       | 5.7   | D.B.   |
| +1.60                            | 25.5 | 0.8   | 72.9  | --    | --   | --   | 100.0      | 22.8  | A.D.B. |
|                                  | 25.5 | --    | 73.5  | --    | --   | --   | 100.0      | 23.0  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                     |                     |                  |                |       |
|--|-------------|---------------------|---------------------|------------------|----------------|-------|
| E.S.I.   | P % on Coal | DILATATION TESTS    |                     |                  |                | G.No. |
|  |             | Softening Temp.(°C) | Max. Dil. Temp.(°C) | Maximum Contr. % | Maximum Dil. % |       |
| 8  | 0.038       | 368                 | 434                 | 23               | 56             | 1.036 |

Lab. No. 8639 Date March/77  
 Client: Warnock Hersey  
 Sample Identification: 77-2193  
 Starting Temperature °C: 350  
 Softening Temperature °C: 368  
 Max. Dilatation Temp. °C: 434  
 Contraction %: 23  
 Dilatation %: 56  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 1.036

%  
 300  
 250  
 200  
 150  
 100  
 50  
 0



**BIRTLEY ENGINEERING (CANADA) LTD.**

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No. R-77 - 23 - 11 Lab. No. 77 - 2194 Date: March 14, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| F.M.%             | Ash% | V.M.% | F.C % | S. % | H.C.I. | REMARKS         |
| 0.7               | 76.7 | 9.8   | 12.8  | 0.23 | 60.8   | Air Dried Basis |
| --                | 77.2 | 9.8   | 13.0  | 0.23 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| 1/4 x 65            | 99.5  | 0.6   | 78.3  | 0.22 | 99.5       | 78.3  | 0.22 | A.D.B. |
|                     | 99.5  | --    | 78.8  | 0.22 | 99.5       | 78.8  | 0.22 | D.B.   |
| 65 x 0              | 0.5   | 0.3   | 40.2  | 0.53 | 100.0      | 78.1  | 0.22 | A.D.B. |
|                     | 0.5   | --    | 40.3  | 0.53 | 100.0      | 78.6  | 0.22 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65 M |      |       |       |       |       |      |            |       |        |
|------------------------------------|------|-------|-------|-------|-------|------|------------|-------|--------|
| S. G.                              | Wt.% | R.M.% | Ash % | V.M.% | F.C.% | S.%  | Cumulative |       |        |
|                                    |      |       |       |       |       |      | Wt. %      | Ash % |        |
| -1.40                              | 6.1  | 0.7   | 16.7  | 28.8  | 43.8  | 0.76 | 6.1        | 16.7  | A.D.B. |
|                                    | 6.1  | --    | 16.8  | 30.0  | 44.2  | 0.77 | 6.1        | 16.8  | D.B.   |
| 1.40-1.50                          | 1.7  | 0.6   | 19.2  | 25.7  | 54.5  | 0.68 | 7.8        | 17.2  | A.D.B. |
|                                    | 1.7  | --    | 19.3  | 25.8  | 54.9  | 0.69 | 7.8        | 17.3  | D.B.   |
| 1.50-1.60                          | 1.0  | 0.9   | 27.8  | --    | --    | --   | 8.8        | 18.4  | A.D.B. |
|                                    | 1.0  | --    | 28.0  | --    | --    | --   | 8.8        | 18.6  | D.B.   |
| +1.60                              | 91.2 | 0.7   | 83.8  | --    | --    | --   | 100.0      | 78.0  | A.D.B. |
|                                    | 91.2 | --    | 84.4  | --    | --    | --   | 100.0      | 78.6  | D.B.   |

| COMPOSITE 1/4" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                     |                     |                  |                |       |
|--|-------------|---------------------|---------------------|------------------|----------------|-------|
| F.S.I.   | F % on Coal | DILATION TESTS      |                     |                  |                | G.No. |
|  |             | Softening Temp.(°C) | Max. Dil. Temp.(°C) | Maximum Contr. % | Maximum Dil. % |       |
| 8  | 0.017       |                     |                     |                  |                |       |

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

Hole No. R-77-23-12 Lab. No.: 77 - 2195 Date: March 14, 1977

| HEAD RAW ANALYSIS |      |       |       |      |        |                 |
|-------------------|------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash% | V.M.% | F.C % | S.%  | H.G.I. | REMARKS'        |
| 0.7               | 56.4 | 16.2  | 26.7  | 0.34 | 67.1   | Air Dried Basis |
| --                | 56.8 | 16.3  | 26.9  | 0.34 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |       |       |      |            |       |      |        |
|---------------------|-------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M.% | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |       |       |      | Wt. %      | Ash % | S. % |        |
| 1/4 x 65            | 98.5  | 0.5   | 56.7  | 0.34 | 98.5       | 56.7  | 0.34 | A.D.B. |
|                     | 98.5  | --    | 57.0  | 0.34 | 98.5       | 57.0  | 0.34 | D.B.   |
| 65 x 0              | 1.5   | 0.3   | 17.2  | 0.62 | 100.0      | 56.1  | 0.34 | A.D.B. |
|                     | 1.5   | --    | 17.3  | 0.62 | 100.0      | 56.4  | 0.34 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65 M |      |       |       |       |       |      |            |       |        |
|------------------------------------|------|-------|-------|-------|-------|------|------------|-------|--------|
| S. G.                              | Wt.% | R.M.% | Ash % | V.M.% | F.C.% | S.%  | Cumulative |       |        |
|                                    |      |       |       |       |       |      | Wt. %      | Ash % |        |
| -1.40                              | 30.8 | 0.8   | 11.0  | 28.9  | 58.8  | 0.62 | 30.8       | 11.0  | A.D.B. |
|                                    | 30.8 | --    | 11.1  | 29.2  | 59.2  | 0.62 | 30.8       | 11.1  | D.B.   |
| 1.40-1.50                          | 5.1  | 0.6   | 23.8  | 23.4  | 52.2  | 0.49 | 35.9       | 12.8  | A.D.B. |
|                                    | 5.1  | --    | 24.0  | 23.5  | 52.5  | 0.49 | 35.9       | 12.9  | D.B.   |
| 1.50-1.60                          | 3.5  | 0.9   | 24.6  | --    | --    | --   | 39.4       | 13.9  | A.D.B. |
|                                    | 3.5  | --    | 24.8  | --    | --    | --   | 39.4       | 14.0  | D.B.   |
| +1.60                              | 60.6 | 0.7   | 79.2  | --    | --    | --   | 100.0      | 53.5  | A.D.B. |
|                                    | 60.6 | --    | 79.8  | --    | --    | --   | 100.0      | 53.9  | D.B.   |

| COMPOSITE 1/4" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                      |                      |                  |                |       |
|--|-------------|----------------------|----------------------|------------------|----------------|-------|
| F.S.I.   | F % on Coal | DILATATION TESTS     |                      |                  |                |       |
|  |             | Softening Temp. (°C) | Max. Dil. Temp. (°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 7 1/2  | 0.021       | 359                  | 434                  | 23               | 105            | 1.064 |



Lab. No. 8640 Date March/77

Client: Warnock Hersey

Sample Identification: 77-2195

Starting Temperature °C: 350

Softening Temperature °C: 359

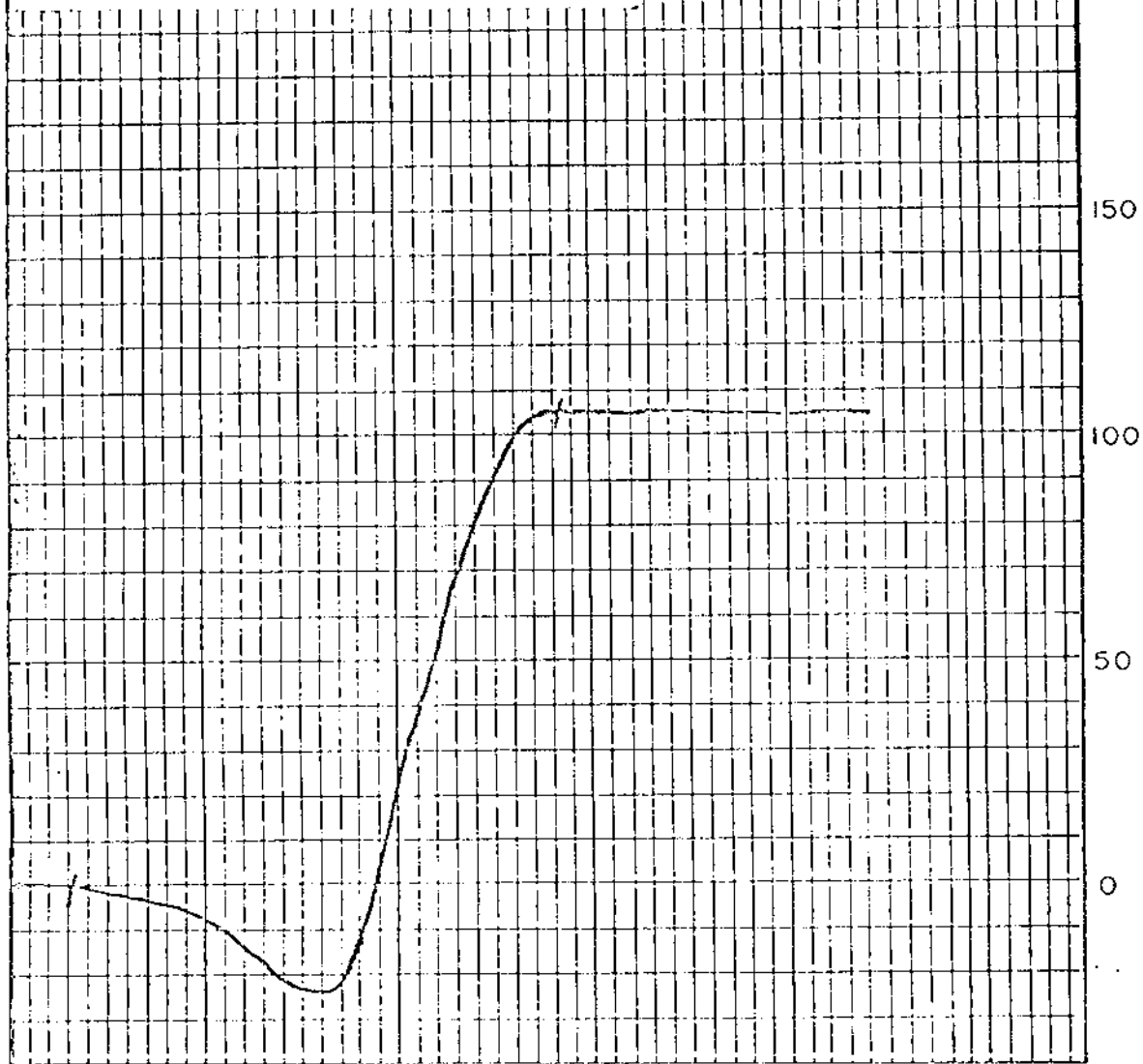
Max. Dilatation Temp. °C: 434

Contraction %: 23

Dilatation %: 105

Final Temperature °C:

G. Factor: 1.064



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R - 77- 24 - 1

Lab. No. 8710

DATE: April, 1977

| HEAD RAW ANALYSIS |       |        |        |      |        |                              |
|-------------------|-------|--------|--------|------|--------|------------------------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS                      |
| 0.7               | 26.9  | 26.2   | 46.2   | 0.63 | 73     | Air Dried Basis<br>Dry Basis |
|                   | 27.1  | 26.4   | 46.5   | 0.63 | --     |                              |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 67.3  | 1.2    | 27.0  | 0.62 | 67.3       | 27.0  | 0.62 | A.D.B. |
|                     | 67.4  |        | 27.3  |      | 67.4       | 27.3  |      | 0.63   |
| 65M x 0             | 32.7  | 1.4    | 27.6  | 0.64 | 100.0      | 27.2  | 0.63 | A.D.B. |
|                     | 32.6  |        | 28.0  |      | 100.0      | 27.5  |      | 0.64   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |       |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|-------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. %  | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |       | WT. %      | ASH % |        |
| -1.40                             | 54.9  | 1.1    | 5.2   | 32.4   | 61.3   | 0.75  | 54.9       | 5.2   | A.D.B. |
|                                   | 55.0  |        | 5.3   |        |        |       | 61.9       | 0.76  | 55.0   |
| 1.40-1.50                         | 10.1  | 1.1    | 21.6  | 27.2   | 50.1   | 0.74  | 65.0       | 7.7   | A.D.B. |
|                                   | 10.1  |        | 21.8  |        |        |       | 27.5       | 50.7  | 0.75   |
| 1.50-1.60                         | 7.0   | 1.6    | 30.6  | 31.1   | 70.9   | 72.0  | 72.0       | 10.0  | A.D.B. |
|                                   | 6.9   |        | 31.1  |        |        |       | 70.9       | 72.0  | 10.1   |
| +1.60                             | 28.0  | 1.3    | 70.9  | 71.8   | 100.0  | 100.0 | 72.0       | 10.1  | D.B.   |
|                                   | 28.0  |        | 71.8  |        |        |       | 100.0      | 27.0  | A.D.B. |
|                                   |       |        |       |        |        |       | 100.0      | 27.4  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS 1.50 S.G., A.D.B. |            |   |                      |                  |                |        |
|---|------------|---|----------------------|------------------|----------------|--------|
| F.S.I.  | PZ ON COAL | DILATATION TEST (Initial Temp. = 320°C) |                      |                  |                |        |
|   |            | SOFTENING TEMP* (°C)                    | MAX. DIL. TEMP* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 6 1/2   | 0.11       | 345                                     | 447                  | 22               | 136            | 1.102  |

\* S.T. & M.D.T. corrected with factor 6/5

Lab. No. 3710 Date April 6, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-24-1

Starting Temperature °C: 320

Softening Temperature °C: 345

Max. Dilatation Temp. °C: 447

250

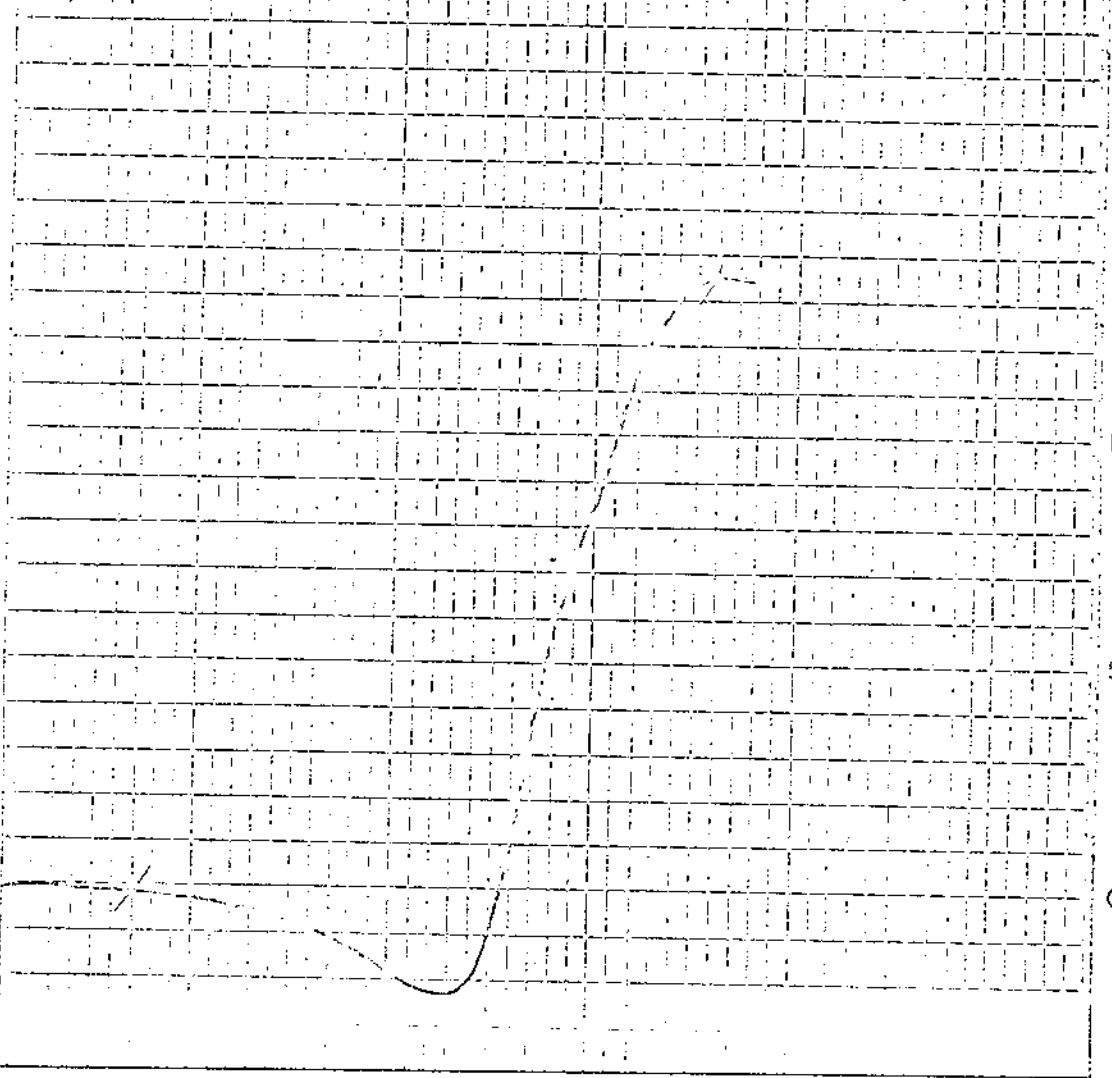
Contraction %: 22

Dilatation %: 136

Final Temperature °C:

G. Factor: 1.102

200



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R - 77 - 24 - 2

Lab. No. 8711

DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.8               | 41.5  | 22.5   | 35.2   | 0.62 | 72     | Air Dried Basis |
|                   | 41.8  | 22.7   | 35.5   | 0.63 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 71.5  | 1.0    | 43.9  | 0.59 | 71.5       | 43.9  | 0.59 | A.D.B. |
|                     | 71.5  |        | 44.3  | 0.60 | 71.5       | 44.3  | 0.60 | D.B.   |
| 65M x 0             | 28.5  | 1.0    | 32.7  | 0.68 | 100.0      | 40.7  | 0.62 | A.D.B. |
|                     | 28.5  |        | 33.0  | 0.69 | 100.0      | 41.1  | 0.63 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 43.3  | 1.0    | 5.3   | 32.5   | 61.2   | 0.92 | 43.3       | 5.3   | A.D.B. |
|                                   | 43.3  |        | 5.4   | 32.8   | 61.8   | 0.93 | 43.3       | 5.4   | D.B.   |
| 1.40-1.50                         | 2.9   | 1.0    | 17.3  | 28.7   | 53.0   | 0.92 | 46.2       | 6.1   | A.D.B. |
|                                   | 2.9   |        | 17.5  | 29.0   | 53.5   | 0.93 | 46.2       | 6.2   | D.B.   |
| 1.50-1.60                         | 2.0   | 1.3    | 31.4  |        |        |      | 48.2       | 7.1   | A.D.B. |
|                                   | 2.0   |        | 31.8  |        |        |      | 48.2       | 7.2   | D.B.   |
| +1.60                             | 51.8  | 1.0    | 78.2  |        |        |      | 100.0      | 43.9  | A.D.B. |
|                                   | 51.8  |        | 79.0  |        |        |      | 100.0      | 44.4  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                       |                  |                |        |
|---|------------|---------------------------------------|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                       |                  |                | G. NO. |
|   |            | SOFTENING TEMP.* (°C)                 | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % |        |
| 7   | 0.03       | 345                                   | 445                   | 26               | 136            | 1.094  |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lab. No. 8711 Date April 6, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-24-2

Starting Temperature °C: 320

Softening Temperature °C: 345

Max. Dilatation Temp. °C: 445

Contraction %: 26

Dilatation %: 136

Final Temperature °C:

G. Factor: 1.094

250

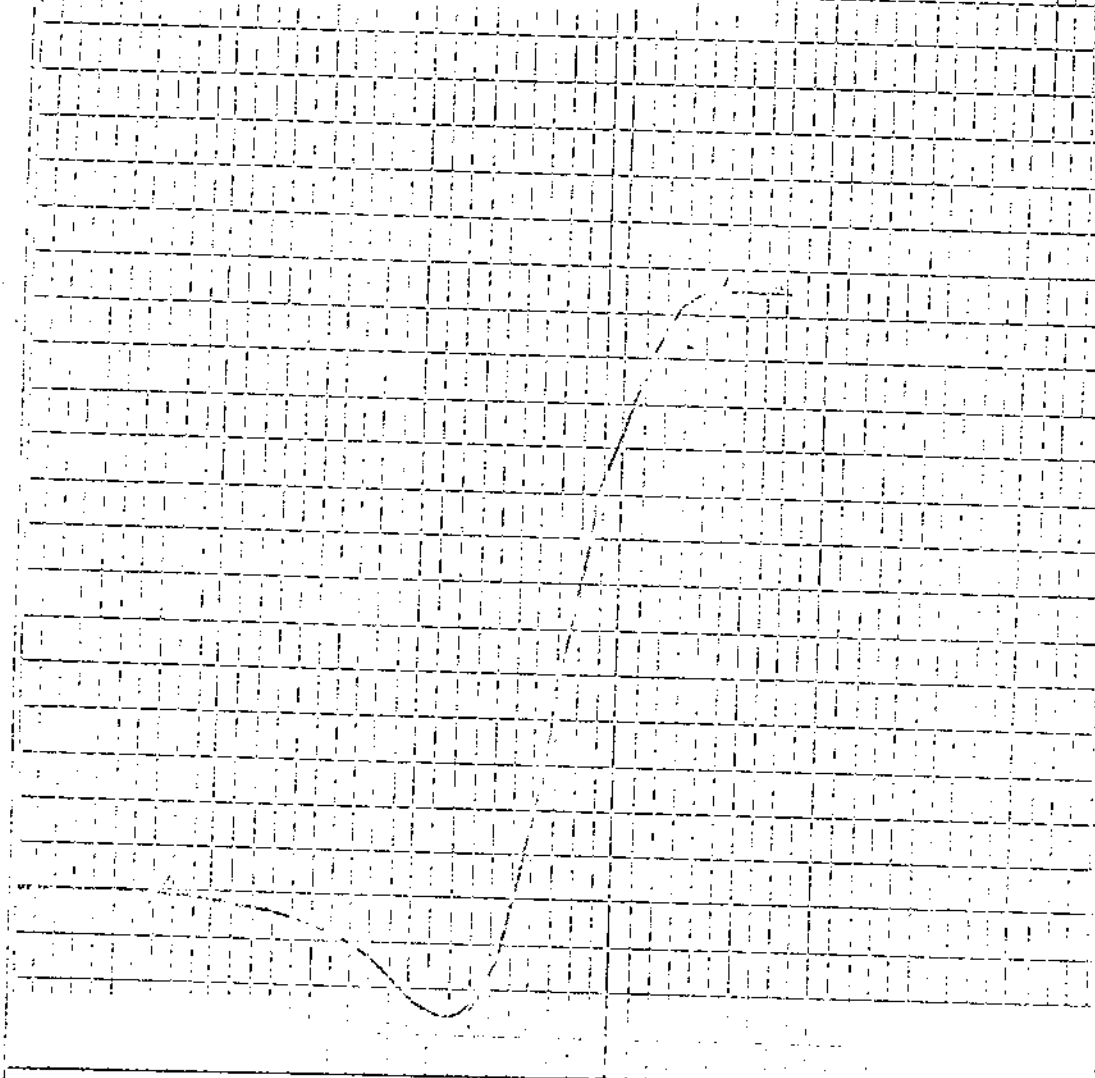
200

150

100

50

0



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R - 77 - 24 - 3      Lab. No. 8712      DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.8               | 58.6  | 16.2   | 24.4   | 0.56 | 67     | Air Dried Basis |
|                   | 59.1  | 16.3   | 24.6   | 0.56 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 82.4  | 0.8    | 61.6  | 0.56 | 82.4       | 61.6  | 0.56 | A.D.B. |
|                     | 82.5  |        | 62.1  | 0.56 | 82.5       | 62.1  | 0.56 | D.B.   |
| 65M x 0             | 17.6  | 1.3    | 48.7  | 0.71 | 100.0      | 59.3  | 0.59 | A.D.B. |
|                     | 17.5  |        | 49.3  | 0.72 | 100.0      | 59.9  | 0.59 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 19.7  | 1.1    | 7.8   | 32.1   | 59.0   | 1.20 | 19.7       | 7.8   | A.D.B. |
|                                   | 19.6  |        | 7.9   | 32.5   | 59.6   | 1.21 | 19.6       | 7.9   | D.B.   |
| 1.40-1.50                         | 6.1   | 1.1    | 18.9  | 29.4   | 50.6   | 1.18 | 25.8       | 10.4  | A.D.B. |
|                                   | 6.1   |        | 19.1  | 29.7   | 51.2   | 1.19 | 25.7       | 10.6  | D.B.   |
| 1.50-1.60                         | 4.1   | 1.0    | 30.1  | X      | X      | X    | 29.9       | 13.1  | A.D.B. |
|                                   | 4.1   |        | 30.4  |        |        |      | 29.8       | 13.3  | D.B.   |
| +1.60                             | 70.1  | 0.8    | 83.6  | X      | X      | X    | 100.0      | 62.5  | A.D.B. |
|                                   | 70.2  |        | 84.3  |        |        |      | 100.0      | 63.1  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                       |                  |                |        |
|---|------------|---------------------------------------|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP.* (°C)                 | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 7 1/2   | 0.02       | 352                                   | 442                   | 16               | 160            | 1.102  |

\* S.T. & M.D.T. corrected with factor 6/5

Lab. No. 8712 Date April 6, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-24-3

Starting Temperature °C: 320

Softening Temperature °C: 352

Max. Dilatation Temp. °C: 442

Contraction %: 16

Dilatation %: 160

Final Temperature °C:

G. Factor: 1.102

250

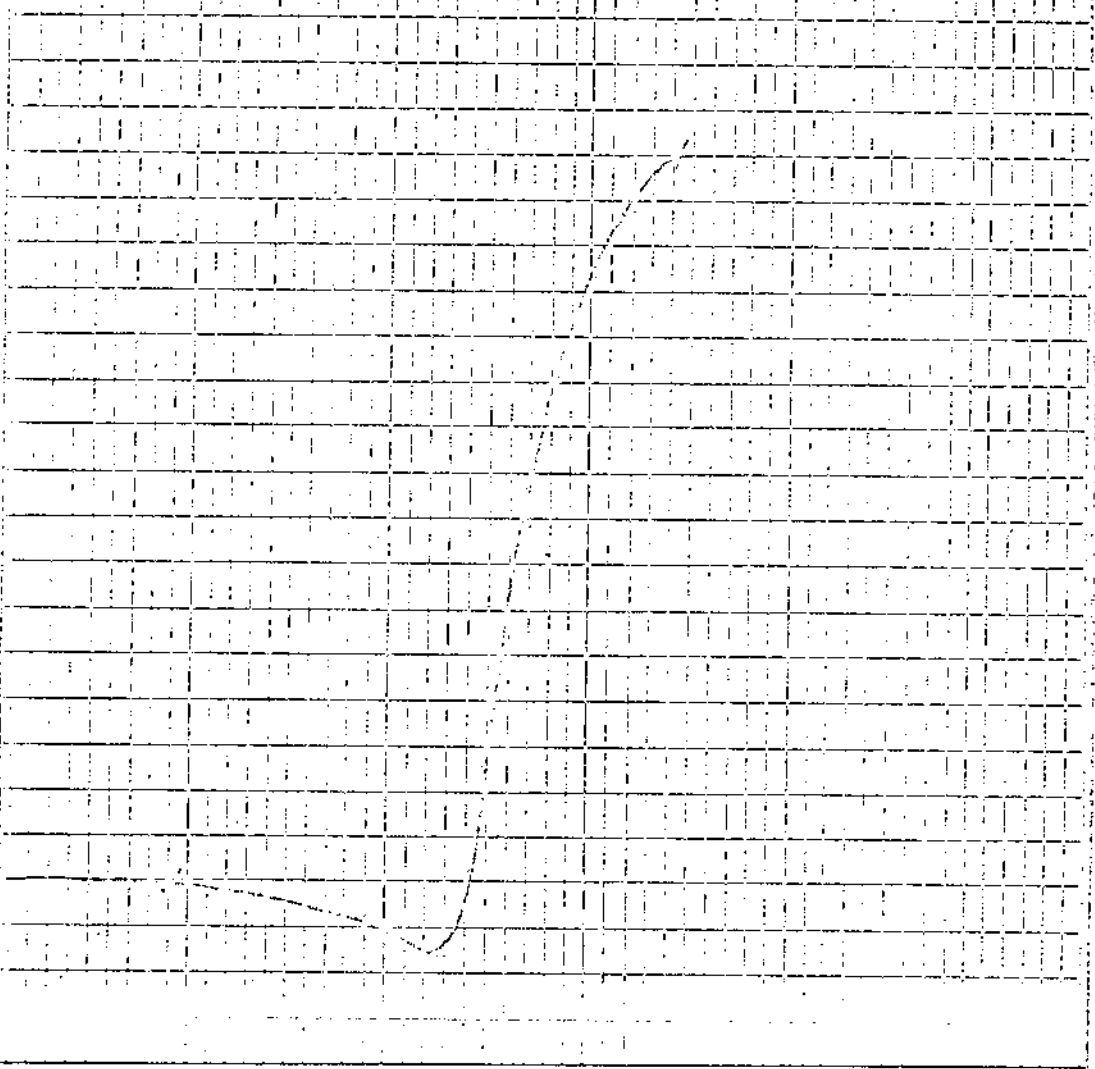
200

150

100

50

0



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

---

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R - 77 - 24 - 4 Lab. No. 8713 DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.7               | 61.4  | 19.3   | 18.6   | 0.53 | 85     | Air Dried Basis |
|                   | 61.8  | 19.4   | 18.8   | 0.53 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 81.5  | 0.6    | 61.7  | 0.49 | 81.5       | 61.7  | 0.49 | A.D.B. |
|                     | 81.6  |        | 62.1  | 0.49 | 81.6       | 62.1  | 0.49 | D.B.   |
| 65M x 0             | 18.5  | 1.3    | 60.5  | 0.56 | 100.0      | 61.5  | 0.50 | A.D.B. |
|                     | 18.4  |        | 61.3  | 0.57 | 100.0      | 62.0  | 0.50 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 7.9   | 1.1    | 10.2  | 32.8   | 55.9   | 1.05 | 7.9        | 10.2  | A.D.B. |
|                                   | 7.9   |        | 10.3  | 33.2   | 56.5   | 1.06 | 7.9        | 10.3  | D.B.   |
| 1.40-1.50                         | 5.2   | 2.2    | 18.1  | 29.8   | 49.9   | 1.00 | 13.1       | 13.3  | A.D.B. |
|                                   | 5.2   |        | 18.5  | 30.5   | 51.0   | 1.02 | 13.1       | 13.6  | D.B.   |
| 1.50-1.60                         | 3.8   | 2.1    | 26.8  |        |        |      | 16.9       | 16.4  | A.D.B. |
|                                   | 3.8   |        | 27.4  |        |        |      | 16.9       | 16.7  | D.B.   |
| +1.60                             | 83.1  | 1.0    | 70.9  |        |        |      | 100.0      | 61.7  | A.D.B. |
|                                   | 83.1  |        | 71.6  |        |        |      | 100.0      | 62.3  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                       |                  |                |        |
|---|------------|---------------------------------------|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP.* (°C)                 | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 5 1/2   | 0.08       | 338                                   | 438                   | 27               | 161            | 1.101  |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries



Lcb. No. 8713 Date April 6, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-24-4

Starting Temperature °C: 320

Softening Temperature °C: 338

Max. Dilatation Temp. °C: 438

250

Contraction %: 27

Dilatation %: 161

Final Temperature °C:

G. Factor: 1.101

200



SIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R - 77 - 24 - 5      Lab. No. 8714      DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.8               | 28.1  | 26.0   | 45.1   | 0.83 | 65     | Air Dried Basis |
|                   | 28.3  | 26.2   | 45.5   | 0.84 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 41.9  | 1.4    | 35.4  | 0.76 | 41.9       | 35.4  | 0.76 | A.D.B. |
|                     | 41.9  |        | 35.9  | 0.77 | 41.9       | 35.9  | 0.77 | D.B.   |
| 65M x 0             | 58.1  | 1.5    | 21.3  | 0.88 | 100.0      | 27.2  | 0.83 | A.D.B. |
|                     | 58.1  |        | 21.6  | 0.89 | 100.0      | 27.6  | 0.84 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 51.6  | 2.0    | 5.4   | 32.4   | 60.2   | 1.03 | 51.6       | 5.4   | A.D.B. |
|                                   | 51.3  |        | 5.5   | 33.1   | 61.4   | 1.05 | 51.3       | 5.5   | D.B.   |
| 1.40-1.50                         | 4.6   | 1.8    | 12.5  | 30.2   | 55.5   | 0.96 | 56.2       | 6.0   | A.D.B. |
|                                   | 4.6   |        | 12.7  | 30.8   | 56.5   | 0.98 | 55.9       | 6.1   | D.B.   |
| 1.50-1.60                         | 5.9   | 1.5    | 24.9  |        |        |      | 62.1       | 7.8   | A.D.B. |
|                                   | 5.9   |        | 25.3  |        |        |      | 61.8       | 7.9   | D.B.   |
| +1.60                             | 37.9  | 0.6    | 78.5  |        |        |      | 100.0      | 34.6  | A.D.B. |
|                                   | 38.2  |        | 79.0  |        |        |      | 100.0      | 35.1  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                       |                  |                |        |
|---|------------|---------------------------------------|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP.* (°C)                 | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 7   | 0.05       | 345                                   | 450                   | 22               | 151            | 1.109  |

\* S.T. & M.D.T. corrected with factor 6/5

Lab. No. 8714 Date April 6, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-24-5

Starting Temperature °C: 320

Softening Temperature °C: 345

Max. Dilatation Temp. °C: 450

250

Contraction %: 22

Dilatation %: 151

Final Temperature °C:

G. Factor: 1.109

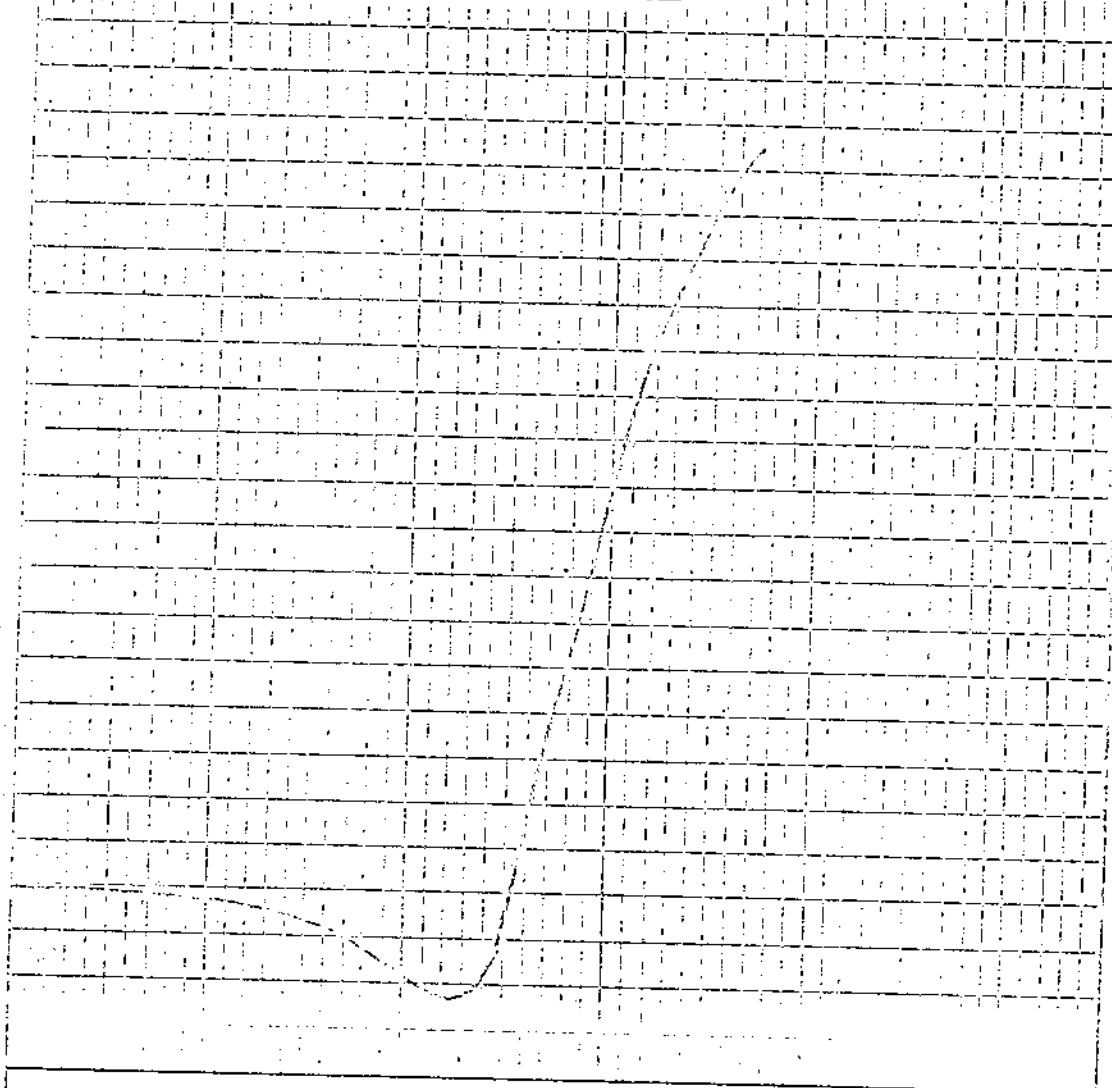
200

150

100

50

0



BIRTLEY ENGINEERING (CANADA) LTD.

Title  
RUHR DILATOMETER TEST

Date  
Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R - 77 - 24 - 6 Lab. No. 8715 DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.6               | 28.2  | 26.9   | 44.3   | 1.22 | 65     | Air Dried Basis |
|                   | 28.4  | 27.1   | 44.5   | 1.23 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 81.2  | 1.3    | 30.5  | 1.13 | 81.2       | 30.5  | 1.13 | A.D.B. |
|                     | 81.2  |        | 30.9  | 1.14 | 81.2       | 30.9  | 1.14 | D.B.   |
| 65M x 0             | 18.8  | 1.4    | 16.3  | 1.40 | 100.0      | 27.8  | 1.18 | A.D.B. |
|                     | 18.8  |        | 16.5  | 1.42 | 100.0      | 28.2  | 1.19 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 56.5  | 1.4    | 4.8   | 32.8   | 61.0   | 1.23 | 56.5       | 4.8   | A.D.B. |
|                                   | 56.4  |        | 4.9   | 33.3   | 61.8   | 1.25 | 56.4       | 4.9   | D.B.   |
| 1.40-1.50                         | 5.0   | 1.1    | 14.4  | 29.7   | 54.8   | 1.49 | 61.5       | 5.6   | A.D.B. |
|                                   | 5.0   |        | 14.6  | 30.0   | 55.4   | 1.51 | 61.4       | 5.7   | D.B.   |
| 1.50-1.60                         | 3.1   | 1.1    | 20.1  |        |        |      | 64.6       | 6.3   | A.D.B. |
|                                   | 3.1   |        | 20.3  |        |        |      | 64.5       | 6.4   | D.B.   |
| +1.60                             | 35.4  | 1.1    | 72.7  |        |        |      | 100.0      | 29.8  | A.D.B. |
|                                   | 35.5  |        | 73.5  |        |        |      | 100.0      | 30.2  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                      |                  |                |        |
|---|------------|---------------------------------------|----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                      |                  |                |        |
|   |            | SOFTENING TEMP. *(°C)                 | MAX. DIL. TEMP* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 7 1/2   | 0.08       | 338                                   | 452                  | 21               | 238            | 1.138  |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lab. No. 8715 Date April 6, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-24-6

Starting Temperature °C: 320

Softening Temperature °C: 338

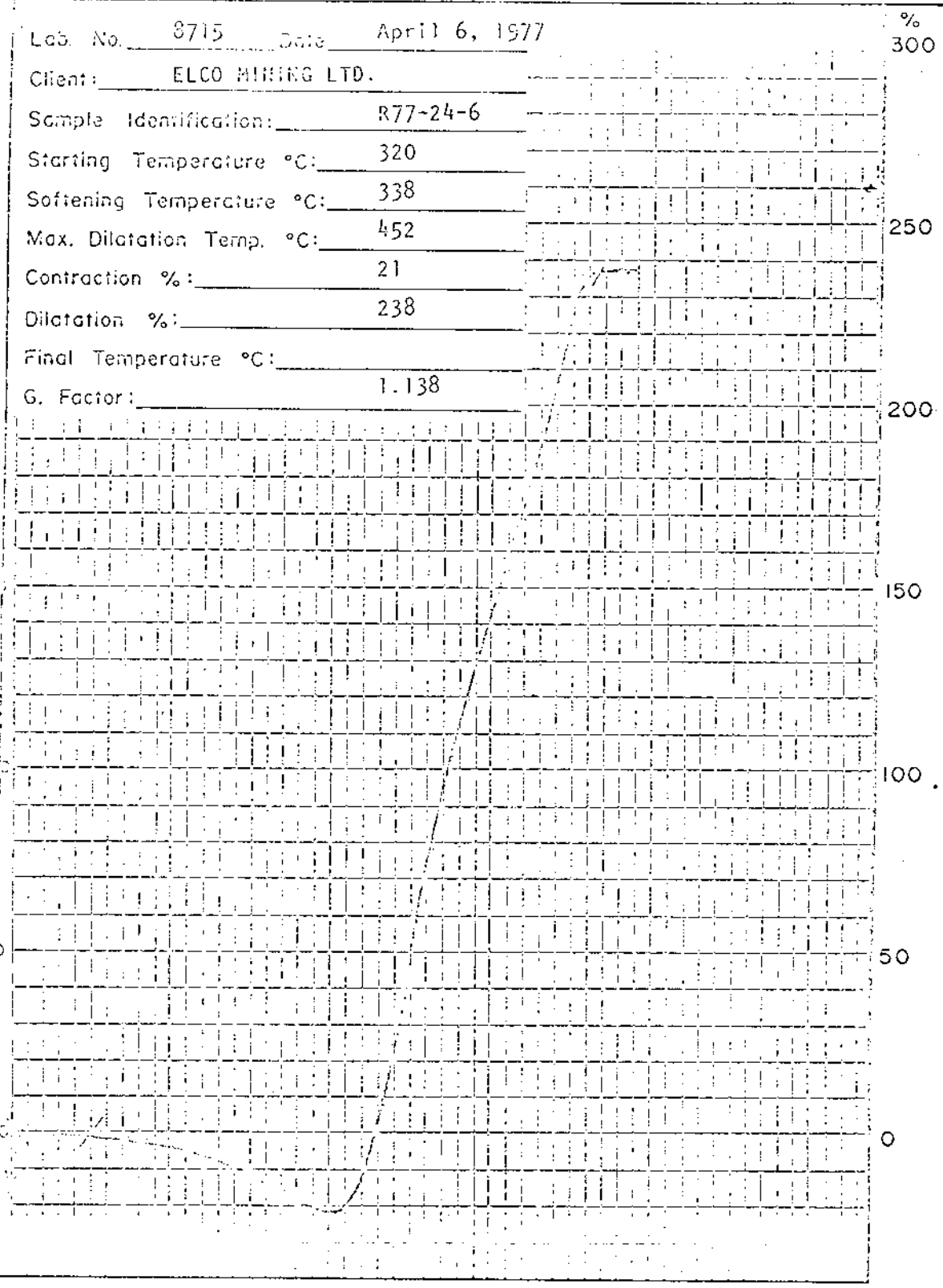
Max. Dilatation Temp. °C: 452

Contraction %: 21

Dilatation %: 238

Final Temperature °C:

G. Factor: 1.138



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R - 77 - 24 - 7

Lab. No. 8716

DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 1.0               | 34.8  | 20.7   | 43.5   | 0.64 | 62     | Air Dried Basis |
|                   | 35.2  | 20.9   | 43.9   | 0.65 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 92.4  | 1.5    | 35.7  | 0.63 | 92.4       | 35.7  | 0.63 | A.D.B. |
|                     | 92.5  |        | 36.2  | 0.64 | 92.5       | 36.2  | 0.64 | D.B.   |
| 65M x 0             | 7.6   | 2.1    | 17.3  | 0.66 | 100.0      | 34.3  | 0.63 | A.D.B. |
|                     | 7.5   |        | 17.7  | 0.67 | 100.0      | 34.8  | 0.64 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 53.1  | 1.4    | 2.2   | 29.4   | 67.0   | 0.79 | 53.1       | 2.2   | A.D.B. |
|                                   | 52.5  |        | 2.2   | 29.8   | 68.0   | 0.80 | 52.5       | 2.2   | D.B.   |
| 1.40-1.50                         | 4.0   | 1.7    | 10.5  | 26.2   | 61.6   | 0.88 | 57.1       | 2.8   | A.D.B. |
|                                   | 4.0   |        | 10.7  | 26.7   | 62.6   | 0.90 | 56.5       | 2.8   | D.B.   |
| 1.50-1.60                         | 1.4   | 1.5    | 27.8  |        |        |      | 58.5       | 3.4   | A.D.B. |
|                                   | 1.4   |        | 28.2  |        |        |      | 57.9       | 3.4   | D.B.   |
| +1.60                             | 41.5  | 1.3    | 79.8  |        |        |      | 100.0      | 35.1  | A.D.B. |
|                                   | 42.1  |        | 80.9  |        |        |      | 100.0      | 36.0  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                       |                  |                |       |        |
|---|------------|---------------------------------------|-----------------------|------------------|----------------|-------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                       |                  |                |       | G. NO. |
|   |            | SOFTENING TEMP.* (°C)                 | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % |       |        |
| 8   | 0.02       | 367                                   | 446                   | 21               | 19             | 0.995 |        |

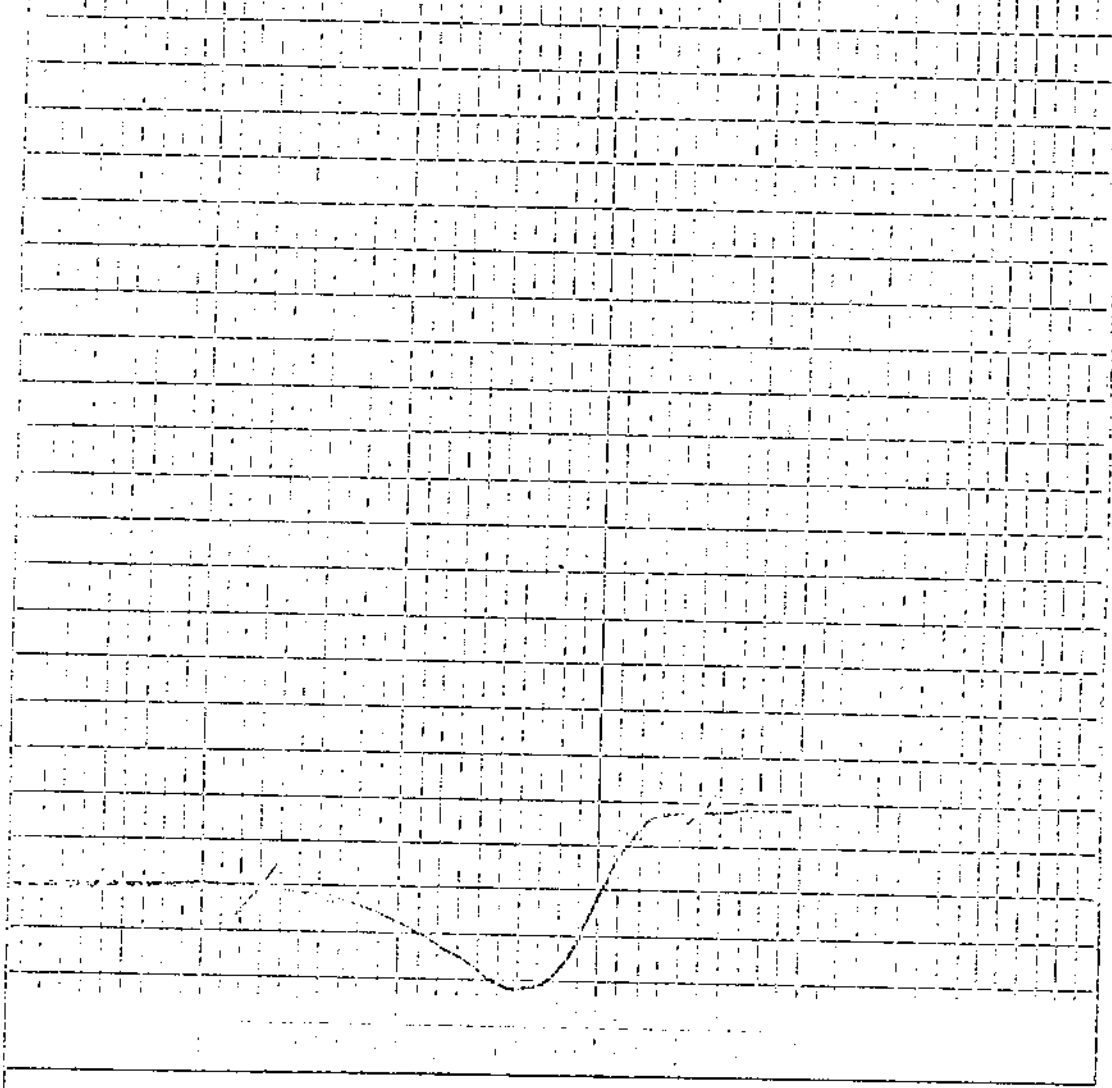
\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lab. No. 8716 Date April 6, 1977  
 Client: ELCO MINING LTD.  
 Sample Identification: R77-24-7  
 Starting Temperature °C: 320  
 Softening Temperature °C: 367  
 Max. Dilatation Temp. °C: 446  
 Contraction %: 21  
 Dilatation %: 19  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 0.995

%  
300



**BIRTLEY ENGINEERING (CANADA) LTD.**

Title RUHR DILATOMETER TEST

Date \_\_\_\_\_  
 Drawn \_\_\_\_\_

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R - 77 - 24 - 8 Lab. No. 8717 DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.9               | 55.2  | 17.0   | 26.9   | 0.70 | 56     | Air Dried Basis |
|                   | 55.7  | 17.2   | 27.1   | 0.71 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 95.7  | 0.9    | 55.9  | 0.69 | 95.7       | 55.9  | 0.69 | A.D.B. |
|                     | 95.7  |        | 56.4  | 0.70 | 95.7       | 55.9  | 0.70 | J.B.   |
| 65M x 0             | 4.3   | 1.0    | 29.6  | 0.88 | 100.0      | 54.8  | 0.70 | A.D.B. |
|                     | 4.3   |        | 29.9  | 0.89 | 100.0      | 55.3  | 0.71 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 29.4  | 0.9    | 4.8   | 30.2   | 64.1   | 0.90 | 29.4       | 4.8   | A.D.B. |
|                                   | 29.4  |        | 4.8   | 30.5   | 64.7   | 0.91 | 29.4       | 4.8   | D.B.   |
| 1.40-1.50                         | 2.2   | 0.8    | 17.3  | 23.5   | 58.4   | 0.73 | 31.6       | 5.7   | A.D.B. |
|                                   | 2.2   |        | 17.4  | 23.7   | 58.9   | 0.74 | 31.6       | 5.7   | D.B.   |
| 1.50-1.60                         | 1.5   | 0.9    | 29.2  |        |        |      | 33.1       | 6.7   | A.D.B. |
|                                   | 1.5   |        | 29.5  |        |        |      | 33.1       | 6.8   | D.B.   |
| +1.60                             | 66.9  | 1.1    | 79.0  |        |        |      | 100.0      | 55.1  | A.D.B. |
|                                   | 66.9  |        | 79.9  |        |        |      | 100.0      | 55.7  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                      |                  |                |        |
|---|------------|---------------------------------------|----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                      |                  |                | G. NO. |
|   |            | SOFTENING TEMP# (°C)                  | MAX. DIL. TEMP# (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % |        |
| 6 1/2   | 0.04       | 346                                   | 452                  | 23               | 78             | 1.078  |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries



Lab. No. 8717 Date April 6, 1977

%  
300

Client: ELCO MINING LTD.

Sample identification: R77-24-8

Starting Temperature °C: 320

Softening Temperature °C: 346

Max. Dilatation Temp. °C: 452

Contraction %: 23

Dilatation %: 78

Final Temperature °C: \_\_\_\_\_

G. Factor: 1.078

250

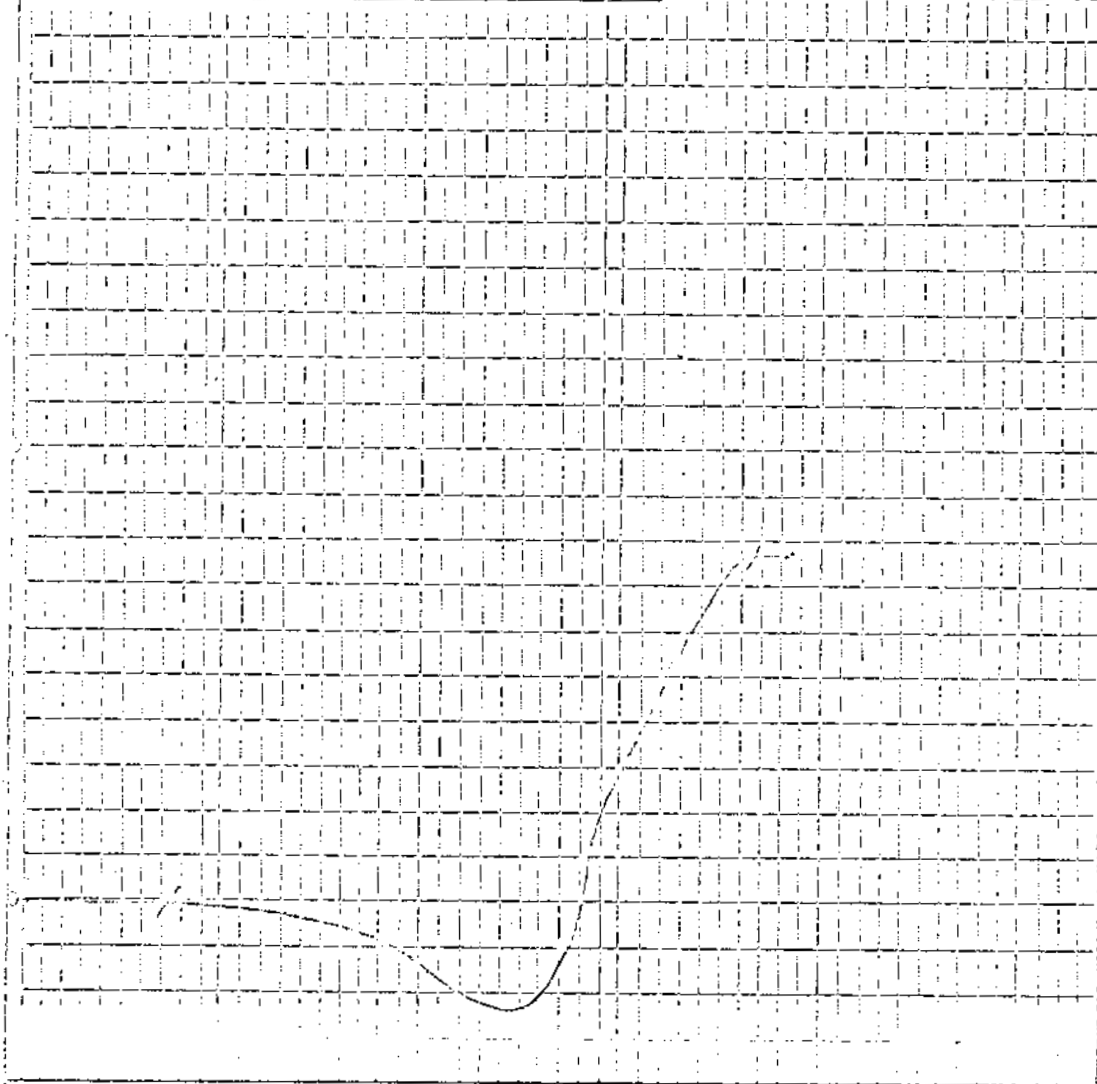
200

150

100

50

0



DAINLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R - 77 - 24 - 9 Lab. No. 8718 DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.9               | 22.9  | 25.2   | 51.0   | 0.39 | 75     | Air Dried Basis |
|                   | 23.1  | 25.4   | 51.5   | 0.39 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 95.5  | 0.9    | 23.3  | 0.39 | 95.5       | 23.3  | 0.39 | A.D.B. |
|                     | 95.5  |        | 23.5  | 0.39 | 95.5       | 23.5  | 0.39 | D.B.   |
| 65M x 0             | 4.5   | 1.2    | 10.8  | 0.40 | 100.0      | 22.7  | 0.39 | A.D.B. |
|                     | 4.5   |        | 10.9  | 0.40 | 100.0      | 22.9  | 0.39 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 67.0  | 1.6    | 3.6   | 29.2   | 65.6   | 0.49 | 67.0       | 3.6   | A.D.B. |
|                                   | 66.8  |        | 3.7   | 29.7   | 66.6   | 0.50 | 66.8       | 3.7   | D.B.   |
| 1.40-1.50                         | 4.8   | 1.1    | 16.0  | 24.3   | 58.6   | 0.45 | 71.8       | 4.4   | A.D.B. |
|                                   | 4.8   |        | 16.2  | 24.6   | 59.2   | 0.46 | 71.6       | 4.5   | D.B.   |
| 1.50-1.60                         | 2.2   | 1.6    | 27.8  |        |        |      | 74.0       | 5.1   | A.D.B. |
|                                   | 2.2   |        | 28.3  |        |        |      | 73.8       | 5.2   | D.B.   |
| +1.60                             | 26.0  | 1.0    | 73.1  |        |        |      | 100.0      | 22.8  | A.D.B. |
|                                   | 26.2  |        | 73.8  |        |        |      | 100.0      | 23.2  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |  |                      |                  |                |       |        |
|---|------------|--|----------------------|------------------|----------------|-------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp. -320°C) |                      |                  |                |       | G. NO. |
|   |            | SOFTENING TEMP. (°C)                   | MAX. DIL. TEMP. (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % |       |        |
| 7   | 0.04       | 363                                    | 453                  | 23               | 39             | 1.029 |        |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lab. No. 8718 Date April 7, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-24-9

Starting Temperature °C: 320

Softening Temperature °C: 363

Max. Dilatation Temp. °C: 453

250

Contraction %: 23

Dilatation %: 39

Final Temperature °C:

G. Factor: 1.029

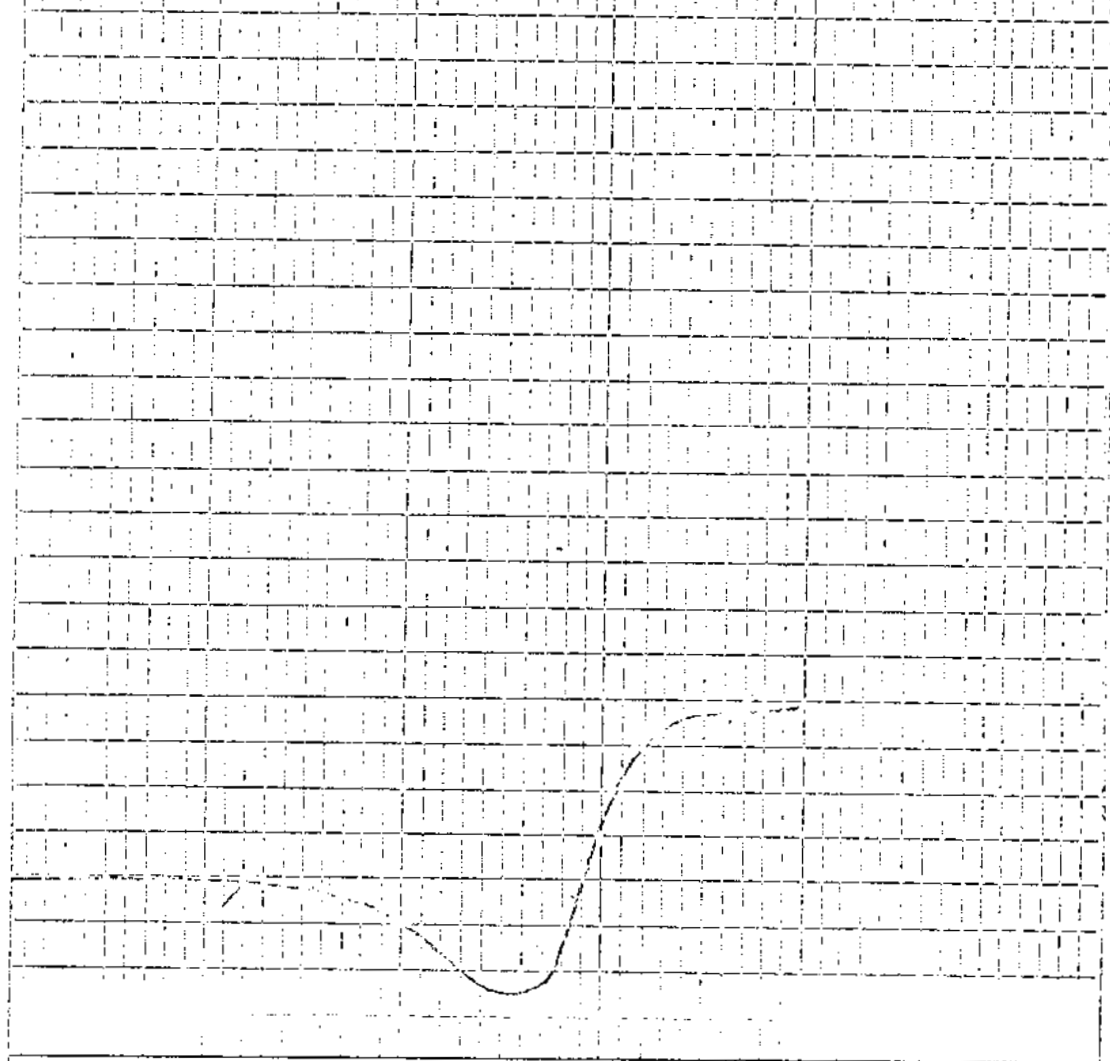
200

150

100

50

0



SIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R - 77 - 24 - 10 Lab. No. 8719 DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.9               | 17.2  | 26.2   | 55.7   | 0.62 | 95     | Air Dried Basis |
|                   | 17.4  | 26.4   | 56.2   | 0.63 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 91.2  | 0.9    | 17.9  | 0.63 | 91.2       | 17.9  | 0.63 | A.D.B. |
|                     | 91.2  |        | 18.1  | 0.64 | 91.2       | 18.1  | 0.64 | D.B.   |
| 65M x 0             | 8.8   | 1.3    | 6.3   | 0.56 | 100.0      | 16.9  | 0.62 | A.D.B. |
|                     | 8.8   |        | 6.4   | 0.57 | 100.0      | 17.1  | 0.63 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 70.2  | 0.9    | 3.4   | 29.9   | 65.8   | 0.61 | 70.2       | 3.4   | A.D.B. |
|                                   | 70.2  |        | 3.4   | 30.2   | 66.4   | 0.62 | 70.2       | 3.4   | D.B.   |
| 1.40-1.50                         | 7.9   | 0.9    | 11.9  | 25.8   | 61.4   | 0.56 | 78.1       | 4.3   | A.D.B. |
|                                   | 7.9   |        | 12.0  | 26.0   | 62.0   | 0.57 | 78.1       | 4.3   | D.B.   |
| 1.50-1.60                         | 2.6   | 1.7    | 23.7  |        |        |      | 80.7       | 4.9   | A.D.B. |
|                                   | 2.6   |        | 24.1  |        |        |      | 80.7       | 4.9   | D.B.   |
| +1.60                             | 19.3  | 1.0    | 70.4  |        |        |      | 100.0      | 17.5  | A.D.B. |
|                                   | 19.3  |        | 71.1  |        |        |      | 100.0      | 17.7  | D.B.   |

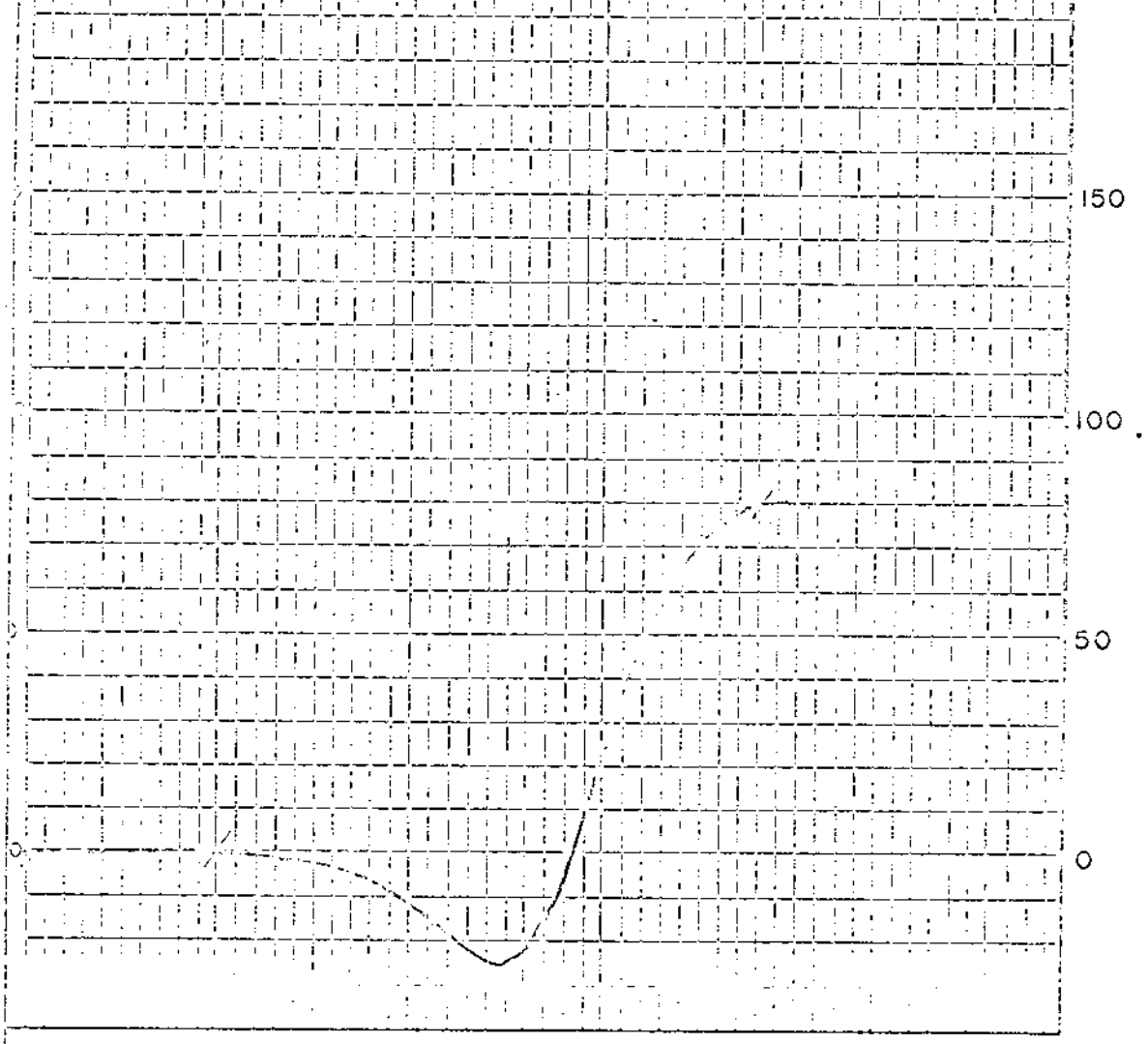
| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                       |                  |                |        |
|---|------------|---------------------------------------|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP.* (°C)                 | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 8   | 0.05       | 356                                   | 457                   | 25               | 80             | 1.070  |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lab. No. 8719 Date April 7, 1977 % 300  
 Client: ELCO MINING LTD.  
 Sample Identification: R77-24-10  
 Starting Temperature °C: 320  
 Softening Temperature °C: 356  
 Max. Dilatation Temp. °C: 457 250  
 Contraction %: 25  
 Dilatation %: 80  
 Final Temperature °C:  
 G. Factor: 1.070 200



BIRTLEY ENGINEERING (CANADA) LTD.

|                       |       |
|-----------------------|-------|
| Title                 | Date  |
| RUHR DILATOMETER TEST | Drawn |

Warnock Hersey Professional Services Ltd.

E.L.CO. MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R - 77 - 25 - 1 Lab. No.: 77 - 4053 Date: May 9, 1977.

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 1.0               | 23.2  | 29.4  | 37.3  | 0.89 | 59.4   | Air Dried Basis |
| --                | 23.5  | 29.7  | 46.8  | 0.89 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M. % | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | Wt. %      | Ash % | S. % |        |
| 1/4 x 65            | 62.7  | 0.9    | 21.8  | 0.90 | 62.7       | 21.8  | 0.90 | A.D.B. |
|                     | 62.7  | --     | 22.0  | 0.91 | 62.7       | 22.0  | 0.91 | D.B.   |
| 65 x 0              | 37.3  | 1.0    | 24.5  | 0.91 | 100.0      | 22.8  | 0.90 | A.D.B. |
|                     | 37.3  | --     | 24.7  | 0.92 | 100.0      | 23.0  | 0.91 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65 M |       |        |      |        |        |      |            |      |        |
|------------------------------------|-------|--------|------|--------|--------|------|------------|------|--------|
| S.G.                               | Wt. % | R.M. % | Ash% | V.M. % | F.C. % | S. % | Cumulative |      |        |
|                                    |       |        |      |        |        |      | Wt. %      | Ash% |        |
| -1.40                              | 59.9  | 1.0    | 6.3  | 34.7   | 58.0   | 1.07 | 59.9       | 6.3  | A.D.B. |
|                                    | 59.9  | --     | 6.3  | 35.1   | 58.6   | 1.08 | 59.9       | 6.3  | D.B.   |
| 1.40-1.50                          | 12.4  | 1.1    | 14.5 | 31.7   | 52.7   | 0.95 | 72.3       | 7.7  | A.D.B. |
|                                    | 12.4  | --     | 14.7 | 32.0   | 53.3   | 0.96 | 72.3       | 7.7  | D.B.   |
| 1.50-1.60                          | 4.8   | 0.9    | 28.0 | --     | --     | --   | 77.1       | 9.0  | A.D.B. |
|                                    | 4.8   | --     | 28.3 | --     | --     | --   | 77.1       | 9.0  | D.B.   |
| +1.60                              | 22.9  | 0.9    | 31.1 | --     | --     | --   | 100.0      | 20.9 | A.D.B. |
|                                    | 22.9  | --     | 31.7 | --     | --     | --   | 100.0      | 21.1 | D.B.   |

| COMBUSTION 1/4" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |                         |                         |                     |                   |        |
|---|-------------------|-------------------------|-------------------------|---------------------|-------------------|--------|
| F.S.I.  | P %<br>on<br>Coal | Softening<br>Temp. (°C) | Max. Dil.<br>Temp. (°C) | Maximum<br>Contr. % | Maximum<br>Dil. % | G. No. |
| 7%  | 0.024             |                         |                         |                     |                   |        |

Lab. No. 77 - 4053 Date June 13, 1977

Client: Elco Mining Ltd.

Sample Identification: R 77 - 25 - 1

Starting Temperature °C: 350 °C

Softening Temperature °C: 368 °C

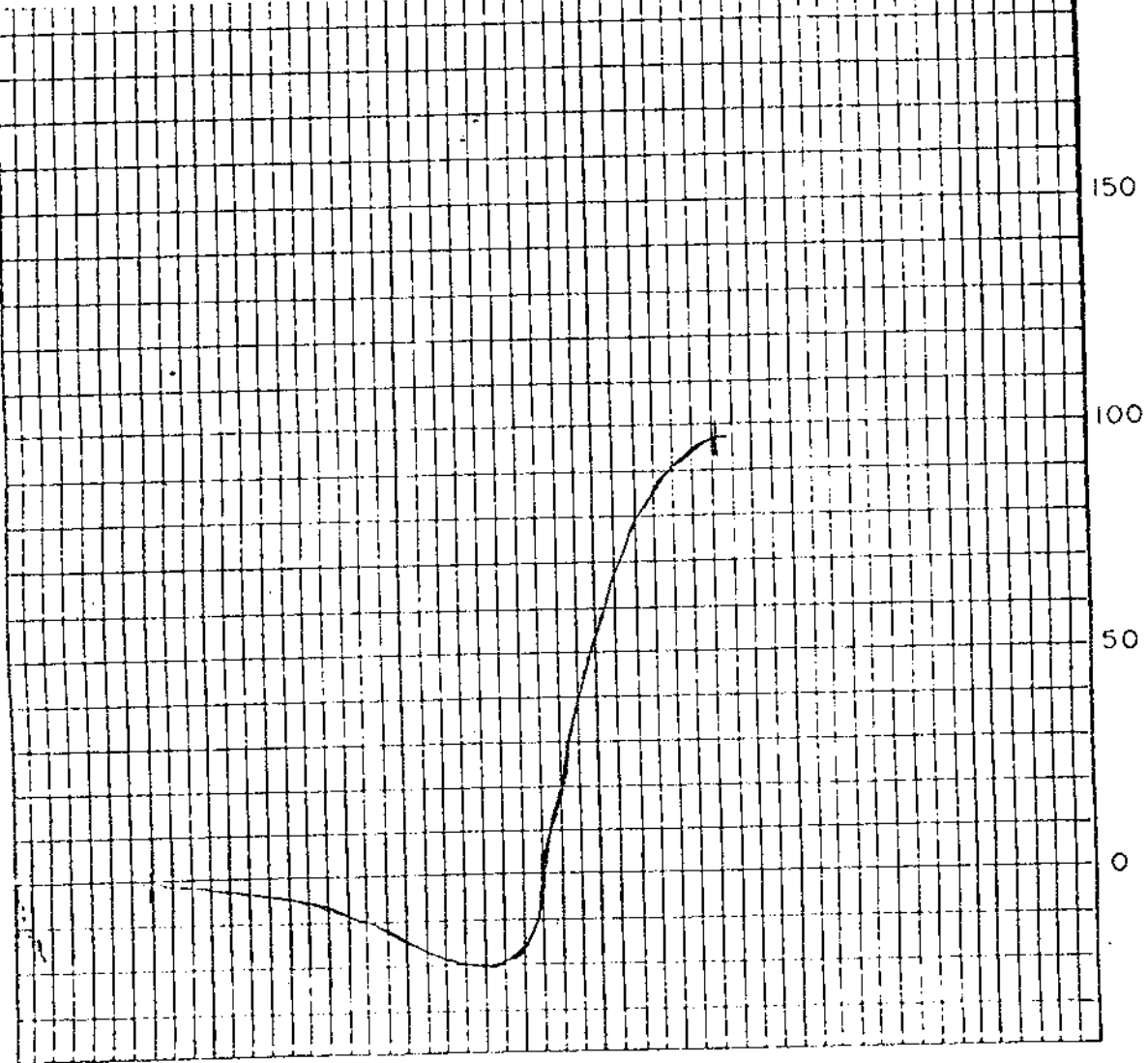
Max. Dilatation Temp. °C: 443 °C

Contraction %: 20%

Dilatation %: 97%

Final Temperature °C: \_\_\_\_\_

G. Factor: 1.064



WARNOCK HERSEY PROFESSIONAL SERVICES

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R - 77-25 - 2      Lab. No.: 77 - 4054      Date: May 9, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 1.3               | 40.9  | 24.4  | 33.4  | 0.76 | 69.1   | Air Dried Basis |
| --                | 41.4  | 24.7  | 33.9  | 0.77 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 68.9 | 1.0   | 48.2  | 0.66 | 68.9       | 48.2  | 0.66 | A.D.B. |
|                     | 68.8 | --    | 48.7  | 0.67 | 68.8       | 48.7  | 0.67 | D.B.   |
| 65 x 0              | 31.1 | 1.4   | 27.0  | 0.93 | 100.0      | 41.6  | 0.74 | A.D.B. |
|                     | 31.2 | --    | 27.4  | 0.94 | 100.0      | 42.0  | 0.75 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 35.3 | 1.1   | 4.5  | 34.0  | 60.4  | 1.08 | 35.3       | 4.5  | A.D.B. |
|                                  | 35.3 | --    | 4.5  | 34.4  | 61.1  | 1.09 | 35.3       | 4.5  | D.B.   |
| 1.40-1.50                        | 2.2  | 1.2   | 11.8 | 33.0  | 54.0  | 0.87 | 37.5       | 4.9  | A.D.B. |
|                                  | 2.2  | --    | 11.9 | 33.4  | 54.7  | 0.88 | 37.5       | 4.9  | D.B.   |
| 1.50-1.60                        | 1.9  | 1.2   | 17.9 | --    | --    | --   | 39.4       | 5.6  | A.D.B. |
|                                  | 1.9  | --    | 18.1 | --    | --    | --   | 39.4       | 5.6  | D.B.   |
| +1.60                            | 60.6 | 0.8   | 74.9 | --    | --    | --   | 100.0      | 47.6 | A.D.B. |
|                                  | 60.6 | --    | 75.4 | --    | --    | --   | 100.0      | 47.9 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |                         |                         |                     |                   |       |
|--|-------------------|-------------------------|-------------------------|---------------------|-------------------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening<br>Temp. (°C) | Max. Dil.<br>Temp. (°C) | Maximum<br>Contr. % | Maximum<br>Dil. % | G.No. |
| 8  | 0.006             |                         |                         |                     |                   |       |



Lab. No. 77 - 4054 Date June 13, 1977

Client: Elco Mining Ltd.

Sample Identification: R - 77 - 25 - 2

Starting Temperature °C: 350°C

Softening Temperature °C: 376°C

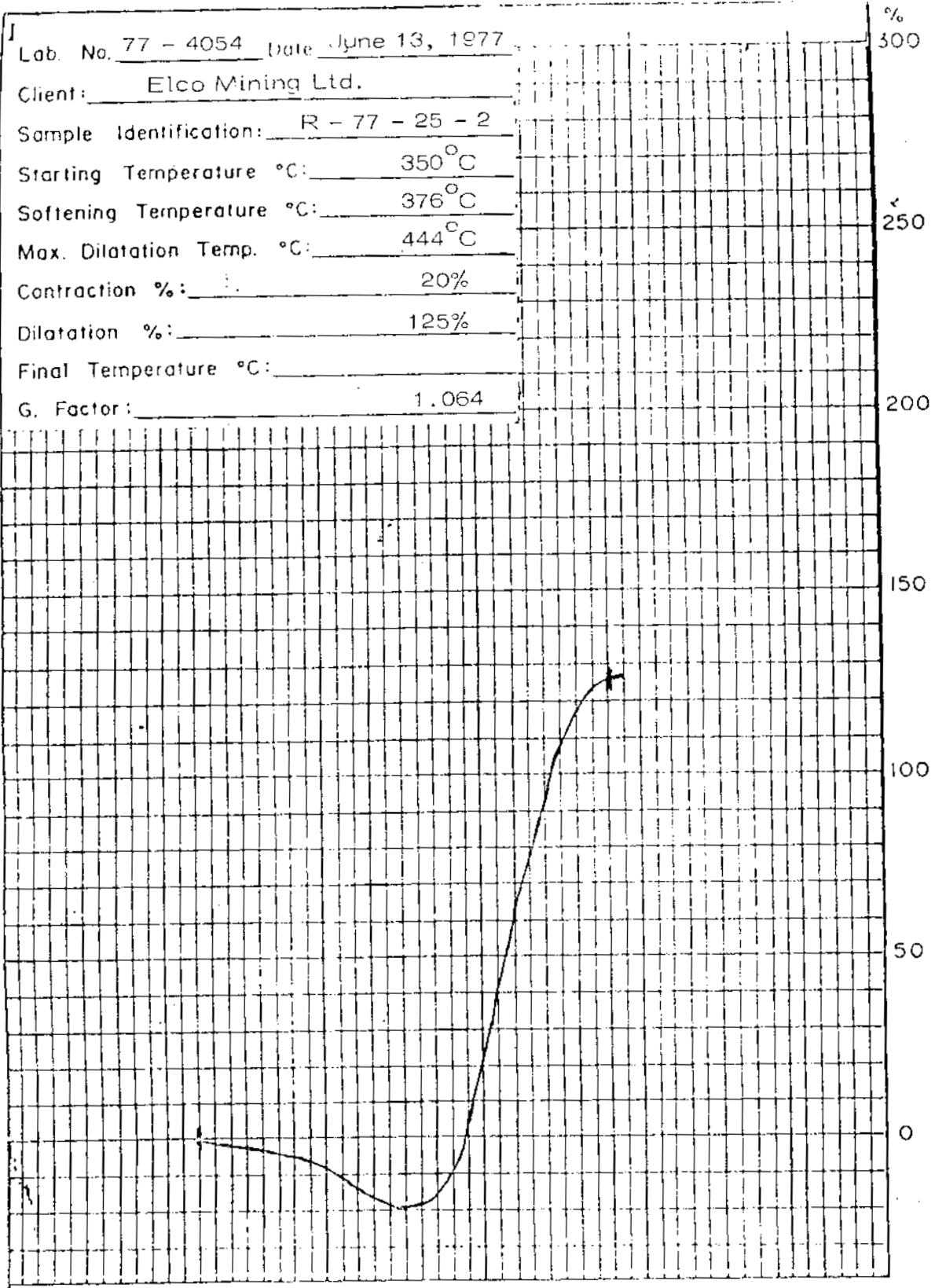
Max. Dilatation Temp. °C: 444°C

Contraction %: 20%

Dilatation %: 125%

Final Temperature °C:

G. Factor: 1.064



WARNOCK HERSEY PROFESSIONAL SERVICES

Title

RUHR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R - 77 - 25 -3 Lab. No.: 77 - 4055 Date: May 9, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.8               | 28.8  | 26.9  | 43.5  | 0.97 | 78.1   | Air Dried Basis |
| --                | 29.0  | 27.1  | 43.9  | 0.98 | --     | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 74.4 | 0.8   | 26.2  | 1.00 | 74.4       | 26.2  | 1.00 | A.D.B. |
|                     | 74.4 | --    | 26.4  | 1.01 | 74.4       | 26.4  | 1.01 | D.B.   |
| 65 x 0              | 25.6 | 0.9   | 37.1  | 0.89 | 100.0      | 29.0  | 0.97 | A.D.B. |
|                     | 25.6 | --    | 37.4  | 0.90 | 100.0      | 29.2  | 0.98 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 61.1 | 1.3   | 8.5  | 33.9  | 56.3  | 1.07 | 61.1       | 8.5  | A.D.B. |
|                                  | 61.0 | --    | 8.7  | 34.4  | 56.9  | 1.08 | 61.0       | 8.7  | D.B.   |
| 1.40-1.50                        | 9.1  | 0.9   | 21.6 | 29.1  | 48.4  | 0.89 | 70.2       | 10.2 | A.D.B. |
|                                  | 9.1  | --    | 21.8 | 29.3  | 48.9  | 0.90 | 70.1       | 10.4 | D.B.   |
| 1.50-1.60                        | 5.0  | 1.1   | 24.2 | --    | --    | --   | 75.2       | 11.1 | A.D.B. |
|                                  | 5.0  | --    | 24.5 | --    | --    | --   | 75.1       | 11.3 | D.B.   |
| +1.60                            | 24.8 | 1.4   | 67.3 | --    | --    | --   | 100.0      | 25.1 | A.D.B. |
|                                  | 24.9 | --    | 68.3 | --    | --    | --   | 100.0      | 25.5 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |            |            |          |         |       |
|--|-------------------|------------|------------|----------|---------|-------|
| F.S.I.   | P %<br>on<br>Coat | Softening  | Max. Dil.  | Maximum  | Maximum | G.No. |
|  |                   | Temp. (°C) | Temp. (°C) | Contr. % | Dil. %  |       |
| 8  | 0.085             |            |            |          |         |       |

Lab. No. 77 - 4055 Date June 14, 1977

Client: Elco Mining Ltd.

Sample Identification: R - 77 - 25 - 3

Starting Temperature °C: 350°C

Softening Temperature °C: 368°C

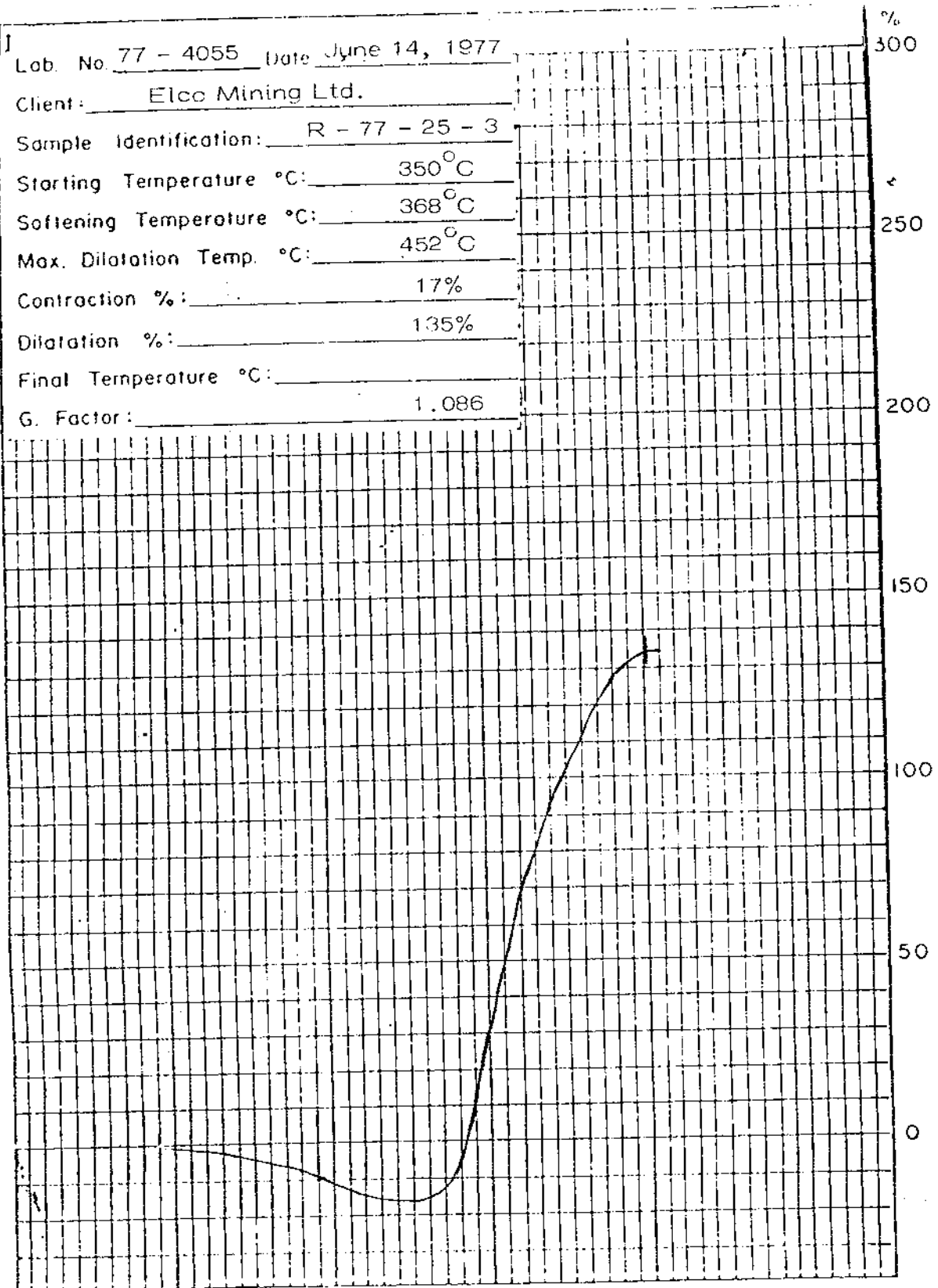
Max. Dilatation Temp. °C: 452°C

Contraction %: 17%

Dilatation %: 135%

Final Temperature °C:

G. Factor: 1.086



WARNOCK HERSHEY PROFESSIONAL SERVICES

Title

RUHR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R - 77 - 25 - 4 Lab. No.: 77 - 4056 Date: May 9, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.9               | 49.0  | 20.7  | 29.4  | 0.53 | 46.3   | Air Dried Basis |
| --                | 49.4  | 20.9  | 29.7  | 0.53 | --     | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 92.0 | 0.9   | 49.7  | 0.53 | 92.0       | 49.7  | 0.53 | A.D.B. |
|                     | 92.0 | --    | 50.2  | 0.53 | 92.0       | 50.2  | 0.53 | D.B.   |
| 65 x 0              | 8.0  | 1.0   | 29.8  | 0.73 | 100.0      | 48.1  | 0.55 | A.D.B. |
|                     | 8.0  | --    | 30.1  | 0.74 | 100.0      | 48.6  | 0.55 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 25.7 | 1.2   | 9.4  | 33.1  | 56.3  | 0.92 | 25.7       | 9.4  | A.D.B. |
|                                  | 25.7 | --    | 9.5  | 33.5  | 57.0  | 0.93 | 25.7       | 9.5  | D.B.   |
| 1.40-1.50                        | 5.8  | 1.0   | 22.4 | 28.5  | 48.1  | 0.72 | 31.5       | 11.8 | A.D.B. |
|                                  | 5.8  | --    | 22.6 | 28.8  | 48.6  | 0.73 | 31.5       | 11.9 | D.B.   |
| 1.50-1.60                        | 6.4  | 1.0   | 28.7 | --    | --    | --   | 37.9       | 14.6 | A.D.B. |
|                                  | 6.4  | --    | 29.0 | --    | --    | --   | 37.9       | 14.8 | D.B.   |
| +1.60                            | 62.1 | 1.0   | 71.5 | --    | --    | --   | 100.0      | 50.0 | A.D.B. |
|                                  | 62.1 | --    | 72.3 | --    | --    | --   | 100.0      | 50.5 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |           |           |         |         |       |
|--|-------------------|-----------|-----------|---------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening | Max.Dil.  | Maximum | Maximum | G.No. |
|  |                   | Temp.(°C) | Temp.(°C) | Contr.% | Dil. %  |       |
| 8  | 0.084             |           |           |         |         |       |

Lab No 77 - 4056 Date June 14, 1977

Client: Elco Mining Ltd.

Sample Identification: R - 77 - 25 - 4

Starting Temperature °C: 350°C

Softening Temperature °C: 381°C

Max. Dilatation Temp. °C: 453°C

Contraction %: 22%

Dilatation %: 87%

Final Temperature °C:

G. Factor: 1.054

%  
300  
250  
200  
150  
100  
50  
0



WARNOCK HERSEY PROFESSIONAL SERVICES

Title

RUHR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R - 77 - 25 - 5 Lab. No.: 77 - 4057 Date: May 9, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.8               | 54.8  | 20.7  | 23.7  | 0.56 | 62.2   | Air Dried Basis |
| --                | 55.2  | 20.8  | 24.0  | 0.56 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 91.8 | 0.7   | 58.1  | 0.51 | 91.8       | 58.1  | 0.51 | A.D.B. |
|                     | 91.8 | --    | 58.5  | 0.51 | 91.8       | 58.5  | 0.51 | D.B.   |
| 65 x 0              | 8.2  | 1.0   | 32.3  | 0.75 | 100.0      | 56.0  | 0.53 | A.D.B. |
|                     | 8.2  | --    | 32.6  | 0.76 | 100.0      | 56.4  | 0.53 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 11.9 | 1.2   | 3.1  | 32.5  | 63.2  | 0.97 | 11.9       | 3.1  | A.D.B. |
|                                  | 11.9 | --    | 3.2  | 32.9  | 63.9  | 0.98 | 11.9       | 3.2  | D.B.   |
| 1.40-1.50                        | 1.2  | 1.2   | 14.1 | 30.0  | 54.7  | 0.86 | 13.1       | 4.1  | A.D.B. |
|                                  | 1.2  | --    | 14.3 | 30.3  | 55.4  | 0.87 | 13.1       | 4.2  | D.B.   |
| 1.50-1.60                        | 1.4  | 1.2   | 25.2 | --    | --    | --   | 14.5       | 6.1  | A.D.B. |
|                                  | 1.4  | --    | 25.5 | --    | --    | --   | 14.5       | 6.3  | D.B.   |
| +1.60                            | 85.5 | 1.0   | 66.6 | --    | --    | --   | 100.0      | 57.8 | A.D.B. |
|                                  | 85.5 | --    | 67.2 | --    | --    | --   | 100.0      | 58.4 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |            |            |          |         |       |
|--|-------------------|------------|------------|----------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening  | Max. Dil.  | Maximum  | Maximum | G.No. |
|  |                   | Temp. (°C) | Temp. (°C) | Contr. % | Dil. %  |       |
| 8½   | 0.017             |            |            |          |         |       |

Lab. No 77 - 4057 Date June 13, 1977

Client: Elco Mining Ltd.

Sample Identification: R - 77 - 25 - 5

Starting Temperature °C: 350<sup>o</sup>C

Softening Temperature °C: 372<sup>o</sup>C

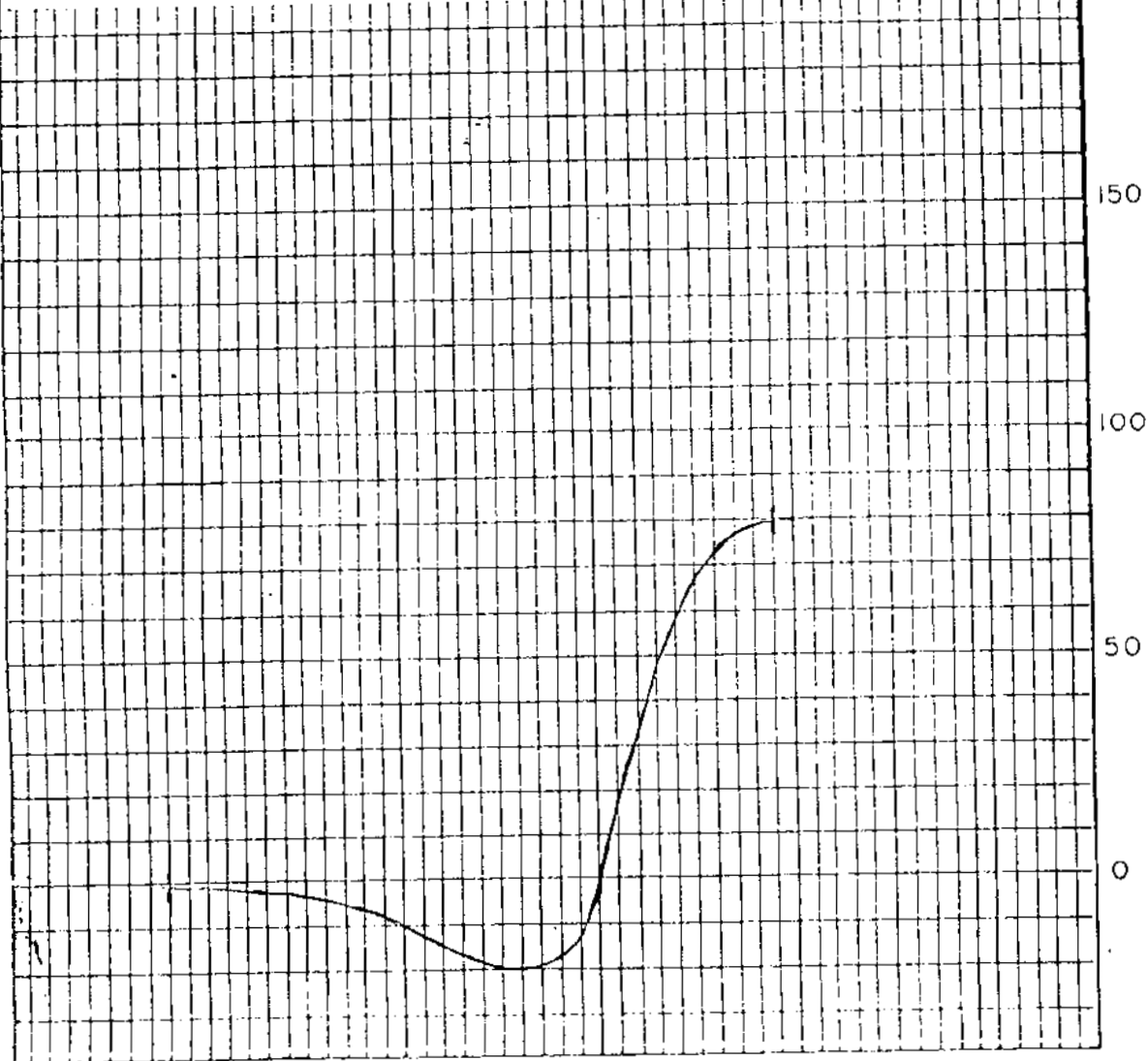
Max. Dilatation Temp. °C: 453<sup>o</sup>C

Contraction %: 20%

Dilatation %: 80%

Final Temperature °C: \_\_\_\_\_

G. Factor: 1.062



WARNOCK HERSEY PROFESSIONAL SERVICES

Title

RUHR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R - 77 - 25 - 6 Lab. No.: 77 - 4058 Date: May 9, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.9               | 21.0  | 29.5  | 48.6  | 0.80 | 62.9   | Air Dried Basis |
| --                | 21.2  | 29.8  | 49.0  | 0.81 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 90.9 | 0.9   | 21.9  | 0.81 | 90.9       | 21.9  | 0.81 | A.D.B. |
|                     | 90.9 | --    | 22.1  | 0.82 | 90.9       | 22.1  | 0.82 | D.B.   |
| 65 x 0              | 9.1  | 1.0   | 21.8  | 0.83 | 100.0      | 21.9  | 0.81 | A.D.B. |
|                     | 9.1  | --    | 22.0  | 0.84 | 100.0      | 22.1  | 0.82 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 63.6 | 1.3   | 6.7  | 35.0  | 57.0  | 0.92 | 63.6       | 6.7  | A.D.B. |
|                                  | 63.6 | --    | 6.8  | 35.4  | 57.8  | 0.93 | 63.6       | 6.8  | D.B.   |
| 1.40-1.50                        | 6.8  | 1.1   | 23.2 | 29.4  | 46.3  | 0.74 | 70.4       | 8.3  | A.D.B. |
|                                  | 6.8  | --    | 23.5 | 29.7  | 46.8  | 0.75 | 70.4       | 8.4  | D.B.   |
| 1.50-1.60                        | 8.6  | 1.1   | 31.3 | --    | --    | --   | 79.0       | 10.8 | A.D.B. |
|                                  | 8.6  | --    | 31.6 | --    | --    | --   | 79.0       | 10.9 | D.B.   |
| +1.60                            | 21.0 | 1.0   | 62.8 | --    | --    | --   | 100.0      | 21.7 | A.D.B. |
|                                  | 21.0 | --    | 63.5 | --    | --    | --   | 100.0      | 22.0 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |            |            |          |         |       |
|--|-------------------|------------|------------|----------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening  | Max. Dil.  | Maximum  | Maximum | G.No. |
|  |                   | Temp. (°C) | Temp. (°C) | Contr. % | Dil. %  |       |
| 8½   | 0.020             |            |            |          |         |       |



Lab. No. 77 - 4052 Date June 13, 1977

Client: Elco Mining Ltd.

Sample Identification: R 77 - 25 - 6

Starting Temperature °C: 350°C

Softening Temperature °C: 357°C

Max. Dilatation Temp. °C: 456°C

Contraction %: 21%

Dilatation %: 132%

Final Temperature °C:

G. Factor: 1.098



WARNOCK HERSEY PROFESSIONAL SERVICES

Title

RUIR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R - 77 - 25 - 7 Lab. No.: 77 - 4059 Date: May 9, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 1.0               | 57.4  | 17.6  | 24.0  | 0,38 | 59.4   | Air Dried Basis |
| --                | 57.9  | 17.7  | 24.4  | 0.38 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 94.6 | 0.9   | 57.4  | 0.40 | 94.6       | 57.4  | 0.40 | A.D.B. |
|                     | 94.6 | --    | 57.9  | 0.40 | 94.6       | 57.9  | 0.40 | D.B.   |
| 65 x 0              | 5.4  | 1.0   | 36.8  | 0.60 | 100.0      | 56.3  | 0.41 | A.D.B. |
|                     | 5.4  | --    | 37.1  | 0.61 | 100.0      | 56.8  | 0.41 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 20.9 | 1.4   | 6.5  | 32.2  | 59.9  | 0.78 | 20.9       | 6.5  | A.D.B. |
|                                  | 21.0 | --    | 6.6  | 32.7  | 60.7  | 0.79 | 21.0       | 6.6  | D.B.   |
| 1.40-1.50                        | 4.4  | 1.1   | 19.4 | 28.5  | 51.0  | 0.66 | 25.3       | 8.7  | A.D.B. |
|                                  | 4.3  | --    | 19.6 | 28.8  | 51.6  | 0.67 | 25.3       | 8.8  | D.B.   |
| 1.50-1.60                        | 3.5  | 1.1   | 28.2 | --    | --    | --   | 28.8       | 11.1 | A.D.B. |
|                                  | 3.5  | --    | 28.5 | --    | --    | --   | 28.8       | 11.2 | D.B.   |
| +1.60                            | 71.2 | 1.1   | 77.4 | --    | --    | --   | 100.0      | 58.3 | A.D.B. |
|                                  | 71.2 | --    | 78.3 | --    | --    | --   | 100.0      | 59.0 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                     |                    |                 |                |       |
|--|-------------|---------------------|--------------------|-----------------|----------------|-------|
| F.S.I.   | P % on Coal | Softening Temp.(°C) | Max.Dil. Temp.(°C) | Maximum Contr.% | Maximum Dil. % | G.No. |
| 8½   | 0.036       |                     |                    |                 |                |       |

Lab No. 77 - 4059 (date June 13, 1977)

Client: Elco Mining Ltd.

Sample Identification: R 77 - 25 - 7

Starting Temperature °C: 350°C

Softening Temperature °C: 371°C

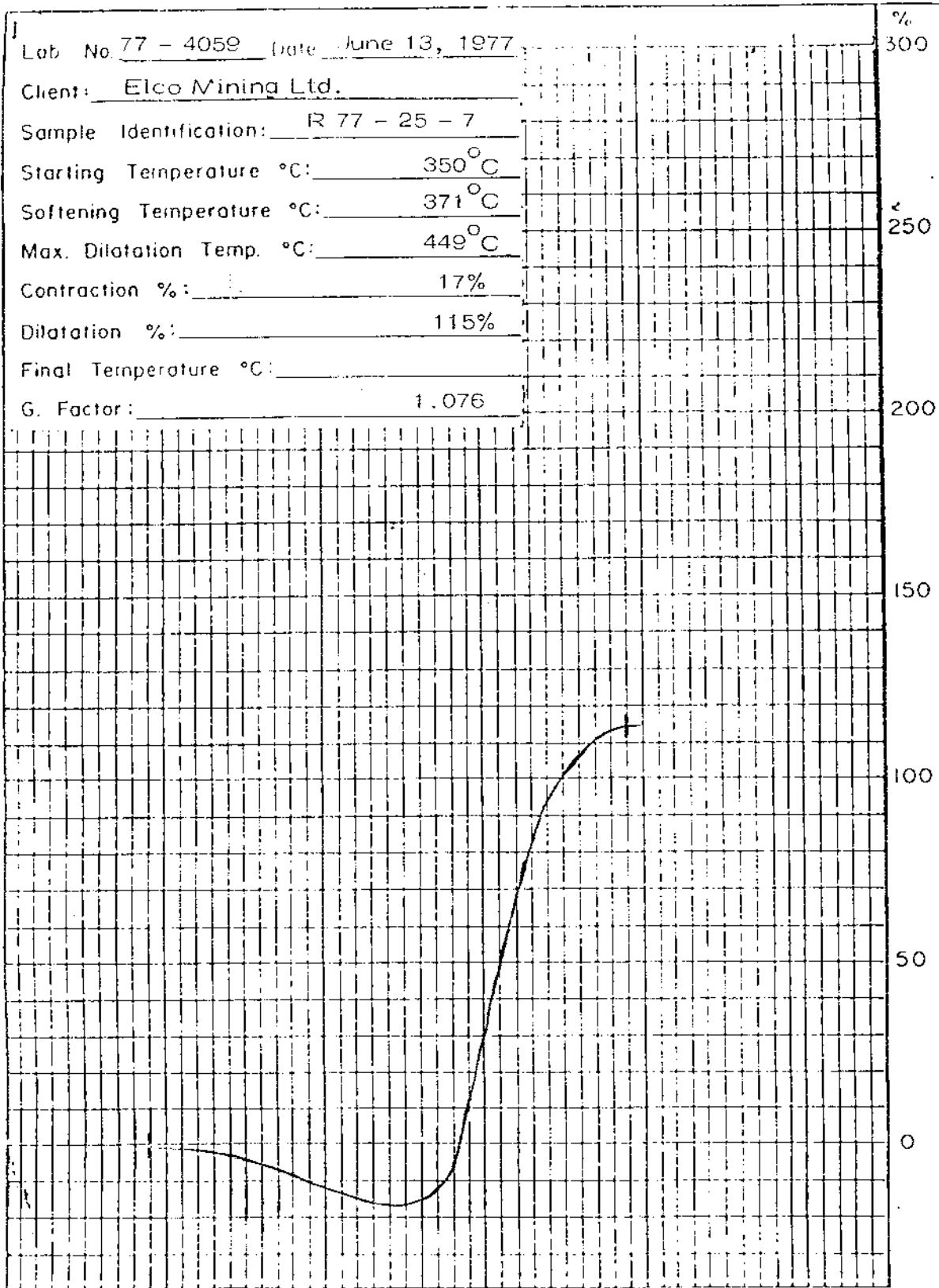
Max. Dilatation Temp. °C: 449°C

Contraction %: 17%

Dilatation %: 115%

Final Temperature °C: \_\_\_\_\_

G. Factor: 1.076



WARNOCK HERSEY PROFESSIONAL SERVICES

Title

RUHR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R 77 - 25 - 8 Lab. No.: 77 - 4060 Date: May 9, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.9               | 48.8  | 20.3  | 30.0  | 0.58 | 55.3   | Air Dried Basis |
| --                | 49.2  | 20.5  | 30.3  | 0.58 | --     | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 94.5 | 0.8   | 48.7  | 0.56 | 94.5       | 48.7  | 0.56 | A.D.B. |
|                     | 94.5 | --    | 49.1  | 0.56 | 94.5       | 49.1  | 0.56 | D.B.   |
| 65 x 0              | 5.5  | 1.0   | 29.9  | 0.78 | 100.0      | 47.7  | 0.57 | A.D.B. |
|                     | 5.5  | --    | 30.2  | 0.79 | 100.0      | 48.1  | 0.57 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 21.6 | 1.2   | 9.1  | 33.0  | 56.7  | 0.93 | 21.6       | 9.1  | A.D.B. |
|                                  | 21.6 | --    | 9.2  | 33.4  | 57.4  | 0.94 | 21.6       | 9.2  | D.B.   |
| 1.40-1.50                        | 4.5  | 1.1   | 22.6 | 28.3  | 48.0  | 0.76 | 26.1       | 11.4 | A.D.B. |
|                                  | 4.5  | --    | 22.8 | 28.6  | 48.6  | 0.77 | 26.1       | 11.5 | D.B.   |
| 1.50-1.60                        | 11.2 | 1.0   | 33.3 | --    | --    | --   | 37.3       | 18.0 | A.D.B. |
|                                  | 11.2 | --    | 33.7 | --    | --    | --   | 37.3       | 18.2 | D.B.   |
| +1.60                            | 62.7 | 1.1   | 68.0 | --    | --    | --   | 100.0      | 49.3 | A.D.B. |
|                                  | 62.7 | --    | 68.8 | --    | --    | --   | 100.0      | 49.9 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |            |            |          |         |       |
|--|-------------------|------------|------------|----------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening  | Max. Dil.  | Maximum  | Maximum | G.No. |
|  |                   | Temp. (°C) | Temp. (°C) | Contr. % | Dil. %  |       |
| 8  | 0.011             |            |            |          |         |       |

Lab. No. 77 - 4060 Date: June 14, 1977

Client: Elco Mining Ltd.

Sample Identification: R - 77 - 25 - 8

Starting Temperature °C: 350°C

Softening Temperature °C: 372°C

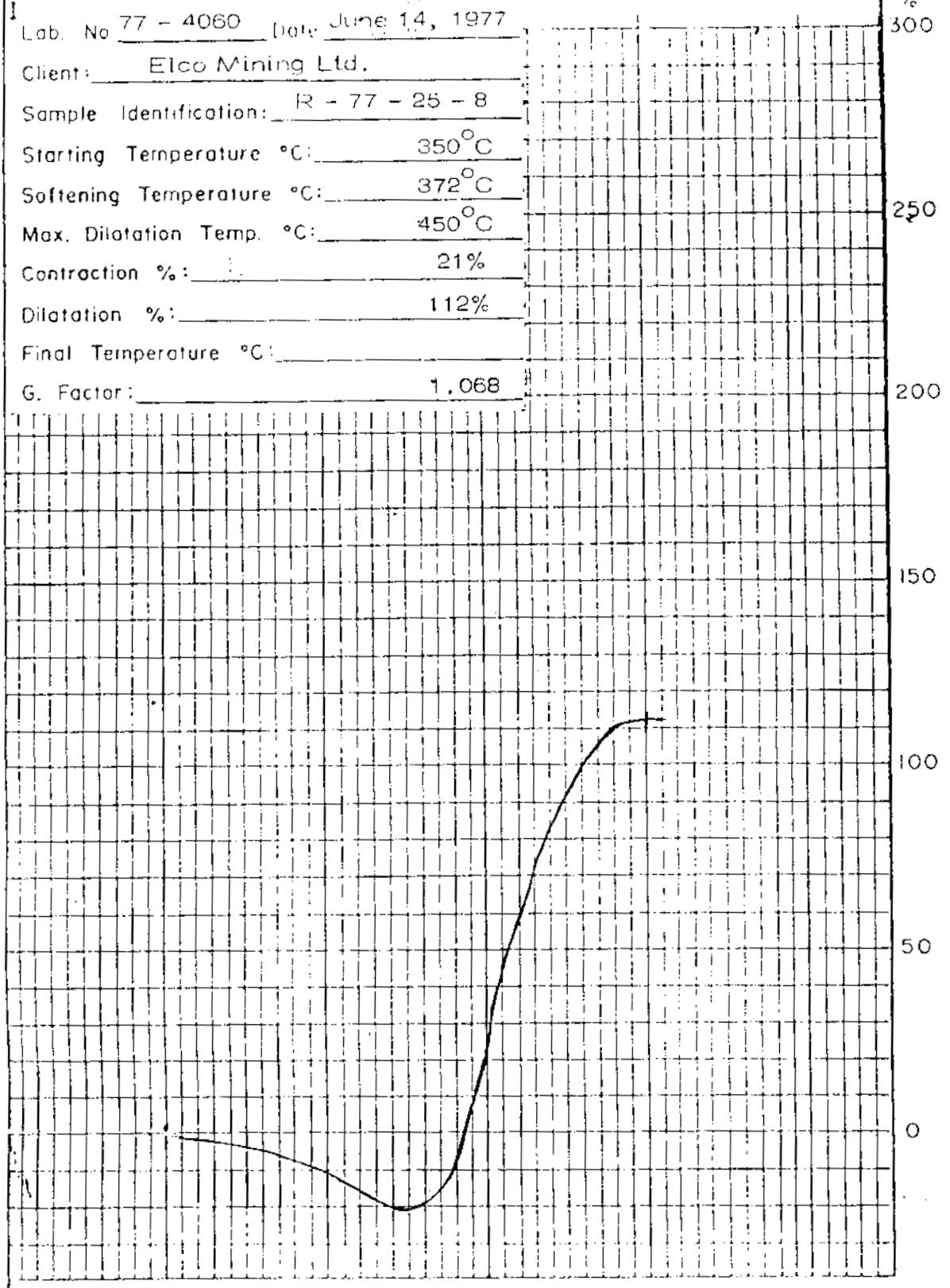
Max. Dilatation Temp. °C: 450°C

Contraction %: 21%

Dilatation %: 112%

Final Temperature °C:

G. Factor: 1.068



WARNOCK HERSEY PROFESSIONAL SERVICES

Title

RUHR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R - 77 - 25 - 9 Lab. No.: 77 - 4061 Date: May 9, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 1.2               | 51.6  | 20.0  | 27.2  | 0.54 | 67.1   | Air Dried Basis |
| --                | 52.2  | 20.2  | 27.6  | 0.55 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65.             | 95.4 | 1.0   | 53.7  | 0.53 | 95.4       | 53.7  | 0.53 | A.D.B. |
|                     | 95.4 | --    | 54.2  | 0.53 | 95.4       | 54.2  | 0.53 | D.B.   |
| 65 x 0              | 4.6  | 1.1   | 25.0  | 0.72 | 100.0      | 52.4  | 0.54 | A.D.B. |
|                     | 4.6  | --    | 25.2  | 0.73 | 100.0      | 52.9  | 0.54 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 31.6 | 1.2   | 7.1  | 31.6  | 60.1  | 0.82 | 31.6       | 7.1  | A.D.B. |
|                                  | 31.6 | --    | 7.2  | 32.0  | 60.8  | 0.83 | 31.6       | 7.2  | D.B.   |
| 1.40-1.50                        | 3.2  | 1.0   | 19.9 | 27.7  | 51.4  | 0.75 | 34.8       | 8.3  | A.D.B. |
|                                  | 3.2  | --    | 20.1 | 28.0  | 51.9  | 0.76 | 34.8       | 8.4  | D.B.   |
| 1.50-1.60                        | 3.3  | 0.9   | 26.0 | --    | --    | --   | 38.1       | 9.8  | A.D.B. |
|                                  | 3.3  | --    | 26.2 | --    | --    | --   | 38.1       | 9.9  | D.B.   |
| +1.60                            | 61.9 | 1.2   | 79.4 | --    | --    | --   | 100.0      | 52.9 | A.D.B. |
|                                  | 61.9 | --    | 80.4 | --    | --    | --   | 100.0      | 53.6 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |                        |                       |                    |                   |       |
|--|-------------------|------------------------|-----------------------|--------------------|-------------------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening<br>Temp.(°C) | Max.Dil.<br>Temp.(°C) | Maximum<br>Contr.% | Maximum<br>Dil. % | G.No. |
| 8½   | 0.008             |                        |                       |                    |                   |       |

Lab No. 77 - 4061 Date June 14, 1977

Client: Elco Mining Ltd.

Sample Identification: R 77 - 25 - 9

Starting Temperature °C: 350°C

Softening Temperature °C: 376°C

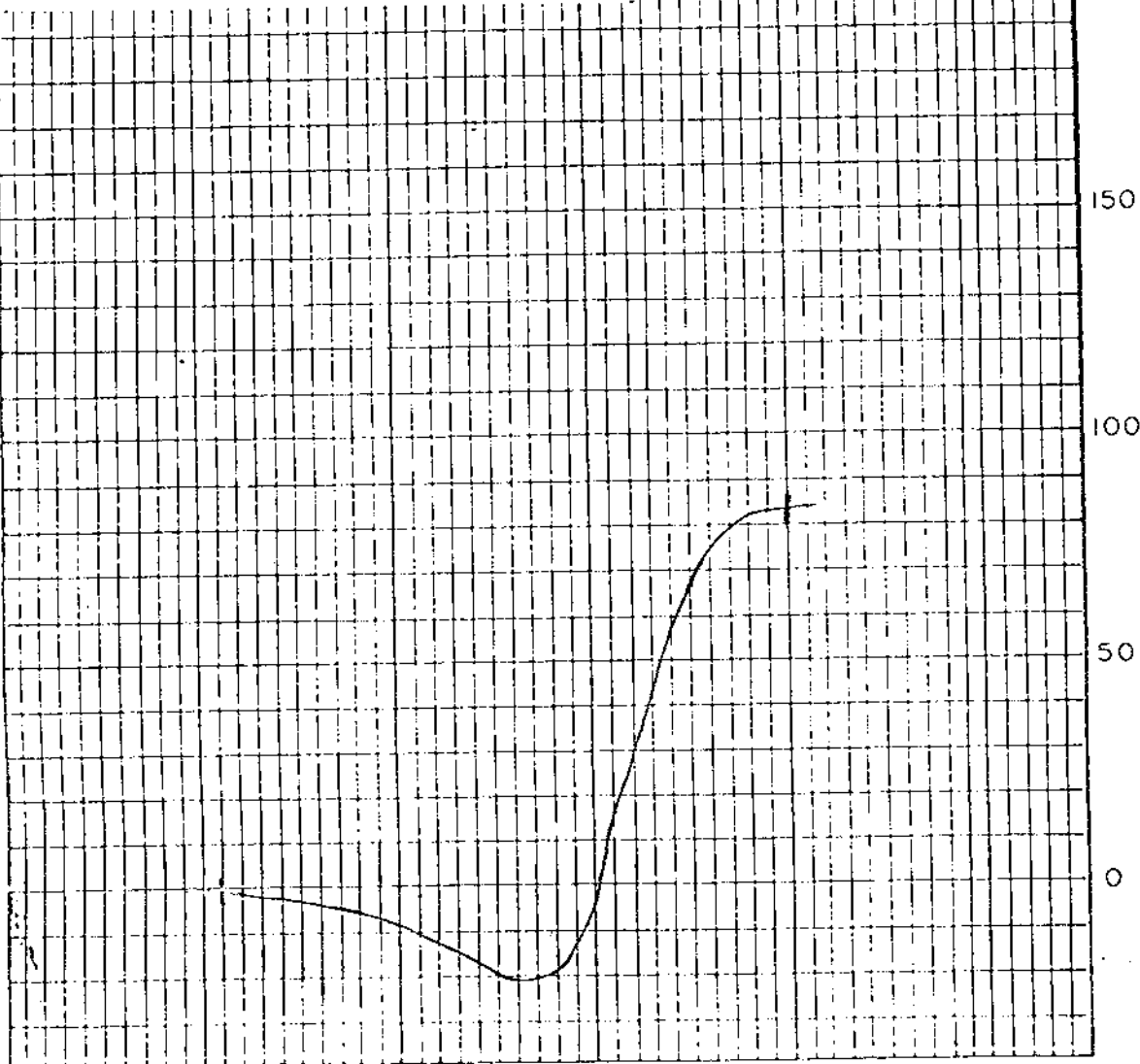
Max. Dilatation Temp. °C: 451°C

Contraction %: 21%

Dilatation %: 83%

Final Temperature °C:

G. Factor: 1.058



WARNOCK HERSEY PROFESSIONAL SERVICES

Title

RUHR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R - 77 - 25 - 10 Lab. No.: 77 - 40 62 Date: May 9, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 1.1               | 40.9  | 22.0  | 36.0  | 0.61 | 60.1   | Air Dried Basis |
| --                | 41.4  | 22.2  | 36.4  | 0.62 | --     | Dry Basis       |

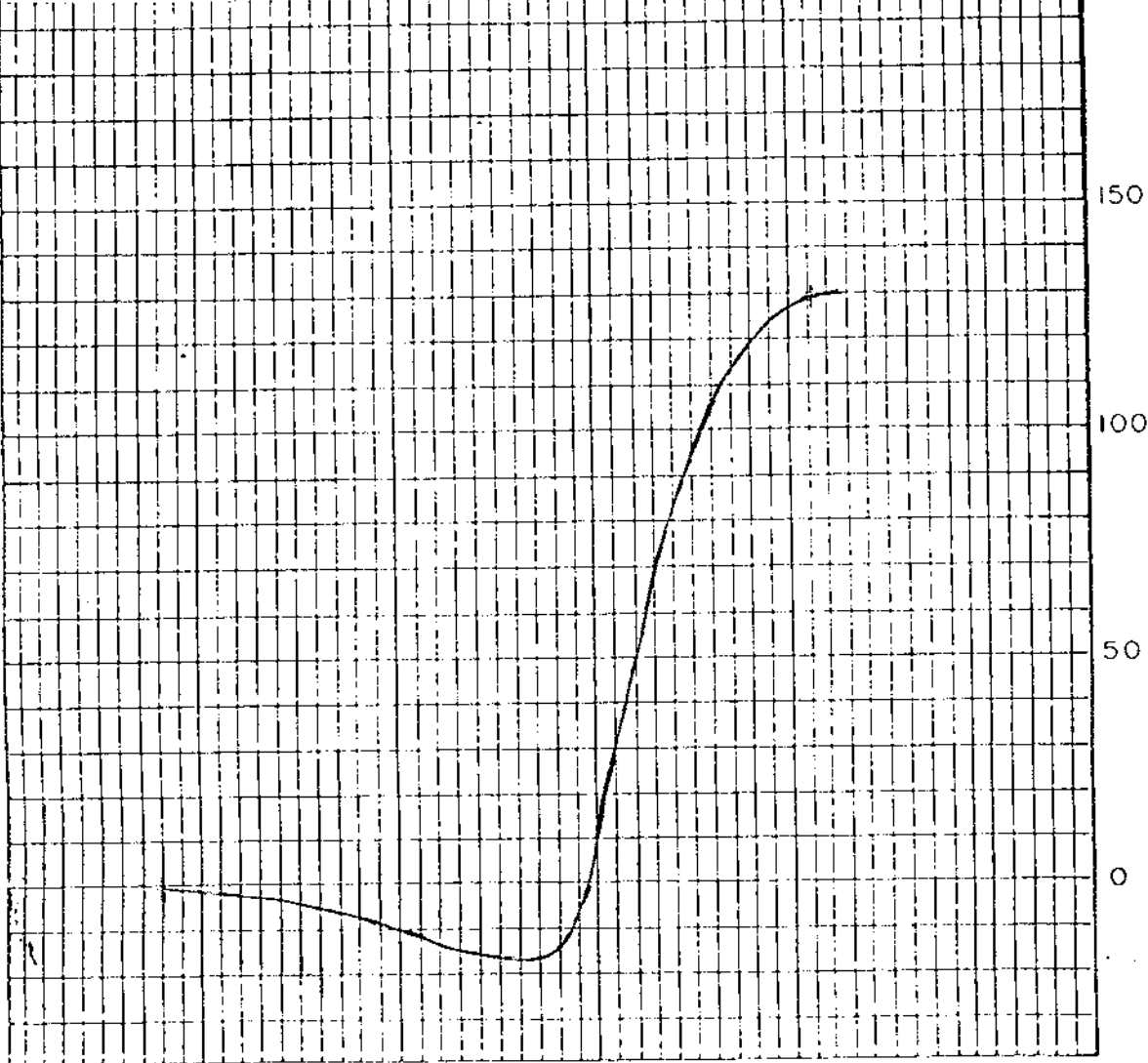
| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 96.1 | 0.9   | 42.6  | 0.58 | 96.1       | 42.6  | 0.58 | A.D.B. |
|                     | 96.1 | --    | 43.0  | 0.59 | 96.1       | 43.0  | 0.59 | D.B.   |
| 65 x 0              | 3.9  | 1.0   | 16.5  | 0.73 | 100.0      | 41.6  | 0.58 | A.D.B. |
|                     | 3.9  | --    | 16.7  | 0.74 | 100.0      | 42.0  | 0.60 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 47.8 | 1.3   | 5.1  | 34.0  | 59.6  | 0.70 | 47.8       | 5.1  | A.D.B. |
|                                  | 47.9 | --    | 5.2  | 34.4  | 60.4  | 0.71 | 47.9       | 5.2  | D.B.   |
| 1.40-1.50                        | 3.0  | 0.9   | 19.2 | 28.8  | 51.1  | 0.63 | 50.8       | 5.9  | A.D.B. |
|                                  | 3.0  | --    | 19.4 | 29.0  | 51.6  | 0.64 | 50.9       | 6.0  | D.B.   |
| 1.50-1.60                        | 2.6  | 1.0   | 24.8 | --    | --    | --   | 53.4       | 6.8  | A.D.B. |
|                                  | 2.6  | --    | 25.0 | --    | --    | --   | 53.5       | 7.0  | D.B.   |
| +1.60                            | 46.6 | 1.0   | 83.9 | --    | --    | --   | 100.0      | 42.8 | A.D.B. |
|                                  | 46.5 | --    | 84.8 | --    | --    | --   | 100.0      | 43.2 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |            |            |          |         |       |
|--|-------------------|------------|------------|----------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening  | Max. Dil.  | Maximum  | Maximum | G.No. |
|  |                   | Temp. (°C) | Temp. (°C) | Contr. % | Dil. %  |       |
| 8½   | 0.019             |            |            |          |         |       |



Lab No. 77 - 4062 Date June 14, 1977  
 Client: Elco MINING Ltd.  
 Sample Identification: R - 77 - 25 - 10  
 Starting Temperature °C: 350°C  
 Softening Temperature °C: 372°C  
 Max. Dilatation Temp. °C: 455°C  
 Contraction %: 17%  
 Dilatation %: 130%  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 1.083



WARNOCK HERSEY PROFESSIONAL SERVICES

|                       |       |
|-----------------------|-------|
| Title                 | Date  |
| RUHR DILATOMETER TEST | Drawn |

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R -77 - 25 - 11 Lab. No.: 77 - 4063 Date: May 9, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 1.0               | 22.9  | 28.2  | 47.9  | 0.93 | 111.4  | Air Dried Basis |
| --                | 23.2  | 28.5  | 48.3  | 0.94 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 95.4 | 0.7   | 24.5  | 0.89 | 95.4       | 24.5  | 0.89 | A.D.B. |
|                     | 95.4 | --    | 24.7  | 0.90 | 95.4       | 24.7  | 0.90 | D.B.   |
| 65 x 0              | 4.6  | 0.8   | 10.3  | 1.06 | 100.0      | 23.8  | 0.90 | A.D.B. |
|                     | 4.6  | --    | 10.4  | 1.07 | 100.0      | 24.0  | 0.91 | D.B.   |

| SINK - FLCAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 69.0 | 1.3   | 6.2  | 35.0  | 57.5  | 1.08 | 69.0       | 6.2  | A.D.B. |
|                                  | 69.0 | --    | 6.3  | 35.4  | 58.3  | 1.09 | 69.0       | 6.3  | D.B.   |
| 1.40-1.50                        | 2.9  | 1.3   | 15.4 | 31.7  | 51.6  | 0.94 | 71.9       | 6.6  | A.D.B. |
|                                  | 2.9  | --    | 15.6 | 32.1  | 52.3  | 0.95 | 71.9       | 6.7  | D.B.   |
| 1.50-1.60                        | 2.3  | 1.2   | 21.6 | --    | --    | --   | 74.2       | 7.0  | A.D.B. |
|                                  | 2.3  | --    | 21.9 | --    | --    | --   | 74.2       | 7.1  | D.B.   |
| +1.60                            | 25.8 | 1.0   | 73.1 | --    | --    | --   | 100.0      | 24.1 | A.D.B. |
|                                  | 25.8 | --    | 73.8 | --    | --    | --   | 100.0      | 24.3 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |            |            |          |         |       |
|--|-------------------|------------|------------|----------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening  | Max. Dil.  | Maximum  | Maximum | G.No. |
|  |                   | Temp. (°C) | Temp. (°C) | Contr. % | Dil. %  |       |
| 8½   | 0.049             |            |            |          |         |       |

Lab. No. 77 - 4063 Date June 14, 1977

Client: Elco Mining Ltd.

Sample Identification: R - 77 - 25 - 11

Starting Temperature °C: 350

Softening Temperature °C: 354

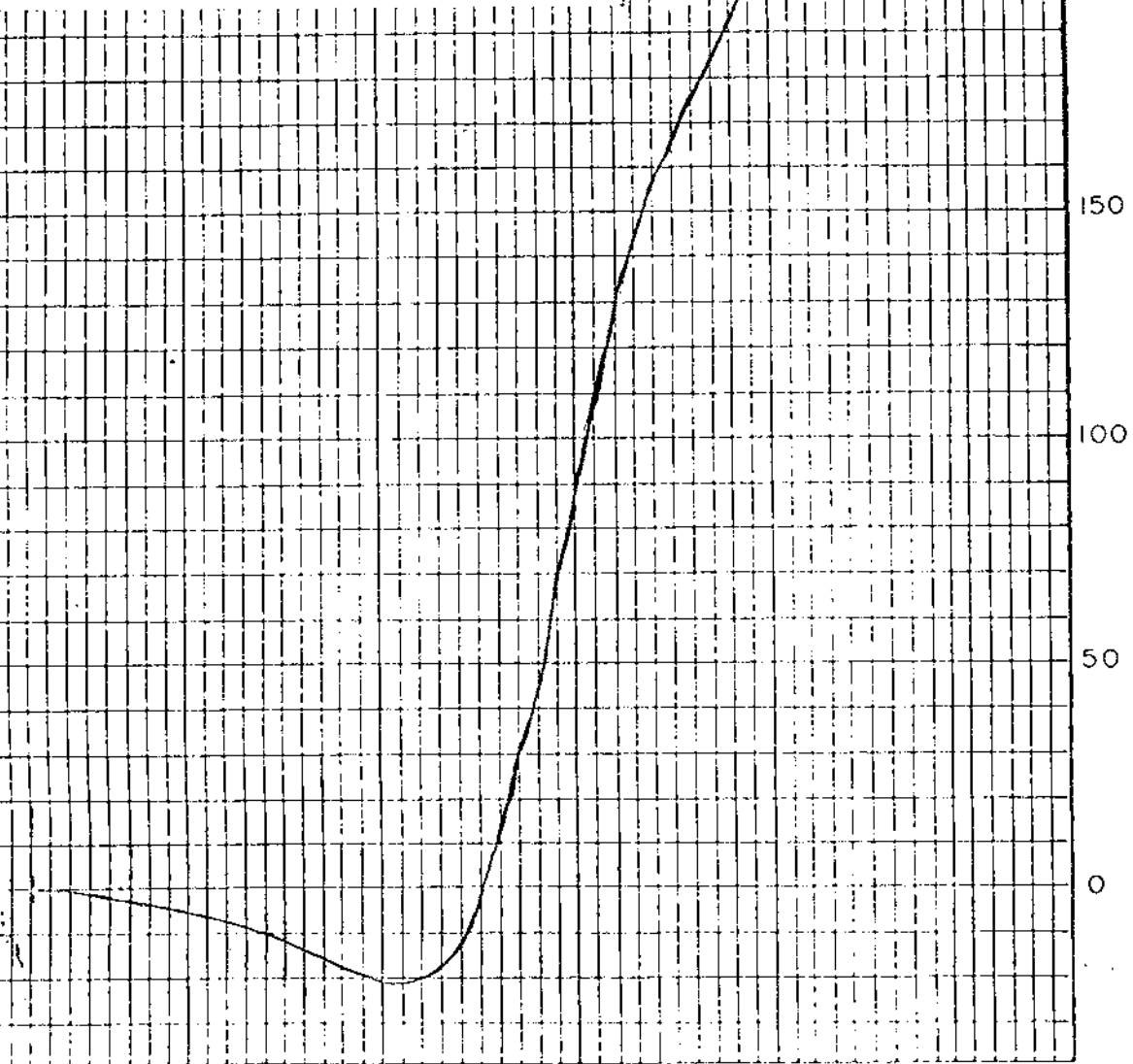
Max. Dilatation Temp. °C: 455

Contraction %: 22%

Dilatation %: 220%

Final Temperature °C: \_\_\_\_\_

G. Factor: 1.114



WARNOCK HERSEY PROFESSIONAL SERVICES

Title

RUHR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R - 77 - 25 - 12 Lab. No.: 77 - 4064 Date: May 9, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 1.1               | 17.7  | 28.0  | 53.2  | 0.91 | 114.9  | Air Dried Basis |
| --                | 17.9  | 28.3  | 53.8  | 0.82 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| 1/4 x 65            | 94.9 | 1.0   | 19.0  | 0.78 | 94.9       | 19.0  | 0.78 | A.D.B. |
|                     | 94.9 | --    | 19.2  | 0.79 | 94.9       | 19.2  | 0.79 | D.B.   |
| 65 x 0              | 5.1  | 1.2   | 7.4   | 0.93 | 100.0      | 18.4  | 0.79 | A.D.B. |
|                     | 5.1  | --    | 7.5   | 0.94 | 100.0      | 18.6  | 0.80 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/2" x 65 M |      |       |      |       |       |      |            |      |        |
|------------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                               | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                    |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                              | 77.8 | 1.6   | 4.5  | 33.5  | 60.4  | 0.96 | 77.8       | 4.5  | A.D.B. |
|                                    | 77.9 | --    | 4.6  | 34.0  | 61.4  | 0.98 | 77.9       | 4.6  | D.B.   |
| 1.40-1.50                          | 1.3  | 1.5   | 13.7 | 30.6  | 54.2  | 0.75 | 79.1       | 4.6  | A.D.B. |
|                                    | 1.3  | --    | 13.9 | 31.0  | 55.1  | 0.76 | 79.2       | 4.8  | D.B.   |
| 1.50-1.60                          | 1.6  | 12.   | 20.8 | --    | --    | --   | 80.7       | 5.0  | A.D.B. |
|                                    | 1.6  | --    | 21.0 | --    | --    | --   | 80.8       | 5.1  | D.B.   |
| +1.60                              | 19.3 | 1.1   | 76.0 | --    | --    | --   | 100.0      | 18.7 | A.D.B. |
|                                    | 19.2 | --    | 76.8 | --    | --    | --   | 100.0      | 18.8 | D.B.   |

| COMPOSITE 1/2" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                      |                      |                  |                |       |
|--|-------------|----------------------|----------------------|------------------|----------------|-------|
| F.S.I.   | P % on Coal | Softening Temp. (°C) | Max. Dil. Temp. (°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 9  | 0.017       |                      |                      |                  |                |       |

Lab. No. 77 - 1064 Date June 14, 1977

Client: Elco Mining Ltd.

Sample Identification: R - 77 - 25 - 12

Starting Temperature °C: 350°C

Softening Temperature °C: 366°C

Max. Dilatation Temp. °C: 459°C

Contraction %: 18%

Dilatation %: 123%

Final Temperature °C: \_\_\_\_\_

G. Factor: 1.091

300

250

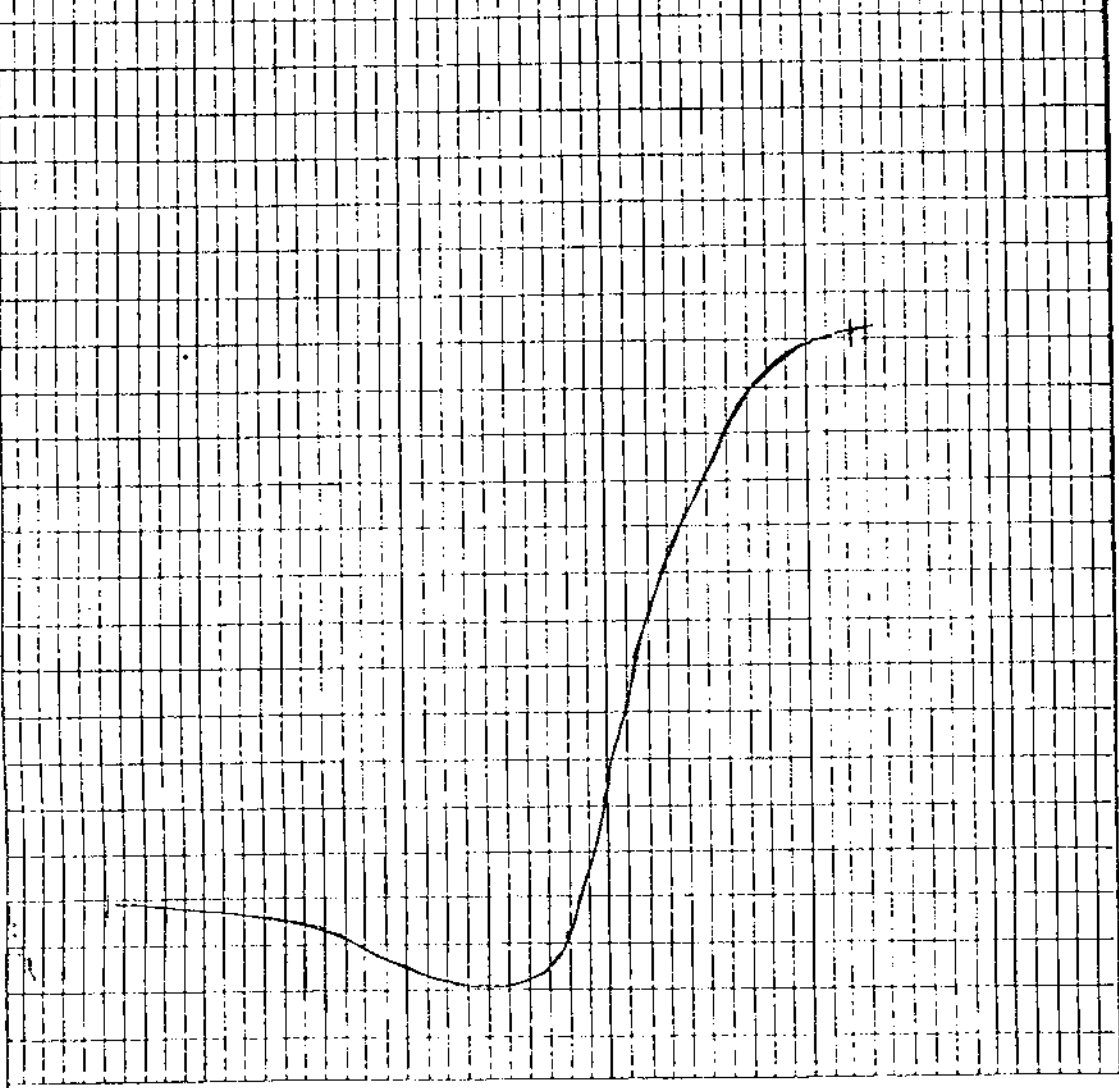
200

150

100

50

0



WARNOCK HERSEY PROFESSIONAL SERVICES.

Title

RUHR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R -77 -25-13 Lab. No.: 77 - 4065 Date: May 9, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 1.1               | 32.1  | 24.8  | 42.0  | 0.81 | 74.0   | Air Dried Basis |
| --                | 32.4  | 25.1  | 42.5  | 0.82 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 97.4 | 0.9   | 33.8  | 0.78 | 97.4       | 33.8  | 0.78 | A.D.B. |
|                     | 97.4 | --    | 34.1  | 0.79 | 97.4       | 34.1  | 0.79 | D.B.   |
| 65 x 0              | 2.6  | 0.9   | 11.7  | 0.99 | 100.0      | 33.2  | 0.78 | A.D.B. |
|                     | 2.6  | --    | 11.8  | 1.00 | 100.0      | 33.5  | 0.79 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 56.2 | 1.4   | 4.6  | 33.7  | 60.3  | 0.97 | 56.2       | 4.6  | A.D.B. |
|                                  | 56.2 | --    | 4.6  | 34.2  | 61.2  | 0.98 | 56.2       | 4.6  | D.B.   |
| 1.40-1.50                        | 1.7  | 1.2   | 11.8 | 31.2  | 55.8  | 0.88 | 57.9       | 4.8  | A.D.B. |
|                                  | 1.7  | --    | 11.9 | 31.6  | 56.5  | 0.89 | 57.9       | 4.8  | D.B.   |
| 1.50-1.60                        | 1.2  | 1.0   | 19.5 | --    | --    | --   | 59.1       | 5.1  | A.D.B. |
|                                  | 1.2  | -     | 19.7 | --    | --    | --   | 59.1       | 5.1  | D.B.   |
| +1.60                            | 40.9 | 1.3   | 73.1 | --    | --    | --   | 100.0      | 32.9 | A.D.B. |
|                                  | 40.9 | --    | 74.0 | --    | --    | --   | 100.0      | 33.3 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |            |            |          |         |       |
|--|-------------------|------------|------------|----------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening  | Max. Dil.  | Maximum  | Maximum | G.No. |
|  |                   | Temp. (°C) | Temp. (°C) | Contr. % | Dil. %  |       |
| 8½   | 0.024             |            |            |          |         |       |

Lab. No. 77 - 4065 Date June 15, 1977

Client: Elco Mining Ltd.

Sample Identification: R - 77 - 25 - 13

Starting Temperature °C: 350°C

Softening Temperature °C: 373°C

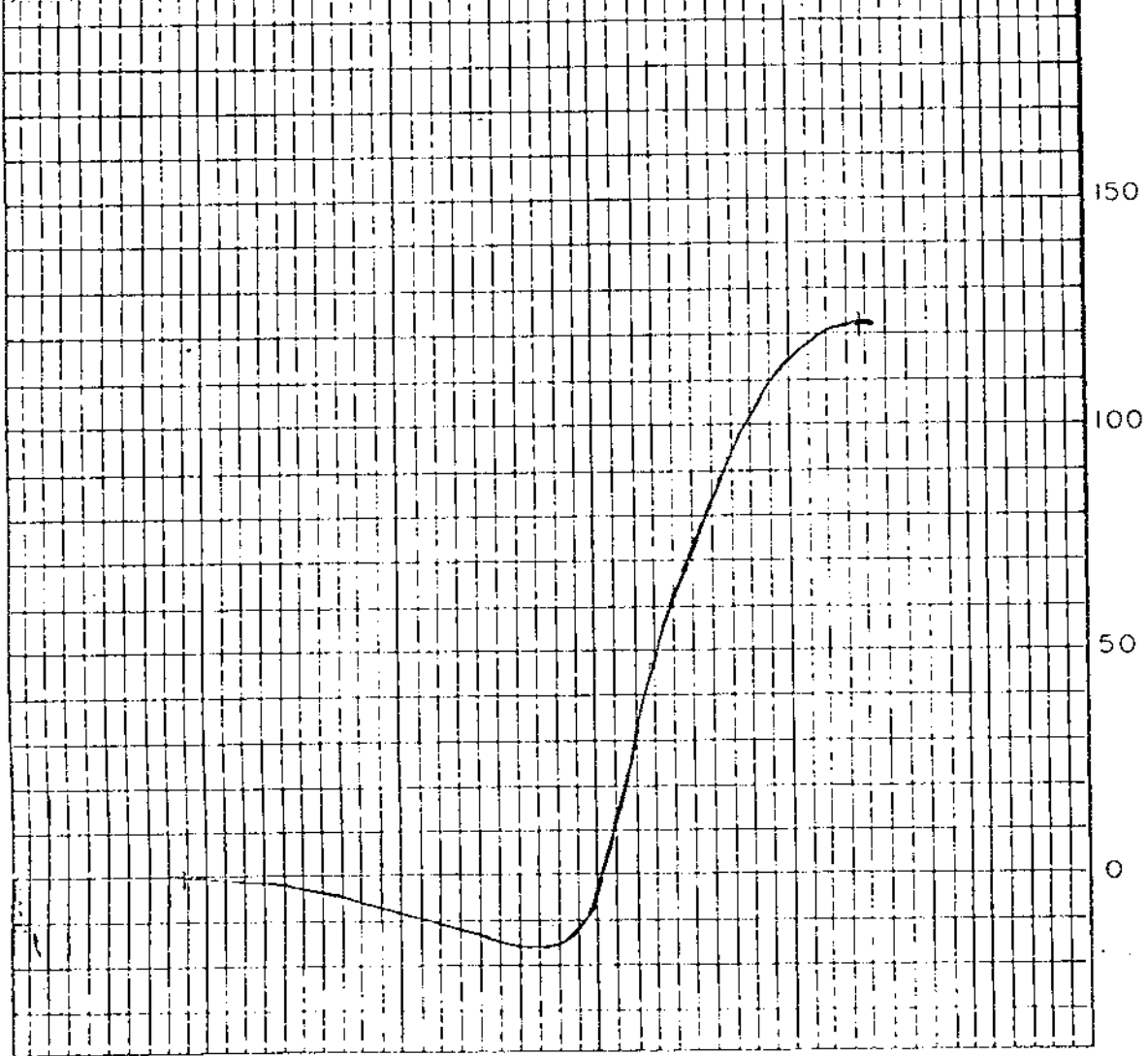
Max. Dilatation Temp. °C: 463°C

Contraction %: 17%

Dilatation %: 123%

Final Temperature °C:

G. Factor: 1.089



WARNOCK HERSEY PROFESSIONAL SERVICES

Title RUHR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCC MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R - 77-26 - 1 Lab. No.: 77 - 4066 Date: May 9, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 1.0               | 35.6  | 26.8  | 36.6  | 0.91 | 60.8   | Air Dried Basis |
| --                | 35.9  | 27.1  | 37.0  | 0.92 | --     | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 71.2 | 0.9   | 39.3  | 0.86 | 71.2       | 39.3  | 0.86 | A.D.B. |
|                     | 71.2 | --    | 39.6  | 0.87 | 71.2       | 39.6  | 0.87 | D.B.   |
| 65 x 0              | 28.8 | 1.0   | 29.1  | 0.96 | 100.0      | 36.4  | 0.89 | A.D.B. |
|                     | 28.8 | --    | 29.4  | 0.97 | 100.0      | 36.7  | 0.90 | D.B.   |

| SINK - FLCAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 34.7 | 1.3   | 9.1  | 34.0  | 55.6  | 1.10 | 34.7       | 9.1  | A.D.B. |
|                                  | 34.7 | --    | 9.2  | 34.4  | 56.4  | 1.11 | 34.7       | 9.2  | D.B.   |
| 1.40-1.50                        | 4.2  | 1.0   | 17.0 | 31.4  | 50.6  | 1.12 | 38.9       | 10.0 | A.D.B. |
|                                  | 4.2  | --    | 17.1 | 31.7  | 51.2  | 1.13 | 38.9       | 10.1 | D.B.   |
| 1.50-1.60                        | 8.6  | 0.9   | 28.9 | --    | --    | --   | 47.5       | 13.4 | A.D.B. |
|                                  | 8.6  | --    | 29.2 | --    | --    | --   | 47.5       | 13.5 | D.B.   |
| +1.60                            | 52.5 | 1.0   | 65.4 | --    | --    | --   | 100.0      | 40.7 | A.D.B. |
|                                  | 52.5 | --    | 66.0 | --    | --    | --   | 100.0      | 41.1 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |                         |                         |                     |                   |       |
|--|-------------------|-------------------------|-------------------------|---------------------|-------------------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening<br>Temp. (°C) | Max. Dil.<br>Temp. (°C) | Maximum<br>Contr. % | Maximum<br>Dil. % | G.No. |
| 8  | 0.010             |                         |                         |                     |                   |       |



Lab No. 77 - 4066 (pt. June 27, 1977)

Client: Elco Mining Ltd.

Sample Identification: R - 77 - 26 - 1

Starting Temperature °C: 350°C

Softening Temperature °C: 357°C

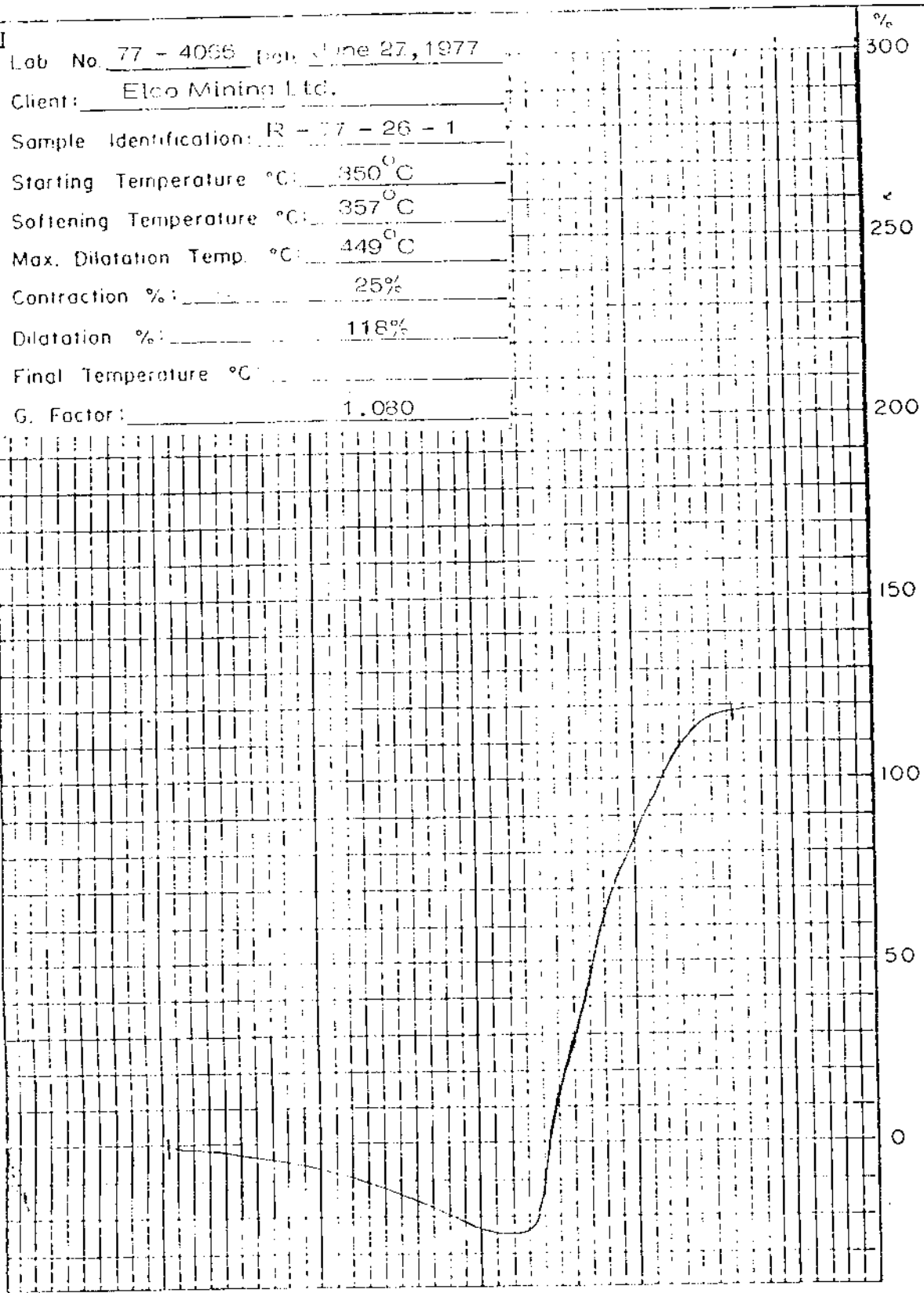
Max. Dilatation Temp. °C: 449°C

Contraction %: 25%

Dilatation %: 118%

Final Temperature °C:

G. Factor: 1.080



WARNOCK HENSHY PROFESSIONAL SERVICES

Title

RUHR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R - 77 -26 -2 Lab. No.: 77 - 4067 Date: May 9, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 1.3               | 26.3  | 26.1  | 46.3  | 0.96 | 66.4   | Air Dried Basis |
| --                | 26.6  | 26.5  | 46.9  | 0.97 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 74.2 | 1.2   | 29.8  | 0.96 | 74.2       | 29.8  | 0.96 | A.D.B. |
|                     | 94.2 | --    | 30.1  | 0.97 | 74.2       | 30.1  | 0.97 | D.B.   |
| 65 x 0              | 25.8 | 1.4   | 17.9  | 1.02 | 100.0      | 26.7  | 0.98 | A.D.B. |
|                     | 25.8 | --    | 18.1  | 1.03 | 100.0      | 27.0  | 0.98 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 39.4 | 1.4   | 5.1  | 33.8  | 59.7  | 1.04 | 39.4       | 5.1  | A.D.B. |
|                                  | 39.5 | --    | 5.2  | 34.2  | 60.6  | 1.05 | 39.5       | 5.2  | D.B.   |
| 1.40-1.50                        | 9.6  | 1.0   | 20.3 | 29.1  | 49.6  | 0.99 | 49.0       | 8.1  | A.D.B. |
|                                  | 9.6  | --    | 20.5 | 29.4  | 50.1  | 1.00 | 49.1       | 8.2  | D.B.   |
| 1.50-1.60                        | 9.1  | 0.9   | 31.9 | --    | --    | --   | 58.1       | 11.8 | A.D.B. |
|                                  | 9.1  | --    | 32.2 | --    | --    | --   | 58.2       | 11.9 | D.B.   |
| +1.60                            | 41.9 | 1.2   | 55.9 | --    | --    | --   | 100.0      | 30.3 | A.D.B. |
|                                  | 41.8 | --    | 56.5 | --    | --    | --   | 100.0      | 30.6 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |            |            |          |         |       |
|--|-------------------|------------|------------|----------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening  | Max. Dil.  | Maximum  | Maximum | G.No. |
|  |                   | Temp. (°C) | Temp. (°C) | Contr. % | Dil. %  |       |
| 8½   | 0.007             |            |            |          |         |       |

Lab. No. 77 - 4067 Date June 28, 1977

Client: Etco Mining Ltd.

Sample Identification: R - 77 - 26 - 2

Starting Temperature °C: 350°C

Softening Temperature °C: 370°C

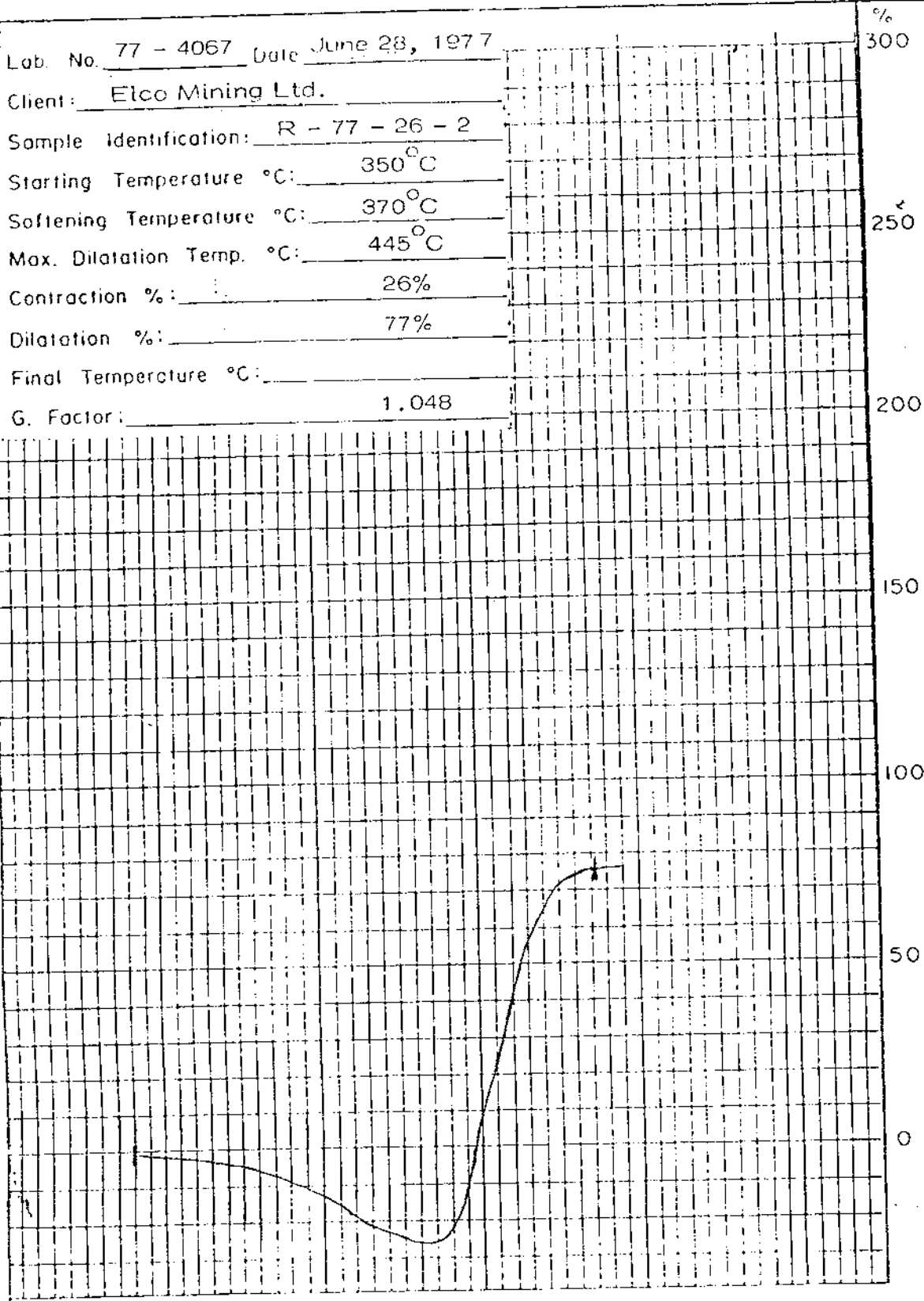
Max. Dilatation Temp. °C: 445°C

Contraction %: 26%

Dilatation %: 77%

Final Temperature °C: \_\_\_\_\_

G. Factor: 1.048



WARNOCK HERSEY PROFESSIONAL SERVICES

Title

RUHR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R77 - 26 -3      Lab. No.: 77 - 4068      Date: May 10, 1977

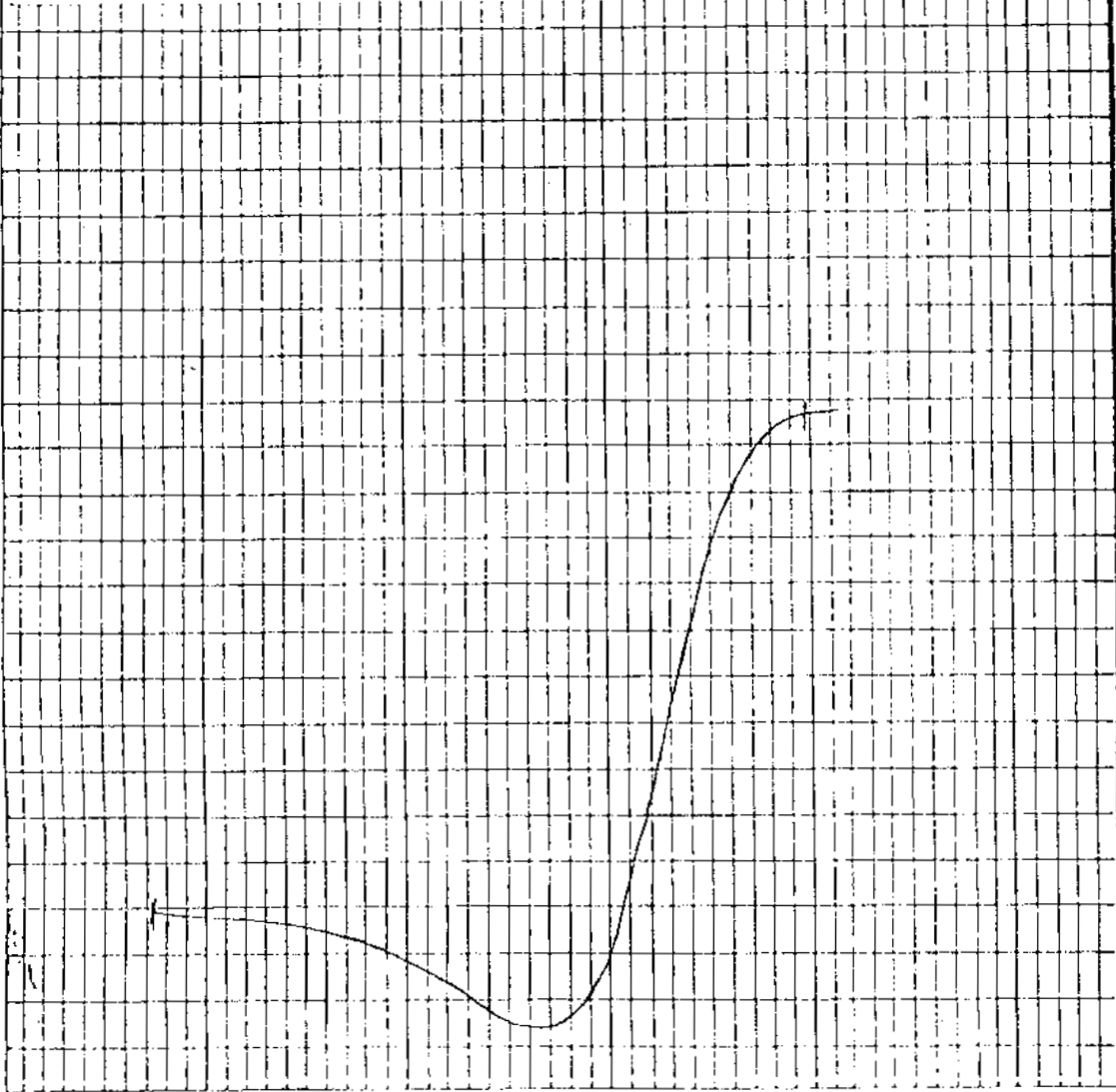
| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 1.1               | 34.2  | 24.2  | 40.5  | 0.98 | 80.2   | Air Dried Basis |
| --                | 34.6  | 24.5  | 40.9  | 0.99 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 92.6 | 1.1   | 35.2  | 0.96 | 92.6       | 35.2  | 0.96 | A.D.B. |
|                     | 92.6 | --    | 35.5  | 0.97 | 92.6       | 35.5  | 0.97 | D.B.   |
| 65 x 0              | 7.4  | 1.2   | 25.6  | 0.95 | 100.0      | 34.5  | 0.96 | A.D.B. |
|                     | 7.4  | --    | 25.9  | 0.96 | 100.0      | 34.8  | 0.97 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 53.3 | 1.4   | 5.6  | 34.1  | 58.9  | 1.09 | 53.3       | 5.6  | A.D.B. |
|                                  | 53.3 | --    | 5.7  | 34.6  | 59.7  | 1.10 | 53.3       | 5.7  | D.B.   |
| 1.40-1.50                        | 3.4  | 1.2   | 20.2 | 29.1  | 49.5  | 0.93 | 56.7       | 6.5  | A.D.B. |
|                                  | 3.4  | --    | 20.4 | 29.4  | 50.2  | 0.94 | 56.7       | 6.6  | D.B.   |
| 1.50-1.60                        | 3.7  | 1.2   | 30.1 | --    | --    | --   | 60.4       | 7.9  | A.D.B. |
|                                  | 3.7  | --    | 30.5 | --    | --    | --   | 60.4       | 8.0  | D.B.   |
| +1.60                            | 39.6 | 0.9   | 77.6 | --    | --    | --   | 100.0      | 35.5 | A.D.B. |
|                                  | 39.6 | --    | 78.3 | --    | --    | --   | 100.0      | 35.8 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |           |           |         |         |       |
|--|-------------------|-----------|-----------|---------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening | Max.Dil.  | Maximum | Maximum | G.No. |
|  |                   | Temp.(°C) | Temp.(°C) | Contr.% | Dil. %  |       |
| 8  | 0.048             |           |           |         |         |       |

Lab. No. 77 - 4068 Date June 28, 1977  
 Client: Elco Mining Ltd.  
 Sample Identification: R - 77 - 26 - 3  
 Starting Temperature °C: 350°C  
 Softening Temperature °C: 358°C  
 Max. Dilatation Temp. °C: 441°C  
 Contraction %: 26%  
 Dilatation %: 107%  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 1.068



WARNOCK HERSEY PROFESSIONAL SERVICES

|   |       |
|---|-------|
| Title<br><p style="text-align: center;">RUHR DILATOMETER TEST</p> | Date  |
|   | Drawn |

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R - 77 - 28 - 4 Lab. No.: 77 - 4069 Date: May 10, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 1.0               | 58.1  | 16.9  | 24.0  | 0.44 | 58.1   | Air Dried Basis |
| --                | 58.7  | 17.0  | 24.3  | 0.44 | ---    | Dry Basis       |

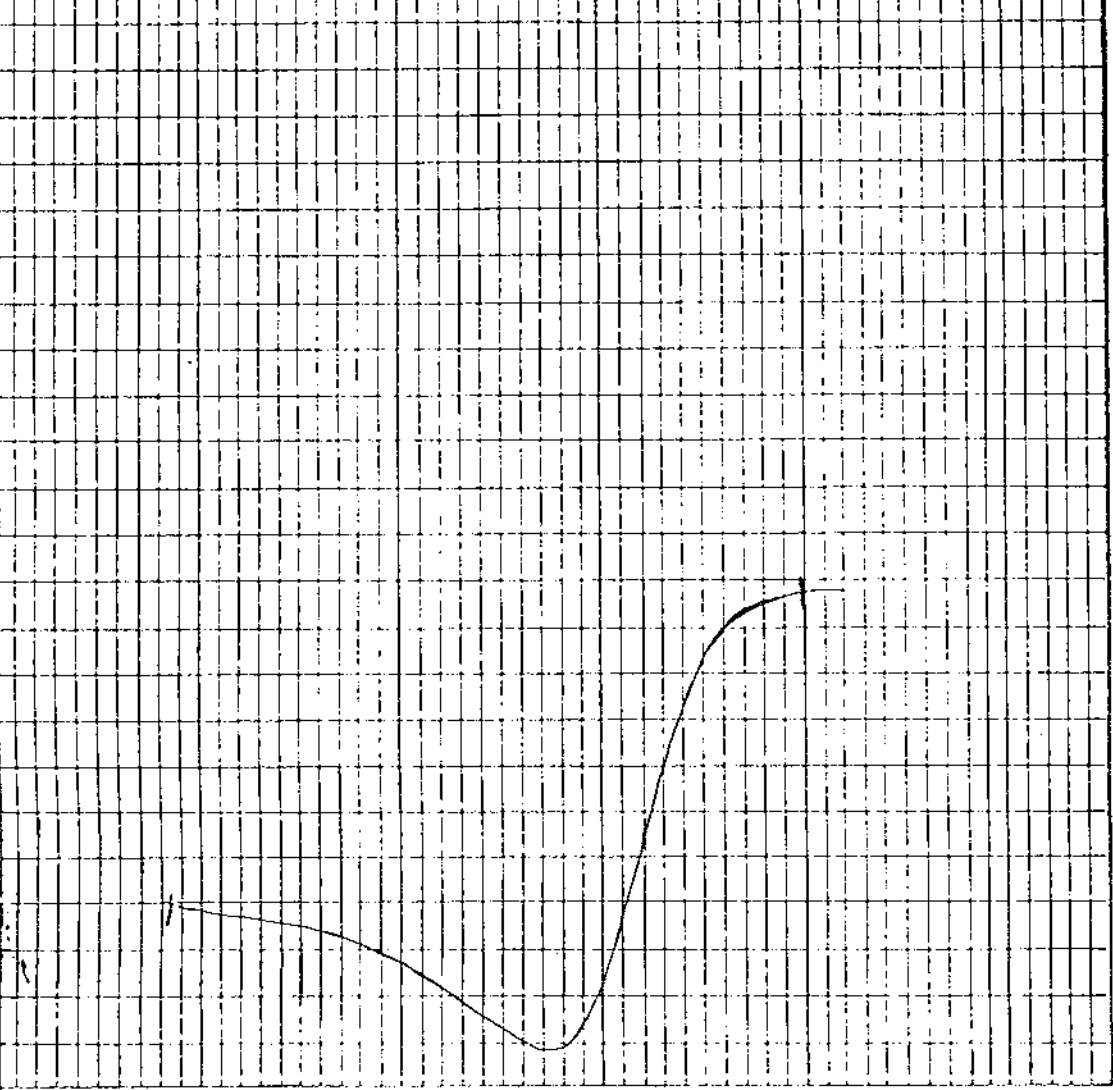
| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 92.6 | 0.9   | 58.0  | 0.44 | 92.6       | 58.0  | 0.44 | A.D.B. |
|                     | 92.6 | --    | 58.6  | 0.44 | 92.6       | 58.6  | 0.44 | D.B.   |
| 65 x 0              | 7.4  | 1.0   | 51.0  | 0.52 | 100.0      | 57.5  | 0.45 | A.D.B. |
|                     | 7.4  | --    | 51.5  | 0.53 | 100.0      | 58.1  | 0.45 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 17.5 | 1.1   | 7.5  | 32.8  | 58.6  | 0.91 | 17.5       | 7.5  | A.D.B. |
|                                  | 17.5 | --    | 7.6  | 33.1  | 59.3  | 0.92 | 17.5       | 7.6  | D.B.   |
| 1.40-1.50                        | 2.3  | 1.1   | 18.0 | 29.3  | 51.6  | 0.81 | 19.8       | 8.7  | A.D.B. |
|                                  | 2.3  | --    | 18.2 | 29.7  | 52.1  | 0.82 | 19.8       | 8.8  | D.B.   |
| 1.50-1.60                        | 3.2  | 0.9   | 27.4 | --    | --    | --   | 23.0       | 11.3 | A.D.B. |
|                                  | 3.2  | --    | 27.6 | --    | --    | --   | 23.0       | 11.4 | D.B.   |
| +1.60                            | 77.0 | 1.1   | 74.7 | --    | --    | --   | 100.0      | 60.1 | A.D.B. |
|                                  | 77.0 | --    | 75.5 | --    | --    | --   | 100.0      | 60.8 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |                         |                         |                     |                   |       |
|--|-------------------|-------------------------|-------------------------|---------------------|-------------------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening<br>Temp. (°C) | Max. Dil.<br>Temp. (°C) | Maximum<br>Contr. % | Maximum<br>Dil. % | G.No. |
| 8½   | 0.051             |                         |                         |                     |                   |       |

Lab. No. 77 - 4069 [date June 30, 1977  
 Client: Elco Mining Ltd.  
 Sample Identification: R - 77 - 26 - 4  
 Starting Temperature °C: 350<sup>o</sup>C  
 Softening Temperature °C: 369<sup>o</sup>C  
 Max. Dilatation Temp. °C: 451<sup>o</sup>C  
 Contraction %: 32  
 Dilatation %: 67  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 1.037

%  
 300  
 250  
 200  
 150  
 100  
 50  
 0



WARNOCK HERSEY PROFESSIONAL SERVICES

Title RUHR DILATOMETER TEST

Date \_\_\_\_\_  
 Drawn \_\_\_\_\_

Warnock Hershey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R 77 - 06 - 5 Lab. No.: 77 - 4070 Date: May 10, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.8               | 42.3  | 93.7  | 33.2  | 0.56 | 58.1   | Air Dried Basis |
| - - -             | 42.6  | 93.9  | 33.5  | 0.56 | - - -  | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼" x 65             | 93.7 | 1.0   | 44.6  | 0.55 | 93.7       | 44.6  | 0.55 | A.D.B. |
|                     | 93.7 | - -   | 45.0  | 0.56 | 93.7       | 45.0  | 0.56 | D.B.   |
| 65 x 0              | 6.3  | 1.1   | 29.7  | 0.74 | 100.0      | 43.7  | 0.56 | A.D.B. |
|                     | 6.3  | - -   | 30.0  | 0.75 | 100.0      | 44.1  | 0.57 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 33.7 | 1.1   | 6.9  | 32.1  | 59.9  | 0.89 | 33.7       | 6.9  | A.D.B. |
|                                  | 33.7 | - -   | 7.0  | 32.5  | 60.5  | 0.90 | 33.7       | 7.0  | D.B.   |
| 1.40-1.50                        | 4.1  | 1.1   | 19.4 | 28.5  | 51.0  | 0.81 | 37.8       | 8.3  | A.D.B. |
|                                  | 4.1  | - -   | 19.6 | 28.8  | 51.6  | 0.82 | 37.8       | 8.4  | D.B.   |
| 1.50-1.60                        | 5.5  | 1.1   | 28.8 | - -   | - -   | - -  | 43.3       | 10.9 | A.D.B. |
|                                  | 5.5  | - -   | 29.1 | - -   | - -   | - -  | 43.3       | 11.0 | D.B.   |
| +1.60                            | 56.7 | 1.0   | 72.0 | - -   | - -   | - -  | 100.0      | 45.5 | A.D.B. |
|                                  | 56.7 | - -   | 72.8 | - -   | - -   | - -  | 100.0      | 46.0 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                      |                      |                  |                |       |
|--|-------------|----------------------|----------------------|------------------|----------------|-------|
| F.S.I.   | P % on Coal | Softening Temp. (°C) | Max. Dil. Temp. (°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 9  | 0.081       |                      |                      |                  |                |       |



I Lab. No. 77 - 4070 Date June 29, 1977

Client: Elco Mining Ltd.

Sample Identification: R 77 - 26 - 5

Starting Temperature °C: 350 °C

Softening Temperature °C: 368 °C

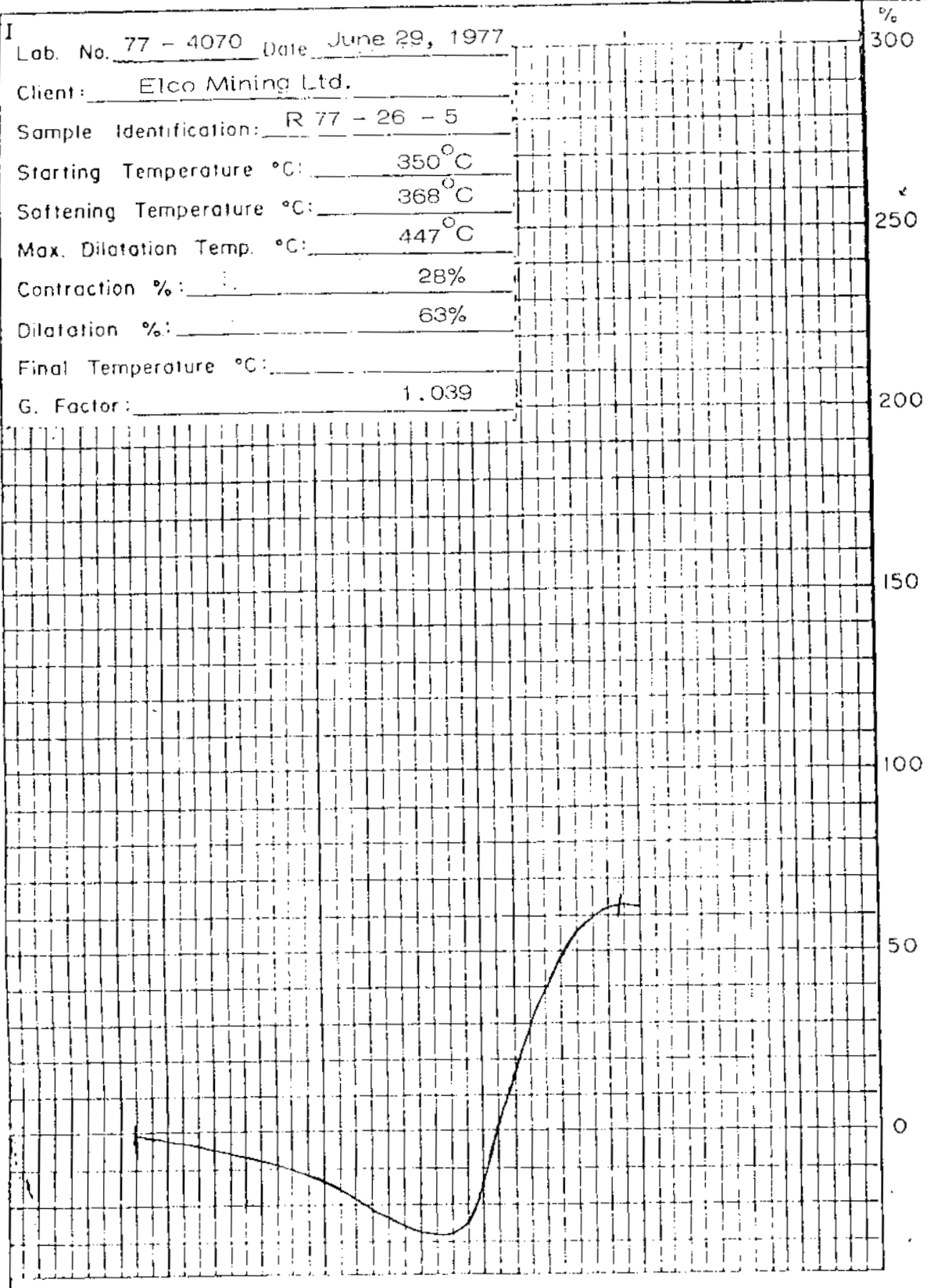
Max. Dilatation Temp. °C: 447 °C

Contraction %: 28%

Dilatation %: 63%

Final Temperature °C:

G. Factor: 1.039



WARNOCK HERSEY PROFESSIONAL SERVICES

|                       |       |
|-----------------------|-------|
| Title                 | Date  |
| RUHR DILATOMETER TEST | Drawn |

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R 77 - 26 - 6 Lab. No.: 77 - 4071 Date: May 10, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 1.0               | 23.8  | 27.7  | 47.5  | 0.80 | 76.1   | Air Dried Basis |
| --                | 24.0  | 27.9  | 48.1  | 0.81 | --     | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 93.4 | 1.1   | 23.2  | 0.82 | 93.4       | 23.2  | 0.82 | A.D.B. |
|                     | 93.4 | --    | 23.4  | 0.83 | 93.4       | 23.4  | 0.83 | D.B.   |
| 65 x 0              | 6.6  | 1.1   | 21.6  | 0.85 | 100.0      | 23.1  | 0.82 | A.D.B. |
|                     | 6.6  | --    | 21.8  | 0.86 | 100.0      | 23.3  | 0.83 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 73.0 | 1.3   | 9.3  | 33.7  | 55.7  | 0.87 | 73.0       | 9.3  | A.D.B. |
|                                  | 73.0 | --    | 9.4  | 34.2  | 56.4  | 0.88 | 73.0       | 9.4  | D.B.   |
| 1.40-1.50                        | 4.3  | 1.1   | 20.2 | 30.0  | 48.7  | 0.72 | 77.3       | 9.9  | A.D.B. |
|                                  | 4.3  | --    | 20.4 | 30.3  | 49.3  | 0.73 | 77.3       | 10.0 | D.B.   |
| 1.50-1.60                        | 2.6  | 1.0   | 27.2 | --    | --    | --   | 79.9       | 10.5 | A.D.B. |
|                                  | 2.6  | --    | 27.4 | --    | --    | --   | 79.9       | 10.6 | D.B.   |
| +1.60                            | 20.1 | 1.0   | 71.8 | --    | --    | --   | 100.0      | 22.8 | A.D.B. |
|                                  | 20.1 | --    | 72.6 | --    | --    | --   | 100.0      | 23.0 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                      |                      |                  |                |       |
|--|-------------|----------------------|----------------------|------------------|----------------|-------|
| F.S.I.   | P % on Coal | Softening Temp. (°C) | Max. Dil. Temp. (°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 8%   | 0.034       |                      |                      |                  |                |       |

Lab. No. 77 - 4071 Date June 28, 1977

Client: Elco Mining Ltd.

Sample Identification: R - 77 - 26 - 6

Starting Temperature °C: 350

Softening Temperature °C: 369

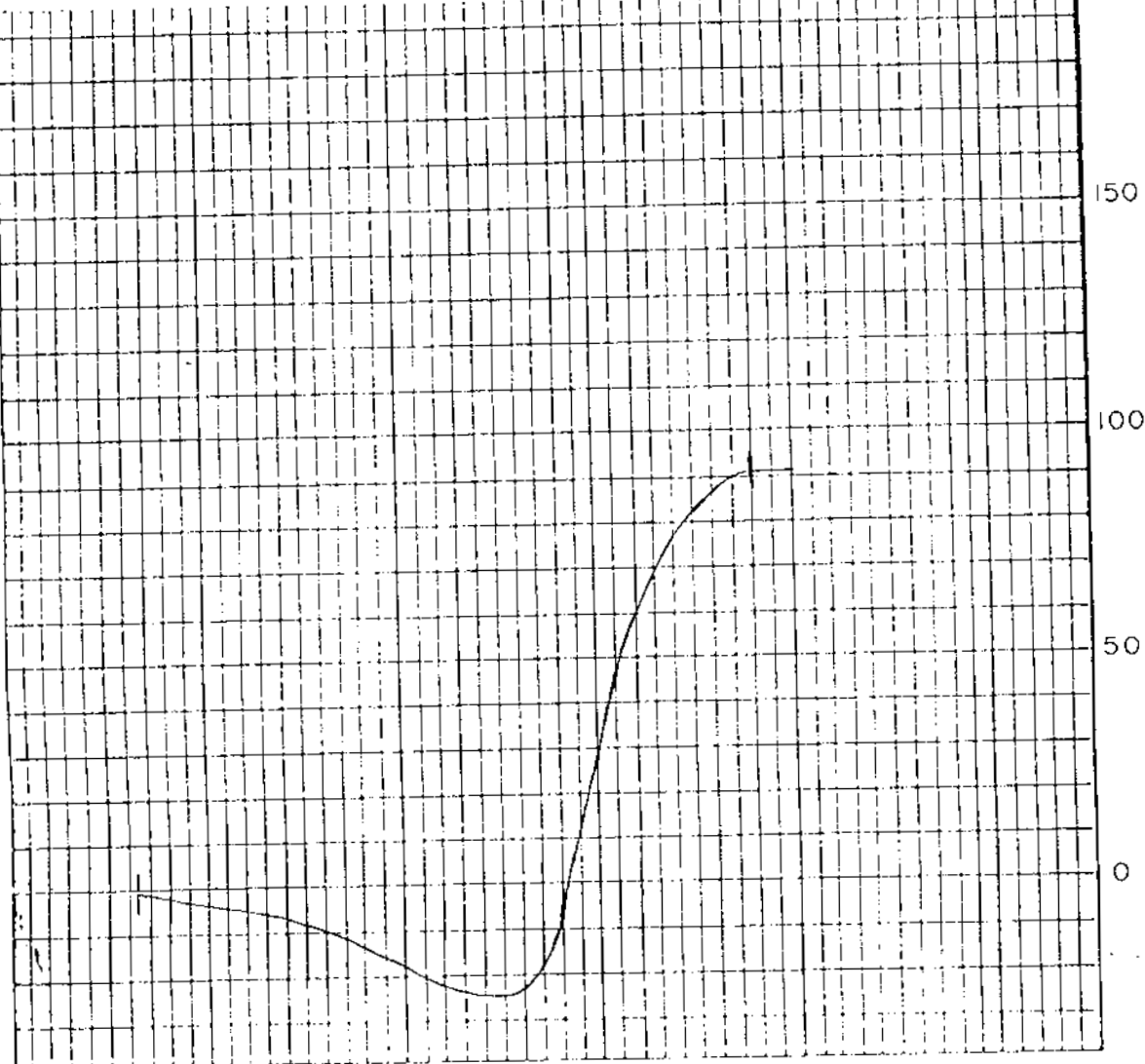
Max. Dilatation Temp. °C: 450

Contraction %: 24%

Dilatation %: 91%

Final Temperature °C: \_\_\_\_\_

G. Factor: 1.061



WARNOCK HERSHEY PROFESSIONAL SERVICES

Title

RUHR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R 77 - 26 - 7 Lab. No.: 77 - 4072 Date: May 10, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 1.1               | 54.3  | 19.0  | 25.6  | 0.43 | 53.2   | Air Dried Basis |
| --                | 54.9  | 19.2  | 25.9  | 0.43 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| 1/4 x 65            | 96.7 | 1.0   | 55.5  | 0.42 | 96.7       | 55.5  | 0.42 | A.D.B. |
|                     | 96.7 | --    | 56.1  | 0.42 | 96.7       | 56.1  | 0.42 | D.B.   |
| 65 x 0              | 3.3  | 1.1   | 33.4  | 0.61 | 100.0      | 54.8  | 0.43 | A.D.B. |
|                     | 3.3  | --    | 33.7  | 0.62 | 100.0      | 55.4  | 0.43 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65 M |      |       |      |       |       |      |            |      |        |
|------------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                               | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                    |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                              | 21.3 | 1.3   | 8.5  | 33.1  | 57.1  | 0.82 | 21.3       | 8.5  | A.D.B. |
|                                    | 21.3 | --    | 8.6  | 33.6  | 57.8  | 0.83 | 21.3       | 8.6  | D.B.   |
| 1.40-1.50                          | 2.0  | 1.0   | 20.8 | 29.0  | 49.2  | 0.67 | 23.3       | 9.6  | A.D.B. |
|                                    | 2.0  | --    | 21.0 | 29.3  | 49.7  | 0.68 | 23.3       | 9.7  | D.B.   |
| 1.50-1.60                          | 3.4  | 1.1   | 26.8 | --    | --    | --   | 26.7       | 11.8 | A.D.B. |
|                                    | 3.4  | --    | 27.1 | --    | --    | --   | 26.7       | 11.9 | D.B.   |
| +1.60                              | 73.3 | 1.2   | 74.0 | --    | --    | --   | 100.0      | 57.4 | A.D.B. |
|                                    | 73.3 | --    | 74.9 | --    | --    | --   | 100.0      | 58.1 | D.B.   |

| COMPOSITE 1/4" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |            |            |          |         |       |
|--|-------------------|------------|------------|----------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening  | Max. Dil.  | Maximum  | Maximum | G.No. |
|  |                   | Temp. (°C) | Temp. (°C) | Contr. % | Dil. %  |       |
| 9  | 0.036             |            |            |          |         |       |

Lab. No. 77 - 4072 Date June 28, 1977

Client: Elco Mining Ltd.

Sample Identification: R - 77 - 26 - 7

Starting Temperature °C: 350°C

Softening Temperature °C: 366°C

Max. Dilatation Temp. °C: 448°C

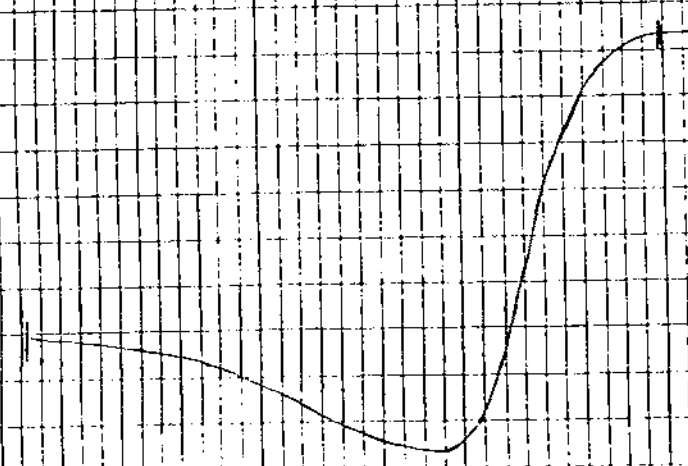
Contraction %: 26%

Dilatation %: 64%

Final Temperature °C:

G. Factor: 1.044

300  
250  
200  
150  
100  
50  
0



WARNOCK HERSEY PROFESSIONAL SERVICES

Title

RUHR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R 77 - 26 - 8 Lab. No.: 77 - 4073 Date: May 10, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.7               | 63.6  | 21.7  | 14.0  | 0.36 | 59.4   | Air Dried Basis |
| --                | 64.0  | 21.8  | 14.2  | 0.36 | --     | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼" x 65             | 97.4 | 0.6   | 64.5  | 0.38 | 97.4       | 64.5  | 0.38 | A.D.B. |
|                     | 97.4 | --    | 64.9  | 0.38 | 97.4       | 64.9  | 0.38 | D.B.   |
| 65 x 0              | 2.6  | 0.9   | 25.2  | 0.84 | 100.0      | 63.5  | 0.39 | A.D.B. |
|                     | 2.6  | --    | 25.4  | 0.85 | 100.0      | 63.9  | 0.39 | D.B.   |

| SINK - FLOCAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|-----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                              | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                   |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                             | 14.1 | 1.2   | 6.3  | 35.6  | 56.9  | 0.95 | 14.1       | 6.3  | A.D.B. |
|                                   | 14.1 | --    | 6.4  | 36.0  | 57.6  | 0.96 | 14.1       | 6.4  | D.B.   |
| 1.40-1.50                         | 1.5  | 1.1   | 12.7 | 32.5  | 53.7  | 0.83 | 15.6       | 6.9  | A.D.B. |
|                                   | 1.5  | --    | 12.8 | 32.8  | 54.4  | 0.84 | 15.6       | 7.0  | D.B.   |
| 1.50-1.60                         | 0.6  | 1.2   | 19.1 | --    | --    | --   | 16.2       | 7.4  | A.D.B. |
|                                   | 0.6  | --    | 19.4 | --    | --    | --   | 16.2       | 7.5  | D.B.   |
| +1.60                             | 83.8 | 0.8   | 77.8 | --    | --    | --   | 100.0      | 66.4 | A.D.B. |
|                                   | 83.8 | --    | 78.5 | --    | --    | --   | 100.0      | 67.0 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |            |            |          |         |       |
|--|-------------------|------------|------------|----------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening  | Max. Dil.  | Maximum  | Maximum | G.No. |
|  |                   | Temp. (°C) | Temp. (°C) | Contr. % | Dil. %  |       |
| 9  | 0.009             |            |            |          |         |       |

Lab. No. 77 - 4073 Date June 28, 1977

Client: Elco Mining Ltd.

Sample Identification: R - 77 - 26 - 8

Starting Temperature °C: 350 °C

Softening Temperature °C: 367 °C

Max. Dilatation Temp. °C: 447 °C

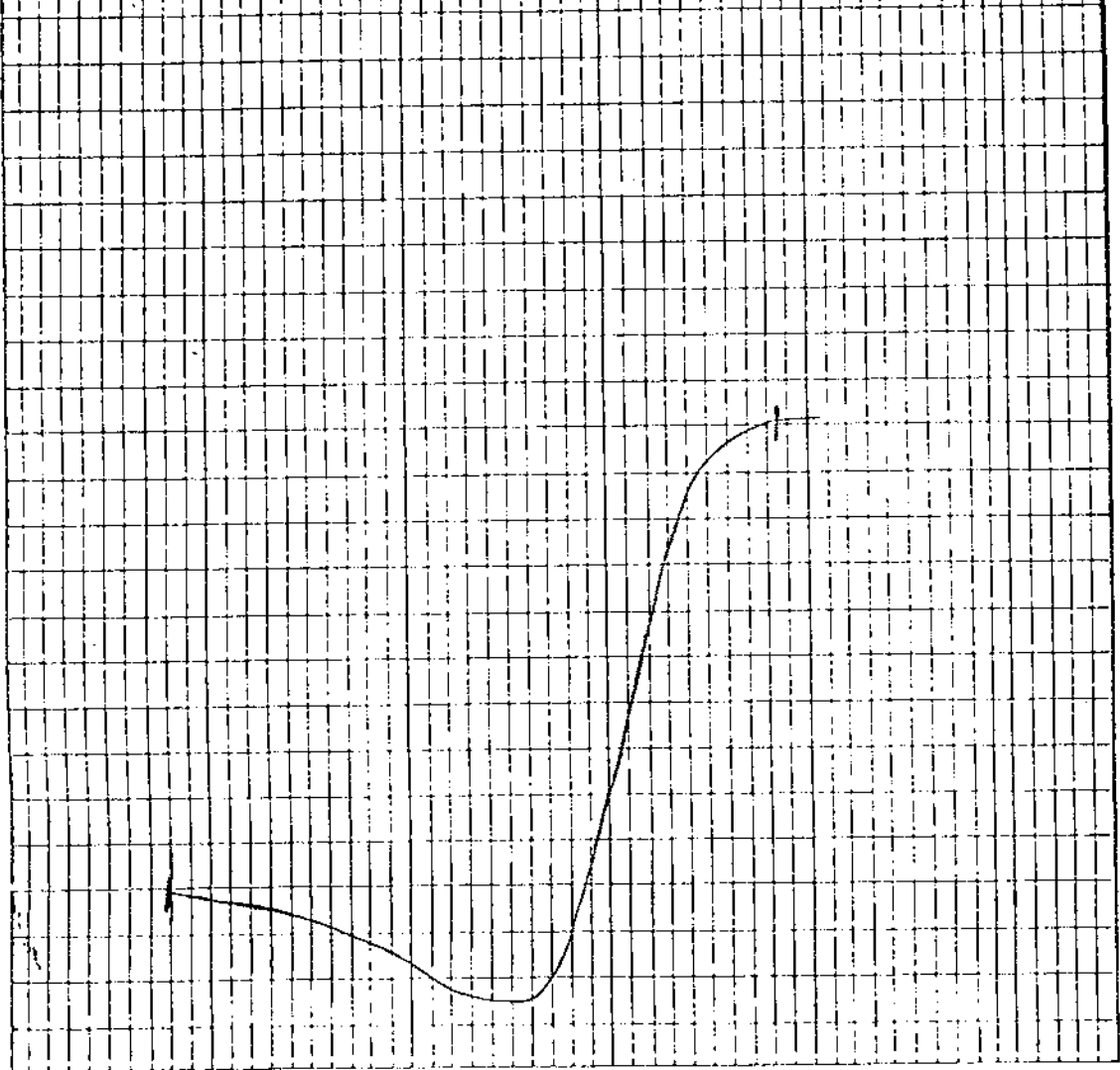
Contraction %: 24 %

Dilatation %: 102 %

Final Temperature °C: \_\_\_\_\_

G. Factor: 1.065

300  
250  
200  
150  
100  
50  
0



WARNOCK HIRSEY PROFESSIONAL SERVICES

Title

RUHR DILATOMETER TEST

Date

Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R 77 - 26 - 9 Lab. No.: 77 - 4074 Date: May 10, 1977

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | Ash % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.7               | 45.8  | 22.3   | 31.2   | 0.57 | 53.2   | Air Dried Basis |
| --                | 46.1  | 22.4   | 31.5   | 0.57 | --     | Dry Basis       |

| SIZE / RAW ANALYSIS |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt. % | R.M. % | Ash % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | Wt. %      | Ash % | S. % |        |
| ¼" x 65             | 93.0  | 0.7    | 47.4  | 0.60 | 93.0       | 47.4  | 0.60 | A.D.B. |
|                     | 93.0  | --     | 47.7  | 0.60 | 93.0       | 47.7  | 0.60 | D.B.   |
| 65 x 0              | 7.0   | 0.9    | 21.1  | 0.86 | 100.0      | 45.6  | 0.62 | A.D.B. |
|                     | 7.0   | --     | 21.3  | 0.87 | 100.0      | 45.8  | 0.62 | D.B.   |

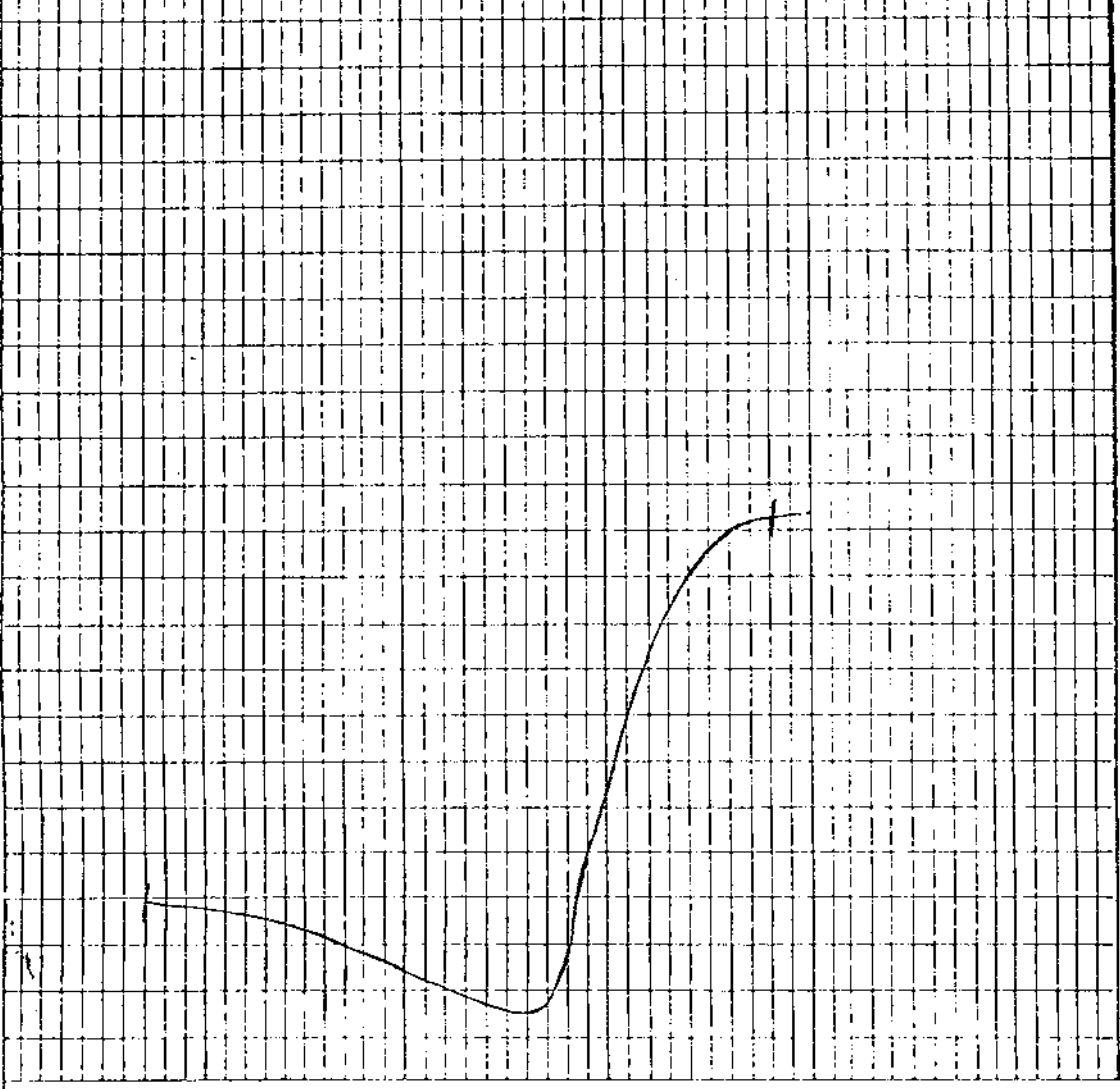
| SINK - FLOAT ANALYSIS: ¼" x 65 M |       |        |       |        |        |      |            |       |        |
|----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S.G.                             | Wt. % | R.M. % | Ash % | V.M. % | F.C. % | S. % | Cumulative |       |        |
|                                  |       |        |       |        |        |      | Wt. %      | Ash % |        |
| -1.40                            | 27.3  | 1.0    | 8.8   | 34.2   | 56.0   | 0.96 | 27.3       | 8.8   | A.D.B. |
|                                  | 27.3  | --     | 8.8   | 34.5   | 56.7   | 0.97 | 27.3       | 8.8   | D.B.   |
| 1.40-1.50                        | 11.1  | 0.9    | 23.7  | 28.7   | 46.7   | 0.81 | 38.4       | 13.1  | A.D.B. |
|                                  | 11.1  | --     | 23.9  | 29.0   | 47.1   | 0.82 | 38.4       | 13.2  | D.B.   |
| 1.50-1.60                        | 9.4   | 1.0    | 30.0  | --     | --     | --   | 47.8       | 16.4  | A.D.B. |
|                                  | 9.4   | --     | 30.3  | --     | --     | --   | 47.8       | 16.5  | D.B.   |
| +1.60                            | 52.2  | 0.7    | 77.6  | --     | --     | --   | 100.0      | 48.4  | A.D.B. |
|                                  | 52.2  | --     | 78.1  | --     | --     | --   | 100.0      | 48.7  | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |            |            |          |         |       |
|--|-------------------|------------|------------|----------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening  | Max. Dil.  | Maximum  | Maximum | G.No. |
|  |                   | Temp. (°C) | Temp. (°C) | Contr. % | Dil. %  |       |
| 7½   | 0.043             |            |            |          |         |       |



Lab. No. 77 - 4074 (Date) June 28, 1977  
 Client: Elco Mining Ltd.  
 Sample Identification: R 77 -26 - 9  
 Starting Temperature °C: 350<sup>o</sup>C  
 Softening Temperature °C: 366<sup>o</sup>C  
 Max. Dilatation Temp. °C: 446<sup>o</sup>C  
 Contraction %: 24  
 Dilatation %: 84  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 1.058

%  
 300  
 250  
 200  
 150  
 100  
 50  
 0



WARNOCK HERSEY PROFESSIONAL SERVICES

Title  
 RUHR DILATOMETER TEST

Date  
 Drawn

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R-77-26-10 Lab. No.: 77-4075 Date: May 10, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 0.9               | 52.0  | 20.4  | 26.7  | 0.51 | 53.2   | Air Dried Basis |
| --                | 52.5  | 20.5  | 27.0  | 0.51 | ---    | Dry Basis       |

| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 96.8 | 1.0   | 54.7  | 0.48 | 96.8       | 54.7  | 0.48 | A.D.B. |
|                     | 96.8 | --    | 55.2  | 0.48 | 96.8       | 55.2  | 0.48 | D.B.   |
| 65 x 0              | 3.2  | 1.1   | 24.2  | 0.74 | 100.0      | 53.7  | 0.49 | A.D.B. |
|                     | 3.2  | --    | 24.5  | 0.75 | 100.0      | 54.2  | 0.49 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 28.2 | 1.2   | 8.0  | 33.3  | 57.5  | 0.79 | 28.2       | 8.0  | A.D.B. |
|                                  | 28.2 | --    | 8.1  | 33.7  | 58.2  | 0.80 | 28.2       | 8.1  | D.B.   |
| 1.40-1.50                        | 2.4  | 0.9   | 21.1 | 29.1  | 48.9  | 0.67 | 30.6       | 9.0  | A.D.B. |
|                                  | 2.4  | --    | 21.3 | 29.3  | 49.4  | 0.68 | 30.6       | 9.1  | D.B.   |
| 1.50-1.60                        | 2.8  | 1.0   | 27.5 | --    | --    | --   | 33.4       | 10.6 | A.D.B. |
|                                  | 2.8  | --    | 27.8 | --    | --    | --   | 33.4       | 10.7 | D.B.   |
| +1.60                            | 66.6 | 1.0   | 77.8 | --    | --    | --   | 100.0      | 55.3 | A.D.B. |
|                                  | 66.6 | --    | 78.6 | --    | --    | --   | 100.0      | 55.9 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |                   |            |            |          |         |       |
|--|-------------------|------------|------------|----------|---------|-------|
| F.S.I.   | P %<br>on<br>Coal | Softening  | Max. Dil.  | Maximum  | Maximum | G.No. |
|  |                   | Temp. (°C) | Temp. (°C) | Contr. % | Dil. %  |       |
| 8½   | 0.008             |            |            |          |         |       |

Lab. No. 77 - 4075 Date June 29, 1977

Client: Elco Mining Ltd.

Sample Identification: R - 77-26 - 10

Starting Temperature °C: 350 °C

Softening Temperature °C: 371 °C

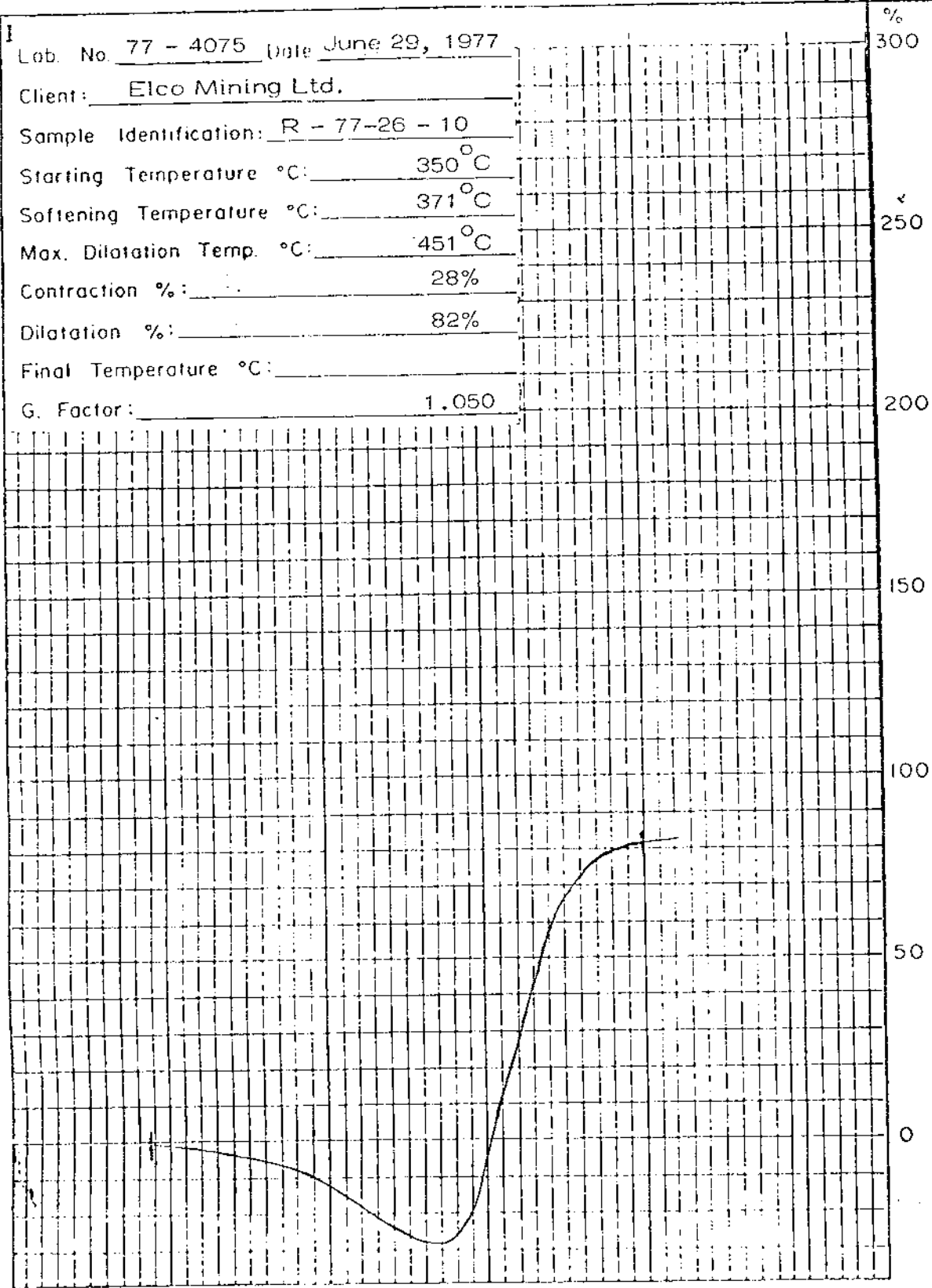
Max. Dilatation Temp. °C: 451 °C

Contraction %: 28%

Dilatation %: 82%

Final Temperature °C: \_\_\_\_\_

G. Factor: 1.050



WARNOCK HURSEY PROFESSIONAL SERVICES

|   |       |
|---|-------|
| Title<br><br><u>RUHR DILATOMETER TEST</u> | Date  |
|   | Drawn |

Warnock Hersey Professional Services Ltd.

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

Hole No.: R - 77-26 - 11 Lab. No.: 77 - 4076 Date: May 10, 1977

| HEAD RAW ANALYSIS |       |       |       |      |        |                 |
|-------------------|-------|-------|-------|------|--------|-----------------|
| R.M.%             | Ash % | V.M.% | F.C.% | S.%  | H.G.I. | REMARKS         |
| 1.1               | 19.7  | 29.7  | 49.5  | 0.56 | 74.7   | Air Dried Basis |
| --                | 19.9  | 30.0  | 50.1  | 0.57 | ---    | Dry Basis       |

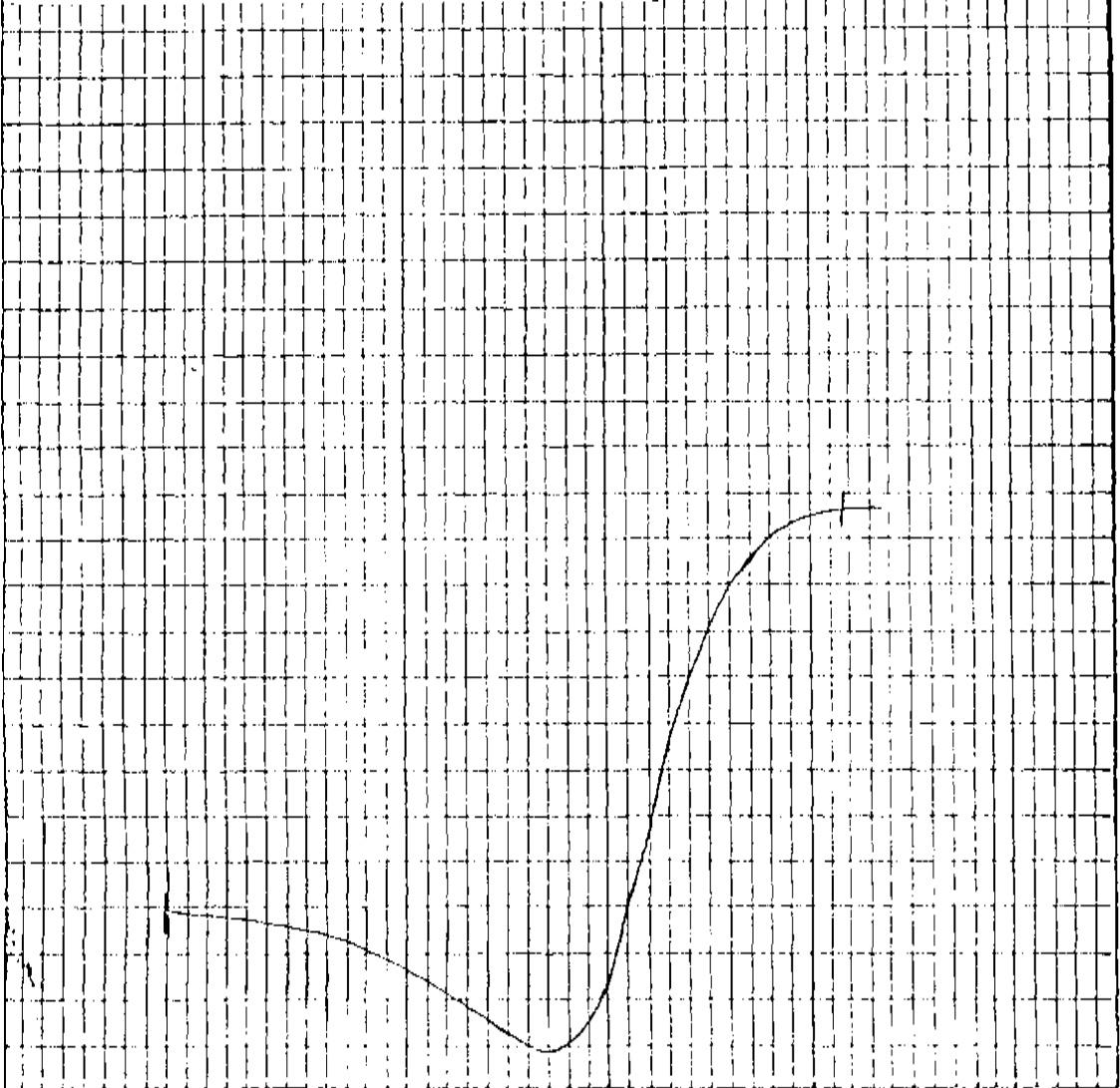
| SIZE / RAW ANALYSIS |      |       |       |      |            |       |      |        |
|---------------------|------|-------|-------|------|------------|-------|------|--------|
| Size Fraction       | Wt.% | R.M.% | Ash % | S.%  | CUMULATIVE |       |      |        |
|                     |      |       |       |      | Wt.%       | Ash % | S.%  |        |
| ¼ x 65              | 97.0 | 1.2   | 20.6  | 0.55 | 97.0       | 20.6  | 0.55 | A.D.B. |
|                     | 97.0 | --    | 20.9  | 0.56 | 97.0       | 20.9  | 0.56 | D.B.   |
| 65 x 0              | 3.0  | 1.2   | 11.0  | 0.66 | 100.0      | 20.3  | 0.55 | A.D.B. |
|                     | 3.0  | --    | 11.1  | 0.67 | 100.0      | 20.6  | 0.56 | D.B.   |

| SINK - FLOAT ANALYSIS: ¼" x 65 M |      |       |      |       |       |      |            |      |        |
|----------------------------------|------|-------|------|-------|-------|------|------------|------|--------|
| S.G.                             | Wt.% | R.M.% | Ash% | V.M.% | F.C.% | S.%  | Cumulative |      |        |
|                                  |      |       |      |       |       |      | Wt.%       | Ash% |        |
| -1.40                            | 70.4 | 1.3   | 5.5  | 33.6  | 59.6  | 0.65 | 70.4       | 5.5  | A.D.B. |
|                                  | 70.4 | --    | 5.6  | 34.0  | 60.4  | 0.66 | 70.4       | 5.6  | D.B.   |
| 1.40-1.50                        | 3.3  | 1.0   | 21.4 | 28.7  | 48.9  | 0.55 | 73.7       | 6.2  | A.D.B. |
|                                  | 3.3  | --    | 21.6 | 29.0  | 49.4  | 0.56 | 73.7       | 6.3  | D.B.   |
| 1.50-1.60                        | 4.3  | 1.0   | 32.4 | --    | --    | --   | 78.0       | 7.6  | A.D.B. |
|                                  | 4.3  | --    | 32.8 | --    | --    | --   | 78.0       | 7.8  | D.B.   |
| +1.60                            | 22.0 | 1.0   | 66.2 | --    | --    | --   | 100.0      | 20.5 | A.D.B. |
|                                  | 22.0 | --    | 66.9 | --    | --    | --   | 100.0      | 20.8 | D.B.   |

| COMPOSITE ¼" x 65 m FLOATS @ 1.50 S.G., A.D.B. |             |                      |                      |                  |                |       |
|--|-------------|----------------------|----------------------|------------------|----------------|-------|
| F.S.I.   | P % on Coal | Softening Temp. (°C) | Max. Dil. Temp. (°C) | Maximum Contr. % | Maximum Dil. % | G.No. |
| 8½   | 0.032       |                      |                      |                  |                |       |

Lab. No. 77 - 4076 Date June 29, 1977  
 Client: Elco Mining Ltd.  
 Sample Identification: R - 77 - 26 - 11  
 Starting Temperature °C: 350 °C  
 Softening Temperature °C: 367 °C  
 Max. Dilatation Temp. °C: 454 °C  
 Contraction %: 31%  
 Dilatation %: 87%  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 1.053

%  
 300  
 250  
 200  
 150  
 100  
 50  
 0



WARNOCK HERSEY PROFESSIONAL SERVICES

Title: RUHR DILATOMETER TEST

Date: \_\_\_\_\_  
 Drawn: \_\_\_\_\_

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-27-1

Lab. No. 8840

DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 2.7               | 31.1  | 23.1   | 43.1   | 0.87 | 62     | Air Dried Basis |
|                   | 32.0  | 23.7   | 44.3   | 0.89 | --     | Dry Basis       |

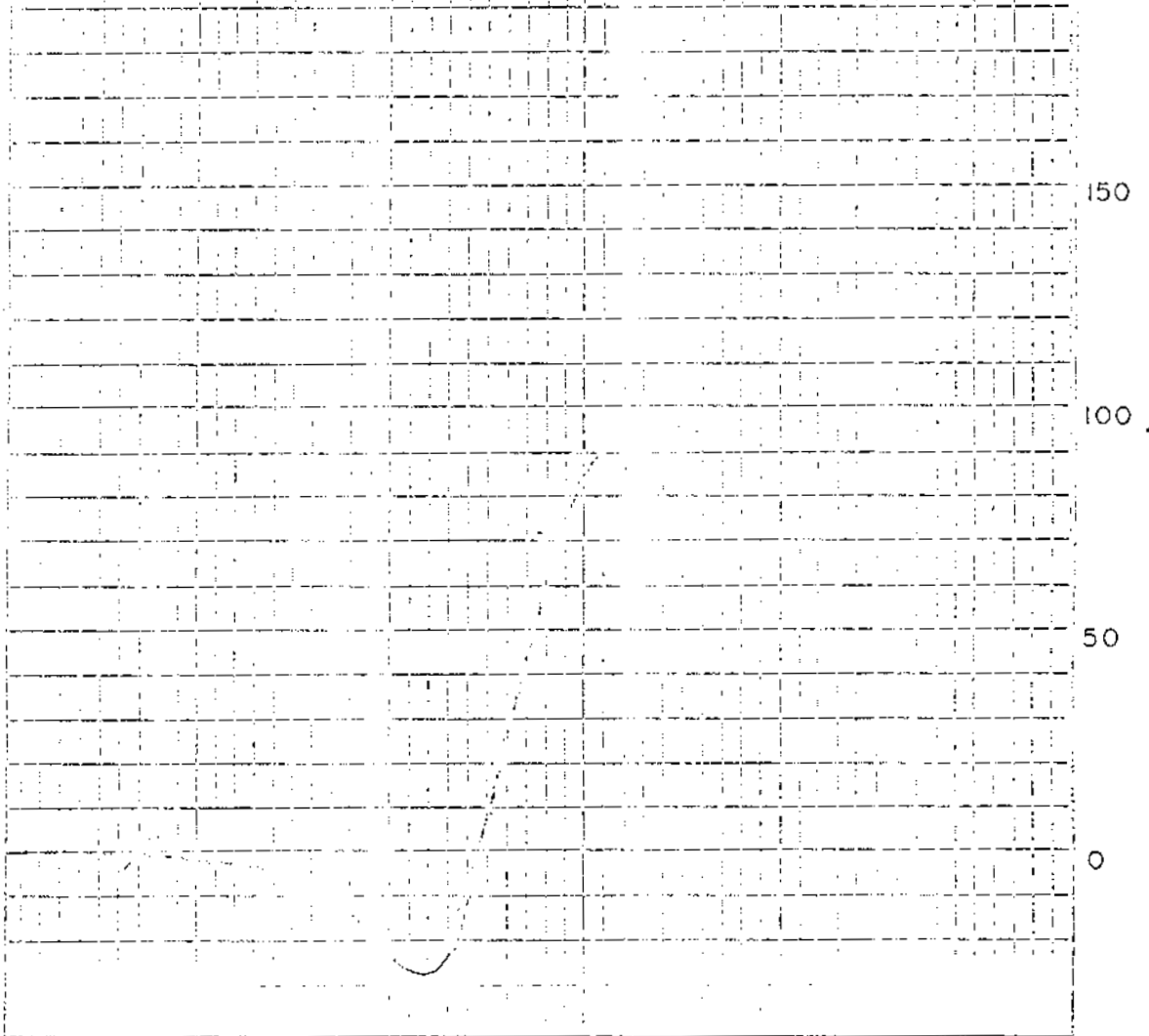
| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 82.3  | 2.0    | 31.6  | 0.86 | 82.3       | 31.6  | 0.86 | A.D.B. |
|                     | 82.2  |        | 32.2  | 0.88 | 82.2       | 32.2  | 0.88 | D.B.   |
| 65M x 0             | 17.7  | 1.6    | 25.4  | 0.95 | 100.0      | 30.5  | 0.88 | A.D.B. |
|                     | 17.8  |        | 25.8  | 0.97 | 100.0      | 31.1  | 0.90 | D.B.   |

| SINK-FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|---------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                           | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                 |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                           | 36.0  | 1.7    | 4.0   | 31.7   | 62.6   | 1.10 | 36.0       | 4.0   | A.D.B. |
|                                 | 36.1  |        | 4.1   | 32.2   | 63.7   | 1.12 | 36.1       | 4.1   | D.B.   |
| 1.40-1.50                       | 7.0   | 2.1    | 20.9  | 28.1   | 48.9   | 1.08 | 43.0       | 6.8   | A.D.B. |
|                                 | 7.0   |        | 21.3  | 28.7   | 50.0   | 1.10 | 43.1       | 6.9   | D.B.   |
| 1.50-1.60                       | 10.8  | 2.4    | 31.8  |        |        |      | 53.8       | 11.8  | A.D.B. |
|                                 | 10.8  |        | 32.6  |        |        |      | 53.9       | 12.0  | D.B.   |
| +1.60                           | 46.2  | 2.2    | 53.3  |        |        |      | 100.0      | 31.0  | A.D.B. |
|                                 | 46.1  |        | 54.5  |        |        |      | 100.0      | 31.6  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS > 1.50 S.G., A.D.B. |            |                                       |                       |                  |                |        |
|---|------------|---------------------------------------|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP.* (°C)                 | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 7   | 0.01       | 345                                   | 435                   | 27               | 95             | 1.069  |

\* S.T. & M.D.T. corrected with factor 6/5

Lab. No. 2240 Date April 20, 1977 %  
 Client: ELCO MINING LTD. 300  
 Sample Identification: R77-27-1  
 Starting Temperature °C: 320  
 Softening Temperature °C: 345  
 Max. Dilatation Temp. °C: 435 250  
 Contraction %: 27  
 Dilatation %: 95  
 Final Temperature °C: \_\_\_\_\_  
 G. Factor: 1.069 200



DUNLEY ENGINEERING (CANADA) LTD.

Title  
RHR DILATOMETER TEST

Date  
 \_\_\_\_\_  
 Drawn  
 \_\_\_\_\_

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-27-2

Lab. No. 8841

DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 1.4               | 46.1  | 19.2   | 33.3   | 0.59 | 54     | Air Dried Basis |
|                   | 46.8  | 19.5   | 33.7   | 0.60 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 94.8  | 1.4    | 46.8  | 0.57 | 94.8       | 46.8  | 0.57 | A.D.B. |
|                     | 94.8  |        | 47.5  | 0.58 | 94.8       | 47.5  | 0.58 | D.B.   |
| 65M x 0             | 5.2   | 1.7    | 24.6  | 0.76 | 100.0      | 45.6  | 0.58 | A.D.B. |
|                     | 5.2   |        | 25.0  | 0.77 | 100.0      | 46.3  | 0.59 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 26.2  | 1.4    | 7.3   | 30.3   | 61.0   | 0.96 | 26.2       | 7.3   | A.D.B. |
|                                   | 26.2  |        | 7.4   | 30.7   | 61.5   | 0.97 | 26.2       | 7.4   | D.B.   |
| 1.40-1.50                         | 8.2   | 1.2    | 23.6  | 26.6   | 48.6   | 0.77 | 34.4       | 11.2  | A.D.B. |
|                                   | 8.2   |        | 23.9  | 26.9   | 49.2   | 0.78 | 34.4       | 11.3  | D.B.   |
| 1.50-1.60                         | 5.2   | 1.2    | 33.5  |        |        |      | 39.6       | 14.1  | A.D.B. |
|                                   | 5.2   |        | 33.9  |        |        |      | 39.6       | 14.3  | D.B.   |
| +1.60                             | 60.4  | 1.3    | 67.4  |        |        |      | 100.0      | 46.3  | A.D.B. |
|                                   | 60.4  |        | 68.3  |        |        |      | 100.0      | 46.9  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS : 1.50 S.G., A.D.B. |            |                                       |                      |                  |                |        |
|---|------------|---------------------------------------|----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                      |                  |                |        |
|   |            | SOFTENING TEMP* (°C)                  | MAX. DIL. TEMP.*(°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 6 1/2   | 0.04       | 352                                   | 447                  | 20               | 85             | 1.079  |

\* S.T. & M.D.T. corrected with factor 6/5

*Birtley Engineering*

*Subsidiary of Great West Steel Industries*



Lab. No. 8341 Date April 20, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-27-2

Starting Temperature °C: 320

Softening Temperature °C: 352

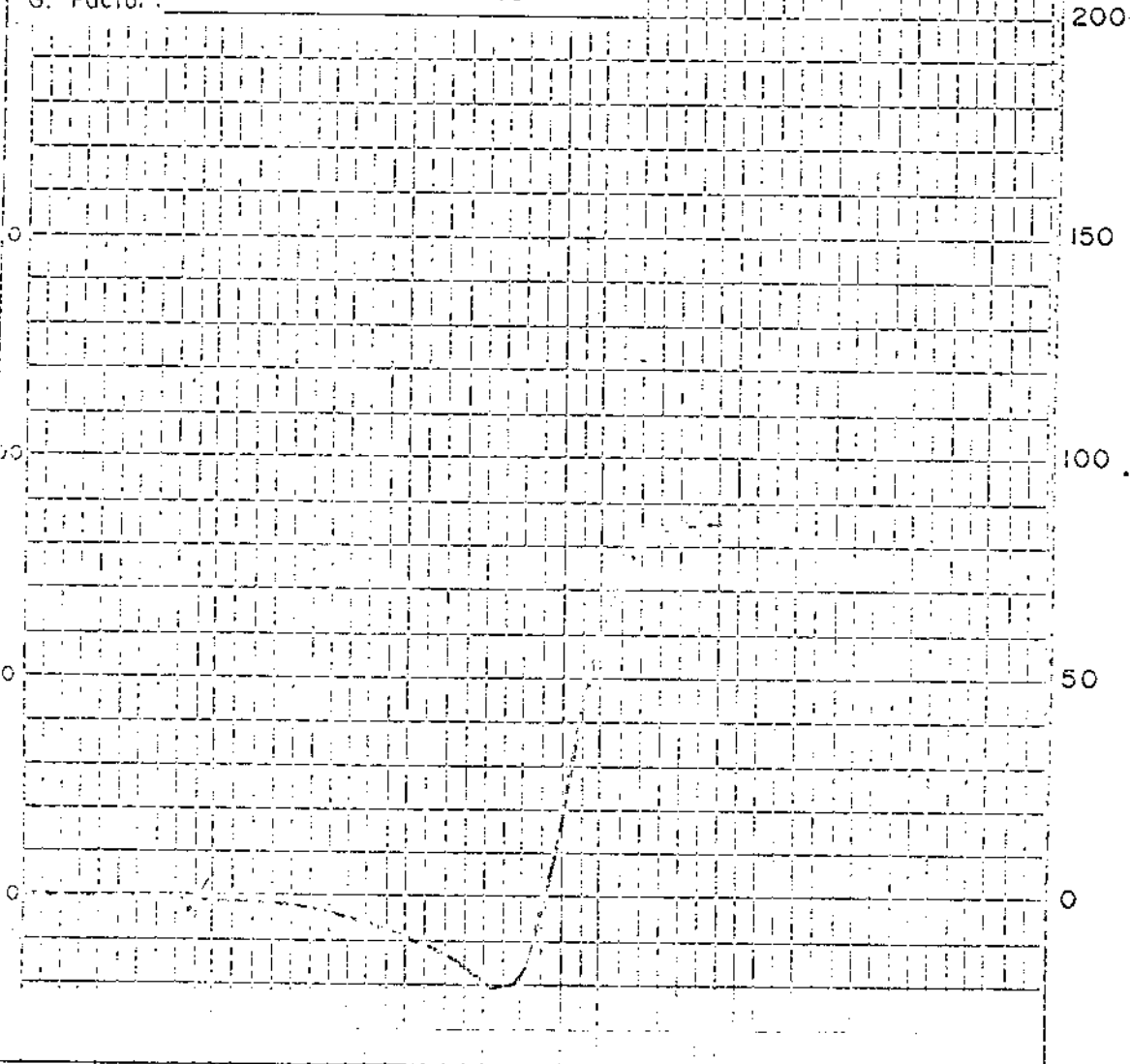
Max. Dilatation Temp. °C: 447

Contraction %: 20

Dilatation %: 85

Final Temperature °C:

G. Factor: 1.079



BIRTLEY ENGINEERING (CANADA) LTD.

Title  
RUHR DILATOMETER TEST

Date  
Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R-77-27-3

Lab. No. 8842

DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 2.4               | 36.1  | 23.7   | 37.8   | 0.76 | 68     | Air Dried Basis |
|                   | 37.0  | 24.3   | 38.7   | 0.78 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 90.1  | 1.6    | 37.0  | 0.73 | 90.1       | 37.0  | 0.73 | A.D.B. |
|                     | 90.1  |        | 37.6  | 0.74 | 90.1       | 37.6  | 0.74 | D.B.   |
| 65M x 0             | 9.9   | 1.7    | 23.0  | 0.82 | 100.0      | 35.6  | 0.74 | A.D.B. |
|                     | 9.9   |        | 23.4  | 0.83 | 100.0      | 36.2  | 0.75 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 44.1  | 1.5    | 6.1   | 33.3   | 59.1   | 0.95 | 44.1       | 6.1   | A.D.B. |
|                                   | 44.1  |        | 6.2   | 33.8   | 60.0   | 0.96 | 44.1       | 6.2   | D.B.   |
| 1.40-1.50                         | 7.4   | 1.6    | 21.6  | 28.6   | 48.2   | 0.86 | 51.5       | 8.3   | A.D.B. |
|                                   | 7.4   |        | 22.0  | 29.1   | 48.9   | 0.87 | 51.5       | 8.5   | D.B.   |
| 1.50-1.60                         | 4.7   | 1.6    | 29.0  |        |        |      | 56.2       | 10.1  | A.D.B. |
|                                   | 4.7   |        | 29.5  |        |        |      | 56.2       | 10.2  | D.B.   |
| +1.60                             | 43.8  | 1.6    | 70.3  |        |        |      | 100.0      | 36.4  | A.D.B. |
|                                   | 43.8  |        | 71.4  |        |        |      | 100.0      | 37.0  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                      |                  |                |       |        |
|---|------------|---------------------------------------|----------------------|------------------|----------------|-------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                      |                  |                |       | G. NO. |
|   |            | SOFTENING TEMP.*(°C)                  | MAX. DIL. TEMP.*(°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % |       |        |
| 6 1/2   | 0.06       | 349                                   | 450                  | 23               | 92             | 1.082 |        |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lab. No. 8342 Date April 20, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-27-3

Starting Temperature °C: 320

Softening Temperature °C: 349

Max. Dilatation Temp. °C: 450

250

Contraction %: 23

Dilatation %: 92

Final Temperature °C: \_\_\_\_\_

G. Factor: 1.082

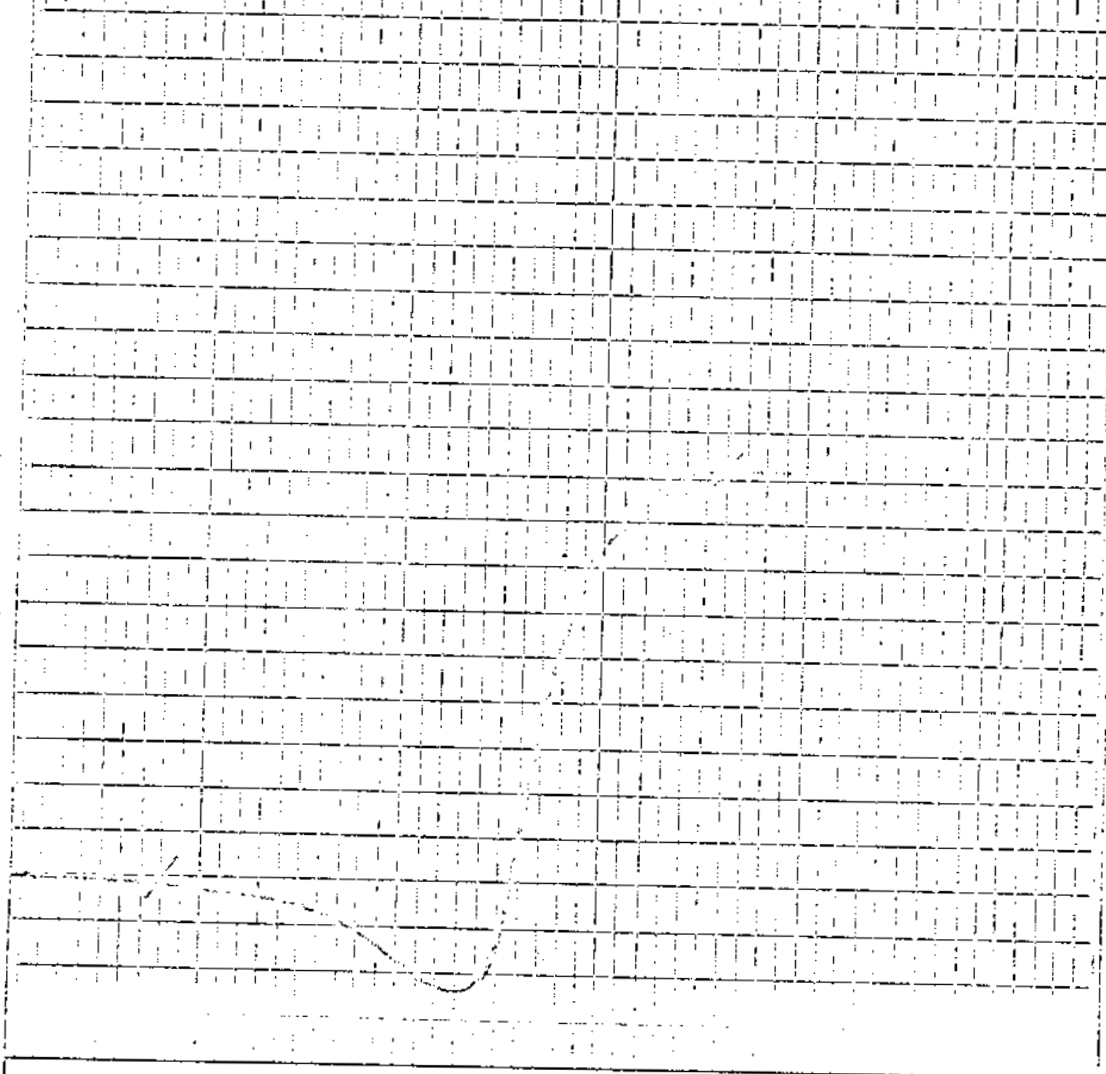
200

150

100

50

0



**BIRTLEY ENGINEERING (CANADA) LTD.**

Title  
**RUHR DILATOMETER TEST**

Date  
\_\_\_\_\_  
Drawn  
\_\_\_\_\_

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-27-4      Lab. No. 8343      DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 1.1               | 37.9  | 23.3   | 37.7   | 0.74 | 60     | Air Dried Basis |
|                   | 38.3  | 23.6   | 38.1   | 0.75 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 87.4  | 1.1    | 39.5  | 0.73 | 87.4       | 39.5  | 0.73 | A.D.B. |
|                     | 87.5  |        | 39.9  | 0.74 | 87.5       | 39.9  | 0.74 | D.B.   |
| 65M x 0             | 12.6  | 1.4    | 20.6  | 0.94 | 100.0      | 37.1  | 0.76 | A.D.B. |
|                     | 12.5  |        | 20.9  | 0.95 | 100.0      | 37.5  | 0.77 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 35.5  | 1.1    | 4.8   | 34.9   | 59.2   | 1.07 | 35.5       | 4.8   | A.D.B. |
|                                   | 35.6  |        | 4.9   | 35.3   | 59.8   | 1.08 | 35.6       | 4.9   | D.B.   |
| 1.40-1.50                         | 7.0   | 1.1    | 10.3  | 32.8   | 55.8   | 1.02 | 42.5       | 5.7   | A.D.B. |
|                                   | 7.0   |        | 10.4  | 33.2   | 56.4   | 1.03 | 42.6       | 5.8   | D.B.   |
| 1.50-1.60                         | 3.3   | 1.0    | 21.0  |        |        |      | 45.8       | 6.8   | A.D.B. |
|                                   | 3.3   |        | 21.2  |        |        |      | 45.9       | 6.9   | D.B.   |
| +1.60                             | 54.2  | 1.5    | 66.4  |        |        |      | 100.0      | 39.1  | A.D.B. |
|                                   | 54.1  |        | 67.4  |        |        |      | 100.0      | 39.6  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |   |                       |                  |                |        |
|---|------------|---|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp. = 320°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP. *(°C)                   | MAX. DIL. TEMP. *(°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 6 1/2   | 0.04       | 345                                     | 448                   | 24               | 120            | 1.095  |

\* S.T. & M.D.T. corrected with factor 6/5

Lab. No. 8843 Date April 20, 1977

Client: ELCO MINING LTD.

Sample Identification: R77-27-4

Starting Temperature °C: 320

Softening Temperature °C: 345

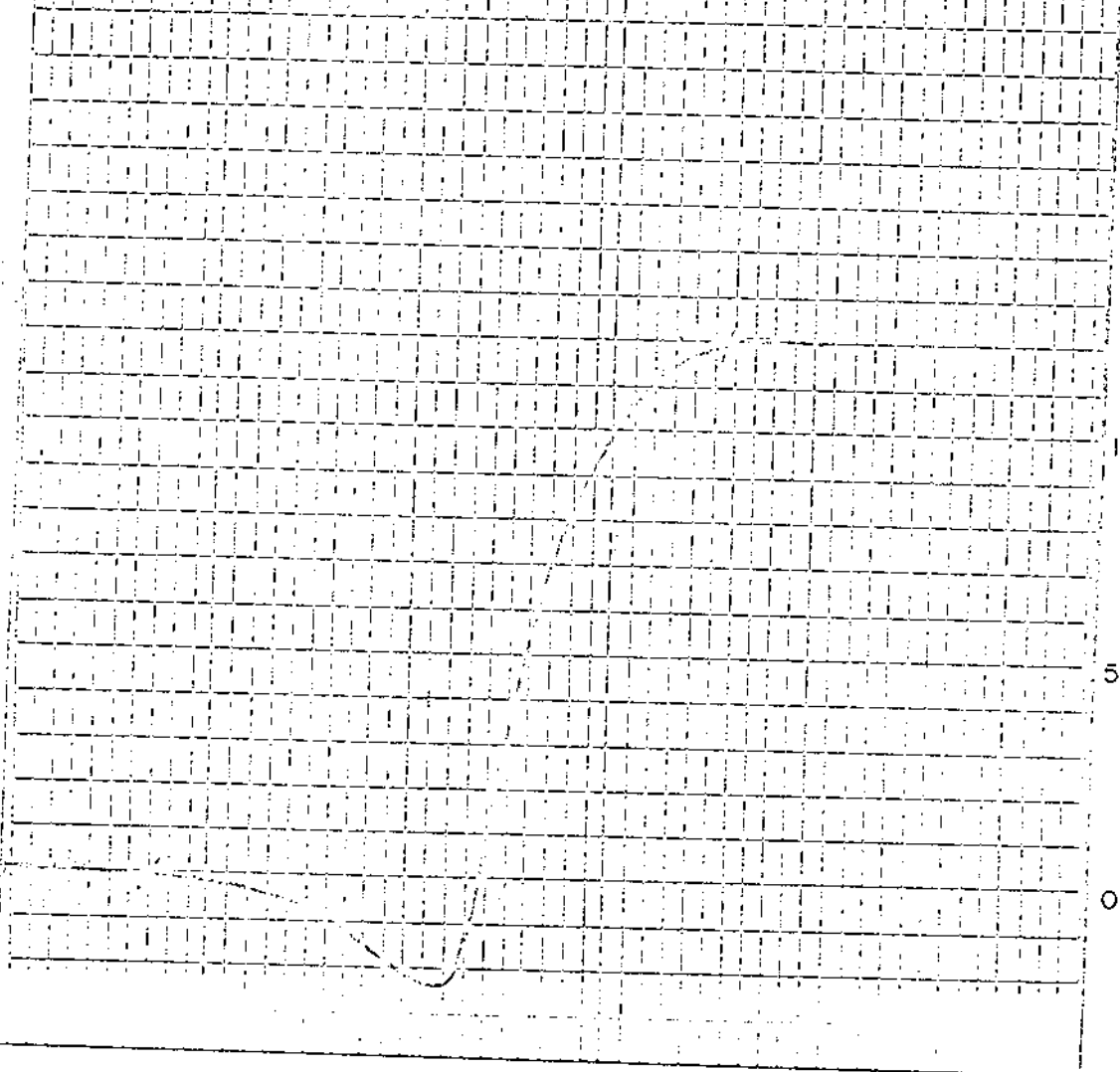
Max. Dilatation Temp. °C: 448

Contraction %: 24

Dilatation %: 120

Final Temperature °C:

G. Factor: 1.095



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-27-5

Lab. No. 8844

DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 1.2               | 51.7  | 19.1   | 28.0   | 0.45 | 57     | Air Dried Basis |
|                   | 52.3  | 19.3   | 28.4   | 0.46 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 93.2  | 0.9    | 53.0  | 0.45 | 93.2       | 53.0  | 0.45 | A.D.B. |
|                     | 93.3  |        | 53.5  | 0.45 | 93.3       | 53.5  | 0.45 | D.B.   |
| 65M x 0             | 6.8   | 1.4    | 26.2  | 0.67 | 100.0      | 51.2  | 0.46 | A.D.B. |
|                     | 6.7   |        | 26.6  | 0.68 | 100.0      | 51.7  | 0.47 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 30.3  | 0.9    | 6.4   | 32.8   | 59.9   | 0.86 | 30.3       | 6.4   | A.D.B. |
|                                   | 30.3  |        | 6.5   | 33.1   | 60.4   | 0.87 | 30.3       | 6.5   | D.B.   |
| 1.40-1.50                         | 3.4   | 1.1    | 21.9  | 28.0   | 49.0   | 0.70 | 33.7       | 8.0   | A.D.B. |
|                                   | 3.4   |        | 22.1  | 28.3   | 49.6   | 0.71 | 33.7       | 8.1   | D.B.   |
| 1.50-1.60                         | 2.9   | 1.3    | 32.0  |        |        |      | 36.6       | 9.9   | A.D.B. |
|                                   | 2.9   |        | 32.4  |        |        |      | 36.6       | 10.0  | D.B.   |
| +1.60                             | 63.4  | 0.9    | 77.9  |        |        |      | 100.0      | 53.0  | A.D.B. |
|                                   | 63.4  |        | 78.6  |        |        |      | 100.0      | 53.5  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                      |                  |                |       |        |
|---|------------|---------------------------------------|----------------------|------------------|----------------|-------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                      |                  |                |       | G. NO. |
|   |            | SOFTENING TEMP* (°C)                  | MAX. DIL. TEMP* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % |       |        |
| 7 1/2   | 0.07       | 352                                   | 439                  | 28               | 95             | 1.064 |        |

\* S.T. & M.D.T. corrected with factor 6/5

*Birtley Engineering*

*Subsidiary of Great West Steel Industries*

Lab. No. 8344 Date April 20, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-27-5

Starting Temperature °C: 320

Softening Temperature °C: 352

Max. Dilatation Temp. °C: 439

250

Contraction %: 28

Dilatation %: 95

Final Temperature °C:

G. Factor: 1.064

200

150

100

50

0



SIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R-77-27-6 Lab. No. 8845 DATE: April/77

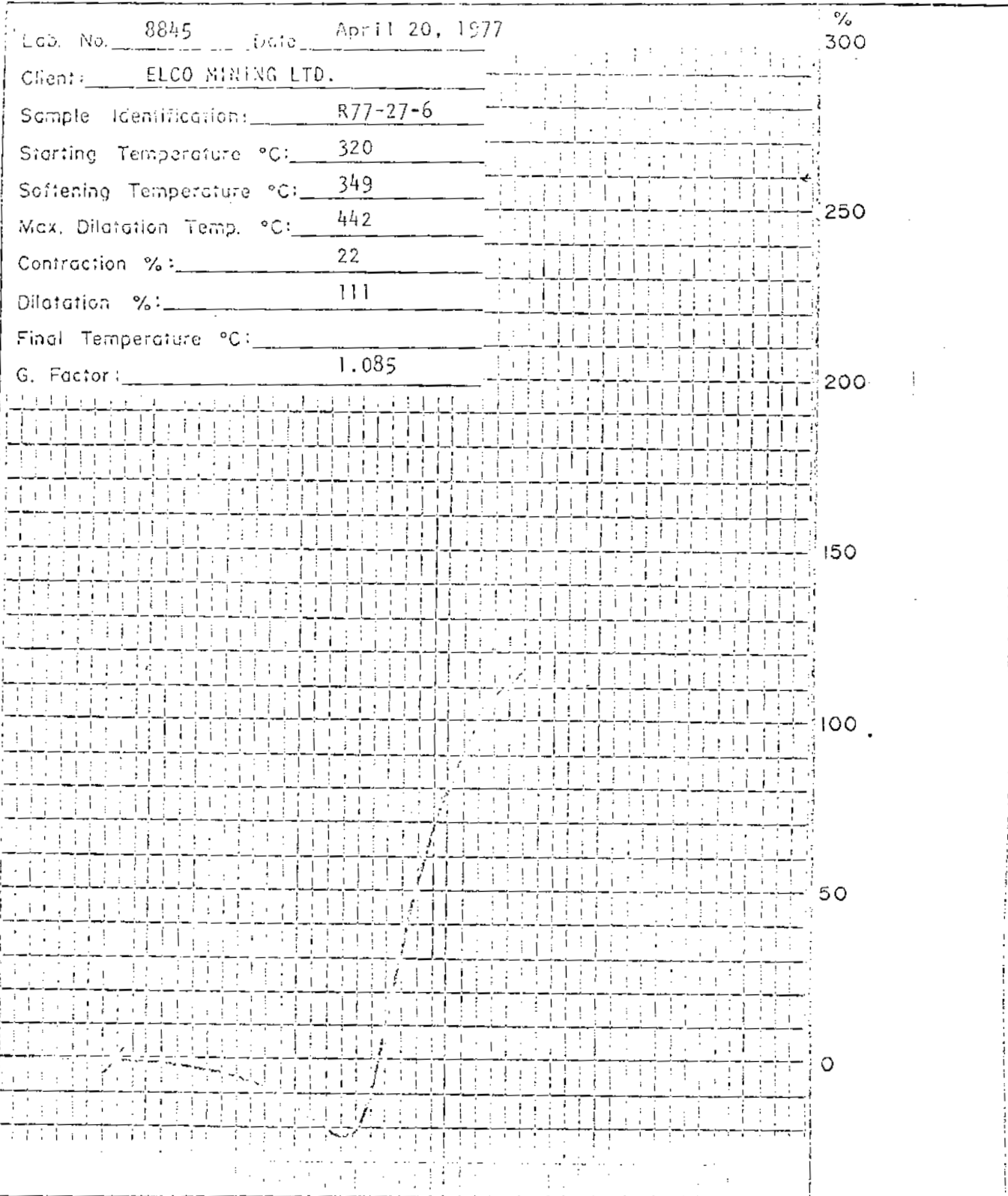
| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 1.1               | 56.7  | 18.2   | 24.0   | 0.43 | 54     | Air Dried Basis |
|                   | 57.3  | 18.4   | 24.3   | 0.43 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 89.3  | 1.0    | 58.0  | 0.41 | 89.3       | 58.0  | 0.41 | A.D.B. |
|                     | 89.4  |        | 58.6  | 0.41 | 89.4       | 58.6  | 0.41 | D.B.   |
| 65M x 0             | 10.7  | 1.4    | 39.8  | 0.61 | 100.0      | 56.1  | 0.43 | A.D.B. |
|                     | 10.6  |        | 40.4  | 0.62 | 100.0      | 56.7  | 0.43 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 17.8  | 1.0    | 8.0   | 33.4   | 57.6   | 0.91 | 17.8       | 8.0   | A.D.B. |
|                                   | 17.8  |        | 8.1   | 33.7   | 58.2   | 0.92 | 17.8       | 8.1   | D.B.   |
| 1.40-1.50                         | 2.3   | 0.9    | 17.8  | 30.1   | 51.2   | 0.85 | 20.1       | 9.1   | A.D.B. |
|                                   | 2.3   |        | 18.0  | 30.4   | 51.6   | 0.86 | 20.1       | 9.2   | D.B.   |
| 1.50-1.60                         | 2.0   | 1.1    | 29.6  |        |        |      | 22.1       | 11.0  | A.D.B. |
|                                   | 2.0   |        | 29.9  |        |        |      | 22.1       | 11.1  | D.B.   |
| +1.60                             | 77.9  | 1.0    | 71.4  |        |        |      | 100.0      | 58.0  | A.D.B. |
|                                   | 77.9  |        | 72.1  |        |        |      | 100.0      | 58.6  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                       |                  |                |        |
|---|------------|---------------------------------------|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP.* (°C)                 | MAX. DIL. TEMP.* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 6 1/2   | 0.04       | 349                                   | 442                   | 22               | 111            | 1.085  |





BIRTLEY ENGINEERING (CANADA) LTD.

Title  
 RUHR DILATOMETER TEST

Date  
 Drawn

ELCO MINING LTD.

CORE SAMPLE ANALYSIS

HOLE NO.: R-77-27-7

Lab. No. 8846

DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 0.9               | 63.0  | 15.6   | 20.5   | 0.43 | 54     | Air Dried Basis |
|                   | 63.6  | 15.7   | 20.7   | 0.43 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 95.2  | 0.9    | 63.6  | 0.43 | 95.2       | 63.6  | 0.43 | A.D.B. |
|                     | 95.2  |        | 64.2  | 0.43 | 95.2       | 64.2  | 0.43 | D.B.   |
| 65M x 0             | 4.8   | 1.1    | 40.7  | 0.69 | 100.0      | 62.5  | 0.44 | A.O.B. |
|                     | 4.8   |        | 41.2  | 0.70 | 100.0      | 63.1  | 0.44 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 17.1  | 1.0    | 7.3   | 31.8   | 59.9   | 0.98 | 17.1       | 7.3   | A.D.B. |
|                                   | 17.1  |        | 7.4   | 32.1   | 60.5   | 0.99 | 17.1       | 7.4   | D.B.   |
| 1.40-1.50                         | 4.8   | 1.5    | 12.5  | 30.3   | 55.7   | 0.97 | 21.9       | 8.4   | A.D.B. |
|                                   | 4.8   |        | 12.7  | 30.8   | 56.5   | 0.98 | 21.9       | 8.6   | D.B.   |
| 1.50-1.60                         | 1.9   | 1.5    | 28.4  |        |        |      | 23.8       | 10.0  | A.D.B. |
|                                   | 1.9   |        | 28.8  |        |        |      | 23.8       | 10.2  | D.B.   |
| +1.60                             | 76.2  | 0.9    | 79.3  |        |        |      | 100.0      | 62.8  | A.D.B. |
|                                   | 76.2  |        | 80.0  |        |        |      | 100.0      | 63.4  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS > 1.50 S.G., A.D.B. |            |                                       |                      |                  |                |        |
|---|------------|---------------------------------------|----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                      |                  |                |        |
|   |            | SOFTENING TEMP. (°C)                  | MAX. DIL. TEMP. (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 8   | 0.05       | 349                                   | 450                  | 23               | 133            | 1.098  |

\* S.T. & M.D.T. corrected with factor 6/5

Birtley Engineering

Subsidiary of Great West Steel Industries

Lab. No. 8846 Date April 21, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-27-7

Starting Temperature °C: 320

Softening Temperature °C: 349

Max. Dilatation Temp. °C: 450

250

Contraction %: 23

Dilatation %: 133

Final Temperature °C:

G. Factor: 1.098

200

150

100

50

0



BIRTLEY ENGINEERING (CANADA) LTD.

Title

Date

RUHR DILATOMETER TEST

Drawn

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-27-8 Lab. No. 8847 DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 1.2               | 24.8  | 28.1   | 45.9   | 0.76 | 65     | Air Dried Basis |
|                   | 25.1  | 28.4   | 46.5   | 0.77 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 86.0  | 1.2    | 25.8  | 0.74 | 86.0       | 25.8  | 0.74 | A.D.B. |
|                     | 86.0  |        | 26.1  | 0.75 | 86.6       | 26.1  | 0.75 | D.B.   |
| 65M x 0             | 14.0  | 1.4    | 13.2  | 0.85 | 100.0      | 24.0  | 0.76 | A.D.B. |
|                     | 14.0  |        | 13.4  | 0.86 | 100.0      | 24.3  | 0.77 | D.B.   |

| SINK-FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|---------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                           | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                 |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                           | 59.8  | 1.7    | 7.1   | 32.0   | 59.2   | 0.89 | 59.8       | 7.1   | A.D.B. |
|                                 | 59.7  |        | 7.2   | 32.6   | 60.2   | 0.91 | 59.7       | 7.2   | D.B.   |
| 1.40-1.50                       | 6.8   | 1.5    | 18.8  | 29.3   | 50.4   | 0.84 | 66.6       | 8.3   | A.D.B. |
|                                 | 6.8   |        | 19.1  | 29.7   | 51.2   | 0.85 | 66.5       | 8.4   | D.B.   |
| 1.50-1.60                       | 4.6   | 1.9    | 26.9  |        |        |      | 71.2       | 9.5   | A.D.B. |
|                                 | 4.6   |        | 27.4  |        |        |      | 71.1       | 9.6   | D.B.   |
| +1.60                           | 28.8  | 1.4    | 66.2  |        |        |      | 100.0      | 25.8  | A.D.B. |
|                                 | 28.9  |        | 67.1  |        |        |      | 100.0      | 26.2  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                      |                  |                |        |
|---|------------|---------------------------------------|----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                      |                  |                | G. NO. |
|   |            | SOFTENING TEMP* (°C)                  | MAX. DIL. TEMP* (°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % |        |
| 6 1/2   | 0.01       | 349                                   | 446                  | 31               | 107            | 1.072  |

\* S.T. & M.D.T. corrected with factor 6/5

Lab. No. 8847 Date April 21, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-27-8

Starting Temperature °C: 320

Softening Temperature °C: 349

Max. Dilatation Temp. °C: 446

250

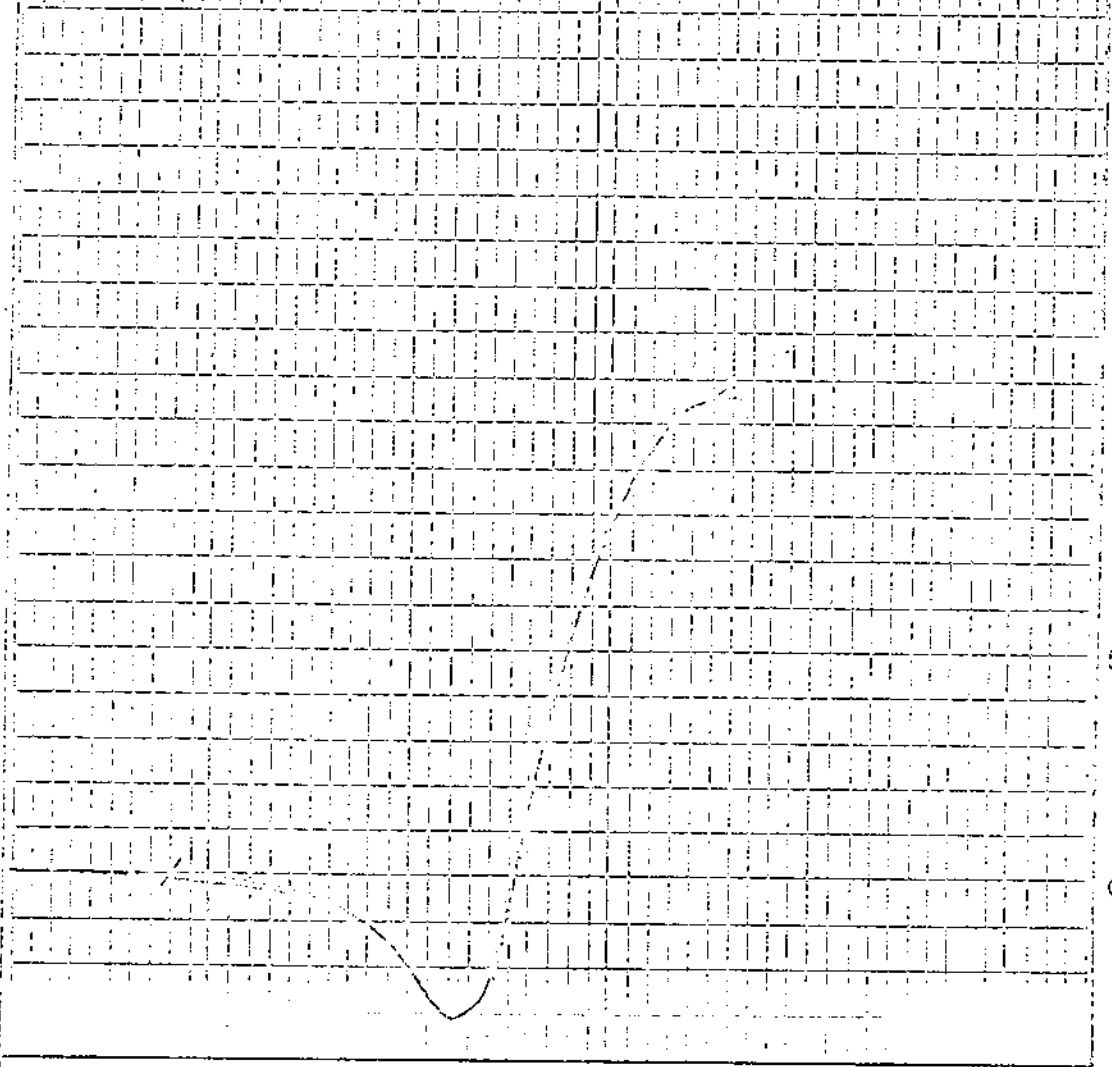
Contraction %: 31

Dilatation %: 107

Final Temperature °C:

G. Factor: 1.072

200



BIRTLEY ENGINEERING (CANADA) LTD.

Title  
RUHR DILATOMETER TEST

Date

Drawn

ELCO MINING LTD.  
CORE SAMPLE ANALYSIS

HOLE NO.: R-77-27-9

Lab. No. 8848

DATE: April/77

| HEAD RAW ANALYSIS |       |        |        |      |        |                 |
|-------------------|-------|--------|--------|------|--------|-----------------|
| R.M. %            | ASH % | V.M. % | F.C. % | S. % | H.G.I. | REMARKS         |
| 1.0               | 21.4  | 27.0   | 50.6   | 0.66 | 67     | Air Dried Basis |
|                   | 21.6  | 27.3   | 51.1   | 0.67 | --     | Dry Basis       |

| SIZE / RAW ANALYSES |       |        |       |      |            |       |      |        |
|---------------------|-------|--------|-------|------|------------|-------|------|--------|
| SIZE FRACTION       | WT. % | R.M. % | ASH % | S. % | CUMULATIVE |       |      |        |
|                     |       |        |       |      | WT. %      | ASH % | S. % |        |
| 1/4" x 65M          | 93.9  | 1.0    | 22.8  | 0.65 | 93.9       | 22.8  | 0.65 | A.D.B. |
|                     | 93.9  |        | 23.0  | 0.66 | 93.9       | 23.0  | 0.66 | D.B.   |
| 65M x 0             | 6.1   | 1.1    | 11.9  | 0.74 | 100.0      | 22.1  | 0.66 | A.D.B. |
|                     | 6.1   |        | 12.0  | 0.75 | 100.0      | 22.3  | 0.67 | D.B.   |

| SINK - FLOAT ANALYSIS: 1/4" x 65M |       |        |       |        |        |      |            |       |        |
|-----------------------------------|-------|--------|-------|--------|--------|------|------------|-------|--------|
| S. G.                             | WT. % | R.M. % | ASH % | V.M. % | F.C. % | S. % | CUMULATIVE |       |        |
|                                   |       |        |       |        |        |      | WT. %      | ASH % |        |
| -1.40                             | 61.2  | 0.9    | 3.8   | 33.0   | 62.2   | 0.79 | 61.2       | 3.9   | A.D.B. |
|                                   | 61.2  |        | 3.9   | 33.3   | 62.8   | 0.80 | 61.2       | 3.9   | D.B.   |
| 1.40-1.50                         | 8.2   | 1.2    | 25.0  | 26.0   | 47.8   | 0.67 | 69.4       | 6.4   | A.D.B. |
|                                   | 8.2   |        | 25.3  | 26.3   | 48.4   | 0.68 | 69.4       | 6.4   | D.B.   |
| 1.50-1.60                         | 6.5   | 1.3    | 33.9  |        |        |      | 75.9       | 8.7   | A.D.B. |
|                                   | 6.5   |        | 34.3  |        |        |      | 75.9       | 8.8   | D.B.   |
| +1.60                             | 24.1  | 1.0    | 69.1  |        |        |      | 100.0      | 23.3  | A.D.B. |
|                                   | 24.1  |        | 69.8  |        |        |      | 100.0      | 23.5  | D.B.   |

| COMPOSITE 1/4" x 65M FLOATS @ 1.50 S.G., A.D.B. |            |                                       |                       |                  |                |        |
|---|------------|---------------------------------------|-----------------------|------------------|----------------|--------|
| F.S.I.  | P% ON COAL | DILATATION TEST (Initial Temp.=320°C) |                       |                  |                |        |
|   |            | SOFTENING TEMP. *(°C)                 | MAX. DIL. TEMP. *(°C) | MAXIMUM CONTR. % | MAXIMUM DIL. % | G. NO. |
| 7 1/2   | 0.04       | 349                                   | 444                   | 23               | 125            | 1.090  |

\* S.T. & M.D.T. corrected with factor 6/5

*Birtley Engineering*

*Subsidiary of Great West Steel Industries*

Lab. No. 8848 Date April 21, 1977

%  
300

Client: ELCO MINING LTD.

Sample Identification: R77-27-9

Starting Temperature °C: 320

Softening Temperature °C: 349

Max. Dilatation Temp. °C: 444

250

Contraction %: 23

Dilatation %: 125

Final Temperature °C:

G. Factor: 1.090

200

150

100

50

0



BIRTLEY ENGINEERING (CANADA) LTD.

Title  
RUHR DILATOMETER TEST

Date

Drawn