

## DRILL HOLE LOG

Drill Hole No. MH-59

Date: Nov, 1979

Bearing: N.15°E. Inclination: 70°N.

Drilled By: Boyles Bro. Harold Vest, Jr. Miller, Wade Bötts,  
and Ricky Deaton

Coordinates: North 626,226.53 East 1,456,599.35

Logged By: Ferryl C. Gale

Elevation: 972.14

Total Depth: 330.0 Core 0.0-330.0 NX

| DEPTH |       | %        | SAMPLE | SAMPLE    | ANALYSES |                   |         | DESCRIPTION OF MATERIAL DRILLED                                  |
|-------|-------|----------|--------|-----------|----------|-------------------|---------|--|
| FROM  | TO    | RECOVERY | NUMBER | INTERVAL  | Sp. Gr.  | BaSO <sub>4</sub> |         |  |
|       |       |          |        | Acid test | Survey   | (Down             | Hole)   |  |
|       |       |          |        |           | Dip      |                   | AZ      |  |
|       |       |          |        | Surface   | 70°N.    |                   | N.15°E. |  |
|       |       |          |        | 100.0     | 70°N.    |                   | N.15°E. |  |
|       |       |          |        | 200.0     | 66½°N.   |                   | N.15°E. |  |
|       |       |          |        | 300.0     | 65°N.    |                   | N.15°E. |  |
|       |       |          |        | 330.0     | 64½°N.   |                   | N.15°E. |  |
| 0.0   | 10.0  |          |        |           |          |                   |         | Set casing, no core recovery.                                    |
| 10.0  | 20.0  |          |        |           |          |                   |         | Light gray sandstone, heavy limonite staining in fractures.      |
| 20.0  | 30.0  |          |        |           |          |                   |         | Sandstone as before, with occasional shale lamina.               |
| 30.0  | 42.0  |          |        |           |          |                   |         | Sandstone with high R.Q.D.                                       |
| 42.0  | 52.0  |          |        |           |          |                   |         | As above.  |
| 52.0  | 65.0  |          |        |           |          |                   |         | Sandstone, high R.Q.D.   |
| 65.0  | 77.0  |          |        |           |          |                   |         | Sandstone as above.  |
| 77.0  | 89.0  |          |        |           |          |                   |         | Sandstone as above occasional qtz. and calcite fracture filling. |
| 89.0  | 101.0 |          |        |           |          |                   |         | As above with high R.Q.D.  |
| 101.0 | 113.0 |          |        |           |          |                   |         | As above.  |
| 113.0 | 125.0 |          |        |           |          |                   |         | Sandstone as above highly broken.                                |
| 125.0 | 137.0 |          |        |           |          |                   |         | Sandstone contorted bedding or soft sediment deformation.        |

Drill Hole No. MH-59

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

Bearing: \_\_\_\_\_ Inclination: \_\_\_\_\_

Drilled By: \_\_\_\_\_

Coordinates: North \_\_\_\_\_ East \_\_\_\_\_

Logged By: \_\_\_\_\_

Elevation: \_\_\_\_\_

Total Depth: \_\_\_\_\_

| DEPTH |       | %        | SAMPLE | SAMPLE   | ANALYSES |                   |  | DESCRIPTION OF MATERIAL DRILLED                   |
|-------|-------|----------|--------|----------|----------|-------------------|--|---|
| FROM  | TO    | RECOVERY | NUMBER | INTERVAL | Sp. Gr.  | BeSO <sub>4</sub> |  |   |
| 137.0 | 150.0 |          |        |          |          |                   |  | Interbedded sandstone and black shales.           |
| 150.0 | 162.0 |          |        |          |          |                   |  | As above.   |
| 162.0 | 175.0 |          |        |          |          |                   |  | Sandstone and shale lamina.                       |
| 175.0 | 187.0 |          |        |          |          |                   |  | Sandstone and shale lamina.                       |
| 187.0 | 200.0 |          |        |          |          |                   |  | Sandstone as above, with occasional qtz. veinlets |
| 200.0 | 215.0 |          |        |          |          |                   |  | Sandstone as above.                               |
| 215.0 | 230.0 |          |        |          |          |                   |  | Sandstone with wisps of black shale.              |
| 230.0 | 242.0 |          |        |          |          |                   |  | Sandstone with thin lamina of black shales.       |
| 242.0 | 254.0 |          |        |          |          |                   |  | Interbedded black shales and gray sandstone.      |
| 254.0 | 266.2 |          |        |          |          |                   |  | Black shale.                                      |
| 266.2 | 269.0 |          | 8105   |          | 3.657    | 64.07             |  | Barite zone, high grade massive texture.          |
| 269.0 | 273.0 |          | 8106   |          | 3.490    | 54.62             |  | Barite zone, medium grade laminated barite with   |
|       |       |          |        |          |          |                   |  | black shale.                                      |
| 273.0 | 275.0 |          | 8107   |          | 3.461    | 52.88             |  | Barite zone medium grade laminated barite with    |
|       |       |          |        |          |          |                   |  | black shale.                                      |
| 274.0 | 277.4 |          | 8108   |          | 3.357    | 46.42             |  | Barite zone, medium grade random nodules.         |
| 277.4 | 285.0 |          | 8109   |          | 3.378    | 47.76             |  | Barite zone, as above.                            |
| 285.0 | 290.0 |          | 8110   |          | 3.358    | 46.48             |  | Barite zone, as above.                            |
| 290.0 | 295.0 |          | 8111   |          | 3.293    | 42.24             |  | Barite zone, as above.                            |
| 295.0 | 298.0 |          | 8112   |          | 3.436    | 51.37             |  | Barite zone, as above.                            |

**Total Depth:** \_\_\_\_\_

10/77

Drill Hole No. MH-59 (East Pit)

Date: 11-79

Bearing: N.15E. Inclination: 70°N.

Drilled By: Boyles Brothers

Coordinates: North 626,226.35 East 1,456,599.35

Logged By: Ferryl Gale (Harold Vest, Jr. Miller, Wade Bett and Ricky Deaton)

Elevation: 972.14

Total Depth: 330.0 Core 0.0-330.0 NX

| DEPTH |       | %        | SAMPLE  | SAMPLE                       | ANALYSES |                   | DESCRIPTION OF MATERIAL DRILLED                                  |
|-------|-------|----------|---------|------------------------------|----------|-------------------|--|
| FROM  | TO    | RECOVERY | NUMBER  | INTERVAL                     | Sp. Gr.  | BaSO <sub>4</sub> |  |
|       |       |          |         | Acid test survey (down hole) |          |                   |  |
|       |       |          |         | Dip                          |          | AZ                |  |
|       |       |          | Surface | 70°N.                        |          | N.15°E.           |  |
|       |       | 100.0    |         | 70°N.                        |          | N.15°E.           |  |
|       |       | 200.0    |         | 66½°N.                       |          | N.15°E.           |  |
|       |       | 300.0    |         | 65°N.                        |          | N.15°E.           |  |
|       |       | 330.0    |         | 64½°N.                       |          | N.15°E.           |  |
|       |       |          |         | Total Depth                  | 330.0'   |                   |  |
| 0.0   | 10.0  |          |         |                              |          |                   | Set casing, no core recovery.                                    |
| 10.0  | 20.0  |          |         |                              |          |                   | Light gray sandstone, heavy limonite staining in fractures.      |
| 20.0  | 30.0  |          |         |                              |          |                   | Sandstone as before, with occasional shale lamina.               |
| 30.0  | 40.0  |          |         |                              |          |                   | Sandstone with high R.Q.D.                                       |
| 42.0  | 52.0  |          |         |                              |          |                   | As above.  |
| 52.0  | 65.0  |          |         |                              |          |                   | Sandstone, high R.Q.D.   |
| 65.0  | 77.0  |          |         |                              |          |                   | Sandstone as above.  |
| 77.0  | 89.0  |          |         |                              |          |                   | Sandstone as above occasional qtz. and calcite fracture filling. |
| 89.0  | 101.0 |          |         |                              |          |                   | As above with high R.Q.D.  |
| 101.0 | 113.0 |          |         |                              |          |                   | As above.  |

Drill Hole No. MH-59

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

Bearing: \_\_\_\_\_ Inclination: \_\_\_\_\_

Drilled By: \_\_\_\_\_

Coordinates: North \_\_\_\_\_ East \_\_\_\_\_

Logged By: \_\_\_\_\_

Elevation: \_\_\_\_\_

Total Depth: \_\_\_\_\_

| DEPTH |       | %        | SAMPLE | SAMPLE   | ANALYSES |                   |  | DESCRIPTION OF MATERIAL DRILLED                           |
|-------|-------|----------|--------|----------|----------|-------------------|--|---|
| FROM  | TO    | RECOVERY | NUMBER | INTERVAL | Sp. Gr.  | BaSO <sub>4</sub> |  |   |
| 113.0 | 125.0 |          |        |          |          |                   |  | Sandstone as above, highly broken.                        |
| 125.0 | 137.0 |          |        |          |          |                   |  | Sandstone contorted bedding or soft sediment deformation. |
| 137.0 | 150.0 |          |        |          |          |                   |  | Interbedded sandstone and black shales.                   |
| 150.0 | 162.0 |          |        |          |          |                   |  | As above.   |
| 162.0 | 175.0 |          |        |          |          |                   |  | Sandstone and shale lamina.                               |
| 175.0 | 187.0 |          |        |          |          |                   |  | Sandstone and shale lamina.                               |
| 187.0 | 200.0 |          |        |          |          |                   |  | Sandstone as above, with occasional qtz. veinlets         |
| 200.0 | 215.0 |          |        |          |          |                   |  | Sandstone as above.                                       |
| 215.0 | 230.0 |          |        |          |          |                   |  | Sandstone with wisps of black shale.                      |
| 230.0 | 242.0 |          |        |          |          |                   |  | Sandstone with thin lamina of black shales.               |
| 242.0 | 254.0 |          |        |          |          |                   |  | Interbedded black shales and gray sandstones.             |
| 254.0 | 266.2 |          |        |          |          |                   |  | Black shale.  |
| 266.2 | 269.0 |          | 8105   |          | 3.657    | 64.07             |  | Barite zone, high grade massive texture.                  |
| 269.0 | 273.0 |          | 8106   |          | 3.490    | 54.62             |  | Barite zone, medium grade laminated barite with           |
|       |       |          |        |          |          |                   |  | black shale.  |
| 273.0 | 275.0 |          | 8107   |          | 3.461    | 52.88             |  | Barite zone, medium grade laminated barite with black     |
|       |       |          |        |          |          |                   |  | shale.  |
| 275.0 | 277.4 |          | 8108   |          | 3.357    | 46.42             |  | Barite zone, medium grade random nodules                  |
| 277.4 | 285.0 |          | 8109   |          | 3.378    | 47.76             |  | Barite zone, as above.                                    |

Drill Hole No. MH-59

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

Bearing: \_\_\_\_\_ Inclination: \_\_\_\_\_

Drilled By: \_\_\_\_\_

Coordinates: North \_\_\_\_\_ East \_\_\_\_\_

Logged By: \_\_\_\_\_

Elevation: \_\_\_\_\_

Total Depth: \_\_\_\_\_

| DEPTH |       | % RECOVERY | SAMPLE NUMBER | SAMPLE INTERVAL | ANALYSES |                   |  | DESCRIPTION OF MATERIAL DRILLED  |
|-------|-------|------------|---------------|-----------------|----------|-------------------|--|--|
| FROM  | TO    |            |               |                 | Sp. Gr.  | BaSO <sub>4</sub> |  |  |
| 285.0 | 290.0 |            | 8110          |                 | 3.358    | 46.48             |  | Barite zone, as above.   |
| 290.0 | 295.0 |            | 8111          |                 | 3.293    | 42.24             |  | Barite zone, as above.   |
| 295.0 | 298.0 |            | 8112          |                 | 3.436    | 51.37             |  | Barite zone, as above.   |
| 298.0 | 302.0 |            | 8113          |                 | 3.642    | 63.26             |  | Barite zone, medium to high grade, heavy laminate barite with black shale. |
| 302.0 | 305.0 |            | 8114          |                 | 3.438    | 51.49             |  | Barite zone, medium grade, abundant nodules in black shale.                |
| 305.0 | 309.0 |            | 8115          |                 | 3.561    | 58.75             |  | Barite zone, as before.  |
| 309.0 | 313.0 |            | 8116          |                 | 3.310    | 43.36             |  | Barite zone, medium grade scattered barite nodules in black shale.         |
| 313.0 | 317.0 |            | 8117          |                 | 3.459    | 52.76             |  | Barite zone, medium grade as above.  |
| 317.0 | 321.0 |            | 8118          |                 | 3.118    | 29.92             |  | Barite zone, low grade sparsely scattered barite. Nodules in black shales. |
| 321.0 | 324.0 |            | 8119          |                 | 2.978    | 19.03             |  | Barite zone, low grade occasional nodule.                                  |
| 324.0 | 329.5 |            |               |                 |          |                   |  | Black shale.   |
| 329.5 | 330.0 |            |               |                 |          |                   |  | Arkansas Novaculite.   |
|       |       |            |               |                 |          |                   |  |  |
|       |       |            |               |                 |          |                   |  | Hole bottomed on Novaculite  |
|       |       |            |               |                 |          |                   |  | Total Depth 330.0 ft.  |
|       |       |            |               |                 |          |                   |  |  |
|       |       |            |               |                 |          |                   |  |  |

## Barite Intervals for MH-59

| <u>Sample</u> | <u>Footage</u> | <u>%BaSO<sub>4</sub></u> | <u>Specific Gravity</u> |
|---------------|----------------|--------------------------|-------------------------|
| 8105          | 266.2-269.0    |                          |                         |
| 8106          | 269.0-273.0    |                          |                         |
| 8107          | 273.0-275.0    |                          |                         |
| 8108          | 275.0-277.4    |                          |                         |
| 8109          | 277.4-285.0    |                          |                         |
| 8110          | 285.0-290.0    |                          |                         |
| 8111          | 290.0-295.0    |                          |                         |
| 8112          | 295.0-298.0    |                          |                         |
| 8113          | 298.0-302.0    |                          |                         |
| 8114          | 302.0-305.0    |                          |                         |
| 8115          | 305.0-309.0    |                          |                         |
| 8116          | 309.0-313.0    |                          |                         |
| 8117          | 313.0-317.0    |                          |                         |
| 8118          | 317.0-321.0    |                          |                         |
| 8119          | 321.0-324.0    |                          |                         |



Composite 3.392

Milchem Incorporated

## INTEROFFICE MEMORANDUM

**TO:** Bruce Templeton  
**FROM:** Ferryl C. Gale  
**CC:** Arkansas Office

**DATE:** November 15, 1978  
**SUBJECT:** Core Samples from  
MH-59

| <u>Sample #</u> | <u>Footage</u> | <u>Specific Gravity</u> | <u>% BaSO<sub>4</sub></u> |
|-----------------|----------------|-------------------------|---------------------------|
| 8105            | 266.2 - 269.0  |                         |                           |
| 8106            | 269.0 - 273.0  |                         |                           |
| 8107            | 273.0 - 275.0  |                         |                           |
| 8108            | 275.0 - 277.4  |                         |                           |
| 8109            | 277.4 - 285.0  |                         |                           |
| 8110            | 285.0 - 290.0  |                         |                           |
| 8111            | 290.0 - 295.0  |                         |                           |
| 8112            | 295.0 - 298.0  |                         |                           |
| 8113            | 298.0 - 302.0  |                         |                           |
| 8114            | 302.0 - 305.0  |                         |                           |
| 8115            | 305.0 - 309.0  |                         |                           |
| 8116            | 309.0 - 313.0  |                         |                           |
| 8117            | 313.0 - 317.0  |                         |                           |
| 8118            | 317.0 - 321.0  |                         |                           |
| 8119            | 321.0 - 324.0  |                         |                           |

MINERAL DIV

NOV 20 1978

HOUSTON TEX



FANCY HILL DIAMOND DRILL HOLES  
INDIVIDUAL CORE ANALYSIS BY INTERVALS

Gellar

626, 263.90 1,456, 611.47

| SAMPLE  | LOG<br># | DEPTH            | INTERVAL | SPECIFIC<br>GRAVITY | % BaSO <sub>4</sub> |
|---------|----------|------------------|----------|---------------------|---------------------|
| MDDH-59 |          |                  |          |                     |                     |
| 8105    |          | 266.2-269        | 2.8      | 3.657               | 64.07               |
| 8106    |          | 269.0-273.0      | 4.0      | 3.490               | 54.62               |
| 8107    |          | 273.0-275.0      | 2.0      | 3.461               | 52.88               |
| 8108    |          | 275.0-277.4      | 2.4      | 3.357               | 46.42               |
| 8109    |          | 277.4-285.0      | 7.6      | 3.378               | 47.76               |
| 8110    |          | 285.0-290.0      | 5.0      | 3.358               | 46.48               |
| 8111    |          | 290.0-295.0      | 5.0      | 3.293               | 42.24               |
| 8112    |          | 295.0-298.0      | 3.0      | 3.436               | 51.37               |
| 8113    |          | 298.0-302.0      | 4.0      | 3.642               | 63.26               |
| 8114    |          | 302.0-305.0      | 3.0      | 3.438               | 51.49               |
| 8115    |          | 305.0-309.0      | 4.0      | 3.561               | 58.75               |
| 8116    |          | 309.0-313.0      | 4.0      | 3.310               | 43.36               |
| 8117    |          | 313.0-317.0      | 4.0      | 3.459               | 52.76               |
| 8118    |          | 317.0-321.0      | 4.0      | 3.118               | 29.92               |
| 8119    |          | 321.0-324.0      | 3.0      | 2.978               | 19.03               |
|         |          | TOTAL 57.8       |          |                     |                     |
|         |          | Weighted Average |          | 3.391               | 48.60               |

51.45

25.37

*Bottom Hole Cond.*

626, 379.94

1,456, 642.56

685.44