

SM-4e

Surveyed location:

## BUREAU OF MINES

Coordinate - 3278N-2629E

Elevation - 918 feet.

## DAILY CHURN DRILL RECORD

Project 15-226 Location North Empire Date 6-7-1948 Hole No. NE-20-C.Shift Day Driller J. Murray Helper F. Gilstrap Sampler 

| Run                     | 1    | 2    | 3     | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|-------------------------|------|------|-------|---|---|---|---|---|---|----|
| Depth at start of run   | 135  | 140  | 145   |   |   |   |   |   |   |    |
| Depth at end of run     | 140  | 145  | 150   |   |   |   |   |   |   |    |
| Feet drilled            | 5    | 5    | 5     |   |   |   |   |   |   |    |
| Diameter of bit         | 6"   | 6"   | 6"    |   |   |   |   |   |   |    |
| Time at start of run    | 7:00 | 8:00 | 9:00  |   |   |   |   |   |   |    |
| Time at end of run      | 8:00 | 9:00 | 10:00 |   |   |   |   |   |   |    |
| Total drilling time     | 1:00 | 1:00 | 1:00  |   |   |   |   |   |   |    |
| Sample recovery percent | 80   | 80   | 80    |   |   |   |   |   |   |    |

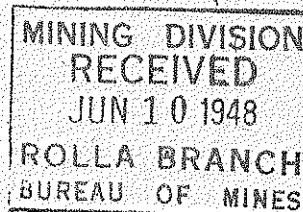
| Runs | Kind of Rock - Drilling Characteristics - Remarks |
|------|---|
| 1    | Gray, yellow, blue flint, trace zinc              |
| 2    | Gray, blue, yellow flint                          |
| 3    | Dark blue, gray flint                             |
| 4    |   |
| 5    |   |
| 6    |   |
| 7    |   |
| 8    |   |
| 9    |   |
| 10   |   |

Reaming, feet \_\_\_\_\_ Casings, feet \_\_\_\_\_ Total feet drilled 15

Gas used, gal. \_\_\_\_\_ Lubrication oil used \_\_\_\_\_ Fuel oil used \_\_\_\_\_

Remarks: Water stands at 20 feet.

(Time distribution on reverse side)



SM-4e

Surveyed location:  
3278N, 2629E  
Elevation - 918'

## BUREAU OF MINES

## DAILY CHURN DRILL RECORD

Project 15-226 Location North Empire Date 6/5/1948 Hole No. ~~NE~~ NE-20-C  
Shift Day Driller J. Murray Helper R. Filstrap Sampler

| Run                     | 1    | 2     | 3     | 4    | 5    | 6    | 7 | 8 | 9 | 10 |
|-------------------------|------|-------|-------|------|------|------|---|---|---|----|
| Depth at start of run   | 107½ | 110   | 115   | 120  | 125  | 130  |   |   |   |    |
| Depth at end of run     | 110  | 115   | 120   | 125  | 130  | 135  |   |   |   |    |
| Feet drilled            | 2½   | 5     | 5     | 5    | 5    | 5    |   |   |   |    |
| Diameter of bit         | 6"   | 6"    | 6"    | 6"   | 6"   | 6"   |   |   |   |    |
| Time at start of run    | 7:00 | 8:30  | 11:00 | 1:00 | 2:00 | 3:00 |   |   |   |    |
| Time at end of run      | 8:00 | 11:00 | 1:00  | 2:00 | 3:00 | 4:00 |   |   |   |    |
| Total drilling time     | 1:30 | 2:30  | 2:00  | 1:00 | 1:00 | 1:00 |   |   |   |    |
| Sample recovery percent | 80   | 80    | 80    | 80   | 80   | 80   |   |   |   |    |

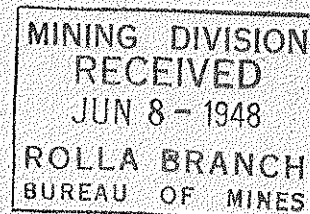
| Runs | Kind of Rock - Drilling Characteristics - Remarks         |
|------|---|
| 1    | Blue, gray, brown, white flint, trace zinc                |
| 2    | Ditto   |
| 3    | Blue gray brown white flint, little gray lime             |
| 4    | Blue gray brown white flint, little gray lime, trace zinc |
| 5    | Yellow gray blue white flint                              |
| 6    | Ditto   |
| 7    |   |
| 8    |   |
| 9    |   |
| 10   |   |

Reaming, feet \_\_\_\_\_ Casings, feet 116' - 6-1/4" Total feet drilled 127.5 ✓

Gas used, gal. \_\_\_\_\_ Lubrication oil used \_\_\_\_\_ Fuel oil used \_\_\_\_\_

Remarks:

(Time distribution on reverse side)



SM-4e

Surveyed location:  
3278N, 2629E  
Elevation - 918'

## BUREAU OF MINES

## DAILY CHURN DRILL RECORD

Project 15-226 Location North Empire Date 6/4/1948 Hole No. NE-20-C.  
Shift Day Driller J. Murray Helper F. Gilstrap Sampler

| Run                     | 1    | 2    | 3     | 4     | 5     | 6    | 7    | 8    | 9    | 10   |
|-------------------------|------|------|-------|-------|-------|------|------|------|------|------|
| Depth at start of run   | 70   | 72½  | 75    | 80    | 85    | 90   | 95   | 100  | 102½ | 105  |
| Depth at end of run     | 72½  | 75   | 80    | 85    | 90    | 95   | 100  | 102½ | 105  | 107½ |
| Feet drilled            | 2½   | 2½   | 5     | 5     | 5     | 5    | 5    | 2½   | 2½   | 2½   |
| Diameter of bit         | 8"   | 8"   | 8"    | 8"    | 8"    | 8"   | 8"   | 8"   | 8"   | 8"   |
| Time at start of run    | 7:00 | 8:00 | 9:00  | 10:30 | 12:00 | 1:00 | 3:00 | 3:30 | 4:00 | 4:30 |
| Time at end of run      | 8:00 | 9:00 | 10:30 | 12:00 | 1:00  | 3:00 | 3:30 | 4:00 | 4:30 | 5:00 |
| Total drilling time     | 1:00 | 1:00 | 1:30  | 1:30  | 1:00  | 2:00 | 0:30 | 0:30 | 0:30 | 0:30 |
| Sample recovery percent | 80   | 80   | 80    | 80    | 80    | 80   | 80   | 80   | 80   | 80   |

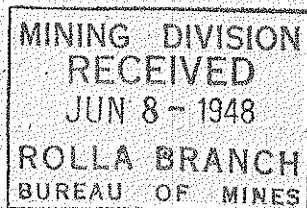
| Runs | Kind of Rock - Drilling Characteristics - Remarks |
|------|---|
| 1    | Blue gray, brown flint, traces lead loose         |
| 2    | Blue, gray, white, brown flint, mundic, loose     |
| 3    | Yellow blue gray flint                            |
| 4    | Blue gray brown flint                             |
| 5    | Blue gray brown flint, green selvage              |
| 6    | Blue gray brown flint                             |
| 7    | Blue gray brown flint, trace zinc                 |
| 8    | Dark blue, brown flint, thin zinc shines          |
| 9    | Dark blue, brown flint, fair zinc shines          |
| 10   | Blue, yellow, gray flint, fair zinc shines.       |

Reaming, feet \_\_\_\_\_ Casings, feet 3' - 8-1/4" Total feet drilled 37-1/2

Gas used, gal. \_\_\_\_\_ Lubrication oil used \_\_\_\_\_ Fuel oil used \_\_\_\_\_

Remarks: Bottom of 8" pipe - 74 feet.

(Time distribution on reverse side)



SM-4e

Surveyed location:  
3278N, 2629E  
Elevation - 918.

BUREAU OF MINES

DAILY CHURN DRILL RECORD

Project 15-226 Location No. Empire Date 6/3/1948 Hole No. NE-20-C  
Shift \_\_\_\_\_ Driller M. Murray Helper F. Gilstrap Sampler \_\_\_\_\_

| Run                     | 1    | 2     | 3     | 4    | 5 | 6 | 7 | 8 | 9 | 10 |
|-------------------------|------|-------|-------|------|---|---|---|---|---|----|
| Depth at start of run   | 50   | 55    | 60    | 65   |   |   |   |   |   |    |
| Depth at end of run     | 55   | 60    | 65    | 70   |   |   |   |   |   |    |
| Feet drilled            | 5    | 5     | 5     | 5    |   |   |   |   |   |    |
| Diameter of bit         | 10"  | 10"   | 10"   | 10"  |   |   |   |   |   |    |
| Time at start of run    | 7:00 | 9:00  | 12:00 | 1:30 |   |   |   |   |   |    |
| Time at end of run      | 9:00 | 12:00 | 1:30  | 4:00 |   |   |   |   |   |    |
| Total drilling time     | 2:00 | 3:00  | 1:30  | 2:30 |   |   |   |   |   |    |
| Sample recovery percent | 90   | 90    | 90    | 90   |   |   |   |   |   |    |

| Runs | Kind of Rock - Drilling Characteristics - Remarks     |
|------|---|
| 1    | Dark blue, gray flint, gray and green selvage, mundic |
| 2    | Ditto   |
| 3    | Blue gray flin  |
| 4    | Blue gray, little brown flint, trace lead.            |
| 5    |   |
| 6    |   |
| 7    |   |
| 8    |   |
| 9    |   |
| 10   |   |

Reaming, feet \_\_\_\_\_ Casings, feet 71' - 8-1/4" Total feet drilled 20  
Gas used, gal. \_\_\_\_\_ Lubrication oil used \_\_\_\_\_ Fuel oil used \_\_\_\_\_  
Remarks: 4:30 till 5:00 on 70 - 72½ run.

(Time distribution on reverse side)

MINING DIVISION  
RECEIVED  
JUN 8 - 1948  
ROLLA BRANCH  
BUREAU OF MINES