

SM-4e

## BUREAU OF MINES

Surveyed:  
 Coordinate location:  
 3494-N, 3323-E  
 Elevation - 923.

## DAILY CHURN DRILL RECORD

Project 15-226 Location North Empire Date 6-18-1948 Hole No. NE-23-D.  
 Shift Day Driller B. Patrick Helper A. Lamb. Sampler \_\_\_\_\_

Run	1	2	3	4	5	6	7	8	9	10
Depth at start of run	150	155	160	165						
Depth at end of run	155	160	165	171						
Feet drilled	5	5	5	6						
Diameter of bit	6"	6"	6"	6"						
Time at start of run	8:00	9:15	10:30	11:30						
Time at end of run	9:15	10:30	11:30	12:30						
Total drilling time	1:15	1:15	1:00	1:00						
Sample recovery percent	80	80	80	80						

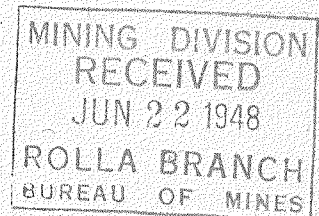
Runs	Kind of Rock - Drilling Characteristics - Remarks
1	Gray, brown and blue flint
2	Ditto
3	Ditto
4	Ditto
5	
6	
7	
8	
9	
10	

Reaming, feet \_\_\_\_\_ Casings, feet \_\_\_\_\_ Total feet drilled 21

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

Remarks: Water stands at 25 feet.

(Time distribution on reverse side)



SM-4e

Surveyed:

Coordinate location: 3494-N  
3323-E

## BUREAU OF MINES

Elevation - 923.

## DAILY CHURN DRILL RECORD

Project 15-226 Location North Empire Date 6-17-1948 Hole No. NE-23-D.  
 Shift Day Driller B. Patrick Helper A. Lamb. Sampler \_\_\_\_\_

Run	1	2	3	4	5	6	7	8	9	10
Depth at start of run	115	120	125	130	135	140	145			
Depth at end of run	120	125	130	135	140	145	150			
Feet drilled	5	5	5	5	5	5	5			
Diameter of bit	6"	6"	6"	6"	6"	6"	6"			
Time at start of run	7:00	10:00	11:00	12:00	2:00	3:00	4:00			
Time at end of run	10:00	11:00	12:00	2:00	3:00	4:00	5:00			
Total drilling time	3:00	1:00	1:00	2:00	1:00	1:00	1:00			
Sample recovery percent	80	80	80	80	80	80	80			

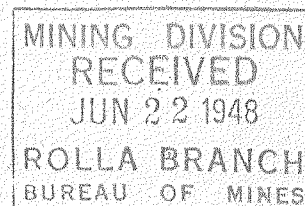
Runs	Kind of Rock - Drilling Characteristics - Remarks
1	Gray and white flint, and white cottonrock
2	Ditto
3	Ditto
4	White and yellow flint and yellow mud
5	Ditto
6	Ditto
7	White, gray and blue flint, trace lead and zinc.
8	
9	
10	

Reaming, feet \_\_\_\_\_ Casings, feet \_\_\_\_\_ Total feet drilled 35

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

Remarks:

(Time distribution on reverse side)



SM-4e

## BUREAU OF MINES

Surveyed:  
 Coordinate location: 3494N-3323E  
 Collar Elevation: 923.

## DAILY CHURN DRILL RECORD

Project 15-226 Location North Empire Date 6/16/1948 Hole No. NE-23-D  
 Shift Day Driller B. Patrici Helper A. Lamb Sampler \_\_\_\_\_

Run	1	2	3	4	5	6	7	8	9	10
Depth at start of run	92	100	105	107.5	110					
Depth at end of run	100	105	107.5	110	115					
Feet drilled	8	5	2.5	2.5	5					
Diameter of bit	6"	Same	Same	Same	Same					
Time at start of run	7:00	8:00	11:00	12:00	3:00					
Time at end of run	8:00	9:30	12:00	3:00	5:00					
Total drilling time	1:00	1:30	1:00	3:00	2:00					
Sample recovery percent	10	75 <del>80</del>	50	50	10					

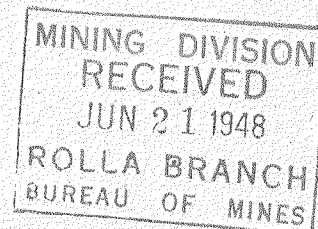
Runs	Kind of Rock - Drilling Characteristics - Remarks
1	Light and dark gray flint and blue mud
2	Gray and brown flint - lead and zinc shines
3	Ditto
4	Ditto
5	Gray and brown flint, soft in bottom of run - trace lead and zinc.
6	
7	
8	
9	
10	

Reaming, feet \_\_\_\_\_ Casings, feet 19'-6" Total feet drilled 23

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

Remarks: Bottom of drift - probably 100'  
 Bottom of 6" - at 111'

(Time distribution on reverse side)



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Surveyed  
Coordinate location:  
3494N - 3323E  
Elevation - 923.

BUREAU OF MINES

DAILY CHURN DRILL RECORD

Project 15-226 Location North Empire Date 6-15-1948 Hole No. NE-23-D.

Shift Day Driller B. Patrick Helper A. Lamb. Sampler

Run	1	2	3	4	5	6	7	8	9	10
Depth at start of run	84	88								
Depth at end of run	88	92								
Feet drilled	4	4								
Diameter of bit	6"	6"								
Time at start of run	4:30	5:15								
Time at end of run	5:15	6:00								
Total drilling time	0:34	0:34								
Sample recovery percent	20	20								

Runs	Kind of Rock - Drilling Characteristics - Remarks
1	Yellow gray flint - loose - trace lead and zinc
2	Ditto.
3	
4	
5	
6	
7	
8	
9	
10	

Reaming, feet \_\_\_\_\_ Casings, feet 92'-6" Total feet drilled 8

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

Remarks:

(Time distribution on reverse side)

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RECEIVED  
JUN 18 1948  
ROLLA BRANCH  
BUREAU OF MINES

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Surveyed?

Coordinate location:

3494N - 3323E

Elevation: 923.

## BUREAU OF MINES

## DAILY CHURN DRILL RECORD

Project 15-226 Location No. Empire Date 6-14-1948 Hole No. NE-23-D.  
 Shift Day Driller B. Patrick Helper A. Lamb. Sampler

Run	1	2	3	4	5	6	7	8	9	10
Depth at start of run	60	65	70	75	78					
Depth at end of run	65	70	75	78	84					
Feet drilled	5	5	5	3	None					
Diameter of bit	8"	8"	8"	8"	8"					
Time at start of run	7:00	9:00	10:30	2:30	4:30					
Time at end of run	9:00	10:30	2:30	4:30	5:00					
Total drilling time	2:00	1:30	4:00	2:00	0:30					
Sample recovery percent	80	80	20	None	None					

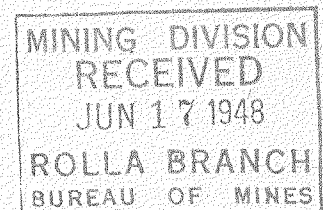
Runs	Kind of Rock - Drilling Characteristics - Remarks
1	Gray flint, mundic and trace lead
2	Gray and blue flint, mundic and trace lead and zinc
3	Gray and yellow flint and mundic
4	Lost in opening
5	Opening.
6	
7	
8	
9	
10	

Reaming, feet \_\_\_\_\_ Casings, feet 20' - 8-1/4" Total feet drilled 18

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

Remarks: Bottom of 8" at 77 feet.

(Time distribution on reverse side)



SM-4e

Not yet surveyed

## BUREAU OF MINES

## DAILY CHURN DRILL RECORD

Project 15-226 Location No. Empire \_\_\_\_\_ Date 6/12/1948 Hole No. NE-23-D.Shift \_\_\_\_\_ Day \_\_\_\_\_ Driller B. Patrick Helper A. Lamb Sampler \_\_\_\_\_

Run	1	2	3	4	5	6	7	8	9	10
Depth at start of run	20	25	30	35	40	45	50	57		
Depth at end of run	25	30	35	40	45	50	57	60		
Feet drilled	5	5	5	5	5	5	7	3		
Diameter of bit	10"	10"	10"	10"	10"	10"	10"	8"		
Time at start of run	7:00	8:00	8:30	9:00	10:00	11:00	12:00	3:00		
Time at end of run	8:00	8:30	9:00	10:00	11:00	12:00	2:30	4:00		
Total drilling time	1:00	0:30	0:30	1:00	1:00	1:00	2:30	1:00		
Sample recovery percent	80	80	80	80	80	80	80	80		

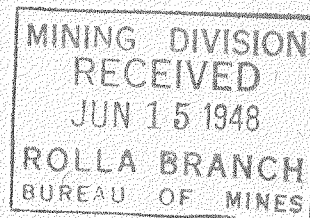
Runs	Kind of Rock - Drilling Characteristics - Remarks
1	Shale
2	Ditto
3	Ditto
4	Gray, white and blue flint and mudic
5	Ditto
6	Ditto
7	Ditto
8	Ditto
9	
10	

Reaming, feet \_\_\_\_\_ Casings, feet 57' - 8-1/4" Total feet drilled 40

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

Remarks:

(Time distribution on reverse side)



SM-4e

Not yet surveyed.

BUREAU OF MINES

DAILY CHURN DRILL RECORD

Project 15-226 Location No. Empire Date 6-11-1948 Hole No. NE-23-D.  
 Shift \_\_\_\_\_ Driller J.T. Patrick Helper A. Lamb. Sampler \_\_\_\_\_

Run	1	2	3	4	5	6	7	8	9	10
Depth at start of run	0	5	10	15						
Depth at end of run	5	10	15	20						
Feet drilled	5	5	5	5						
Diameter of bit	10"	10"	10"	10"						
Time at start of run	1:00	1:45	2:30	3:15						
Time at end of run	1:45	2:30	3:15	4:00						
Total drilling time	0:45	0:45	0:45	0:45						
Sample recovery percent	75	75	80	80						

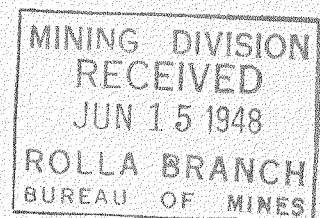
Runs	Kind of Rock - Drilling Characteristics - Remarks
1	Clay
2	Ditto
3	Soapstone
4	Ditto.
5	
6	
7	
8	
9	
10	

Reaming, feet \_\_\_\_\_ Casings, feet \_\_\_\_\_ Total feet drilled 20

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

Remarks:

(Time distribution on reverse side)



BUREAU OF MINES

DAILY CHURN DRILL RECORD

Project 15-226 Location No. Empire Date 6/10/1948 Hole No. NE-23-D.  
 Shift \_\_\_\_\_ Driller B. Patrick Helper A. Lamb. Sampler \_\_\_\_\_

Run	1	2	3	4	5	6	7	8	9	10
Depth at start of run										
Depth at end of run										
Feet drilled										
Diameter of bit										
Time at start of run										
Time at end of run										
Total drilling time										
Sample recovery percent										

Runs	Kind of Rock - Drilling Characteristics - Remarks
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

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

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

Remarks: This sheet and sheet same date Hole No. NE-17-D makes complete shift.

(Time distribution on reverse side)

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 JUN 14 1948  
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 BUREAU OF MINES