

GWINN MINE.

The Gwinn Mine closed down on May 31st, 1921, and has been idle since. During the past year, retimbering work has been continued, the mine pumps have operated, and ventilation has been provided so that the mine can be re-opened on short notice. It is hoped that work will be resumed in 1925.

Shipments were made during 1924 from the two low-grade Silica piles, the low Phosphorus Silica pile was all shipped, and only a small tonnage remains in the High-Phosphorus pile.

Shipments for the year and balance of ore in stock are as follows:-

	<u>SHIPMENTS</u>	<u>IN STOCK</u> <u>DEC. 31, 1924</u>
Gwinnport, Gwinn Silica,	<u>4,935</u> tons	1,745 tons <u>774</u> "
Total,	4,935 "	2,519 "

The estimated tonnage in the mine, sub-divided as required by the Tax Commission, is as follows:-

Non-Bessemer Ore:

Developed	1. Gwinnport,	585,571 tons
Prospective	1. Gwinnport,	80,159 "
	2. Gwinnwood,	<u>40,079</u> "
Total Reserve,		705,809 "

UNDERGROUND:

During the first half of the year a small crew of timbermen worked in the mine, keeping the drifts, crosscuts and raises repaired. After the Francis Mine was abandoned on April 30th, and the drift to the Gwinn Mine sealed, the oxygen in the air started to decrease due to its being absorbed by the decomposition of the mine timber and from lack of circulation. The decrease was noticed by the men employed underground, and it became necessary to provide ventilation in order that work might be continued underground and also to prevent rapid rotting

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of the mine timber. An E. & A. was prepared, which provided for guniting the cage compartment of the shaft, installing on the 11th Level the 40,000 cu. ft. fan, formerly located in the drift connecting the Gwinn and Francis Mine, and for building the necessary bulkheads, doors and brattices to control the air courses in the mine. This E. & A. (No. 461) was authorized in June, and the work started immediately. The work progressed slowly for some time, due to the poor air in the mine. The 40,000 cu. ft. fan was temporarily installed on the 11th Level, all the levels from the 5th to the 11th were bulkheaded near the shaft and the skip compartment sealed on the 5th Level. The fan on the 11th Level was then started and it was expected that air would be drawn from surface through the cage compartment, forced in on the 11th Level, from which point it would pass through the mine workings up to the 5th Level, and into the skip compartment on the 5th, and thence to surface. Unfortunately, this plan did not work, as the air leaked back into the cage compartment above the 5th Level, and there was merely a circulation of the "dead" air in the mine. A small fan was then placed on surface, near the skip compartment, and fresh air forced down to the 5th Level through a 12" ventube. . . This tube discharged the fresh air into the cage compartment on the 5th, from which point it was drawn to the 11th by the fan and forced through the mine workings back to the 5th. After this small fan had been in operation for a few days, the air became better throughout the mine and the work in preparation for guniting the cage compartment was started. The casing plank and back lath in the cage compartment were repaired, then thoroughly cleaned, after which the metal lath was installed. The work in the shaft was divided into two sections - the first section, extended from surface to the 7th Level - the second from the 7th to the 11th Level. When preparations for guniting were completed in the first section, the gunite was applied. The work in the lower section was then started and completed. Exceptionally good progress was made with this work, and the cost was kept below the estimate.

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On completing the guniting of the cage compartment, the fan was again started up on the 11th Level, and a test made. The results, however, were again disappointing as the air merely circulated through the mine workings and there was no fresh air drawn in at surface. It was found that the air in the skip compartment above the 5th Level leaked back of the shaft timber and entered the cage compartment again on the levels. To overcome this unexpected development, 16-ft. entries were built on each level where there is ore to be mined. The other levels were sealed at the shaft. When this work was completed and the entries gunited, another test was made, which proved entirely successful. Fresh air entered the cage compartment and after circulating through the mine, was discharged to surface through the skip compartment.

By the time the above work was completed there was a great deal of repair work necessary throughout the mine. The timbermen have been busy on the various levels, putting in new sets to replace sets that had rotted and fallen, also putting in lining sets in other parts of the drifts. As soon as this work is completed, the balance of work necessary to complete E. & A. #461 will be taken up. This consists of cutting permanent station for the fan on the 11th Level, installing fan, putting up one or more raises between levels to provide air-ways, and opening a rock drift on the 9th Level, which has caved, for an air-way. It is expected that this work will be completed early in 1925.

Since the cold weather in December there has been natural ventilation in the mine, and it has not been necessary to operate the fan. This is due to the sealing of the cage compartment from surface to the 11th Level. There will, therefore, during severe cold weather, be no expense for ventilation.

To avoid ice forming in the cage compartment, due to the cold down-cast air during the winter, doors have been installed on the 11th Level to control the air going to the fan. By this control, the air current can be reversed, the skip compartment being made down-cast and the cage, up-cast. In this way any ice that may form in the down-cast compartment can be melted in a short time by the warm up-cast air. It will no longer be necessary to have

heaters in the shaft when the mine is operating, which will effect a material saving in the cost of operating the heating plant during severe cold weather.

The following is a report of the retimbering work done during the past year:-

4TH LEVEL.

Three new sets were installed near the shaft on the 4th Level plat.

5TH LEVEL.

Twenty-five lining sets were installed in the 5th Level haulage drift, near the shaft, and new cribbing was put in in a raise from the 6th to the 5th Level.

6TH LEVEL.

Eleven new sets of timber were installed in the 6th Level haulage drift a short distance West of the shaft.

7TH LEVEL.

There were two sets of timber installed in the stub-drift about 100 feet Northwest of the shaft, and five sets of timber in the main haulage drift, near the shaft. One cut was blasted in a new raise about 200 feet Northwest of the shaft, which will be put up for an air-way between the 7th and 6th Level.

7TH LEVEL SUMP

Ten sets of timber were replaced in the West incline leading to the sump.

SUB LEVELS ABOVE 8TH LEVEL.

Forty-two sets of timber were installed on the two sub-levels above the 8th, where there is some ore remaining to be mined.

8TH LEVEL.

Thirty-six new sets of timber were installed in the 8th Level haulage drift on the Southeast side of the shaft.

9TH LEVEL.

In the main haulage drift on the 9th Level there were 65 new sets of timber installed; at the winze from the 9th to the 10th Level, two sills were placed and two long sets erected at each end of the winze.

SUBS BELOW 9TH LEVEL

There were 44 new sets of timber installed in the subs below the 9th.

10TH LEVEL.

There were 26 new sets of timber installed in the main haulage drift. In the drift leading to the Francis Mine, a 12-ft. concrete dam was installed early in the year prior to the closing of the Francis Mine. This dam was built as a safeguard in case the dam on the Francis side allowed water to leak through under the heavy pressure that developed after the Francis filled with water.

SUBS BELOW 10TH LEVEL

There were 44 new sets of timber installed in the drifts on the sub-levels between the 10th and 11th Levels.

11TH LEVEL.

There were 70 new sets of timber placed in the main haulage drift to the ore body.

At the point where it is planned to make the permanent installation of the ventilating fan, two cuts were taken on the side of the haulage drift, but this work was abandoned on account of the poor air and a temporary installation made of the fan. It is planned to take up this work again early in 1925.

SURFACE:

The West end of the dry building, that was built for the Jopling Mine employees, and which was never used, was made into a general storage room. The ventilating hoods, steam and water lines were removed. The motors, switchboards, drill sharpener, blacksmith tools, electric cables and other supplies from the Francis Mine have been stored here.

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AVERAGE MINE ANALYSIS ON OUTPUT FOR YEAR 1924.

GRADE	IRON	PHOS.	SILICA	MANG.
Gwinport,		(No Production)		
Gwin Silica,		(No Production)		

AVERAGE ANALYSIS ON STRAIGHT CARGOES FOR YEAR 1924.

GRADE	IRON	PHOS.	Mine SILICA	MANG.
Gwinport,		(No Shipments)		
Gwin Silica,		(All Mixed)		

ORE STATEMENT - DECEMBER 31ST, 1924.

	GWINNPORT	GWINN SILICA	TOTAL	TOTAL LAST YEAR
On hand January 1, 1924,	1,745	5,709	7,454	8,649
Output for Year,	-	-	-	27,334
Stockpile Overrun,	-	-	-	-
Total,	1,745	5,709	7,454	35,983
Shipments,	-	4,935	4,935	28,529
Balance on Hand,	1,745	774	2,519	7,454
Decrease in Output,			27,334	
Decrease in Ore on Hand,			4,935	
1924 -- Mine Idle during Year.				
1923 -- Mine Idle during Year.				

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SHIPMENTS FOR YEAR-1924

GRADE	POCKET	STOCKPILE	TOTAL	TOTAL LAST YEAR
Gwinport,	-	-	-	2,873
Gwin Silica,	-	4,935	4,935	25,656
Total,	-	4,935	4,935	28,529
Total Last Year,	-	28,529	28,529	
Decrease,			23,594	

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COMPARATIVE WAGES AND PRODUCT

	1924	1923	INCREASE	DECREASE
PRODUCT	-	27,334		
No.Shifts & Hours				
AVG.NO.MEN WORKING				
Surface	5	4	1	
Underground	8	7	1	
Total	13	11	2	
AVG.WAGES PER DAY				
Surface	4.60	4.59	.01-.21%	
Underground	5.12	4.93	.19-3.85%	
Total	4.92	4.81	.11-2.28%	
WAGES PER MO.OF 25 DAYS				
Surface	115.00	114.75	.25	
Underground	128.00	123.25	4.75	
Total	123.00	120.25	4.75	
PRODUCT PER MAN PER DAY				
Surface				
Underground				
Total				
LABOR COST PER TON				
Surface				
Underground				
Total				
AVG.PRODUCT BRK'G & TRM'G " WAGES CONTRACT MINERS				
TOTAL NO.OF DAYS				
Surface	1,446 $\frac{1}{2}$	1263- $\frac{3}{4}$	182- $\frac{3}{4}$	
Underground	2,360 $\frac{1}{4}$	2314	46- $\frac{1}{4}$	
Total	3,806- $\frac{3}{4}$	3577- $\frac{3}{4}$	229	
AMOUNT FOR LABOR				
Surface	6646.65	5797.75	848.90	
Underground	12085.18	11413.25	671.93	
Total	18731.83	17211.00	1520.83	

Propoetion Surface to Underground Men:

1924 - 1 to 1.6
 1923 - 1 to 1.75
 1922 - 1 to 1.6
 1921 - 1 to 2.61
 1920 - 1 to 2.6
 1919 - 1 to 2.64
 1918 - 1 to 3.57

1924 - Not operating.