

REPUBLIC MINE  
ANNUAL REPORT  
YEAR 1935

1. GENERAL

The new road, Michigan 95, South of Republic, was completed during the summer. It is a graveled highway and follows Mine Street, cutting across No. 9 Shaft stocking ground. The right of way across the mine property and part of Section 7-46-29 owned by The Cleveland-Cliffs Iron Company and parts of Section 18-46-29 owned by The Cliffs Power & Light Company, was sold to the State Highway Department.

During the year the roof trusses and brick from the old Central Power House were sold. This building was being wrecked and was a hazard, therefore, it is better to have it torn down. The Mine Office building has been sold on a time contract for use as a residence. Dwelling No. 18 was also sold to an employee of the Cliffs Power & Light Company during the summer, but the contract was cancelled on December 31st, 1935 on account of his death.

The company still owns 3 single houses, 2 of which are occupied by very old employees of the old Republic Company.

10. TAXES

	<u>1935</u>		<u>1934</u>	
	<u>Valuation</u>	<u>Taxes</u>	<u>Valuation</u>	<u>Taxes</u>
Realty as described on tax receipt	10,000	205.42	10,000	252.10
Personal Property	10,000	205.42	10,000	252.10
Lots 71, 72, 85 & 108	70	1.53	95	2.45
Total	20,070	412.37	20,095	506.65
Collection Fees		4.12		5.07
Total Republic Mine		416.49		511.72
Republic Mine Dwellings (Including Fees)	1,500	31.21	1,590	38.23
Total Republic Twp. (Inc. Fee)	21,570	447.70	21,595	549.95
Rate		2.054		2.52

Lot 126 in the Village of Republic was sold during the year and the valuation on the miscellaneous lots has been reduced \$25.00, that carried on this lot. It will also be noted that the value on the dwellings was reduced \$90.00 over 1934. Due to the cancelling of the contract to purchase House No. 18, it will no doubt be necessary to pay the taxes on this dwelling amounting to approximately \$16.40. The purchaser of dwelling No. 46 paid the taxes and we are to receive a rebate of \$6.25 included in the above \$31.21 paid on mine dwellings.

The tax rate shows a decrease over the previous year and is due to reduction in debt service.

SPIES VIRGIL MINE  
ANNUAL REPORT  
YEAR 1935

1. GENERAL

The Spies Virgil Mine remained idle during all of 1935 with the exception of pumping.

Pumping was done wholly on day shift with the Clerk acting as hoisting engineer, and the underground foreman and former pumpmen as operators. The men worked on a staggered basis.

The Idle Expense for the year amounted to \$18,623.75; Operating Expense \$2,412.36; Taxes \$10,481.79; Supply Inventory Adjustment \$502.48, making the total cost for the year \$31,820.38 as compared with \$29,947.43 for 1934. The difference, with the exception of the supply adjustment, is wholly due to loading and shipping from the stockpiles.

No stockpile shipments were made in 1934. In 1935 the mine shipped 64,792 tons, the cost at the mine for loading, analysis and shipping, was \$2,412.36 or \$ .0372 per ton.

During the year considerable equipment was removed from the Spies Virgil to other mines of the Company. This consisted of underground haulage motors, underground cars, drill machines and drills, surplus smithing coal and coke, a new top head sheave and other supplies.

2. PRODUCTION  
SHIPMENTS &  
INVENTORIES

b. Shipments

<u>Grade of Ore</u>	<u>Stockpile</u> <u>Tons</u>
Virgil Crushed	64,792
Total 1934	0
Increase over 1934	64,792
Total shipment to Jan1,1935	545,897
Shipments during 1935	<u>64,792</u>
Total shipments from Mine to Jan.1,1936	610,689

Loading started along the east side of the North pile where it was expected the ore would average .400 phosphorus, the guaranteed analysis. Previous loading from this pile showed this average. The first two cargoes shipped were considerably below this figure, which made it necessary to move the shovel to the pile northeast of the shaft. Here the loading continued throughout the season and the analysis proved satisfactory.

2. PRODUCTION  
SHIPMENTS &  
INVENTORIES

c. Stockpile Inventories

<u>Grade</u>	<u>Tons in Stock</u>
Virgil Crushed	247,853
Virgil Crushed (Hi-Sulphur)	<u>8,879</u>
Total	256,732

f. Ore Statement

	<u>Virgil</u> <u>Ore</u>	<u>Virgil</u> <u>Hi-Sulphur</u>	<u>Total</u>	<u>1934</u>
On Hand Jan.1,1935	312,645	8,879	321,524	321,524
Shipments	<u>64,792</u>	<u>0</u>	<u>64,792</u>	<u>0</u>
Balance 12-31-35	247,853	8,879	256,732	321,524

1935 - Idle except for pumping throughout the year.  
1934 - " " " " "

3. ANALYSIS

<u>Grade</u>	<u>Tons</u>	<u>Iron</u>	<u>Phos.</u>	<u>Sil.</u>	<u>Mn.</u>	<u>Al.</u>	<u>Lime</u>	<u>Mag.</u>	<u>Sul.</u>	<u>Loss</u>	<u>Moist.</u>
Virgil Crushed Dried 212°											
F.	256,732	57.64	.401	7.00	.19	1.84	.60	.21	.078	6.50	
Natural		53.60	.372	6.51	.18	1.70	.56	.19	.072	6.05	7.00
Virgil Hi- Sulphur Dried 212°											
F.	8,879	57.41	.424	4.09					.369		
Natural		53.10	.392	3.78					.341		7.50

4. ESTIMATE  
OF ORE  
RESERVES

As there was no mining or development in 1935, the ore reserves remain the same as reported as of December 31, 1934.

a. Developed Ore

Assumption: 12 cu. ft. equals one ton.  
10% deduction for rock.  
10% deduction for loss in mining.

4. ESTIMATE  
OF ORE  
RESERVES

a. Developed Ore

<u>Virgil Ore</u>	<u>Available Tons</u>	<u>Unavailable Tons</u>	<u>Total Tons</u>
Revised estimate developed ore above 6th Level, Dec.31,1935	41,008	507,718	548,726
Estimate of developed ore between 6th and 8th Levels, Dec.31,1935	<u>167,318</u>	<u>95,712</u>	<u>263,080</u>
Total Developed Ore, Dec.31,1935	208,326	603,430	811,756

b. Prospective Ore

Between 6th and 8th Levels	409,151	278,755	687,906
Total all ore, Dec. 31,1935	617,477	882,185	1,499,762

We estimate we will recover between 25% and 33%, in our last mining operations, of the ore above the 6th Level tied up in pillars and shown unavailable.

c. Estimated Reserve Analysis

	<u>Iron</u>	<u>Phos.</u>	<u>Sil.</u>	<u>Mng.</u>	<u>Alum.</u>	<u>Lime</u>	<u>Mag.</u>	<u>Sul.</u>	<u>Ross</u>	<u>Moist.</u>
Dried	57.50	.425	7.00	.16	1.64	.60	.30	.119	7.55	
Natural	51.75	.382	6.30	.15	1.48	.55	.26	.107	6.60	10.00

5. LABOR  
AND  
WAGES

a. Comments

The mine was idle during the entire year except for pumping. A crew of 12 men including the clerk, were employed on a staggered basis. There has been no captain since September 1934. The total time worked was 252 shifts more than in 1934, of which 211 were on surface and 41 underground. The surface work was principally on stockpile loading, whereas the underground was on ventilation and main level timbering.

There was no change in the wage schedule.

5. LABOR  
AND  
WAGES

b. Comparative Statement of Wages and Product

	<u>1935</u>	<u>1934</u>	<u>Increase</u>	<u>Decrease</u>
PRODUCT	0	0		
NUMBER OF SHIFTS & HOURS	Idle 12 Mos.	Idle 12 Mos.		
<u>AVG. NO. MEN WORKING</u>				
Surface	7	7		
Underground	5	5		
Total	12	12		
<u>AVG. WAGE PER DAY</u>				
Surface	3.78	3.68	.10	
Underground	4.10	4.55		.45
Total	3.91	4.07		.16
<u>WAGES PER MONTH</u>				
Surface	45.36	44.16	1.20	
Underground	49.20	54.60		5.40
Total	46.92	48.84		1.92
PRODUCT PER MAN PER DAY	None	None		
LABOR COST PER TON	None	None		
AVG. PRODUCT BRK. & TRAM.	None	None		
<u>TOTAL NO. DAYS</u>				
Surface	1,296-9/16	1,085-10/16	210-5/16	
Underground	897-4/16	856-4/16	41	
Total	2,193-13/16	1,941-14/16	251-15/16	
<u>AMOUNT FOR LABOR</u>				
Surface	4,900.95	3,998.58	902.37	
Underground	3,675.45	3,896.28		220.83
Total	8,576.40	7,894.86	681.54	
<u>PROPORTION SURFACE TO UNDERGROUND</u>				
1935	1 to	.88		
1934	1 to	.88		
1933	1 to	2.15		
1932	1 to	2.23		
1931	1 to	2.28		
1930	1 to	2.43		
1929	1 to	2.74		

6. SURFACEa. Building Repairs1. Buildings - Mine

There were practically no repairs to mine buildings. The surface water ditch or culvert was repaired in October at a cost of Labor \$25.52; Supplies \$119.56 or a total of \$145.08.

2. Buildings - Location

The repairs to location houses amounted to very little and were made principally by the tenants. Kalsomine was given for redecorating.

7. UNDERGROUNDd. Timbering

Repairs were made on the 6th Level in April. On account of poor ventilation, it was impossible to make repairs during 1934. When the ventilation was improved in February, 1935, due to improved circulation, it was found that timber repairs were required on the 6th Level to maintain proper circulation. New sets were installed in several places and the caps propped where necessary.

Statement of Timber Used

<u>Kind</u>	<u>Lineal Feet</u>	<u>Avg. Price Per Foot</u>	<u>Amount 1935</u>	<u>Amount 1934</u>
8" to 10"	240	.07	16.80	-
Total Timber 1935	240	.07	16.80	-
Total Timber 1934	-	n -	-	-
		<u>Per 100 Ft.</u>		
7' Lagging	875	.678	5.93	-
Poles	2,518	1.5877	34.94	-
Total Lagging & Poles 1935	3,393	1.204	40.87	-
" " " 1934	-	-	-	-
Cost of Timber, Lagging & Poles 1935		57.67		
" " " " 1934		-		

h. Ventilation

During the latter part of 1934, the ventilation at the 3rd and 8th Level pump stations was very poor. It was also so bad in the shaft that it was almost impossible to keep a carbide lamp burning, due to lack of oxygen.

It was realized that the trouble was due to lack of proper circulation from the Spies shaft to the old Virgil Shaft. As the circulation had always been better in winter than summer, due to the difference in temperature between the mine and the

## 7. UNDERGROUND

### h. Ventilation

surface, it was decided to try to improve the ventilation in the hoisting shaft during the winter.

In February, the openings into the mine from the Spies Shaft were sealed on the 3rd, 4th and 6th Levels and the top of the Virgil shaft uncovered. The ventilation improved immediately and remained good over the entire year along the air course, i.e., through the 8th Level and up the Virgil Shaft.

The natural ventilation is supplemented by a surface blower which runs to the 3rd and 8th Level pump houses.

### i. Pumping

Both the 3rd and 8th Level pumps were operated throughout the year on one 8 hour shift.

The water pumped for the year amounted to 86,439,400 gallons as compared with 73,856,500 gallons in 1934, an increase of 12,582,900 gallons.

## 10. TAXES

The following tabulation is a comparative statement of taxes paid by the Company in Iron County for the years 1935 and 1934:

<u>Description</u>	<u>1935</u>		<u>1934</u>	
	<u>Valuation</u>	<u>Taxes</u>	<u>Valuation</u>	<u>Taxes</u>
<u>Iron River Township</u>				
NE $\frac{1}{4}$ of NW $\frac{1}{4}$ , Sec.24,43-55, 40 acres				
SE $\frac{1}{4}$ of NW $\frac{1}{4}$ of "24, " 40 "				
Spies Dwellings.....	5,000	103.30	5,000	100.75
<u>Spies Virgil (a)</u>				
E $\frac{1}{2}$ of NW $\frac{1}{4}$ of Sec.24,43-55 (Spies)	100,000	2,066.00	100,000	2,015.00
SW $\frac{1}{4}$ of NW $\frac{1}{4}$ of " 24, " (Virgil)	100,000	2,066.00	100,000	2,015.00
Stockpile, Supplies, Equpt. ....	370,000	7,644.20	370,000	7,455.50
Total Spies Virgil.....	470,000	9,710.20	470,000	9,470.50
(a) Total Iron River Twp.	475,000	9,813.50	475,000	9,571.25
Rate.....		2.91		2.105
<u>Ravenna-Prickett</u>				
<u>City ofnCrystal Falls</u>				
W $\frac{1}{2}$ of SE $\frac{1}{4}$ of Sec.19,43-52.....	1,100	32.03	1,000	28.06
Rate per \$100.00.....		2.91		2.81

**10. TAXES**

	<u>1955</u>		<u>1934</u>	
	<u>Valuation</u>	<u>Taxes</u>	<u>Valuation</u>	<u>Taxes</u>
<u>Crystal Falls Township</u>				
<u>Ravenna Prickett</u>				
SW $\frac{1}{4}$ of Sec. 19, 43-52.....)				
NE $\frac{1}{4}$ of SE $\frac{1}{4}$ 24, 43-53.....)	66,000	1,514.70	74,000	1,602.10
SW $\frac{1}{4}$ of NE $\frac{1}{4}$ 19, " .....	200	4.59	200	4.33
SE $\frac{1}{4}$ of NE $\frac{1}{4}$ 19, " .....	200	4.59	200	4.33
SW $\frac{1}{4}$ of NW $\frac{1}{4}$ 19, " .....	200	4.59	200	4.33
SE $\frac{1}{4}$ of NW $\frac{1}{4}$ 19, " .....	200	4.59	200	4.33
TOTAL.....	66,800	1,533.06	74,800	1,619.42
Rate per \$100.00.....		2.295		2.17
Total Ravenna Prickett.....	67,900	1,565.09	75,800	1,647.48
<u>Distribution of Charges</u>				
C.C.I.Co. Proportion.....	51,400	1,186.42	57,300	1,246.95
Michigan Mineral Lands.....	16,500	378.67	18,500	400.53

(a) The mineral valuation is not divided between the Spies and Virgil and the surface of the Spies is included in the mineral assessment of the Virgil.

<u>Village of Mineral Hills</u>				
<u>Spies Lease</u>				
SE $\frac{1}{4}$ of NW $\frac{1}{4}$ of Sec. 24, 43-35...)	5,000	8.22	5,000	7.17
NE $\frac{1}{4}$ of NW $\frac{1}{4}$ of " 24, " ...)				
Dwellings.....)				
<u>Virgil Mine Lease</u>				
(a) SW $\frac{1}{4}$ of NW $\frac{1}{4}$ of Sec. 24, 43-35	100,000	164.17	100,000	143.32
Stockpile, Supplies, Equipt....	370,000	607.42	370,000	550.28
Total Opt. Spies Virgil..	470,000	771.59	470,000	673.60
Total Mineral Hills.....	475,000	779.81	475,000	680.77
Rate.....		1.6417		1.4332

The Village of Mineral Hills is in Iron River Township. The valuations as shown here are the same valuations shown by Iron River Township.

(a) The valuation of 100,000 includes both the Spies and Virgil descriptions noted above for the year 1935 and 1934. Not divided by tax appraiser and any division would be arbitrary.

**14. MAINTENANCE  
AND REPAIRS****b. Hoisting Equipment**

Took off skip and changed rope over to the cage compartment on account of poor condition of cage rope.

Repaired pulley stands and replaced two pulley stand sheaves.



14. MAINTENANCE  
AND REPAIRS

c. Pumps

During the year it was necessary to send the 8th Level pump cylinders to the shops at Ishpeming for general overhauling.

The controller for the 8th Level pump was repaired but still gives considerable trouble.

The pot heads at the collar of the shaft on the pump service cable were repaired. Previous to this blow-outs in the cable occurred due to moisture getting in to the cable.

The 6" and 8" discharge columns were repaired.

17. CONDITION OF PREMISES

As mentioned in last year's report, the dwellings in the location need paint badly. The sheds and fences also need extensive repairs.

The grounds about the houses are neat and clean.

18. NATIONALITY  
OF  
EMPLOYEES

<u>Americans</u>	<u>Percent</u>	<u>Parentage</u>
1	.08	Americans
2	.17	English
2	.17	Irish
1	.08	Sweden
1	.08	Dane
<u>Foreign Born</u>		
4	.34	English
1	.08	Croatian
<hr/> 12	<hr/> 100.00%	