

CLEVELAND IRON MINING CO. and IRON CLIFFS CO.

Supplementary accident report, November 30th, 1899.

Loss to Companies on account of Accidents.

<u>Fatal Accidents</u>	Hard Ore	Lake	Vol.	Imp.	Mich.	Cl. Shaft	Salis	Til.	Total	
No. of fatal accidents						3				
No. of men employed	67	500	95	42	36	312	178	22	1252	
Time lost by men (days)						2194½				
Average product per day	131	1567	268	210		846	470	168	3660	
Days Idle						7½				
Tons product lost						6492 ✓				
+ Expense for labor and supplies while mines were idle on account of accidents						741.12				
+ Amount of Benefit Fund Credited to estate						1500.00				
Total expense						2241.12				
<u>Minor Accidents</u>										
No. of minor accidents	7	65	5	4	0	47	20	3	151	98
Tons product lost	0	115	9	0		31	27		232	183

+Note- One half the amount credited to the estate is contributed by employes.

+Note- Includes insurance, Taxes, Mine Office, Gen. Office, Mining Captain, Pumping Stable Expense.

COMPARATIVE STATEMENT OF ACCIDENTS

Number of Fatal Accidents per 1000 Men.

	1899	1898	1897	1896	1895
Cleveland Iron Mining Co & Iron Cliffs Co. <i>2.13</i>	2.39	5.4	9.31	13	2.92
Mines in Marquette Co. Report of Mine Inspector	4.59	4.6	4.	5.37	3.35
Anthracite mines of Pennsylvania			2.83		
Bituminous " " "			1.68		

THE CLEVELAND-CLIFFS IRON CO.

CLEVELAND IRON MINING CO. and IRON CLIFFS CO.

Report of Nationalities at the Different Mines for Month of November, 1899.

	General Office	Engr. Department	Laboratory	Hard Ore	Lake	Volunteer	Imperial	Michigamme	Cliffs Shaft	Salisbury	Tilden	Total	Per Cent.	% Last Report
American	8	2	1	2	4	15	6	10	9	2		59	.040	.047
Scotch					1	1			2	3		7	.005	.004
German				4				2	4	1		11	.007	.006
Italian					17	7			7	12		43	.030	.042
French		1		5	32	17	3	8	24	34		124	.084	.073
Irish				20	17	4	4	6	35	1	2	89	.060	.049
Finnish				36	155	85	21	7	98	2	4	408	.277	.190
Scandinavians				50	138	46	16	14	83	50	5	407	.276	.319
English		1	2	17	124	22	7	3	52	32	5	315	.214	.268
Poles					9				1			10	.007	.002
Total	8	4	3	134	497	197	57	50	320	187	16	1473	1000	1000
Last report	8	3	3	27	497				303	202		1043		

The Cleveland-Cliffs Iron Co.

Nationality Report
Nov 1899

Report of Nationalities of the Different Mines for Month of November, 1899.

CLEVELAND IRON MINING CO. and IRON CLIFFS CO.

THE CLEVELAND-CLIFFS IRON CO.

Nationality	1	2	3	4	5	6	7	8	9	10	11	12	Total	Value
Total	3	4	3	134	404	164	24	30	380	184	18	1443	1000	1000
Polish					2				1			10,000,000		
English	1	3	14	134	33	7	3	23	33	33	2	312	574,800	300
Scandinavians				20	138	40	16	14	33	20	2	407	230,300	310
Finnish				39	122	32	31	4	32	3	4	408	244,100	190
Irish				30	14	4	4	3	32	1	3	87	500,000	040
French	1			2	33	14	3	3	34	34		134	834,000	048
Italian					14	4			4	18		43	230,000	048
German				4				3	4	1		11	600,000	000
Scottish					1	1			3	3		4	500,000	004
Americans	3	3	1	3	4	13	3	10	3	3		33	240,000	044

CLEVELAND IRON MINING CO. and IRON CLIFFS CO.

Statement of Barn Expense for Year ending Nov. 30th, 1899 and 1898.

	1899.		1898.		
Number of Horses,	15 1/2		21		
Days Working,	3865		6054		
" Idle, Sundays, etc.	983		1299		
" Sick,	466.5		159		
<u>Total Days,</u>	5314.5		7512		
Cost for Feed Bedding, etc.,	1233.41	.23	.229		
Barn Supplies, Shoeing, etc.,	205.01	.04	.039		
Harness and Wagon Repairs,	153.34	.03	.046		
<u>Total,</u>	1591.76	.30	.314		
Barn Labor, Attendance etc.,	877.50	.165	.140		
<u>Total Cost,</u>	2469.26	.465	.454		
<u>Analysis of Feed & Bedding</u>					
Oats	63592 [#] pounds per day	12	651.05	.120	.110
Hay	74150 [#] " " "	14	358.25	.067	.079
Mixed Feed	26197 [#] " " "	5	199.28	.038	.030
<u>Total, 163939[#]</u>		31	1208.58	.225	
Salt,			2.88	.000	
Shavings for Bedding,			12.25	.003	.010
Straw " "			9.70	.002	
<u>Total,</u>			1233.41	.230	.229

CLEVELAND IRON MINING CO. and IRON CLIFFS CO.
 Statement of Barn Expense for Year ending Nov. 30th, 1899.

Summary of Teaming Cost.

One horse per month 30 days,	<u>13.95</u>
For team, 2 horses,	27.90
Teamster 25 Days 1.75	<u>43.75</u>
Cost one month,	71.65
" per Day 25 Days <u>2.866</u>	
With Helper at 160 - 25 Days,	<u>40.00</u>
Cost per day with helper <u>4.466</u>	111.65

Present price for team hire,
 with teamster only:

Michigamme	3.00
Volunteer	3.50
Ishpeming	4.00

The foregoing is report covering the horses and stable expense at the
 Cliffs Shaft 's Barn.

The Cleveland-Cliffs Iron Co.

Barn Expenses 1899

Sept 14-18

CLIFFS SHED 's BARN.
 The foregoing is report covering the horses and stable expense at the

Expenses	4.00
Amortized	2.38
Michigan	3.00

with farmstead only:

Present price for farm hire,

Cost per day with helper, 4.00	111.88
With helper at 1.00 - 30 Days;	40.00

" per day 80 Days 8.00

Cost one month;

300 feet, 8 horses,	51.
One horse per month	13.38

Stable Cost.

Statement of Barn Expenses for Year ending Nov. 30th, 1898.

CLEVELAND IRON MINING CO. and IRON CLIFFS CO.

CLEVELAND IRON MINING CO. and IRON CLIFFS CO.

Statement of Delays From Various Causes for Year Ending Nov. 30th, 1899.

Aggregate Tonnage and Financial Loss to Mines Due to Delays.
(excluding holidays)

Mines.	1898	Tons loss	# Cost Per Ton.			Amount
			Actual	Possible	Loss	
Lake	7130	30291	.886	.875	.011	5453.50
Volunteer		320	1.237	1.233	.004	130.25
Imperial		2730	.850	.799	.051	1443.56
Cliffs Shaft	8292	11663	1.055	1.040	.015	3957.36
Salisbury	13417	9702	1.076	1.057	.019	2778.20
Tilden	3381	2027	.387	.380	.007	205.60
<i>Footnote</i> Total	<u>32220</u> 415	56733	.995	.940	.015	13968.47

#Cost per ton" is on stockpile

Aggregate Tonnage Lost by Various Causes.
(Excluding holidays)

	1898	Tons lost	Per cent.	Approximate financial loss
Fatal accidents	3597	6492	11.4	1592.41
Accidents to machinery	22635	13937	24.6	3436.24
Other Causes	6403	36304	64	8939.82
Total	<u>32638</u>	56733	100.	13968.47

Statement Showing Estimated Financial Loss Due to Delays by Accidents

to Men and to Machinery and Plant for the Year Ending

Nov. 30th, 1899.

	1899.	1898.
Total loss as per statement	13968.47	11110.08
Cash paid by Company account of fatal accidents	751.50 ✓	1254.86
Cash paid by Company account of minor accidents	1517.78 ✓	1343.17
Cost of repairing damages to machinery and plant	3539.80	2314.41
Cost to Company	<u>19307.55</u>	<u>16022.52</u>
Cash paid by employes on account of fatal accidents	751.50 ✓	1757.14
Cash paid by employes on account of minor accidents	1674.79 ✓	1558.11
Cost to Company and employes	<u>22233.84</u>	<u>19337.77</u>
Lost profit on lost product	_____	_____
Total loss	_____	_____

1517.78
24.79
57

CLEVELAND IRON MINING CO. and IRON CLIFFS CO.

Record of Delays From Various Causes for Year Ending Nov. 30th, 1899.

Division of Time.

Time Worked & Lost	Lake	Volunteer	Imperial	Cl. Shaft	Salisbury	Tilden
Sundays	53	20	19	53	53	29
Holidays	11½	2½	2	11	11½	7
Fatal Accidents	0	0	0	7½	0	0
Other Causes	17	1¾	11	5½	13¼	15
Full days worked	283¾	119¾	103	233	232½	155
No. of days for year	365	144	135	365	365	206
<u>SUMMARY</u>						
Sundays	53	20	19	53	53	29
Total time lost	23½	4½	13	24	29½	22
Full days worked	283¾	119¾	103	233	232½	155
Total days	365	144	135	365	365	206

Volunteer Mine in operation from July 10th

Imperial " " " July 19th

Tilden " " " May 9th to Nov. 14th.

CLEVELAND IRON MINING CO. and IRON CLIFFS CO.

Record of Delays From Various Causes for Year Ending Nov. 30th, 1899.

Analysis of Holidays During Year.

Mines.	Lake Hours	Volunteer Hours	Imperial Hours	Cl. Shaft Hours	Salisbury Hours	Tilden Hours.
Christmas Eve	8				8	
Christmas Day	24			21	24	
New Year's Eve	8				8	
New Years Day	24			21	24	
Good Friday	24			21	24	
Election Day (spring)	24			21	24	
Memorial Day	24			21	24	20
Midsummer Day	16			10	16	10
Independence Day	24			21	24	10
Do. 2d day	24			21	24	10
Circus Day	24			21	24	10
St. George's Day		10				
Labor Day	24	21	10	21	24	10
Thanksgiving Day	24	21	10	21	24	
Total hours	272	52	20	220	272	70
Total No. of days	11½	2½	2	11	11½	7
Per cent. of total time lost	40.1	60.5	15.4	45.8	38.5	31.7

Figures are for the time mines were producing ore. Tilden worked two shifts from May 9th to June 19th.

SUMMARY

Tons Product Lost by Various Causes.

	Lake	Volunteer	Imperial	Cl. Shaft	Salisbury	Tilden	Total
Holidays	18665	900	450	9520	5463	1150	36148
Fatal Accidents				6492			6492
Accidents to machinery	4845	170	400	2480	5882	160	13937
Other causes	25446	150	2330	2691	3820	1867	36304
Total tons	48956	1220	3180	21183	15165	3177	92881

The Cleveland-Cliffs Iron Co.

Statement showing amount and cost of
 coal used, and Pounds of coal per Ton of
 Ore, at various mines for the year ending
 November 30th 1899.

	Product	Tons coal.	Price	Amount	Pounds coal Per Ton of ore
Moro.	8997	7975	7.507	7467 34	661.8 <u>520</u>
Lake	465.457	6454	1.959	17643 79	77.73
Cliffs shaft.	757.961	7653	1.973	14700 91	60.51
Salisbury	136.519	3788	2.278	8677 81	55.50
Ashland.					
<u>Total</u>	<u>863.974</u>	<u>20870</u>	<u>7.081</u>	<u>43439 85</u>	<u>48.21</u>

Cherland Lipp's Iron
Coal used and pounds
per ton of Iron Ore
year ending
Nov. 30. 1899.

C. I. M. Co. and I. C. Co.

STATEMENT OF COST FOR ANALYSIS, INCLUDING SAMPLING AND CRUSHING FOR
EACH MINE FOR THE YEAR ENDING NOV. 30th, 1899.

HARD ORE MINE					
Laboratory Expense	265 Dets.	.1284			34.04
For 1898		.1261			
LAKE MINE					
Laboratory Expense	15967 "	.1140	1820.98		
Sampling, etc.	15967 "	.1299	2075.30		
Total		.2439			3896.28
For 1898		.2138			
HEMATITE MINE					
Laboratory Expense	113 "	.1089			12.31
For 1898		.1045			
VOLUNTEER MINE					
Laboratory Expense	2401 "	.192			462.46
Sampling, etc.					
IMPERIAL MINE					
Laboratory Exp.	440 "	.2500	110.00		
Sampling, etc.	440 "	.1298	57.13		
Total		.3798			167.13
CLIFFS SHAFT MINE					
Laboratory Exp.	2807 "	.1196	335.72		
Sampling, etc.	2807 "	.1326	372.19		
Total		.2522			707.91
For 1898		.5635			
SALISBURY MINE					
Laboratory Exp.	8950 "	.1196	1070.42		
Sampling, etc.	8950 "	.0236	211.20		
Total		.1432			1281.62
For 1898		.45			
FOSTER MINE					
Laboratory Exp.	127 "	.1196			15.19
For 1898		.4941			
TILDEN MINE					
Laboratory Exp.	159 "	.1196			19.01
For 1898		.45			

The Cleveland-Cliffs Iron Co.

*Cost of Analysis 1899
Sheet No. 20*

Laboratory Exp. For 1898 .42
For 1899 .7190
Total 1898-99 18.01

LIPDEN MINE

Laboratory Exp. For 1898 75.1
For 1899 .4941
Total 1898-99 19.70

FOSTER MINE

Laboratory Exp. For 1898 .42
For 1899 .1438
Total 1898-99 1891.68

Laboratory Exp. For 1898 .0838
For 1899 .1738
Total 1898-99 1070.48

SALISBURY MINE

Laboratory Exp. For 1898 .0632
For 1899 .0238
Total 1898-99 107.91

Laboratory Exp. For 1898 .1886
For 1899 .332.18
Total 1898-99 348.70

GITLIS SHAL MINE

Laboratory Exp. For 1898 .3438
For 1899 .1838
Total 1898-99 163.73

Laboratory Exp. For 1898 .440
For 1899 .110.00
Total 1898-99 24.73

HEBERT MINE

Laboratory Exp. For 1898 .198
For 1899 .468.46
Total 1898-99 13.31

ACUMATEER MINE

Laboratory Exp. For 1898 .1042
For 1899 .1089
Total 1898-99 13.31

HEMATE MINE

Laboratory Exp. For 1898 .8138
For 1899 .8438
Total 1898-99 3898.38

Laboratory Exp. For 1898 .1338
For 1899 .1830.30
Total 1898-99 1140

WAKE MINE

Laboratory Exp. For 1898 .1891
For 1899 .1894
Total 1898-99 34.04

WARD ONE MINE

EACH MINE FOR THE YEAR ENDING NOV. 30th 1899.

STATEMENT OF COST FOR ANALYSIS, INCLUDING SMELTING AND CRUSHING FOR

C. I. M. Co. and I. C. Co.

C. I. M. Co. and I. C. Co.

Analysis of Donation Account Nov. 30th, 1899.

	<u>C.I.M.Co</u>	<u>I.C.Co.</u>	<u>Total</u>	<u>Total, '98.</u>
Garfield Club	123.53	123.53	247.06	365.85
Superior Posten				200.00
Fire Department	12.50	12.50		25.00
Fourth of July				50.00
Flag Pole, Old Office				8.41
Spring Election	61.00	61.00	122.00	110.50
Fall Election				395.70
Total	197.03	197.03	369.06	1165.46
" 1898	578.79	576.67		
Credit to account during year:-				
Item to Superior Posten transferred to Bills Payable	100.00	100.00	200.00	

C. I. M. Co. and I. C. Co.

Analysis of Donation Account Nov. 30th, 1899.

	<u>C.I.M.Co</u>	<u>I.C.Co.</u>	<u>Total</u>	<u>Total, '98.</u>
Garfield Club	123.53	123.53	247.06	365.85
Superior Posten				200.00
Fire Department	12.50	12.50		25.00
Fourth of July				50.00
Flag Pole, Old Office				8.41
Spring Election	61.00	61.00	122.00	110.50
Fall Election				395.70
Total	197.03	197.03	369.06	1155.46
" 1898	578.79	576.67		
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Credit to account during year:-				
Item to Superior Posten transferred				
to Bills Payable	100.00	100.00	200.00	

The Cleveland-Cliffs Iron Co.

Donations 1899
Receipt 24 x 24

C. I. M. Co. and I. C. Co.
Analysis of Donations Account Nov. 30th, 1899.

	C. I. M. Co.	I. C. Co.	Total	Total '99.
Garfield Club	183.83	183.83	367.66	367.66
Superior Posters				200.00
Fire Department	18.20	18.20	36.40	36.40

Ball Election				332.50
Spring Election	21.00	21.00	42.00	110.20
Map Pole, Old Office				3.41
Remain of July				20.00

Total	192.03	192.03	384.06	1192.49
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to Billie Payable 100.00 100.00 200.00
 Item to Superior Posters transferred
 Credit to account during year:-

to Billie Payable 100.00 100.00 200.00

CLEVELAND IRON MINING CO. & IRON CLIFFS CO.

Analysis of Legal Expense for Year Ending Nov. 30th, 1899.

1899.				
January	Geo. Hayden, retainer	150.00		
March	Do.	150.00		
July	Do.	150.00		
October	Do.	<u>150.00</u>	600.00	
<u>LAPPALA CASE.</u>				
	Geo Hayden	125.00		
	Geo. Barnett Dr.	<u>5.00</u>		
	Lappala Case, '98	488.45		130.00
	" " '99	<u>130.00</u>		
	Total to date	<u>618.45</u>		
<u>CONNORS & QUINN. ASSESSORSHIP.</u>				
	Geo. Hayden	25.16		
	H. O. Young	<u>99.72</u>	124.88	
<u>WASLEY INJUNCTION</u>				
	W. T. Potter (Strike in April, 1899)	59.45		
	Geo. Hayden, "strike papers"	<u>11.21</u>	70.66	
	H. O. Young		55.41	
	Board Of Public Works	11.67		
	Board of Review	13.33		
	Byrne Case (Assessorship)	26.05		
	B. O. Pearle "	<u>4.36</u>		
	Geo. Hayden		25.00	
	Chadbourn Tax Law	25.00		
			<u>1005.95</u>	
<u>SUMMARY.</u>				
		C.I.M.Co	I.C.Co.	Total.
	Geo. Hayden	455.69	330.68	786.37
	H. O. Young	77.57	77.56	155.13
	W. T. Potter	29.72	29.73	59.45
	Geo. Barnett, testimony	5.00		5.00
	Total	<u>567.98</u>	<u>437.97</u>	<u>1005.95</u>

Legal Expenses 1899
 W. T. M. M.

Geo. Barnett's testimony			
W. T. Potter			
H. O. Young			
Geo. Hayden			
<u>SUBTOTAL</u>			

Total	283.25	435.25	1002.00
	2.00		2.00
	80.75	80.75	80.75
	55.25	55.25	100.75
	422.00	880.00	180.25
	0.14.00	1.0.00	Total

1002.00

Chargeman Tax Law

50.00

Geo. Hayden

50.00

B. O. Perrine
 Burns Case (transcript)
 Board of Review
 Board of Public Works

4.30
 80.00
 13.83
 11.65

H. O. Young

92.41

Geo. Hayden, "strike papers"
 W. T. Potter

11.51
 93.49

50.00

WASLEY INJUNCTION

H. O. Young
 Geo. Hayden

30.45
 82.18

154.93

COMMONS & QUINN

Total to date

"	189	613.42
"	188	130.00
Hayden's Case, 188		432.42

Geo. Barnett Dr.
 Geo. Hayden

2.00
 182.00

130.00

LAPPAVA Q/EE

October
 1901
 March
 1899

Geo. Hayden's testimony

120.00
 120.00
 120.00
 120.00

600.00

Analysis of Legal Expenses for Year Ending Nov. 30th, 1899.

CLEARANCE FROM MINING CO. & IRON CLIFFS CO.

CLEVELAND IRON MINING CO. and IRON CLIFFS CO.

Recapitulation of Inventory Accounts,
Showing Amount on Hand at Close of Each Year from 1895 to 1899.

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<u>Cleveland Iron Mg. CO.</u>	<u>1899</u>	<u>1898</u>	<u>1897</u>	<u>1896</u>	<u>1895</u>
-Supplies-					
Hard Ore,	16847.87	9255.57	12465.64	11636.54	17238.51
Lake,	25089.59	15223.69	13783.63	13944.04	14337.08
Total	<u>41937.46</u>	<u>24479.26</u>	<u>26249.27</u>	<u>25580.58</u>	<u>31575.59</u>
-Mine Equipment-					
Hard Ore,	5758.58	4161.86	4607.40	5864.60	7777.50
Lake,	<u>3528.51</u>	<u>4475.17</u>	<u>13993.41</u>	<u>14987.45</u>	<u>15231.63</u>
Total	<u>9287.09</u>	<u>8637.03</u>	<u>18600.81</u>	<u>20852.05</u>	<u>23009.13</u>
-Scrap-					
Hard Ore,	25.50	3.96	236.00	216.27	133.46
Lake,		<u>32.13</u>	<u>72.66</u>	<u>48.66</u>	<u>25.56</u>
Total	<u>25.50</u>	<u>36.09</u>	<u>308.66</u>	<u>264.93</u>	<u>159.02</u>
Total C. I. M. CO.	51250.05	33152.38	45158.74	46697.56	54743.74
<u>Iron Cliffs Co.</u>					
-Supplies-					
Cliffs Shaft,	35814.66	18459.83	14049.18	12587.73	12004.45
Salisbury,	10872.42	11806.35	15054.92	6428.99	5865.44
Foster,		<u>155.31</u>	<u>1442.61</u>	<u>2885.13</u>	
Total	<u>46687.08</u>	<u>30421.49</u>	<u>30546.71</u>	<u>21901.85</u>	<u>17869.89</u>
-Mine Equipment-					
Cliffs Shaft,	<u>7126.88</u>	6061.40	<u>3431.53</u>	<u>3799.34</u>	<u>4619.15</u>
Salisbury	366.82	815.96	2300.33	1697.15	1520.25
Foster		<u>881.20</u>	<u>1279.27</u>	<u>1483.78</u>	
Total	<u>7493.70</u>	<u>7758.56</u>	<u>7011.13</u>	<u>6980.27</u>	<u>6139.40</u>
-Scrap-					
Cliffs Shaft,	10.99		<u>119.00</u>	32.92	
Salisbury,	29.70	45.14	<u>125.14</u>	90.14	30.14
Foster					
Total	<u>40.69</u>	<u>45.14</u>	<u>244.14</u>	<u>123.06</u>	<u>30.14</u>
Fitch Mine Fixtures	1457.24	1489.24	1585.24	1665.24	3353.72
Total I. C. CO.	55678.71	39714.43	39387.22	30670.42	27393.15
Volunteer Mine	7484.01				
Imperial "	2670.83				
Michigamme "	<u>8094.72</u>				
Grand Total	<u>125178.32</u>	72866.81	84545.96	77367.98	82136.89

Dept. M & M.
 Recapitulation of Inventory accts.

Year ending Nov. 30th 1899

Showing Amount on Hand at Close of Each Year from 1883 to 1899.
 Recapitulation of Inventory Accounts,
 GILBESLAND IRON MINING CO. and IRON OILS CO.

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	1883	1888	1895	1899	1899
Grand Total	136088.58	158000.81	84242.30	112871.38	85120.80
Michigan " "	6024.15				
Imperial " "	3010.82				
Admiral Mine	1484.01				
Total I. O. Co.	10919.08	3314.43	33381.55	30910.43	51233.12
Bitum Mixtures	1421.34	1480.34	1292.34	1992.34	3222.15
Total	40.28	42.14	344.14	152.08	30.14
Roaster	36.10	42.14	152.14	30.14	30.14
Gilks Shaft	10.38		11.14	38.38	
-Grish-					
Total	463.10	1188.28	1011.12	680.51	6130.40
Roaster		81.50	1513.51	1482.18	1230.52
Gilks Shaft	292.88	812.38	3300.23	1081.12	1230.52
Gilks Shaft	1780.88	9091.40	8321.82	3182.24	8173.12
-Mine Equipment-					
Total	43921.08	10451.42	30242.11	51001.82	11823.88
Roaster		122.31	1445.91	3982.12	
Gilks Shaft	10815.43	11800.32	12024.38	9438.38	2802.44
Gilks Shaft	22814.90	18423.82	14003.18	13281.12	15004.42
-Grish-					
Total	21320.02	22123.28	42128.14	46081.22	24442.14
Total G. I. M. Co.					
Total	32.20	32.02	208.92	324.32	123.02
Take, Total		33.12	18.92	48.92	32.22
Hand Ore	52.20	3.32	322.00	810.31	123.42
-Grish-					
Total	3381.02	8211.02	18000.21	30823.02	32002.12
Take, Total	2258.21	4412.11	13032.41	14881.42	12321.92
Hand Ore	2128.28	4191.82	1401.40	2824.90	1111.20
-Mine Equipment-					
Total	11321.42	34412.32	36312.31	32280.22	31212.22
Take, Total	32088.23	12332.92	13182.92	13074.04	14221.08
Hand Ore	10811.81	8522.21	13402.94	11920.24	11538.21
-Grish-					
Total	1883	1888	1895	1899	1899

CLEVELAND IRON MINING CO. and IRON CLIFFS CO.

Summary From Labor Statements for

Year Ending Nov.30, 1899.

		Avg. No. Men	No.Days	Rate per Day	Amount	T.per Man pr.Da	Cost pr ton	Product
<u>Surface</u>								
Hard Ore	12 mo.	55	15529 $\frac{1}{2}$	1.72	26674.48			8992
Lake	12 "	74	23492 $\frac{1}{2}$	1.74	40884.37	19.82	.088	465452
Volunteer	7 "	41	7284 $\frac{1}{2}$	1.87	13614.70	4.43	.422	32243
Imperial	6 "	20	2631 $\frac{1}{2}$	1.80	4728.19	9.72	.185	25575
Michigamme	2 "	36	1549 $\frac{3}{4}$	1.76	2721.43			
Cliffs Shaft	12 "	87	26504	1.70	44937.51	9.49	.178	252161
Salisbury	12 "	50	15448 $\frac{1}{2}$	1.676	25888.53	8.84	.190	136519
Foster			28	2.65	74.22			
Tilden	8 "	22	4359 $\frac{1}{2}$	1.78	7775.40	6.27	.284	27345
Explorations, 47-27		2	671 $\frac{3}{4}$	3.08	2068.01			
<u>Total Surface</u>		387	97498 $\frac{3}{4}$	1.74	169366.84	9.73	.179	948287
<u>Underground</u>								
Hard Ore	4 mo.	37	3407 $\frac{1}{2}$	2.04	6947.02			8992
Lake	12 "	426	123996 $\frac{1}{2}$	2.15	266665.00	3.76	.573	465452
Volunteer	5 "	76	9467	2.19	20697.91	3.41	.642	32243
Imperial	5 "	26	3076 $\frac{3}{4}$	2.00	6159.88	7.66	.261	23563
Cliffs Shaft	12 "	225	65433 $\frac{1}{2}$	1.994	130500.68	3.85	.519	252161
Salisbury	12 "	128	38275 $\frac{1}{2}$	2.24	85570.22	3.57	.627	136519
<u>Total Underground</u>		918	243656 $\frac{3}{4}$	2.12	516540.71	3.77	.562	918930
<u>General</u>								
Cleveland Iron Mining Co.		9	2920 $\frac{3}{4}$	4.18	12216.36			
Iron Cliffs Co.		17	2262 $\frac{1}{2}$	4.64	10498.31			
<u>Total General</u>		16	5183	4.38	22714.67			
<u>Outside Parties</u>								
Cleveland Iron Mining Co.		7	1944 $\frac{3}{4}$	1.90	3690.39			
Iron Cliffs Co.			78	2.01	157.11			
<u>Total Outside Parties</u>		7	2022 $\frac{3}{4}$	1.90	3847.50			
<u>Total C.I.M.Co. & I.C.Co.</u>		1181	348361 $\frac{1}{2}$	2.05	712469.72	2.72	.751	948287

1305

1328

28

45

The Cleveland-Cliffs Iron Co.

Labor 1899.
Sept 24-26

CLEVELAND IRON MINING CO. and IRON CLIFFS CO.

Summary from Labor Statements for

Year Ending Nov. 30, 1899.

Total by Mines.

Men	No.	Days	Rate	Amount	T. Dr.	Cost	Product.
-----	-----	------	------	--------	--------	------	----------

General	18	"	"	3380 1/2	4.18	13816.33	
Maintenance	8	"	"	1949 1/2	1.18	2281.43	
Industrial	2 1/2	"	"	45	9.08	4.03	480
Volunteer	0	"	"	0	0	0	33843
Labor	18	"	"	900	14.193	12573.9	463425
Hard Ore	18	mo.	"	0	18330 1/2	1.18	33081.90

Total C. I. M. Co. 666 18332 1/2 5.08 401303.34 5.12 184 633385

General	18	"	"	5803 1/2	4.04	23453.21	
Explosives	8	"	"	517 1/2	3.08	1573.81	
Light	8	"	"	4329 1/2	1.18	5108.40	0.31
Labor	18	"	"	88	5.02	44.38	.84
Refinery	18	"	"	118	24.84	2911.92	816 136218
Office Staff	18	mo.	"	318	5193 1/2	1.9081	638 52161

Total I. C. Co. 912 18333 5.01 301313.88 5.15 133 416952

Total to Outside Parties 1 5033 1.30 384.90

Total C. I. M. Co. & I. C. Co. 1181 348301 5.02 418469.15 5.15 187 848331

Total by Months.

C. I. M. Co. and I. C. Co.

Month	Men	No.	Days	Rate	Amount	T. Dr.	Cost	Product.
November	143	3280 1/2	5.11	16361.08			12121	
October	141	3000 1/2	5.13	15336.80			94788	
September	130 1/2	33930 1/2	5.13	17119.30			33992	
August	130 1/2	33033 1/2	5.08	16828.56			30831	
July	133	33333 1/2	5.02	16810.80			33453	
June	118 1/2	33666 1/2	5.02	16868.91			16040	
May	119 1/2	33331 1/2	5.04	16915.89			12300	
April	91	19383 1/2	5.04	9664.98			81511	
March	104	30666 1/2	5.00	15200.01			43330	
February	83	34000 1/2	1.18	40130.12			63135	
January	103 1/2	34512 1/2	1.34	45823.10			6186	
December, 1898	102	32132 1/2	1.33	42306.23			87836	
							11350	

Total C. I. M. Co. & I. C. Co. 1181 348301 5.02 418469.15 5.15 187 848331

Office Staff " "
Hamshite Excess Ore
Product per year as above

331
9099
948331

Grand Total

848331

CLEVELAND IRON MINING CO. and IRON CLIFFS CO.

Statement of Salaries and Perquisites, Year Ending November 30th, 1899.

<u>Agent:</u>	<u>C.I.M.Co.</u>	<u>I.C.Co.</u>	<u>Total.</u>
Salary	4000.00	4000.00	8000.00
Rent	180.00	180.00	360.00
Choreman	267.72	267.72	535.44
Water	5.00	5.00	10.00
Telephone	7.50	7.50	15.00
Horse "George", 365 das. .30	54.75	54.75	109.50
<i>Mining</i> Drawing team " " .60	109.50	109.50	219.00
Proportion of Barn Boss' time	168.75	168.75	337.50
Cow and pony-feed	54.75	54.75	109.50
Total	4847.97	4847.97	9695.94
<hr/>			
<u>Lake Mining Captain</u> <u>A. Collick</u>			
Salary	2500.00		
Telephone	15.00		
Horse	109.50		
Total			2624.50
<hr/>			
<u>Cliffs Shaft Mining Captain</u> <u>J. H. Rough</u>			
Salary		2500.00	
Telephone		15.00	
Total			2515.00
<hr/>			
<u>Salisbury Mining Captain</u> <u>Jas. Stevens.</u>			
Salary 7-1/3 mos.		1098.00	
Telephone 6 mos.		7.50	
Salary 6 mos.		900.00	
Telephone		7.50	
Horse and Cow 183 das. .30		54.90	
Total			2067.90
<hr/>			
<u>Tilden Mining Captain</u>			
Salary 7-1/2 mos.		570.00	
Telephone 6 "		15.00	
Total			585.00
<hr/>			
<u>Master Mechanic</u> <u>W. E. McKee</u>			
Salary 9-3/4 mos.	975.00	975.00	1950.00
Telephone	4.37	4.38	8.75
Horse and care	43.87	43.88	87.75
Total	1023.24	1023.26	2046.50
<hr/>			
<u>Thos. Buzzo, Consulting Mining Captain</u>			
Salary		1344.00	
Telephone		15.00	
Horse		120.00	
			1479.00
<hr/>			
<u>Imperial Mining Captain</u> <u>Jno. Peters</u>			
Salary, June 3d	592.		
Telephone	2.50		
Horse, rent and feed	40.39		
			634.89
<hr/>			
<u>Volunteer Mining Captain</u> <u>J. Mathews</u>			
Salary 6 mos.	900.00		
Rent " "	48.00		
			948.00

Cleveland Iron Mining Co. and Iron Cliffs Co., Product and Shipments

For the Year Ending Nov. 30th, 1899.

GRADES.	PRODUCT.	SHIPMENTS.
Cleveland Bessemer	2622	3196
Saw Mill	99	
Scotch	6271	5656
Volunteer	674	
Comrade 31569	31569	29983
Lake (Including Manganese)	300652	307757
Lake Bessemer	164800	156552
East End Bessemer	465452	464309 50581
Cleveland Hematite (Stock pile overrun)	5059	
Imperial	23563	21223
Do. from old stock pile	2012	2012
Cliffs Shaft	252392	19550, Coarse. 240757, Crushed. 260307
Salisbury	84572	94163
Salisbury Bessemer	22154	9835
Salisbury No. 3 Ore	29793	21121
Foster	136519	125119 55707
Tilden Silica	<u>27345</u>	<u>27294</u>
Total Product	953577	
Total shipments by Lake and all rail		1045387
Balance in L. S. & I. Dock, Nov. 30th, 1899:		
Tilden Silica		<u>51</u>
Total Shipments from Mines		1045438
Cleveland Iron Mining Co.	576960	
Iron Cliffs Co.	<u>468478</u>	1045438

Cleveland Iron Mining Co. and Iron Cliffs Co. Balance in Stock

Nov. 30th, 1899.

	Tons	Tons
Cleveland Iron Mining Co.:		
Scotch	812	
Volunteer	674	
Comrade	1536	
Lake	4726	
Lake Bessemer	15242	
Imperial	<u>2340</u>	
Total		25380
Iron Cliffs Company:		
Cliffs Shaft	200	
Salisbury	2550	
Salisbury Bessemer	3678	
Salisbury No. 3	5538	
Foster	<u>3472</u>	
Total		<u>15438</u>
Total ore in stock		<u><u>40818</u></u>

THE CLEVELAND-CLIFFS IRON COMPANY

Statement of Marine Insurance, 1898 and 1899.

Vessel	Losses		Premiums		Losses Exceed Premiums		Premiums Exceed Losses	
	1899	1898	1899	1898	1899	1898	1899	1898
Presque Isle,	\$ 6,306.50		\$ 8,535.68	\$ 4,507.57			\$ 2,229.18	\$ 4,507.57
Angeline,			6,433.24				6,433.24	
Centurion,	1,180.25		4,156.56				2,976.31	
Pontiac,	# 335.88	3,560.71	5,571.93	4,310.00			5,236.05	749.29
Frontenac,		1,988.96	5,184.50	4,005.62			5,184.50	2,016.66
Cadillac,		4,045.63	3,775.38	2,928.13		\$ 1,117.50	3,775.38	
Pioneer,		1,953.88	3,775.38	2,928.13			3,775.38	974.25
Chat'nooga	480.69		3,235.31				2,754.62	
Kaliyuga,		1,560.20	3,671.77	2,957.74			3,671.77	1,397.54
Fontana,	347.50	210.85	2,063.78	1,664.74			1,716.28	1,453.89
Pease,	11,054.24	4,250.92	591.47	646.50	\$10,462.77	3,604.42		
Planet,			217.84	276.38			217.84	276.38
Totals,	\$19,705.06	\$17,571.15	\$47,212.84	\$24,224.81	\$10,462.77	\$ 4,721.92	\$37,970.55	\$11,375.58

Paid by steamer "Superior City".

Net Premiums in excess of Loss

*10,462.77 4,721.92
27,507.78 \$ 6,653.66*

Cleveland, March 26, 1900.

THE CLEVELAND-CLIFFS IRON COMPANY.

COMPARATIVE STATEMENT OF VESSELS OPERATIONS FOR THE SEASON OF 1899.

	PRESQUE ISLE	ANGELINE	CENTURION.	PONTIAC.	FRONTENAC	CADILLAC	PIONEER AND CHATTANOOGA	KALIYUGA AND FONTANA.	PEASE AND PLANKT.	GRAND TOTALS.
Number miles traveled.	36393	8836	35090	39827	34538	31074	25203	25351	15318	251630
Gross tons freight carried,	166910	36522	108001	99628	86969	62042	117319	100778	37339	815508
Average rate freight per gross ton,	\$.6229	\$1.4444	\$.7547	\$.7045	\$.6745	\$.6328	\$1.0109	\$.6097	\$.7986	\$.7556
Average cost to carry per gross ton freight,	.3669	.5131	.4173	.4655	.5433	.4980	.4360	.4731	.4621	.4484
Net earnings per ton freight carried,	\$.2560	\$.9313	\$.3374	\$.2390	\$.1312	\$1.1348	\$.5749	\$.1366	\$.3365	\$.3072
Gross Receipts,	\$103,969.95	\$52,753.65	\$81,504.36	\$70,185.97	\$58,666.04	\$39,261.24	\$118,603.80	\$61,452.39	\$29,819.66	\$616,217.06
Gross Expenditures,	61,247.21	18,740.38	45,064.23	46,378.51	47,249.79	30,898.81	51,149.41	47,682.18	17,254.33	365,664.85
Net Earnings,	\$42,722.74	\$34,013.27	\$36,440.13	\$23,807.46	\$11,416.25	\$ 8,362.43	\$67,454.39	\$13,770.21	\$12,565.33	\$250,552.21
Percentage of operations to earnings,	58.9	35.5	55.3	66.8	80.5	78.7	43.1	77.6	57.6	59.3
Gross Earnings Per day,	\$474.75	\$909.54	\$354.37	\$313.33	\$256.18	\$174.49	\$541.57	\$287.16	\$159.46	\$3,470.85
Operating expenses per day,	279.67	323.11	195.93	207.05	206.33	137.33	233.56	222.81	92.27	1,898.06
Net earnings per day,	\$195.08	\$586.43	\$158.44	\$106.28	\$49.85	\$37.16	\$308.01	\$64.35	\$67.19	\$1,572.79
Expenses per day, excluding cargo handling costs.	\$154.56	\$219.10	\$132.07	\$137.38	\$147.00	\$93.09	\$152.59	\$146.97	\$72.28	\$1,255.04
Average tons coal consumed per mile steamed,	229/2000	222/2000	276/2000	188/2000	150/2000	110/2000	187/2000	165/2000	147/2000	
Average wages paid per day, while in commission.	\$31.48	\$33.16	\$29.74	\$29.07	\$25.95	\$24.83	\$35.08	\$31.04	\$24.28	
Average ore cargo from Lake Superior,	5961	6104	4348	3275	3099	2354	5624	4929	1660	

comparative Statement
of Vessel Operations
for Season 1899

51

358442

484,445.03

51.967

92,743.09

730.340

1,673,956.28

$$\begin{array}{r} 569 \\ 8263 \\ \hline 8832 \end{array}$$

$$\begin{array}{r} 848.70 \\ 15,287.17 \\ \hline 16,135.87 \end{array}$$

$$\begin{array}{r} 5000 \\ 39 \\ 198 \\ 307 \\ \hline 5544 \end{array}$$

$$\begin{array}{r} 10,500.00 \\ 53.22 \\ 367.09 \\ 390.38 \\ \hline 11,310.69 \end{array}$$

$$\begin{array}{r} 66108 \\ 10 \\ 400 \\ 32 \\ \hline 66550 \end{array}$$

$$\begin{array}{r} 148,515.68 \\ 26.00 \\ 1,000.33 \\ 111.96 \\ \hline 149,653.97 \end{array}$$

349,610

468,309.16

46,423

81,432.40

663,790

1,524,302.31

46,423

66,577.04

14,855.36

662,463.12

663,790

861,839.19

66,577.04

861,839.19

1059,823

1,396,725.39

1,318

1059823

3369023

3179469

1895549

1059823

8357260

Price of Sales 1899
reduced to Mine basis -

The Cleveland Cliffs Iron Co.

Quick Assets and Liabilities. November 30th 1899

	L-L Co	L-M Co	L-Geo	Total
<u>Quick Assets.</u>				
Stock of Lake Superior Iron Co	957580.00			
" " Regent Iron Co	112500.00			
" " Arctic Iron Co	115000.00			
" " L & I Ry	1000.00			
Iron in Regent Mines	32875.00			
" " Webster "	19489.69			
Core Timber Lands	14500.00			
Vessels	245000.00	250000.00		
Pig Iron on hand	112496.20			
Alcohol & Acetate on hand	2530.99			
Supplies on hand	95442.36	69499.61	64970.76	
Bills Receivable	38213.32	53576.28	61992.24	
Accounts "	232212.53	224629.07	410087.40	
Cash on hand	105650.10	52635.81	44592.20	
Acc " "		332687.45	295299.40	
Bonds of L-L Stock Co			21500.00	
	2084490.19	983028.22	898442.00	3965960.41
<u>Liabilities.</u>				
Unclaimed Wages	6866	865.65	249.92	
Pay Rolls unpaid	15205.61	47056.52	25598.06	
Accounts Payable	569445.02	130344.25	71110.66	
Advance payments on undelivered iron ore	203.50	136616.55	94805.00	
Bills Payable	445588.12			
Benefit Funds		15183.13	4197.58	
Core Stocks		967.25	611.50	
	1030510.92	331033.35	196572.73	1558117.00
<u>Net Quick Assets</u>	1053979.27	651994.87	701869.27	2407843.41
No Shares Stock outstanding	38.147	100.000	20.000	
Value of each per share	27.63	6.52	35.60	
Par Value	100.00	25.00	50.00	

38.147 shares L-L Stock outstanding - Total net Assets \$2,407,843.41 = \$63.12 per share

Note: During 1899 was purchased 5315 shares of stock in the Iron Cliffs Co at cost of \$425,200.00 which is not included in above statement of Assets. This would add \$11.15 to value of each share of L-L Stock

The Cleveland-Cliffs Iron Co.

Quick Assets and Liabilities

Nov 30th 1899

mine

570	848.70 ✓
277,430	373,608.05 ✓
97,676	165,681.27 ✓
2,584	7,108.12 ✓
34,222	51,076.86 ✓
55,619	71,192.72
9,930	9,929.83

478.031 679.445.55

8834 16,135.87 *over purchased*

469.200 663,309.68

54

4,017.65	} <i>Penalties</i>
2,071.93	
<u>6,089.58</u>	

469,200	657,220.10
50,264	71,537.59
658,325	835,335.85

1,177,789 \$1,564,093.54

All deliveries reduced to basis
of Mine Delivery = 1.328 per ton

Wrights

39	53.22 ✓
44059	78,998.75 ✓
307	390.38
6166	8,570.10

50571 88,012.45

307 390.38 *over purchased*

50,264 87,622.07

Less 328 16,084.48

71,537.59

L & Porto

3427	8,482.51 ✓
317,168	752,647.06 ✓
12,673	31,364.52 ✓
6,144	12,625.94 ✓
197,911	485,010.26 ✓
129,278	272,734.37
21,692	43,039.81
581	2,061.61
35,795	52,795.41

724,669 1,660,761.49

66344 148,935.99 *over purchased*

658,325 1,511,825.50

4,802.377	} <i>Penalties</i>
14,678.93	
<u>19,481.30</u>	

658,325 1,492,344.20

Less 998 etc 657,008.35

835,335.85

8263
569

8832

15,287.17 ✓
848.70 ✓

16,135.87

307

390.38 ✓

197
21087
45.060

66,344

367.09 ✓
46,107.85 ✓
102,461.05 ✓

148,935.99

Price of all deliveries
reduced to Mine basis
1899.

~~658325
998
526600
5924925
5924925
657008350~~

~~50264
32
100528
150792
1608448~~

The Cleveland-Cliffs Iron Co.

General Expenses & Miscellaneous items, shown on Approximate Analysis Statements - 1899.

	6-6 96	6-9 96	96	Total
<i>Profits</i>				
Discounts for prompt pay	22273	55828	27912	
Sale of old building		7500	500	
Profit on sale Federal Steel Co stock			804437	
" " " " U.S. Steel Co Bonds			3500	
Int on sale of Lots	3655			
Prizes for locating Ice	13875			
Liberty B. Co + Storage on big Iron				
Premium on U.S. Bonds sold				
" " " " Stock, taken up	100000			
W.C. Mathews & Co	100			
Profit on sale Mills' stock	250000			
	389903	63328	836349	
<i>Losses</i>				
General Expenses	689162	1009635	1827424	
Special "		2885	58056	
Legal "	134904	51508	50288	
Personal Tax 1898		12383		
Marquette Property		6360		
Maintaining tracks to Queen Mine	160032			
	984098	1140827	1935768	
	594195	1077499		
Less Webster Mine Tax		1018		
" " " " Imperial Mine		14544		
" " " " Jones, Leonard, Gardner & Harrison Sp etc	142438			
	451757	1061937	1099419	

The Cleveland-Cliffs Iron Co.

General Expenses & Miscellaneous Items
shown on Approximate Analysis Statements
Year 1899.

Private.

ANNUAL REPORT
of the President of
THE CLEVELAND - CLIFFS IRON COMPANY.

Cleveland, O. Feb. 6th, 1900.

To the Stockholders:

MEMORANDUM:- At the annual meeting of the stockholders of this Company, held in Cleveland, at 3:00 p.m., January 25th, the following board of Directors was elected to serve during the ensuing year.

PETER WHITE, Marquette, Mich.	E. R. PERKINS, Willoughby, Ohio.
CARROLL MATHER, Cleveland, Ohio.	J. H. WADE, New York, N. Y.
J. H. McBRIDE, Cleveland, Ohio.	J. H. HOYT, Cleveland, Ohio.
W. S. TYLER, Cleveland, Ohio.	S. E. WILLIAMSON, Cleveland, Ohio.
W. G. MATHER, Cleveland, Ohio.	

The following balance sheets and ore statements show the financial condition of our companies, and the number of tons of iron ore and pig iron produced.

The profits during the past year show a satisfactory increase over those of 1898, due *partly* to increased production, and partly to slightly higher prices. It should be borne in mind that all the ore companies sold their product *very* early in 1899, and therefore did not reap any advantage from the boom in the iron business, which set in after ore sales were made.

Our assets have been largely increased, as you will note by reference to the Balance Sheet. We have increased our holdings in the Iron Cliffs Co.'s stock, so that now we own all but 100 shares. We have bought one-half of the stock of the Arctic Iron Co., a corporation owning an undivided one-half interest in mineral lands near Negaunee. We have also bought ^{both} one-fourth of the stock of the Lake Superior Iron Co., and the Regent Iron Co. and one-sixteenth interest in the fee of the properties leased by the latter company. We have bought one-half of the fee of the Webster Mine, an ore property of moderate value, but which can be operated at a profit in these prosperous times. We have purchased the Schooner "CHATTANOOGA" as a consort for the Steamer "PIONEER". We have also taken a one-half interest in the lease of the Imperial Mine, a property very much similar to and adjoining the Webster. We have unwatered and reopened the Cleveland Iron Mining Co.'s old hard ore mine, called the "MORO", and also the "VOLUNTEER" mine about five miles from Ishpeming, which latter we are operating under an option for purchase. We have also recently leased the "MICHIGANITE" mine. These increases in mineral properties will somewhat increase our

ore output for the coming year. Although most of them will not produce an ore of high quality, yet while present prices prevail, they can be operated at some profit.

Dividends during the past year were paid quarterly, the first two at the rate of one percent and the last two at the rate of two percent.

With respect to the case between us and the Pittsburg & Lake Angeline Iron Co. will say that the decision of the Supreme Court of the State of Michigan was in our favor, and an attempt is now being made to carry it up to the Supreme Court of the United States.

The PIONEER FURNACE did not produce as much pig iron in 1899 as in 1898 because it was out of blast for about two months, while being repaired. The furnace is now in good shape, and bids fair to make a very favorable record for itself during the coming year. Many improvements have been made in the by-product plant connected with the furnace, which it is expected will largely increase the output of alcohol and acetate of lime.

The outlook for the coming year is very favorable. The larger part of the estimated output of the mines has already been sold at good prices.

Respectfully submitted,

WM. G. MATHER, President.

Number of Stockholders, January 23th, 1900, - 205

The Cleveland-Cliffs Iron Co.

Printed report of Cash

1899

DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY
DIVISION OF MINERAL RESOURCES

IRON ORE.

JANUARY 1, 1900.

DEAR SIR:

Inclosed you will find a card of inquiry and a return envelope. You are requested to fill out the card promptly, and inclose it in the addressed envelope (which does not require postage), so that accurate statements of the quantity and value of iron ore mined in the United States during the calendar YEAR ENDING DECEMBER 31, 1899, can be prepared for publication.

The answers received from individuals, firms, or mining companies are not given in the published reports. All the figures you send will be considered CONFIDENTIAL and used only in making up averages and totals for publication.

State in exact figures the total amount of marketable iron ore mined or produced (not the shipments) during the year ending December 31, 1899. (If these can not be obtained give close approximations.)

If the mine is abandoned, if operations are temporarily suspended, or if no stocks of ore are on hand, so state on the card. If the mine was operated for but a portion of the year, returns should be made for such time.

If new iron ore mines have been opened or exploited in your vicinity during the last year, or if mines which have been idle have resumed or are about resuming activity, I shall esteem it a favor if you will supply the names and post-office addresses of the proper persons from whom statistics can be obtained.

Any information concerning iron-ore mining which will add to the interest of the volume of Mineral Resources will be welcomed. Published reports upon mineral properties are especially desired. The purpose of the United States Geological Survey in issuing this volume is to render practical service to those engaged in mining, and your prompt cooperation is asked in order that the statistics can be tabulated and the report issued at an early date.

Yours respectfully,

JOHN BIRKINBINE,
*Special Agent U. S. Geological Survey,
Odd Fellows' Temple, Broad and Cherry streets,
Philadelphia, Pa.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES GEOLOGICAL SURVEY.

Division of Mineral Resources.

To be returned PROMPTLY in accompanying franked envelope, to JOHN BIRKINBINE, 25 North Juniper Street, Philadelphia, Pennsylvania.

CONFIDENTIAL.

NO. 202

IRON ORE.

Statistics of IRON ORE MINED during the year ending December 31st, 1899, at the

Salisbury
(Give name or designation of mine.)

Located at Shiloh County of Marquette State of Mich
Information supplied by W. M. B. Clew
(Sign here, giving name, official position and post-office address.)

For use only in the preparation of general statistics, for the "MINERAL RESOURCES OF THE UNITED STATES, 1899", to be published by the United States Geological Survey.

A. Underscore character of iron ore produced, and if more than one of the following classes is mined, give amount of each:

LIMONITE, BROWN HEMATITE, OR BOG ORE.

RED HEMATITE, SPECULAR OR FOSSIL ORE.

MAGNETIC IRON ORE.

CARBONATE OR BLACK BAND ORE.

B. State total amount of marketable iron ore mined or produced during the year ending December 31st, 1899.

137,436 GROSS TONS.
(If none, so state.)

Also stock of iron ore at hand at MINE, December 31st, 1899.

19,590 GROSS TONS.
(If none, so state.)

C. Give total value on cars or carts, AT THE MINE of the iron ore produced during the year ending December 31, 1899, royalty, if any, included, but exclusive of hauling to points of shipment or consumption. The gross commercial value of the ore at the mine, NOT the cost or profit, is asked for.

\$ 150,594.00

D. Is there objection to the FIGURES OF OUTPUT ONLY being credited to your mine in the report when published?

Answer No

Sal's Pass 24996 @ 1.65
Sal's 83402 " 1.05
Sal's #3 29038 " 75

DEPARTMENT OF THE INTERIOR.
UNITED STATES GEOLOGICAL SURVEY.
Division of Mineral Resources.

To be returned PROMPTLY in accompanying franked envelope, to JOHN BIRKING, 25 North Juniper Street, Philadelphia, Pennsylvania.

CONFIDENTIAL.

NO. 173.

IRON ORE.

Statistics of IRON ORE MINED during the year ending December 31st, 1899, at the

Cleveland Lake
(Give named or designation of mine.)

Located at Iskoping County of Marquette State of Mich

Information supplied by W. S. M. P. S. S. S.
(Sign here, giving name, official position and post-office address.)

For use only in the preparation of general statistics, for the "MINERAL RESOURCES OF THE UNITED STATES, 1899", to be published by the United States Geological Survey.

A. Underscore character of iron ore produced, and if more than one of the following classes is mined, give amount of each:

LIMONITE, BROWN HEMATITE, OR BOG ORE.

RED HEMATITE, SPICULAR OR FOSSIL ORE.

MAGNETIC IRON ORE.

CARBONATE OR BLACK BAND ORE.

B. State total amount of marketable iron ore mined or produced during the year ending December 31st, 1899.

457422 GROSS TONS.
(If none, so state.)

Also stock of iron ore at hand at MINE, December 31st, 1899.

38565 GROSS TONS.
(If none, so state.)

C. Give total value on cars or carts, AT THE MINE of the iron ore produced during the year ending December 31, 1899, royalty, if any, included, but exclusive of hauling to points of shipment or consumption. The gross commercial value of the ore at the mine, NOT the cost or profit, is asked for.

\$ 619,425.00

D. Is there objection to the FIGURES OF OUTPUT ONLY being credited to your mine in the report when published?

Answer: No

Lake Bes 162003 @ 2.00
Lake 295419 " 1.00

DEPARTMENT OF THE INTERIOR,
UNITED STATES GEOLOGICAL SURVEY,
Division of Mineral Resources.

To be returned PROMPTLY in accompanying franked envelope, to JOHN EIPPENBINE, 25 North Juniper Street, Philadelphia, Pennsylvania.

CONFIDENTIAL.

NO. 206

IRON ORE.

Statistics of IRON ORE MINED during the year ending December 31st, 1899, at the

Tilden
(Give name or designation of mine.)

Located at Sherrington County of Marquette State of Mich
Information supplied by W. W. Pease
(Sign here, giving name, official position and post-office address.)

For use only in the preparation of general statistics, for the "MINERAL RESOURCES OF THE UNITED STATES, 1899", to be published by the United States Geological Survey.

A. Underscore character of iron ore produced, and if more than one of the following classes is mined, give amount of each:

LIMONITE, BROWN HEMATITE, OR BOG ORE.

RED HEMATITE, SPECULAR OR FOSSIL ORE.

MAGNETIC IRON ORE.

CARBONATE OR BLACK BAND ORE.

B. State total amount of marketable iron ore mined or produced during the year ending December 31st, 1899.

27345 GROSS TONS.
(If none, so state.)

Also stock of iron ore at hand at MINE, December 31st, 1899.

none GROSS TONS.
(If none, so state.)

C. Give total value on cars or carts, AT THE MINE of the iron ore produced during the year ending December 31, 1899, royalty, if any, included, but exclusive of hauling to points of shipment or consumption. The gross commercial value of the ore at the mine, NOT the cost or profit, is asked for.

\$ 13,672.50

D. Is there objection to the FIGURES OF OUTPUT ONLY being credited to your mine in the report when published?

Answer _____

DEPARTMENT OF THE INTERIOR,
UNITED STATES GEOLOGICAL SURVEY,
Division of Mineral Resources.

To be returned PROMPTLY in accompanying franked envelope, to JOHN BIRKINBINE, 25 North Juniper Street, Philadelphia, Pennsylvania.

CONFIDENTIAL.

NO. 172

IRON ORE.

Statistics of IRON ORE MINED during the year ending December 31st, 1899, at the

Cleveland Hematite
(Give name or designation of mine.)

Located at Leppening County of Marquette State of Mich
Information supplied by W. C. M. Peck, Cleve
(Sign here, giving name, official position and post-office address.)

For use only in the preparation of general statistics, for the "MINERAL RESOURCES OF THE UNITED STATES, 1899", to be published by the United States Geological Survey.

A. Underscore character of iron ore produced, and if more than one of the following classes is mined, give amount of each:

LIMONITE, BROWN HEMATITE, OR BOG ORE.

RED HEMATITE, SPECULAR OR FOSSIL ORE.

MAGNETIC IRON ORE.

CARBONATE OR BLACK BAND ORE.

B. State total amount of marketable iron ore mined or produced during the year ending December 31st, 1899.

None GROSS TONS.
(If none, so state.)

Also stock of iron ore at hand at MINE, December 31st, 1899.

None GROSS TONS.
(If none, so state.)

C. Give total value on cars or carts, AT THE MINE of the iron ore produced during the year ending December 31, 1899, royalty, if any, included, but exclusive of hauling to point of shipment or consumption. The gross commercial value of the ore at the mine, NOT the cost or profit, is asked for.

D. Is there objection to the FIGURES OF OUTPUT ONLY being credited to your mine in the report when published?

Answer _____

(Mine abandoned)

DEPARTMENT OF THE INTERIOR,
UNITED STATES GEOLOGICAL SURVEY,
Division of Mineral Resources.

To be returned PROMPTLY in accompanying franked envelope, to JOHN BIRKIMBINE, 25 North Juniper Street, Philadelphia, Pennsylvania.

CONFIDENTIAL.

NO. 179

IRON ORE.

Statistics of IRON ORE MINED during the year ending December 31st, 1899, at the

Foster

(Give name or designation of mine.)

Located at Iskoping County of Marquette State of Mich

Information supplied by Wm M. C. Cleve
(Sign here, giving name, official position and post-office address.)

For use only in the preparation of general statistics, for the "MINERAL RESOURCES OF THE UNITED STATES, 1899", to be published by the United States Geological Survey.

A. Underscore character of iron ore produced, and if more than one of the following classes is mined, give amount of each:

LIMONITE, BROWN HEMATITE, OR BOG ORE.

RED HEMATITE, SPECULAR OR FOSSIL ORE.

MAGNETIC IRON ORE.

CARBONATE OR BLACK BAND ORE.

B. State total amount of marketable iron ore mined or produced during the year ending December 31st, 1899.

None GROSS TONS.
(If none, so state.)

Also stock of iron ore at hand at MINE, December 31st, 1899.

8472 GROSS TONS.
(If none, so state.)

C. Give total value on cars or carts, AT THE MINE of the iron ore produced during the year ending December 31, 1899, royalty, if any, included, but exclusive of hauling to point of shipment or consumption. The gross commercial value of the ore at the mine, NOT the cost or profit, is asked for.

D. Is there objection to the FIGURES OF OUTPUT ONLY being credited to your mine in the report when published?

Answer: _____

(Mine abandoned)

DEPARTMENT OF THE INTERIOR.
UNITED STATES GEOLOGICAL SURVEY.
Division of Mineral Resources.

To be returned PROMPTLY in accompanying franked envelope, to JOHN BERRINGTON, 25 North Juniper Street, Philadelphia, Pennsylvania.

CONFIDENTIAL.

NO. 174

IRON ORE.

Statistics of IRON ORE MINED during the year ending December 31st, 1899, at the

Cliffs Shaft
(Give name or designation of mine.)

Located at Shippensburg County of Marquette State of Mich

Information supplied by W. M. P. Clew
(Sign here, giving name, official position and post-office address.)

For use only in the preparation of general statistics, for the "MINERAL RESOURCES OF THE UNITED STATES, 1899", to be published by the United States Geological Survey.

A. Underscore character of iron ore produced, and if more than one of the following classes is mined, give amount of each:

LIMONITE, BROWN HEMATITE, OR ROG ORE.

RED HEMATITE, SPECULAR OR FOSSIL ORE.

MAGNETIC IRON ORE.

CARBONATE OR BLACK BAND ORE.

B. State total amount of marketable iron ore mined or produced during the year ending December 31st, 1899.

250.252 GROSS TONS.
(If none, so state.)

Also stock of iron ore at hand at MINE, December 31st, 1899.

143.22 GROSS TONS.
(If none, so state.)

C. Give total value on cars or carts, AT THE MINE of the iron ore produced during the year ending December 31, 1899, royalty, if any, included, but exclusive of hauling to points of shipment or consumption. The gross commercial value of the ore at the mine, NOT the cost or profit, is asked for.

350.352.50

D. Is there objection to the FIGURES OF OUTPUT ONLY being credited to your mine in the report when published?

Answer

No

DEPARTMENT OF THE INTERIOR.
UNITED STATES GEOLOGICAL SURVEY.
Division of Mineral Resources.

To be returned PROMPTLY in accompanying franked envelope, to JOHN BIPRIMBINE, 25 North Juniper Street, Philadelphia, Pennsylvania.

CONFIDENTIAL.

NO. 209.

IRON ORE.

Statistics of IRON ORE MINED during the year ending December 31st, 1899, at the

Michigan
(Give name or designation of mine.)

Located at Michigan County of Marquette State of Mich

Information supplied by W. M. Peck
(Sign here, giving name, official position and post-office address.)

For use only in the preparation of general statistics, for the "MINERAL RESOURCES OF THE UNITED STATES, 1899", to be published by the United States Geological Survey.

A. Underscore character of iron ore produced, and if more than one of the following classes is mined, give amount of each:

LIMONITE, BROWN HEMATITE, OR BOG ORE.

RED HEMATITE, SPECULAR OR FOSSIL ORE.

MAGNETIC IRON ORE.

CARBONATE OR BLACK SAND ORE.

B. State total amount of marketable iron ore mined or produced during the year ending December 31st, 1899.

None GROSS TONS.
(If none, so state.)

Also stock of iron ore at hand at MINE, December 31st, 1899.

None GROSS TONS.
(If none, so state.)

C. Give total value on cars or carts, AT THE MINE of the iron ore produced during the year ending December 31, 1899, royalty, if any, included, but exclusive of hauling to points of shipment or consumption. The gross commercial value of the ore at the mine, NOT the cost or profit, is asked for.

D. Is there objection to the FIGURES OF OUTPUT ONLY being credited to your mine in the report when published?

Answer _____

DEPARTMENT OF THE INTERIOR,
UNITED STATES GEOLOGICAL SURVEY.

Division of Mineral Resources.

To be returned PROMPTLY in accompanying franked envelope, to JOHN BIRKINBINE, 25 North Juniper Street, Philadelphia, Pennsylvania.

CONFIDENTIAL.

NO. 184

IRON ORE.

Statistics of IRON ORE MINED during the year ending December 31st, 1899, at the

Imperial
(Give name or designation of mine.)

Located ^{near} Michigan County of Baraga State of Mich

Information supplied by Wm. P. Clew
(Sign here, giving name, official position and post-office address.)

For use only in the preparation of general statistics, for the "MINERAL RESOURCES OF THE UNITED STATES, 1899", to be published by the United States Geological Survey.

A. Underscore character of iron ore produced, and if more than one of the following classes is mined, give amount of each:

LIMONITE, BROWN HEMATITE, OR BOG ORE.

RED HEMATITE, SPECULAR OR FOSSIL ORE.

MAGNETIC IRON ORE.

CARBONATE OR BLACK BAND ORE.

B. State total amount of marketable iron ore mined or produced during the year ending December 31st, 1899.

27,709 GROSS TONS.
(If none, so state.)

Also stock of iron ore at hand at MINE, December 31st, 1899.

6,486 GROSS TONS.
(If none, so state.)

C. Give total value on cars or carts, AT THE MINE of the iron ore produced during the year ending December 31, 1899, royalty, if any, included, but exclusive of hauling to point of shipment or consumption. The gross commercial value of the ore at the mine, NOT the cost or profit, is asked for.

\$ 27,709.00

D. Is there objection to the FIGURES OF OUTPUT ONLY being credited to your mine in the report when published?

Answer No

DEPARTMENT OF THE INTERIOR,
UNITED STATES GEOLOGICAL SURVEY,
Division of Mineral Resources.

To be returned PROMPTLY in accompanying franked envelope, to JOHN BIRKINBIRD, 25 North Juniper Street, Philadelphia, Pennsylvania.

CONFIDENTIAL.

NO. 207

IRON ORE.

Statistics of IRON ORE MINED during the year ending December 31st, 1899, at the

Volunteer
(Give name or designation of mine.)

Located at Palmer County of Marquette State of Mich

Information supplied by W. M. Pres. Cleve
(Sign here, giving name, official position and post-office address.)

For use only in the preparation of general statistics, for the "MINERAL RESOURCES OF THE UNITED STATES, 1899", to be published by the United States Geological Survey.

A. Underscore character of iron ore produced, and if more than one of the following classes is mined, give amount of each:

LIMONITE, BROWN HEMATITE, OR BOG ORE,

RED HEMATITE, SPECULAR OR FOSSIL ORE,

MAGNETIC IRON ORE,

CARBONATE OR BLACK BAND ORE.

B. State total amount of marketable iron ore mined or produced during the year ending December 31st, 1899.

44105 GROSS TONS.
(If none, so state.)

Also stock of iron ore at hand at MINE, December 31st, 1899.

14125 GROSS TONS.
(If none, so state.)

C. Give total value on cars or carts, AT THE MINE of the iron ore produced during the year ending December 31, 1899, royalty, if any, included, but exclusive of hauling to point of shipment or consumption. The gross commercial value of the ore at the mine, NOT the cost or profit, is asked for.

61,751.20

D. Is there objection to the FIGURES OF OUTPUT ONLY being credited to your mine in the report when published?

Answer No

DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY,
Division of Mineral Resources.

To be returned PROMPTLY in accompanying franked envelope, to JOHN SPRINGER, 25 North Juniper Street, Philadelphia, Pennsylvania.

CONFIDENTIAL.

NO. 171

IRON ORE.

Statistics of IRON ORE MINED during the year ending December 31st, 1899, at the

Cleveland Hard Ore (Mass)
(Give name or designation of mine.)

Located at Isiphusing County of Marquette State of Mich

Information supplied by W. M. C. C. C. C.
(Sign here, giving name, official position and post-office address.)

For use only in the preparation of general statistics, for the "MINERAL RESOURCES OF THE UNITED STATES, 1899", to be published by the United States Geological Survey.

A. Underscore character of iron ore produced, and if more than one of the following classes is mined, give amount of each:

LEMONITE, BROKEN hematite, OR BOG ORE,

RED hematite, SPICULAR OR FOSSIL ORE,

MAGNETIC IRON ORE,

CARBONATE OR BLACK BAND ORE.

B. State total amount of marketable iron ore mined or produced during the year ending December 31st, 1899.

13159 GROSS TONS.
(If none, so state.)

Also stock of iron ore at hand at MINE, December 31st, 1899.

5877 GROSS TONS.
(If none, so state.)

C. Give total value on cars or carts, AT THE MINE of the iron ore produced during the year ending December 31, 1899, royalty, if any, included, but exclusive of hauling to points of shipment or consumption. The gross commercial value of the ore at the mine, NOT the cost or profit, is asked for.

16.448.75

D. Is there objection to the FIGURES OF OUTPUT ONLY being credited to your mine in the report when published?

Answer No

The Cleveland-Cliffs Iron Co.

*Copies of reports for 1899 furnished
U.S. Government*

STATEMENT
OF OPERATIONS STEAMERS "ANDASTE" AND "CHOCTAW"
SEASON 1899.

<u>RECEIPTS.</u>	<u>ANDASTE</u>	<u>CHOCTAW</u>
	<u>Amounts</u>	<u>Amounts</u>
Freights	4677180	5025226
<u>EXPENDITURES</u>		
Fuel	581884	565935
Oils	11630	12695
Machinery & Boiler Repairs	112386	74332
Engineer's Supplies	19833	18134
Groceries & Provisions	128831	132069
Steward's & Cabin Supplies	28499	15869
Handling Cargo	1272147	1282777
Hull Repairs	38140	30771
Special Repairs	327914	174468
Towing	66500	61860
Chandlery	47282	41840
Sundries	66766	70142
Crew's Wages	658314	659794
Master's Salary	160000	150000
Outfit	2836	1000
Taxes	52412	52412
* Insurance	444790	449755
<u>Total Expenses</u>	4020164	3793853
<u>Net Earnings</u>	657016	1231373

STATEMENT OF OPERATIONS "ANDRIST" AND "CHOCTAW" SEASON 1933

EXPENDITURES		REVENUES	
Fuel	581884	ANDRIST	CHOCTAW
Oils	11630	ANDRIST	CHOCTAW
Machinery & Boiler Repairs	112886	467180	502525
Engineer's Supplies	19893		
Groceries & Provisions	128831		
Steward's & Cabin Supplies	38499		
Handling Cargo	127217		
Mill Repairs	36140		
Special Repairs	327914		
Towing	68500		
Blacksmithy	47282		
Smelter	68766		
Crew's Wages	688214		
Master's Salary	180000		
Outfit	3836		
Taxes	52412		
Insurance	444780		
Total Expenses	4020164		
Net Earnings	657016		

	ANDASTE	CHOCTAW
Total miles traveled, light	18524	16552
Total miles traveled, loaded	18450	19141
Total miles traveled	36974	35693
Number of trips made	28	28
Number of cargoes carried	28	30
Gross Tons Iron Ore carried	77953	78659
Gross Tons coal carried		3144
Gross tons freight carried	77953	81803
Average size Iron Ore cargo (Tons)	2784	2809
Average draft water, Ore cargo	Forward 16' 07"	16' 10"
	Aft 17' 00"	17' 03"
Average speed per hour, light	12.37	12.38
Average speed per hour, loaded	11.00	10.95
<i>Gen</i> " " " "	<i>11.65</i>	<i>11.57</i>
Total tons fuel used	2737	2691
Average tons fuel used per trip	98	96
Average amount fuel used per mile (Lbs.)	148	150
Average amount fuel used per hour "	1725	1745
Average cost fuel per mile	.1558	.1562
Average cost oils per mile	.0031	.0035
Average cost provisions per day per man	.3121	.3138
<i>Hours Run</i>	<i>3173</i>	<i>3084</i>
<i>Days in commission</i>	<i>225</i>	<i>222</i>

Number miles traveled

36974

35693

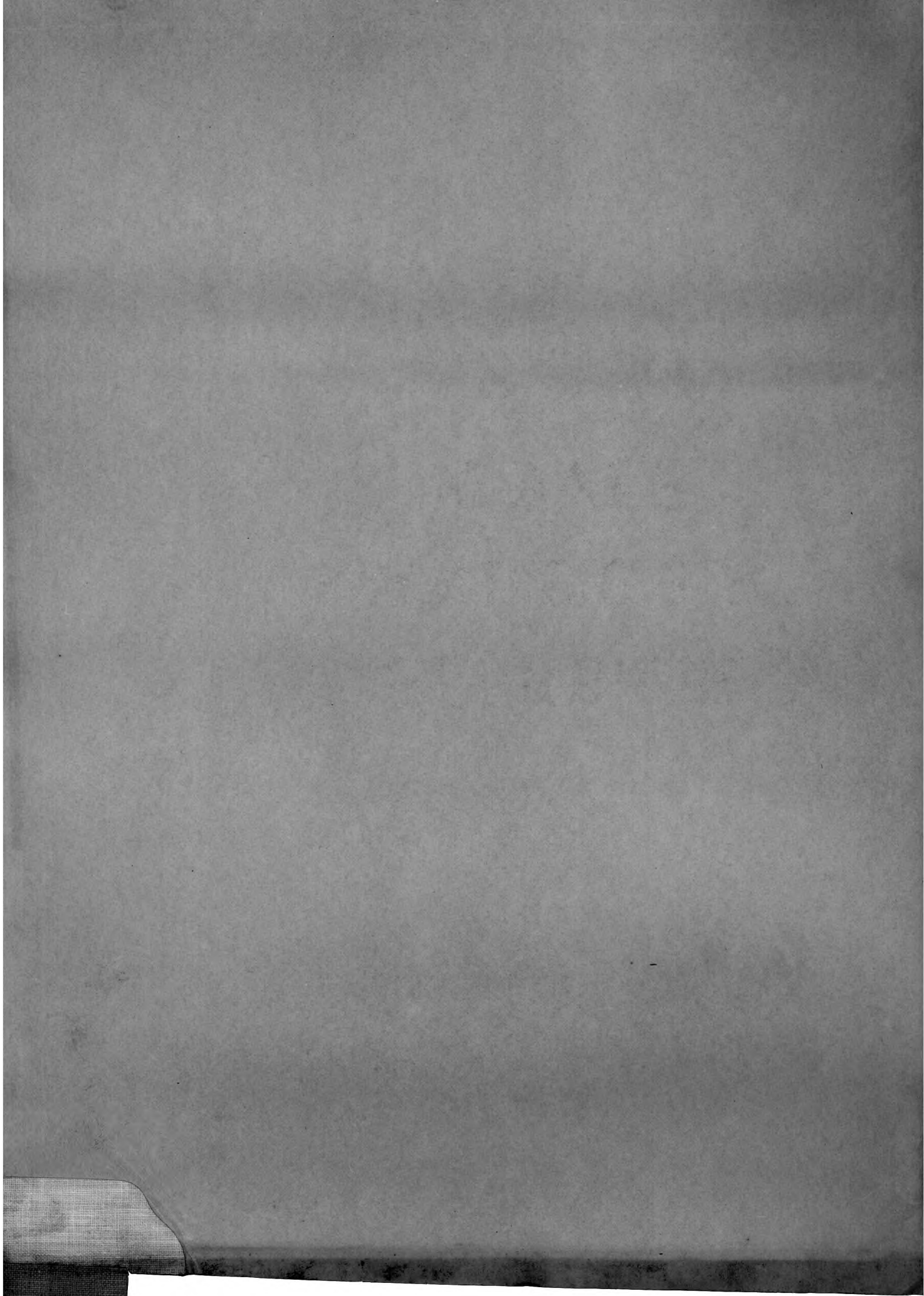
CHOCATAW	ALABAMA	
1852	1852	Total miles traveled, light
1811	1840	Total miles traveled, loaded
3893	3874	Total miles traveled
28	28	Number of trips made
30	28	Number of cargoes carried
7853	7753	Gross tons iron ore carried
314		Gross tons coal carried
8183	7753	Gross tons freight carried
280	278	Average size iron ore cargo (Tons)
18' 10"	18' 07"	Average draft water, ore cargo
17' 03"	17' 00"	Average draft water, ore cargo
12.38	12.37	Average speed per hour, light
10.98	11.00	Average speed per hour, loaded
2891	2737	Total tons fuel used
98	98	Average tons fuel used per trip
150	148	Average amount fuel used per mile (lbs.)
1745	1735	Average amount fuel used per hour
1.582	1.588	Average cost fuel per mile
0.0035	0.0031	Average cost oila per mile
3138	3121	Average cost provisions per day per man

	ANDASTE	CHOCTAW
Average Gross Earnings per trip	167042	179472
Average Expenditures per trip	143577	135495
Average Net Earnings per trip	23465	43977
Average Gross Earnings per day	21494	22544
Average Expenditures per day	18475	17020
Average Net Earnings per day	3019	5524
Average Gross Earnings per ton	.6000	.6143
Average Expenditures per ton	.5157	.4637
Average Net Earnings per ton	.0843	.1506
Average Gross Earnings per ton per mile	.000454	.000482
Average Expenditures per ton per mile	.000390	.000364
Average Net Earnings per ton per mile	.000064	.000118

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WATSON	ANDERSON	
139475	167045	Average Gross Return per trip
135495	145577	Average Expenditures per trip
43977	22468	Average Net Return per trip
22344	21434	Average Gross Return per day
17030	18475	Average Expenditures per day
5824	3019	Average Net Return per day
.5148	.6000	Average Gross Return per ton
.4637	.5157	Average Expenditures per ton
.1506	.0843	Average Net Return per ton
.000482	.000454	Average Gross Return per ton per mile
.000364	.000390	Average Expenditures per ton per mile
.000118	.000064	Average Net Return per ton per mile

NEWBLEN



+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
+	+																				+	+	
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CLEVELAND IRON MINING COMPANY

ISHPEMING, MICH.

AGENT'S ANNUAL REPORT

For The Year Ending November 30th, 1899.

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THE CLEVELAND-CLIFFS IRON CO.

CLEVELAND IRON MINING CO.
IRON CLIFFS CO.

M. M. DUNCAN, AGENT.

ISHPEMING, MICH., March 2d, 1900.

W. G. Mather, Esq., President,
Cleveland, Ohio.

Dear sir,-

In the statement I gave you of the feet board measure per lineal foot of stulls, we used the Doyle Rule. I now find that Scribner's is the rule used in this District, and I therefore enclose a comparative statement of Doyle and Scribner, as the figures you have are misleading.

Yours truly,



Agent.

Enclosure 3.

*Put in with
M M do an Report*

THE CLEVELAND-CLIFFS IRON CO.

MINING TIMBER.

BOARD MEASURE PER LINEAL FOOT OF MINING TIMBER, SCRIBNER'S AND DOYLE'S RULE,
AND PRICE PER THOUSAND ON BASIS OF PRICE PAID FOR STULLS OF
VARIOUS SIZES.

Diameter Small End.	Price of Stulls Per Lineal Foot	SCRIBNER.		DOYLE.	
		Feet B. M. Per lineal ft. Stulls	Price per M Bd. Meas. on Basis Stulls.	Feet B. M. Per Lineal Ft. Stulls	Price per M. Bd. Meas. on Basis Stulls.
8 to 10	3 cts.	2.2	\$13.60	1.5	\$20.00
10 to 12	4 $\frac{3}{4}$ "	4.	11.85	3.	15.80
12 to 14	6 $\frac{1}{2}$	6.	10.80	5.	13.00
14 to 16	9	8.8	10.20	7.5	12.00
16 to 18	10 $\frac{1}{2}$	11.5	9.13	10.5	10.00
18 to 20		15		14	

Scribner's Rule is used by lumbermen in this district.

ANNUAL REPORT. ACCIDENTS.
FEB. 7th, 1900.

Mr. M. M. Duncan, Agent,

Lansing, Mich.

Dear Sir:-

I have yours of the 31st ulto. and note explanations. With reference to the Relief Fund being charged to "Fixed Charges" - Mr. Mann refers to his letter to Mr. Yungbluth of March 2nd, 1899, which stated that \$500 should be charged to this account for each fatal accident, but that as you say in other respects, the Benefit Fund should not be included.

You say that I am mistaken in thinking that the increase in ~~mining~~ accidents due to "tram cars and road" had nothing to do with the electric motors, and also that the increase in other mining accidents was due to simply shifting of the men.

I have requested Mr. Mann to send to you such information and reports as have thus far been sent to us by the Lake Superior and Regent companies, with the request that you return them as soon as possible.

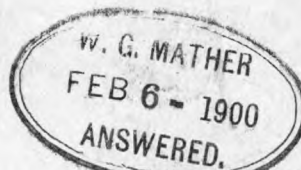
We will also gladly send to you each month, a statement of the ore mined per man per day, etc., from the Lake Superior Co. just as we do similar ones from the Regent Co.

I have read over all of your Annual Reports, including that of Mr. McKee, with very much interest, but unfortunately have not yet been able to give them the careful and detailed consideration that they deserve. I hope to do this as soon as I return from my trip to the mines.

I desire to express my appreciation of the energetic and efficient way in which you and your heads of departments have undertaken and carried out the very large amount of extra work that has fallen upon you during the past year, in connection with the opening up of many new properties.

CLEVELAND IRON MINING CO.

IRON CLIFFS CO.



TISHREMIING, MICH.

Jan. 31st, 1900.

189

W. G. Mather, Esq., President,

Cleveland-Ohio.

ANNUAL REPORT-ACCIDENTS.

Dear sir,-

LOSS OF TONS ON ACCOUNT OF DELAYS

Replying to yours of the 29th inst. The reason that the loss of tons due to delays is higher in 1899 than in 1898, comes principally from the strike of last April, and at the Lake Mine, from the flood that was caused by the breakup, which was greater than at any previous time and which our pumping facilities were inadequate to handle.

DELAYS ON ACCOUNT OF MOTORS AND CARS.

The increase in the hours delay on account of "motors and cars" is misleading from the fact that the increase in the delay was due to the number of motors used, and did not mean that there was an actual loss of product, although in making the report it was figured on the basis of hours worked. It must be remembered that the equipment is deteriorating each year, and requires more repairs. This is particularly true of the motors and cars. The latter were very badly designed to begin with. The rivets are constantly coming loose, due in a large measure to the necessity of using a wooden mallet to loosen the ore when dumping.

LOSS OF PRODUCT DUE TO CAVE-IN AND MUD.

The money loss due to "cave-in" and "mud" showed higher than last year because a large part of the work of clearing up came from a run which occurred in 1898. Dec. 1st, 1898, there was 400 ft. of mud on the 1st level, 450 ft. on the 2d level and nearly 4000ft. on the 3d level, all of which has been cleaned up this year. On the other hand, the mud from the run this fall was not all cleaned up by the 1st of December, and there still remained 600 ft. on the 2d level and 2000 ft. on the 3d level. This would partially offset the mud from the 1898 run. This should probably have been noted on the accident report.

Extract from my letter to A.J.G. dated March 2/99 -

"I think the best way to show this would be, to include the proportion of General Expense items (omitting the Benefit Fund) that accrued during the time the mine was idle, and then add to it \$500.00 for each fatal accident, explaining in a foot note that \$250.00 of this was contributed by the men. This idea of including the entire \$500 = is a suggestion of Mr. Mathers, who thinks we might as well show the total expense, instead of only our proportion."

W. G. M. -2-

Annual Report.

1-31-99

FIXED CHARGES.

The principal increase under the head of fixed charges is in the item of Maintenance. This I have tried to explain in the Annual Report. While the total of fixed charges has increased each year since 1896, it must not be forgotten that the output has also largely increased, and that the cost per ton is considerably less this year than in 1896. At that time the Lake Angeline Pumping Expense was not included in this account, which would have added somewhat to the total. The shift bosses were not included in the fixed charges item, because they are paid by the day. The relief fund was charged to this account in 1898, but Mr. Yungbluth was instructed by Mr. Mann to omit it in 1899.

CLASSIFICATION OF ACCIDENTS.

The increase in minor accidents is due almost entirely to the fact that the men this year have been shifting from mine to mine and were unfamiliar with the work, and also to the large number of new and incompetent men employed. You are mistaken in inferring that the increase in accidents was due to the electric motors not being in good mechanical shape. The electric hoists, are, in my opinion, safer than the old style of air hoist because they are more quickly controlled by the operator.

In order to call the attention of the Captains of the different mines to the work of last year, comparative statements have been sent to the Lake Mine of the "Electric tram plant", analysis of "motor expense", analysis of "main line tracks and cars", the "comparative statement of maintenance for 1899-98" and "delay to underground tracks and cars; also the comparative statement of mine timber and explosives used at the Lake and Salisbury mines. These last two statements were also

THE CLEVELAND-CLIFFS IRON CO.

CLEVELAND IRON MINING CO.

IRON CLIFFS CO.

M. M. DUNCAN, AGENT.

ISHPEMING, MICH.,189.....

W. G. M. -3-

ANNUAL REPORT.

1-31-99

sent to the Captain of the Salisbury Mine. A statement of the explosives used and the comparative cost per ton for ore have also been sent to Capt. Rowe and Capt. Mathews.

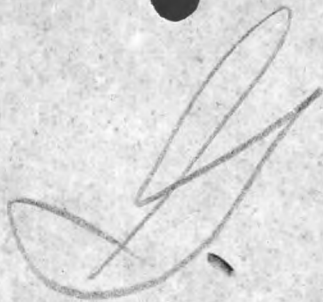
We are now preparing a resume' of the Accident reports, which is to be sent to all the mining captains. In this way matters will be more forcibly brought to their attention, and I hope will prove beneficial.

I should be much obliged if you would send me the cost for last year at the Regent and Lake Superior Mines; I am anxious to compare them with our results, and find out if there is any place we can save money. I should also be very much obliged for a statement of the ore mined per man per day at the Lake Superior mine similar to the one you send me from the Regent.

Yours truly,



Agent.



JAN. 29th, 1900.

Mr. M. M. Duncan, Agent,

Ishpeming, Mich.

ANNUAL REPORT.
ACCIDENTS.

Dear Sir:-

I congratulate you on the marked decrease in fatal accidents. The record for 1899 shows a less number per thousand men, than for any year since 1894⁴ as per your statement. For the first time since 1895, we are below the average in this respect, of mines in Marquette county, and I trust that we may be able to keep in this satisfactory position.

The loss of tons however, on account of delays, is much higher in 1899 than in 1898, namely in the "Lake" Mine and in the "Cliffs Shaft" mine. The main increase being due to "Other Causes".

There is also a very marked increase in the hours delay on account of "Motors and cars", and "High water in Lake bottom". This latter perhaps is difficult to restrain. There seems to be not so much delay owing to "Cave-in" and "Mud", although the money loss in your cost statement is greater this year than last, for this account. The discrepancy arises, I suppose, from the fact that though the caves-in and mud-runs, did not cause a total stoppage of the mine, and therefore technically the delay was not so great, yet really the loss was greater. I think this should have been indicated on the Accident Report.

Another item that attracts my attention in this report, is the computation under "Fixed Charges". In the Lake Mine the expenditures for the headings under this item have constantly increased since and including 1897. The reasons for this should be carefully examined and a brake put on if possible. I would also call your attention to the fact that I do not think in these "Fixed Charge" items, all things are considered that should be considered.

Should there not be included shift bosses, who I believe are paid by the month, also the relief fund, and any other monthly charges of that character?

The Lake Mine is the only mine in which a good instructive comparison can be made. Naturally the Salisbury makes a better showing than last year because the improvements that have been under way at this mine for several years are gradually being completed and becoming beneficial. The Cliffs Shaft Mine was not operated all of 1898.

CLASSIFICATION OF ACCIDENTS. This statement is an interesting one. I note that the minor accidents increased quite a good deal in the Cleveland Iron Mining Co. from "Tram cars and road". Also in "Loading Ore", particularly the Iron Cliffs Company. Also "Handling Timber" particularly the Cleveland Iron Mining Co.

One inference that I draw from these statements is that the tramping contrivances particularly I presume, the electric motors, are not in good mechanical shape. It may be that they cannot be gotten into satisfactory shape. However I hope an improvement can be shown in this respect in another year. I wish to adopt some system which will improve some of these matters, ~~possibly that of awards~~, so that the foremen and bosses can always see clearly whether they are going ahead or behind in these matters, and also be incited to better supervision by awards or the publication of records.

Yours truly,

P R E S I D E N T .

CLEVELAND IRON MINING CO.

ISHPEMING, MICH.

ANNUAL REPORT FOR THE YEAR ENDING NOVEMBER 30th, 1899.

W. G. Mather, Esq., President,
Cleveland Iron Mining Co.,
Cleveland, Ohio.

Dear sir,-

The detailed cost statements, copy of inventory and maps have been sent you. Following is a report of the work done during the past year, and the present condition of the property:

HARD ORE MINES.

MORO.

This mine was closed in June, 1892. 100,000 tons of ore were reported in sight at that time. On March 22d, 1899, instructions were received to reopen it. On the 23d, the work of overhauling the machinery was begun, and pumping was started on the 31st. It was estimated from the ore and rock this mine had produced, that it could be unwatered in 60 days, and on this basis the cost was estimated. As a matter of fact, the adjacent territory was so thoroughly saturated with water, that the task has been three or four times as great as figured. This shows how impossible it is to make anything like an accurate estimate, in unwatering old mines. Numerous breakages have occurred which have been a fruitful cause of delay. Just before the mine closed down, the Cornish pump was changed from 10 to 12" poles, increasing the duty of the engine nearly 50 %. It is an old style Merritt, slide valve engine, with a very light frame, and lighter gears, and had broken several times after the change in the diameter of the poles. In justice to our Master Mechanic, Mr. McKee, it is only proper to say that he reported the gearing cracked and the engine too light for

MORO MINE.

the work, before unwatering began. It was decided to try it, however. After running 22 Days, the gearing broke. A new set was at once ordered, and the engine again started on the 14th of June. On June 15th the gearing broke again, and also the frame. It was then decided to move the pumping engine from No. 3. The loss of the Cornish pump seriously delayed the unwatering. It was replaced by steam pumps, but the boiler capacity limited the number which could be used and the work proceeded slowly on this account. The steam pumps were supplemented by a 6" blower, the air being furnished from the compressor in the Brown Stone engine house.

REOPENING MINE.

Pumping Engines and Boiler No. 4	809.59
Water System	165.53
Cornish Pumps	390.40
Tunnels and Ditches	29.60
Hoisting Engine and Boiler No. 3	50.68
Heater	258.78
Air Compressor	297.96
Shaft House	63.78
Shaft Timber	577.81
Ore Trestle	293.08
Coal Trestle	463.52
Pulley Stands	714.06
New Ore Pocket	964.69
Dry House	233.00
Side Tracks	63.03
Stock Pile Ground	865.06
Remodeling Laboratory Bldg.	16.41
Underground tracks, etc.	437.00
Top Tram System	5.83
Rand Drills	2967.92
Tram Car Repairs	88.82
New Hoisting Rope	460.00
Fitting Up Air Pumps	216.27
Operating Air Pumps	3544.25
Operating Cornish and Steam Pumps	11074.00
Fitting up Steam Pumps	1702.44
General Expense	752.36
Total	<u>27490.87</u>

INSTALLING No. 5 CORNISH PUMPING ENGINE.

Foundation	2494.28
Engine Room Extension	1045.39
Moving and Erecting No. 5 Engine	<u>2576.91</u>
Total	<u>6116.58</u>

MORO MINE.

As soon as the water was below the 3d level, men were put to work breaking ore, and on Oct. 5th, the first ore was hoisted. There were only four stopes that could be worked, but it was decided that it would be more economical to organize the force gradually than to attempt to fill the mine at once, owing to the scarcity of men. Following is a statement of the work being done, reference being made to stopes by number for convenience, the maps being numbered to correspond:

1st LEVEL.

At number 2 southwest of the shaft, a raise 18 X 20 was put up to the sub-level. The ore at this point was but 18 ft. wide. This contract was then moved 360 ft. west and a raise started in 8 ft. of ore, which seems to be widening as it goes up. The ore is No. 1 grade and clean.

2d LEVEL.

As the maps show, there was practically no ore on this level. No work has been done here since the mine started.

3d LEVEL.

South of the shaft at No. 3 a breast stope is being driven north. It is in green ore of fair quality running about 58% in iron. East of this stope, the main level had been sunk 15 ft. and is full of water, preventing any mining beyond. It is intended to extend No. 3 stope and hole into the old workings on the north, where it is reported there is ore of the same character. At No. 5 a drift has been started south, from the main drift west, to test the 25 ft. of hematite ore shown up by the diamond drill. No record can be found of the quality of this ore. At No. 6 a drift was driven west from the top of an old raise 10 ft. below the 1st level. The ore was only 10 ft. wide between foot and hanging. This is now finished.

5th LEVEL.

There is no ore left on this level.

6th LEVEL.

South of the shaft at No. 4, a breast stope has been started east in green ore running about 58% in iron. The stope is 14 ft. wide with soaprock on the south, and jasper on the north, but has ore in the back.

MORO MINE.

7th LEVEL.

There is no ore left on this level.

8th LEVEL.

West of the shaft at No. 1 a breast stope is being driven southwest in green ore running about 59% in iron. This stope was started in jasper, but cut the ore at four feet. This may open up quite a body of ore of this grade. At No. 6 a raise has been put up to the 7th level, . The ore is only ten feet wide and the back of the raise is in jasper. Beyond the ore at No. 1, there is nothing on this level outside of pillars, which must be left.

9th LEVEL.

Both the east and west ends of this level are in jasper. At No. 7 a breast stope is being driven southwest in slate ore. This stope is 20 ft. wide, with soap-rock on the south and ore on the north side, and back. This is in new ground and may open up a body of ore. At No. 8 a vertical raise is being put up to the 8th level, and is now 30 ft. high. There is jasper on the south side, but the north side and back are in No. 1 ore running about 63% in iron. It is proposed to extend this level west to meet a raise from the 10th level. It may prove that the face is in a narrow band of jasper.

10th LEVEL.

At No. 9 a raise is being put up to the 9th level, all in slate ore running about 63% in iron. It is now 30 ft. high. 110 ft. west a raise is being put up in slate ore running 63% in iron. The west end of this level shows 12 ft of slate ore. Apparently the formation is turning to the north and as it is very wet, there is a prospect for a body of ore beyond the face of the drift. This will be extended during the coming year. Beyond the two places working, there is no ore on this level which can be mined.

11th LEVEL.

A narrow seam of ore shows in the face of the main drift. When this level is opened out it should show up as well as the 10th. Down to this level, all the ore has been removed that could safely be taken, without wrecking the mine, except where new lenses have been found back of the rock since the mine was re-opened.

MORO MINE.

The dip on this level is nearly vertical, and it would certainly seem as if the ore should be found below the present workings, and more regular than above. It is proposed to drift southwest from this level to strike the ore shown up by the Union hole. As soon as a diamond drill can be spared, the ground to the north will be explored.

The cost of mining 8992 tons of ore this year is as follows:

Product	<u>1899.</u> 8992 Tons.	<u>1898.</u> 10651 Tons.
General Expense	1.098	.920
Maintenance	.312	.146
Mining Expense	<u>1.309</u>	<u>1.132</u>
Cost of production	2.719	2.198
<u>DEPRECIATION.</u>		
Inventory	.026	.039
Shop earnings cr.	.045	.090
Sold off equipment cr.	.179	.103
Office rent "	.005	.014
Laboratory earnings cr.	—	<u>.257</u>
Total depreciation	.203	.425
Cost on stockpile	2.516	1.773
Loading and Shipping	<u>.070</u>	<u>.106</u>
Total Cost	2.586	1.879

SHIPMENTS.

Scotch Ore from pocket 5459 tons

AVERAGE ANALYSIS OF SHIPMENTS.

	<u>Iron</u>	<u>Phos.</u>
Scotch Ore	60.03	

AVERAGE ANALYSIS OF MINE SAMPLES.

Scotch Ore	60.00	.145
------------	-------	------

MORO MINE.

ORE STATEMENT, 1899.

Scotch Ore, Output	6271
Shipments	<u>5459</u>
Balance in stock Nov. 30th	812.

STATEMENT OF COMPARATIVE WAGES.

<u>SURFACE.</u>	<u>1899</u>	<u>1898.</u>	<u>Increase.</u>
Total number of days	15529 $\frac{1}{2}$		
Average rate	1.72		
Amount	26674.48		
<u>UNDERGROUND</u>			
Total number of days	3407 $\frac{1}{2}$		
Average rate	2.04		
Amount	6947.02		
Total days	18936 $\frac{3}{4}$		
Average rate	1.78		
Total amount	33621.50		
Increase in 1898 over 1897	---		
Total increase in two years	----		

STATEMENT OF EXPLOSIVES USED IN BREAKING ORE.

<u>Kind</u>	<u>Quantity</u>	<u>Avg. Price</u>	<u>Amount.</u>
50% Powder	4587#	.12	550.44
D. T. Fuse	4050'	4.23 per m	17.14
Blasting Caps	1600	5.05 " "	8.10
Battery Caps	260	28.32 " "	7.36
Battery Wire	10#	.24	2.40
Total			<u>595.44</u>
Pounds of powder per ton of ore		.73	
Cost per ton for explosives		.094	

No. 3 MINE.

Work in this mine was stopped in June, 1892, and it is now full of water. When shut down, 150,000 tons were reported in sight, and it was producing 95000 tons per year.

SAW MILL PIT.

The following shows the product and shipments for the year:

ORE STATEMENT.

	<u>Cleveland Bessemer.</u>	<u>SAw Mill.</u>	<u>Total.</u>
On hand Dec. 1st, 1899	574	470	1044
Output for year	<u>2622</u>	<u>99</u>	<u>2721</u>
Total	3196	569	3765
Shipped	<u>3196</u>	<u>569</u>	<u>3765</u>
Balance on hand Nov. 30th, 1899,-			

SHIPMENTS.

Cleveland Bessemer	3196
Saw Mill (shipped as Cr.Cl.Shaft)	<u>569</u>
Total	3765

AVERAGE ANALYSIS OF SHIPMENTS.

	<u>Iron.</u>	<u>Phos.</u>
Cleveland Bessemer	65.56	.036

The west and north drifts referred to in the last annual report, from which the greater part of ^{the} output was expected, were exceedingly disappointing. The ore in the west drift was exhausted in February. The ore in the north drift narrowed going towards the incline pit, but would have been followed, had not the water from the old workings broken through in February, and stopped further work.

SAW MILL PIT.

LOCATION.

The houses have been kept in good condition. They are examined periodically by our head carpenter, and when needed, repairs are made at once. This is by far cheaper than allowing them to get into bad repair. Reference is made to the summary of house repairs, which has been sent you. The fences were whitewashed as usual in the spring. The streets are clean, and in good repair.

CLEVELAND HEMATITE.

This mine was permanently shut down July 15th, 1895. The stock pile was all shipped this year, with the exception of a few hundred tons which will have to be loaded by hand. There was an overrun of 5059 tons, as shown by the following statement.

ORE STATEMENT.

On hand Dec. 1st, 1898	36801
Stock pile overrun	<u>5059</u>
Total	41860
Shipments	<u>41860</u>

(Shipped as East End Bessemer)

AVERAGE ANALYSIS OF SHIPMENTS.

	<u>Iron</u>	<u>Phos.</u>
East End Bessemer	61.51	.041

LAKE MINE.

The cost of mining 465,452 tons of ore this year, is as follows:

<u>Product.</u>	<u>1899.</u>	<u>1898.</u>	<u>Increase.</u>	<u>Decrease.</u>
	465452	440090	25362	
General expense	.066	.066		
Maintenance	.038	.029	.009	
Mining Expense	.748	.646	.102	
Cost of Production	.852	.741	.111	
 <u>Exploratory.</u>		.002		
 <u>DEPRECIATION</u>				
Inventory	.004	.023		.019
Improvement		.001		
New Construction	.026	.027		.001
Lake Angelina Drainage	.005	.007		.002
Total	.035	.058		.023
Less Credit	.001			
Net Depreciation	.034	.058		.024
Cost on Stock Pile	.886	.801	.085	
Loading and Shipping	.013	.012	.001	
<u>Total Cost</u>	.899	.813	.086	
Increased wages per ton over 1898	.060			
Comparative on equal wage basis	.839	.813	.026	

The division of mining cost to the different parts of the mine is shown by the following statement:

LAKE MINE DIVISION OF MINING COST FOR THE YEAR ENDING NOVEMBER 30th, 1899.

Product, 465,452 tons.	Amount	Cost	Output by Grades.	Lake Bess.	E. E. Bess.	Lake	Ishpeming	Silica	Total
General Expense	30587.83	.066	South Deposit	115689		11533			127222
Maintenance	18050.28	.038	East Side, 1st Level			13586			13586
<u>Mining Expense.</u>			West " " "						
Lake Angeline Drainage Pumping Expense	5726.94	.012	Open Pit			8512			8512
Sinking, "Shaft Repairs"	5954.05	.013	2d Level	50256		262693			312949
Air Pipes	996.96	.002	3d Level			3183			3183
Compressors	4435.05	.010	Total	165945		299507			465452
Hoisting	4441.13	.010	Output By Grades						
Wire Rope, Skips and Pulley Stands	115.22	.000	Previous Year	166134		205550	46577	21829	440090
Steam Pumps	6595.42	.014							
Mining Captain and Bosses	6070.96	.013							
Dry House	879.99	.002							
Top Landing and Trammig	4249.47	.009							
Stocking and Sorting	2744.06	.006							
Total	90877.36	.195							
Total 1898	70293.48	.160							

	South Deposit		E. Side 1st L.		W. Side 1st L.		Open Pit.		2d Level		3d Level		Total 1899		Total 1898	
	127222 tons		13586 tons		000 tons		8512 tons		312949 tons		3183 tons		465452 tons		440090 tons	
	Amount	Cost	Amount	Cost	Amount	Cost	Amount	Cost	Amount	Cost	Amount	Cost	Amount	Cost	Amount	Cost
Drifting	11122.26	.087	619.75	.046			136.03	.016	20605.36	.066	2662.92	.837	35146.32	.076	22788.02	.052
Breaking Ore	55732.37	.438	5459.91	.402			3107.90	.365	113038.32	.361	1719.43	.540	179057.93	.385	164073.20	.373
Trammig	7761.36	.061	762.79	.056			461.60	.054	18221.83	.058	745.00	.234	27952.58	.060	22463.96	.051
Filling									1840.14	.006			1840.14	.004	1139.50	.003
Timbering	13236.91	.104	1637.85	.121			109.04	.013	36164.33	.116	726.41	.228	51874.54	.111	37817.18	.086
Cave-In			850.80	.062					8605.23	.027			9456.03	.020	4825.04	.011
Stripping							441.20	.052					441.20	.001	2414.90	.005
Total	87852.90	.690	9331.10	.687			4255.77	.500	192475.21	.634	5853.76	1.839	305768.74	.657	255516.80	.581
Total 1898	83739 T.	.538	19389 T.	.652	3539 T.	.441	68989 T.	.357	260280 T.	.640	4104 T.	1.210		.581		
Increase Over 1898		.152		.035				.143	Dec.	.006		.629		.076		
Adding Cost per ton for Above Account		.195		.195				.195		.195		.195		.195		.160
Cost of Production		.885		.882				.695		.829		2.034		.852		.741
Cost of Production 1898		.698		.812		.601		.517		.800		1.370		.741		
Increase Over 1898		.187		.070				.178		.029		.664		.111		

	1899		1898	
Per Cent. of Output	Tons	%	Tons	%
From Old Mine	456940	98.2	371101	84.3
From Open Pit	8512	1.8	68989	15.7
Total	465452	100	440090	100

	SUMMARY.			
	Open Pit		Old Mine	
	1899	1898	1899	1898
Mining Cost	.500	.357	.660	.626
Adding General Items	.195	.160	.195	.160
Total	.695	.517	.855	.786
Dec. Increased Wages	.051		.051	
Comparative Total	.644	.517	.804	.786
Increased Cost	.127		.018	

LAKE MINE

While the cost per ton this year is .086 more than last, it is gratifying to note that on an equal basis, the cost of breaking has been less, in spite of the fact that there has been practically no open pit product. What ore was credited to the open pit was really mined and not milled as in former years.

Analysis
AVERAGE OF PRODUCT FROM DIFFERENT PARTS OF THE MINE.

	<u>Iron</u>	<u>Phos.</u>	<u>Manganese</u>
1st Level S. E.	59.72	.062	
1st " N. E.	56.42	.109	
2d " S. E.	58.73	.074	
2d " S. W.	59.46	.100	
2d " N. E.	58.39	.106	
2d " N. W.	61.83	.061	
3d " S. W.	54.97	.071	1.41
3d " N. W.	63.70	.117	
3d " No. 3 Shaft	63.82	.028	
2d " S. Dep.	64.60	.035	

AVERAGE WAGES AND PRODUCT.

	<u>Surface</u>		<u>Underground.</u>		<u>Total.</u>	
	1899	1898	1899	1898	1899	1898
Product 465,452 tons.						
Average number of men working	74.	67.	426	374	500	441
Average wages per day	1.74	1.60	2.15	1.96	2.09	1.89
" " " mo. 25 days	43.50	40.00	53.75	49.00	52.25	47.25
Average product per man per day	19.82	19.84	3.76	3.91	3.16	3.27
Labor cost per ton	.088	.081	.573	.498	.661	.579
Difference in labor cost per ton	.007	.	.075		.082	
Average product breaking & tramping			6.05	5.54	6.05	5.54
Average wages for contractors			2.25	2.05		
Amount paid in increased wages	3054.02		23559.42		28022.91	
Cost per ton on increased wages	.006		.051		.060	
Product per man per day "open pit."			4.83			

LAKE MINE.COMPARATIVE WAGES.

	<u>1899</u>	<u>1898.</u>	<u>Increase for 1899.</u>
<u>SURFACE.</u>			
Total number of days	23492 $\frac{1}{2}$	22180 $\frac{1}{2}$	
Average rate	1.74	1.61	.13 (8%)
Amount	40884.37	35655.66	3054.02
<u>UNDERGROUND.</u>			
Total number of days	123996 $\frac{1}{2}$	112523 $\frac{1}{2}$	
Average rate	2.15	1.95	.20 (10%)
Amount	266665.00	219248.31	23559.42
Total days	147489	134704	
Average rate	2.08	1.89	.19 (10%)
Total Amount	307549.37	254914.47	28022.91
Increase in 1898 over 1897			22899.68

LAKE MINE.

STATEMENT OF TIMBER USED FOR MINING ORE.

<u>STULL TIMBER.</u>				
<u>Size.</u>	<u>Lineal Feet</u>	<u>Net Price Per Foot.</u>	<u>Amount.</u>	<u>1898.</u>
6 to 10"	247110	.023	5735.37	2801.48
10 to 12"	151826	.037	5593.99	7555.97
12 to 14"	18714	.045	855.27	1288.89
14 to 16"	10938	.065	710.97	726.93
16 to 18"	1636	.08	130.88	151.04
18 to 20"	<u>138</u>	<u>.14</u>	<u>19.55</u>	<u>30.00</u>
Total, 1899	430362	.030	13046.03	12554.21
" 1898	394878	.032	12554.21	

<u>LAGGING.</u>				
Poles	52071	.61 per 100 ft.	316.70	
7 ft. Lagging	673948	.51 " "	3439.69	
5 ft. "	<u>929375</u>	.415 " "	<u>3865.00</u>	
Total, 1899	1655394		7621.39	
" 1898	1084806		5249.37	

	<u>1899</u>	<u>1898.</u>
Feet of timber per ton of ore	1.031	1.064
" " lagging " " "	2.81	2.92
" " " " foot of stulls	3.84	2.75
Cost per ton for timber and lagging	.044	.048
Equivalent of stull timber to board measure	907753	1077133
Feet of board measure per ton of ore	1.95	2.90

Does not include the open pit amount

'99 465
'98 440

465 / 1077133 = 231
930
1471
1305
760

465 / 907753 = 206
88
277