

MECHANICAL DEPARTMENT
ANNUAL REPORT
YEAR 1934

Electrical Department: (Cont'd)

	brt. fwd.	INSTALLED		TAKEN OUT	CONNECTED
		TO JAN. 1, 1934	IN 1934	IN 1934	JAN. 1, 1935
		HP.			TOTALS
		15,568½	434½	120	15,862½ HP.
NEGAUNEE MINE:	brt. fwd.	3,236½	5		
New Flywheel Set for Hoists		800			
Oil Pump on #2 Flywheel Set		1			
" " " " " "		1			
" " " Nordberg Compressor		1			
Hot Well Pump		<u>2</u>			
					4,046½
MAAS CRUSHING PLANT:					
Jaw Crusher		100			
Belt Conveyor		50			
Pan Conveyor Motor-Generator Set		<u>50</u>			
					200
BARNES-HECKER MINE:					
Skip Hoist (Stored)		400		<u>400</u>	
					0
LLOYD MINE:					
Skip Hoist (from Republic)		400	500	400	
Cage "		400			
Top Tram		40			
Ore Crusher		25			
Water Supply Pump installed underground		50			
Concrete Mixer		5			
Top Tram		50			
Compressor		100			
"		225			
Underground Haulage Converter		120			
Timber Yard Saw		7½			
Underground Haulage Converter (from Wade)			150		
Compressor Cooling Water Pump			<u>3</u>		
					1,675½
MORRIS MINE:					
Ingersoll-Rand Compressor #2		<u>500</u>			
					500
SECTION 6 SHAFT:					
Hoist		200			
Water Pump in Change House				<u>2</u>	
					202
GWINN CRUSHING PLANT:					
Crusher		85			
Pan Conveyor		50			
Belt " (from Mackinaw)		50			
Compressor		15			
" Cooling Water Pump		<u>3</u>			
					203
FRANCIS MINE STOCKPILE:					
Triplex Pump		<u>7½</u>			
					7½
GARDNER MINE:					
Hoist		400			
Top Tram		50			
Laboratory Crusher		<u>3</u>			
					453
	fwd.	22,995½ HP.	1,094½	920	23,170 HP.

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Electrical Department: (Cont'd)

		INSTALLED		CONNECTED	
		TO JAN. 1	INSTALLED TAKEN OUT	JAN. 1, 1935	
		1934	IN 1934	TOTALS	
	brt. fwd.	22,995 $\frac{3}{4}$ HP.	1,094 $\frac{1}{4}$	920	23,170 HP.
<u>MACKINAW MINE:</u>					
Hoist		400			
Shop		7 $\frac{1}{2}$			
Ore Tram		50			
Underground Haulage Set		150			
Air Compressor		325			
Compressor Cooling Water Pump		7 $\frac{1}{2}$			
4th level Quintuplex Pump		350			
" " Triplex "		75			
5th " Pump - Automatic		30			
Winze Hoist		200			
4th level Centrifugal Pump		400			
" "		20			
					2,015
<u>PRINCETON MINE #2</u>					
Hoist		200			
Top Tram		50			
Stockpile Loader		25			
					275
<u>PRINCETON MINE #3:</u>					
Hoist		75			
					75
<u>PRINCETON CENTRAL POWER PLANT:</u>					
(Circulating Pump		50			
Turbine Auxiliaries (Injection "		40			
(Exciter		33			
Boiler Room Fan		50			
Coal Handling Machinery		10			
" " "		5			
					188
<u>PRINCETON CENTRAL SHOPS:</u>					
Shop Motor		25			
					25
<u>PRINCETON CENTRAL PUMP STATION:</u>					
Centrifugal Pump		100			
Automatic Pump		30			
					130
<u>CARP PLANT:</u>					
Auxiliaries 2 - 15 HP. pump motors		30			
Water Supply Pump		1			
Air Compressor		5			
					36
<u>HOIST PLANT:</u>					
Exciter Motor-Generator Set		20			
Oil Pump		3			
Air Compressor		5			
Small Supply Hoist Motor		3			
					31
	fwd.	25,770 $\frac{3}{4}$ HP.	1,094 $\frac{1}{4}$	920	25,945

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Electrical Department: (Cont'd)

	INSTALLED			CONNECTED
	TO JAN. 1, 1934	INSTALLED IN 1934	TAKEN OUT IN 1934	JAN. 1, 1935 TOTALS
brt. fwd.	25,770 $\frac{3}{4}$ HP.	1,094 $\frac{1}{4}$	920	25,945 HP.
McCLURE PLANT:				
Water Supply Pump	2			
Exciter Motor-Generator Set	17 $\frac{1}{2}$			
Air Compressor	<u>5</u>			24 $\frac{1}{2}$
ESCANABA PLANT:				
Air Compressor	5			
Oil Pump	5			
Valve Operating Motor	<u>1</u>			11
<hr/>				
TOTAL MINING DEPARTMENT and CLIFFS POWER & LIGHT CO.	25,806 $\frac{1}{4}$ HP.	1,094 $\frac{1}{4}$	920	25,980 $\frac{1}{2}$ HP.

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<u>Electrical Department (Cont'd)</u>	<u>INSTALLED</u> <u>TO JAN. 1,</u>	<u>INSTALLED</u>	<u>TAKEN OUT</u>	<u>CONNECTED</u> <u>JAN. 1, 1935.</u>
	<u>1934</u>	<u>IN 1934</u>	<u>IN 1934</u>	<u>TOTALS</u>
TOTAL MINING DEPARTMENT and CLIFFS POWER & LIGHT CO.	25,806½ HP.	1,094¼	920	25,980½ HP.
PIONEER FURNACE: Furnace & Sawmill	<u>1,195</u>			1,195
L. S. & I. RR. CO. Shops, Sawmill, Ore Dock & Pumps	<u>800</u>			800
LAND DEPARTMENT: Grand Island 3 motors	<u>15½</u>			15½
LUMBERING DEPARTMENT: (Dixon) Location Water Supply Pump	5			
Tie Mill Saw	75			
" " Conveyors	37			
" " Shop	<u>10</u>			127
MICHIGAN GAS & ELECTRIC CO. Ishpeming	2,170			
Munising	250			
Munising City Pumping	<u>125</u>			2,545
REPUBLIC TOWNSHIP: Water Supply Pump	<u>25</u>			25
OLIVER IRON MINING CO. Pumps at Angeline & Sec. 16 Mines	525			
Holmes Mine	<u>2,552½</u>			3,077½
CITY OF ISHPERING: Booster Pump at Brownstone	15			
Air Compressor for Tank	<u>10</u>			25
CITY OF NEGAUNEE:	<u>435</u>			435
THE CLIFFS ELECTRIC CO.) New C.P.&L.Co. retail	<u>100</u> Est.			100
PALMER MINING COMPANY: Volunteer Mine, Palmer	<u>800</u>			800
MUNISING WOODENWARE CO.	<u>695</u>			695
NORTH RANGE MINING CO. Blueberry Mine	<u>1,165</u>			1,165
INLAND STEEL CO. Greenwood Mine	450			
Morris Mine	<u>3,360</u>			3,810
INLAND LIME & STONE CO. Quarry & Dock	<u>4,000</u>			4,000
MICHIGAN GOLD MINE:	<u>150</u>			150
TOTAL OUTSIDE LOAD	18,965 HP.	0	0	18,965 HP.
GRAND TOTAL CONNECTED LOAD	44,771¼ HP.	1,094¼	920	44,945½ HP.

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Electrical Department: (Cont'd)

The following motors are not connected to our Power System:

	INSTALLED		TAKEN OUT IN 1934	CONNECTED
	TO JAN. 1 1934	IN 1934		JAN. 1, 1935. TOTALS
<u>MESABA RANGE:</u>				
<u>CANISTEO MINE:</u>				
Priming Pump		3		
Shop		10		
Washing Plant Compressor		50		
Belt Conveyors	4 - 5 HP. motors	20		
Jaw Crusher		100		
Centrifugal Pumps	2 125 " "	250		
Symons Crushers	2 100 " "	200		
Belt Conveyor		75		
Dorr Washers	2 75 " "	150		
" "	2 30 " "	60		
Armstrong Drills	2 15 " "	30		
Centrifugal Pumps	(1 to P.M.Co.)	50		25
Portable Drill		1/2		
Hacksaw		1/2		
Wood Planer		3		
Band Saw		5		
Circular Saw		5		
Shaper		3		
Portable Drill		1/8		
Clear Water Pumps	2 - 3 HP. motors	6		
Motor-Generator Set on Shovel No. 35		250		
Exciter Set	" " " "	20		
Dipper Trip	" " " "	2		
Fan		3		
Heater Motors	5 - 1/2 HP. motors	2 1/2		1/4
" "		1/4		
" "	8 - 1/8 " "	1		
Bolt & Pipe Machine		5		
Machine Shop Planer		10		
Boring Machine		15		
Pressure Pump in Boiler House		30		
Shop Air Compressor		50		
Portable Grinder		1		
Bench Grinders	2 - 1 HP. motors	2		
Blacksmith Shop Forge		1/4		
Electric Welder		15		
Punch & Shear Machine		5		
Small Pump		3		
Portable Saw		7 1/2		
Priming Pump	(Stored at Holman)	2		2
Blacksmith Shop		10		
Roll Motor in Laboratory		5		
Pulverizer " "		1		
Fan " "		1/8		
Heater " "		1/8		
Fan " "		1/8		
Centrifugal Pump		125		
Motor-Generator Set - Washing Plant		225		
Tyler Screen		5		5
Allis-Chalmers Screen		5		
Electric Welder		15		
Priming Pump		3		
Armstrong Drill		15		
Ro-Tap in Laboratory		1/2		
Centrifugal Pump (from Holman)			125	
Washing Plant feed pump			20	
Battery Charger (old band saw motor)			3	
	fwd.	1,856 HP.	148	32 1/4
				1,971 3/4 HP.

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Electrical Department: (Cont'd)

	brt. fwd.	INSTALLED		TAKEN OUT IN 1934	CONNECTED JAN. 1, 1935. TOTALS
		TO JAN. 1, 1934	IN 1934		
		1,856 HP.	148	32 $\frac{1}{4}$	1,971 $\frac{3}{4}$ HP.
HOLMAN-CLIFFS MINE:					
Layne & Bowler Pump		350			
Bench Grinder			1/4		
Portable Drill (to Canisteo)			1/4		1/4
Belt Conveyor		75			
Symons Crushers 2 - 100 HP. motors		200			
Jaw Crusher		100			
Dorr Classifiers 2- 10 " "		20			
Air Compressor		50			
Screen		25			
Centrifugal Pumps (1 to Canisteo)		125			125
Picking Belts 2 - 5 HP. motors		10			
Centrifugal Pump (loaned to Charleston Mining Co.)		85			85
Machine Shop		30			
Exhaust Fan			1/2		
Centrifugal Pump		275			
Blacksmith Forge Fan (from Drew Mine)				1/2	
Motor-Generator Set		225			
Locomotive Water Tank Pump (stored)		20			20
Clear Water Pump, Washing Plant		3			
Armstrong Drill		15			
Hummer Screen		5			
Bench Grinder			1/4		
Portable Grinder		1			
Shop Heaters 2 - 1/4 HP. motors)		1			1/2
" " 10 - 1/8 " "		1 $\frac{1}{4}$			
Roll Motor in Laboratory		3			
Pulverizer in "		1			
Compressor " "		1 $\frac{1}{2}$			
Motor-Generator Set on Shovel (to Canisteo)		250			250
Exciter Set " " " "		20			20
Dipper Trip " " " "		2			2
Fan " " " "		3			3
Hydrotator		15			
"		20			
Centrifugal Pump at Pit		125			
		<u>3,913$\frac{1}{4}$ HP.</u>	<u>148$\frac{1}{2}$</u>	<u>538</u>	<u>1,552</u>
	fwd.				3,523 $\frac{3}{4}$ HP.

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Electrical Department: (Cont'd)

	brt. fwd.	INSTALLED		CONNECTED	
		TO JAN. 1 1934	INSTALLED IN 1934	TAKEN OUT IN 1934	JAN. 1, 1935. TOTALS
		3,913 $\frac{1}{4}$ HP.	148 $\frac{1}{2}$	538	3,523 $\frac{3}{4}$ HP.
HILL-TRUMBULL MINE:					
Log Washer		50			
" "		40			
Belt Conveyors	4 - 5 HP. motors	20			
Crusher		100			
Sample Crusher		10			
Prescott Plunger Pump		125			
Centrifugal Pump		150			
Shops		30			
Punch & Shear Machine in Shop		5			
Band Saw in Carpenter Shop		5			
Compressor in Shop		50			
Screen		20			
Conveyor		100			
Planer in Shop		2			
Variety Saw in Shop		5			
Electric Drill		1/4			
Motor-Generator Set		65			
Blacksmith Shop Fan		1/4			
Drill		1/4			
Washing Plant Laboratory Rolls		3			
Picking Belt		5			
Car Puller		7 $\frac{1}{2}$			
Portable Grinder		1			
North Pit Pump		30			
Air Compressor at Washing Plant		25			
Churn Drill		10			
Boiler Feed Pump		5			
Chip Screens		2			
Layne & Bowler Pump		125			
Tool Post Grinder		1/4			
Armstrong Drill (from Drew Mine)			15		
Rack Drives on Classifiers	2 - 10 HP. motors	20			
Hammer Screen		2			
Pulverizer in Laboratory		1			
Fan " "		1/8			
Symons Crusher	2 100 " "	200			
Bench Grinder		1/2			
Motor-Generator Set on Shovel #34		250			
Exciter " " "		20			
Dipper Trip " " "		2			
Fan " " "		3			
Fan for Blacksmith Shop		5			
Clear Water Pump		3			
Flue Machine		5			
Bench Grinder at Washing Plant		1/2			
		<hr/>	<hr/>	<hr/>	<hr/>
	fwd.	5,416 $\frac{3}{4}$ HP.	163 $\frac{1}{2}$	538	1,518 $\frac{1}{2}$
					5,042 $\frac{1}{4}$ HP.

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Electrical Department: (Cont'd)

	brt. fwd.	INSTALLED		TAKEN OUT IN 1934	CONNECTED JAN. 1, 1935. TOTALS
		TO JAN. 1, 1934	IN 1934		
		5,416 $\frac{3}{4}$ HP.	163 $\frac{1}{2}$	538	5,042 $\frac{1}{4}$ HP.
DREW MINE:					
Skip Hoist	(stored at Hill-Trumbull)	200		200	
Tailings Pump	"	20		20	
Centrifugal Pump	"	20		20	
Washing Plant Feed Pump	at Canisteo Shaft	20		20	
Dorr Washers	(stored at Hill-Trumbull)	30		30	
Rakes	"	10		10	
Conveyor	"	15		15	
Feeder	"	5		5	
Air Compressor	"	60		60	
Armstrong Drill	(returned to H-T.)	15		15	
Blacksmith Forge Fan	" to Holman)	1/2		1/2	
Hoist on Shovel	(sold)	100		100	
Crowd " "	"	40		40	
Swing " "	"	40		40	
Trip " "	"	.7		.7	
Air Compressor on Shovel	"	2		2	
Cyclone Drill		10		10	
		10		10	0
<u>TOTAL MESABA RANGE MINES</u>		5,004 $\frac{3}{4}$ HP.	163 $\frac{1}{2}$	1,126	5,042 $\frac{1}{4}$ HP.

SPIES-VIRGIL MINE:

Underground Triplex Pump	50		
Crusher	50		
Air Compressor	403		
Compressor Cooling Water Pump	3		
Hoist	400		
Boiler Feed Pump	2		
Circular Saw in Carpenter Shop	25		
Shop	5		
Compressor Cooling Water Pump	3		
8th level Prescott Plunger Pumps	2 - 150 HP.	300	
Underground Haulage Converter	150		
Sump Pump	2		
Auxiliary Air Compressor for Hoist Brakes	5		
		5	
<u>TOTAL</u>			1,398

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The following A.C. motors are on hand, (Dec. 31, 1934) but are not installed:

CLIFFS SHAFT MINE:

Top Tram (stator only)	50 HP.
Spare Top Tram	50
Small Conveyor Motor	2
Scraper Motors	5 - 25 HP. 125
Crusher	25
Scraper Motor	15
Top Tram Motor from Republic	50

317 HP.

GENERAL STOREHOUSE & BARN:

Spare from Republic concrete mixer	5
" General Electric pump	50
" from Hard Ore #3 plunger pump	35
" for centrifugal pump used at North Lake	200
" motor	40
Pump motor from Republic Mine	10
2 -.500 HP. hoist motors from Cliffs Shaft Mine	1,000
Hoist stator only " " " "	500
Feeder Belt " " " "	5
Conveyor belt " " " " 2 motors	40
Concrete mixer from Au Train	7½
Picking belt	5
Leach concrete mixer	10
Air compressor from Republic Mine	200
Pump from 11th level " "	7½
Carpenter Shop from " "	20
Undg. Hoist " " " "	50
" " " Maas " "	50
Cyclone drill " Tilden " "	10
Pump " Au Train Dam	100
" " Republic Mine	50
" " " " "	7½
Screen #9 Shaft " " " scrap	25
Crusher " " " "	100
Coal Tram " " " "	7½
Pump from 3rd level " " " "	50
Screen from crusher " " " "	10
Underground hoist " " " "	100
Pump from " " " "	35
Top tram motor " Athens " "	50
Pump from Mackinaw Mine	20
Spare for small compressors	5
Pump motor from Cliffs Shaft change house	2
Prescott pump motor from Maas Mine	325
Tilden fan motor (in shop for repairs)	1/4
Pump motor from Morris Mine	50
" " " " " "	40
Gwinn Crushing Plant conveyor motor (in shop for repairs)	40
Sinking hoist from Wade Mine	35
Top tram " " " "	50
Sump pump " " " "	7½
Blacksmith Shop fan " " " "	3
Air compressor " " " "	150
Hoist " " " "	125
Clear water pump " " " "	15
Triplex pump " " " "	50
Pump motor " " " "	100

fwd. 3,797½
fwd.

317 HP.

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Electrical Department: (Cont'd)

	brt. fwd.	
GENERAL STOREHOUSE & BARN: (Cont'd)		317 HP.
Centrifugal Pump from Morris Mine	50	
Allis-Chalmers 3K2164.1 Armour "	5	
Hoist " " "	150	
" " " "	250	
Centrifugal Pump " " "	150	
" " " " "	200	
" " " " "	35	
Blacksmith Shop Blower (C.S.Lab)	1/2	
Centrifugal Pump	5	
Skip Hoist Motor from Lloyd Mine	400	
" " " " Barnes-Hecker Mine	400	
Hoist " " Gardner-Mackinaw Mine	50	
	5,493 $\frac{1}{4}$	
ISHPEMING HOSPITAL:		
Spare for dumb water	3	
" " hot water return	5	
	8	
ATHENS MINE:		
Pump motor	35	
" "	50	
	85	
MAAS MINE:		
Winze pump	15	
Pump (from Morris Mine)	50	
Hoist motor from Stephenson Mine	75	
Rheostat pump	2	
Cooling water pump	5	
Return " "	2	
Sump pump (new)	5	
	154	
NEGAUNEE MINE & BARN:		
Flywheel hoist set motor	350	
Top tram	50	
Hoist from South Jackson	75	
Crusher " " "	150	
Pump " Maas Mine	50	
	675	
PRINCETON MINE:		
Underground pump	150	
	150	
PRINCETON CENTRAL SHOPS & CENT. POWER PLANT:		
Grinder	3	
Austin Mine hoist motor	200	
Rock tram from Stephenson Mine	25	
Ore " " " "	50	
Hoist motor	400	
	678	
GWINN STORAGE SHED & STEPHENSON TRANSFER:		
Stephenson 5th level plunger pump	250	
" " " " "	250	
" 8th " " "	50	
" 6th " centrifugal pump	125	
Top tram from Gardner Mine	25	
" " " Stephenson Mine	50	
Spare for Pumping Station	30	
	780	
	fwd.	8,340 $\frac{1}{4}$ HP.

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	brt. fwd.	
TILDEN MINE:		
Conveyor belt	50	
Trip motor for shovels	1 $\frac{1}{4}$	
Scraper motor	50	101 $\frac{1}{4}$
	<u>TOTAL</u>	<u>8,340$\frac{1}{4}$ HP.</u>
Spare Motors at Spies-Virgil Mine:		
Underground haulage set	150	
Grinder motor	3	
	<u>TOTAL</u>	<u>153 HP.</u>
Spare motors on Mesaba Range:		
HILL-THUMBULL MINE & SHOPS;		
Log washer	25	
Picking belt	2	
Spare	3	
Log washer from Crosby Mine	40	
Screen " " "	20	
Picking belt " " "	3	
Chip screen " " "	3	
Tables " " " (Loaned to Charleston Mining Co.)	20	
Centrifugal pump " " "	85	
#2 Turbo " " "	20	
Feeder " " " (Loaned to Buggalo Mine)	20	
North Pit pump " " "	30	
Planer " " "	3	274 HP.
CANISTEO MINE:		
Centrifugal pump	600	
" "	600	
Chicago pump	3	
Dipper trip	2	
Air compressor from Pontiac Mine	100	1,305
HOLMAN-CLIFFS MINE:		
Shaft pump	150	
Motor-generator set	150	
Sump pump	5	
	<u>TOTAL</u>	<u>305</u> <u>1,884 HP.</u>
Total C.C.I.Co. & C.P.&L.Co. load connected to Power System - 12/31/34 -		
" Outside " " " " " " " " " "		25,980 $\frac{1}{2}$ HP.
		18,965
	<u>TOTAL CONNECTED LOAD</u>	<u>44,945$\frac{1}{2}$ "</u>
Total connected load at Mesaba Range Mines - Dec. 31st, 1934 -		
" " " " Spies-Virgil Mine - " " " "		5,042 $\frac{1}{4}$ "
		1,398 "
Total spare motors on hand Dec. 31st, 1934 - Ishpeming District -		
" " " " " " " " " "		8,441 $\frac{1}{2}$ "
" " " " " " " " " "		153 "
" " " " " " " " " "		1,884 "

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Electrical Department: (Cont'd)

The following direct current generators and exciters are installed and operating as needed:

		INSTALLED TO JAN. 1, 1934	INSTALLED TAKEN OUT IN 1934	IN 1934	JAN. 1, 1935 TOTALS
AU TRAIN WATER POWER PLANT:					
Exciters	(2)	34 KW.			34 KW.
CARP RIVER WATER POWER PLANT:					
Exciters	(2)	150			150
HOIST PLANT:					
Exciter		17½			
"		37			54½
McCLURE PLANT:					
Exciters	(2)	110			
M. G. Exciter		12			122
ESCANABA PLANT:					
Exciter		28			28
REPUBLIC PLANT:					
Exciter		18			
"		15			33
MAAS PLANT:					
Motor driven exciter		22½			
Turbo " "		22½			
Compressor motor exciters (2)		20			65
PRINCETON CENTRAL POWER PLANT:					
Motor driven exciter		22½			
Turbo " "		22½			45
CLIFFS SHAFT MINE:					
Compressor motor exciters (2)		20			20
BROWNSTONE SUBSTATION & SHOPS:					
Battery charging set		2			
Line testing set		1/2			
Voltage regulator control		1/2			
Condenser exciter		15			
M. G. set in shop		10			
Welding generator			20		
" "			22		70
ATHENS MINE:					
Nordberg compressor motor exciter		10			
Flywheel set exciter		15			
Skip hoist generator		700			
Battery charging motor-generator set (scrap)		1/2		1/2	
Ingersoll-Rand compressor motor exciter		10			735
MAAS CRUSHING PLANT:					
Pan conveyor generator		35			
" " " exciter		1¼			
fwd.		1,351¾ KW.	42	1/2	1,393¼ KW.

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	INSTALLED		INSTALLED		TAKEN OUT		JAN. 1, 1935.	
	TO JAN. 1,	1934	IN 1934	IN 1934	IN 1934	IN 1934	TOTALS	
	brt. fwd.	1,351 $\frac{3}{4}$ KW.	42		1/2		1,393 $\frac{1}{2}$ KW.	
NEGAUNEE MINE:								
Skip hoist generator		400						
Cage " "		150						
Flywheel set exciter		25						
Exciters for underground pump motors		28						
Ingersoll-Rand compressor motor exciter		10						
Norberg " " "		10						
Bell signal set		1/2						
Skip hoist generator #2		400						
Cage " " "		200						
Exciter on new hoist set.		<u>35</u>						1,258 $\frac{1}{2}$
MORRIS MINE:								
Ingersoll-Rand compressor motor exciter		<u>10</u>			10			0
LLOYD MINE:								
Compressor motor exciter		<u>6</u>						6
MACKINAW MINE:								
Compressor motor exciter		<u>10</u>						10
TILDEN MINE:								
Thrust generator on electric shovel #29		15						
Hoist " " " " "		75						
Swing " " " " "		15						
Exciter " " " " "		5 $\frac{1}{2}$						
" " " " #31		5 $\frac{1}{2}$						
Thrust v " " " " "		15						
Hoist " " " " "		75						
Swing " " " " "		16						
Exciter for synchronous motor		<u>15</u>						237
<u>TOTAL</u>		2,873 $\frac{1}{4}$ KW.	42		10 $\frac{1}{2}$			2,904 $\frac{3}{4}$ KW.

MECHANICAL DEPARTMENT
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Electric Department: (Cont'd)

Underground Haulage Generators:

INSTALLED
TO JAN. 1, 1935.
1934 IN 1934 IN 1934 TOTALS

CLIFFS SHAFT MINE:

Motor-Generator Set #2 100 KW.
" " charging set 5
" " set #1 100

205 KW.

ATHENS MINE:

Rotary converter #1 100
" " #2 100

200

MAAS MINE:

Motor-generator set #1 100
" " " #2 100

200

NEGAUHEE MINE:

Motor-generator set #1 (new) 200
" " " #2 150

350

LLOYD MINE:

Converter #1 90
" #2 (from Wade Mine) 100

190

MACKINAW MINE:

Rotary Converter 100

	<u>100</u>		<u>100</u>	
<u>TOTAL</u>	1,145 KW.	100	0	<u>1,245 KW.</u>

Direct Current Motors:

AU TRAIN WATER POWER PLANT:

Governor control motors (2) 1/4 1/4

CARP RIVER WATER POWER PLANT:

Rheostat control (2) 1/4
Governor " (2) 1/4 1/2

McCLURE PLANT:

Valve control (2) 2
Rheostat " (2) 1/2 2 1/2

CLIFFS SHAFT MINE:

Portable hoist 10
Car puller 6 1/2
12 Scrapers 180 196 1/2

TILDEN MINE:

Hoist motor on electric shovel #29 100
Swing " " " " 20
Thrust " " " " 20
Swing " " " " #31 20
Thrust " " " " " 20
Hoist " " " " " 100

	<u>479 3/4</u>		<u>0</u>	
fwd.	479 3/4 HP.	0	0	<u>479 3/4 HP.</u>

MECHANICAL DEPARTMENT
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Electrical Department: (Cont'd)

		INSTALLED			JAN. 1, 1935
		TO JAN. 1,	INSTALLED	TAKEN OUT	TOTALS
		1934	IN 1934	IN 1934	
brt. fwd.		479 $\frac{3}{4}$ HP.	0	0	479 $\frac{3}{4}$ HP.
ATHENS MINE:					
Skip Hoist		900			
Ventilating fans	7 - 5 HP. motors	35			
Sullivan scrapers	2 - 6 $\frac{1}{2}$ " "	13			
" "	15 - 15 " "	210	15		
Ventilating fan		15			
Sullivan scrapers	2 - 20 " "	40			
I.R.	2 - 10 " "	20			
					1,248
MAAS MINE:					
Timber hoist - skip 4th level		10			
Ventilating fan		15			
Sullivan scrapers	15 - 15 HP. motors	210	15		
" "	5 - 6 $\frac{1}{2}$ " "	32 $\frac{1}{2}$			
Scraper slide		15			
Ventilating fans	7 - 5 " "	35			
Scrapers	2 - 25 " "	50			
I.-R. scrapers	9 - 15 " "	120	15		
" "	3 - 10 " "	30			
Scrapers	1 - 20 " "	40		20	
Blower for Shop		3			
					570 $\frac{1}{2}$
MAAS CRUSHING PLANT:					
Pan conveyor		40			
					40
NEGAUNEE MINE:					
Skip hoist		500			
Cage "		200			
Timber hoist - 11th level		10			
" " - 12th "		10			
Scrapers	12 - 7 $\frac{1}{2}$ HP. motors	90			
Sullivan scrapers	10 - 6 $\frac{1}{2}$ " "	65			
" "	2 - 25 " "	50			
Ventilating fans	4 - 5 " "	20			
Denver scrapers	3 - 10 " "	30			
Sullivan "	7 - 15 " "	105			
Ingersoll-Rand scrapers	5 - 15 " "	75			
" " " "	6 - 10 " ""	50	10		
					1,215
LLOYD MINE:					
Scrapers	8 - 15 " "	15	105		
" "	3 - 10 " "		30		
" "	3 - 25 " "		75		
Skip pit			6 $\frac{1}{2}$		
					231 $\frac{1}{2}$
TOTAL D.C. MOTORS		3,533$\frac{1}{2}$ HP.	271$\frac{1}{2}$	20	3,784$\frac{3}{4}$ HP.

Spare Generators and Exciters on hand Dec. 31st, 1934:

NEGAUNEE MINE:

Skip hoist (armature only)

500 HP.

MECHANICAL DEPARTMENT
ANNUAL REPORT
YEAR 1934

Electrical Department (Cont'd)

Spare Underground Haulage Generators on hand Dec. 31st, 1934:

GENERAL STOREHOUSE:

Motor-Generator Set (from Morris)	<u>100</u>	
<u>TOTAL</u>		100 K.W.

Spare Direct Current Motors on hand Dec. 31st, 1934:

CLIFFS SHAFT MINE:

Spare scraper motor	<u>15</u>	HP.
		15 HP.

ATHENS MINE:

Timber hoist motor	10	
Fan	<u>15</u>	
		25

LLOYD MINE:

Crane motor	10	
Ore loader	2	
Scraper	<u>6$\frac{1}{2}$</u>	
		18 $\frac{1}{2}$

GENERAL STOREHOUSE:

Pump motor	20	
Spare hoist motor for Shovel	105	
" swing " " "	<u>20</u>	
		145

GARDNER-MACKINAW MINE:

Sullivan scrapers	3 - 10 HP. motors	30	
" scraper		20	
Hoist		<u>15</u>	
		<u>65</u>	
<u>TOTAL</u>			268 $\frac{1}{2}$ HP.

MESABA RANGE:

Exciters and Generators installed up to Dec. 31st, 1934:

CANISTEO MINE:

Hoist generator on shovel - 2 shovels	300	KW.
Swing " " " - 2 "	80	
Thrust " " " - 2 "	78	
Washing plant generator	150	
Arc welder	10	
Exciter on shovel - 2 "	24	
Arc welder (from Hill-Trumbull)	<u>10</u>	
		652 KW.

HILL-TRUMBULL MINE:

Hoist generator on shovel	150	
Swing " " "	40	
Thrust " " "	39	
Exciter " "	<u>12</u>	
		241

HOLMAN-CLIFFS MINE:

Generator for feeder	<u>150</u>	
		<u>150</u>
<u>TOTAL</u>		1,043 KW.

Electrical Department: (Cont'd)

MESABA RANGE:

Underground Haulage Generators installed up to Dec. 31st, 1934:

HOLMAN-CLIFFS MINE:			
Motor-generator set	115 KW.		115 KW.
HILL-TRUMBULL MINE:			
Motor-generator set	55		
" " " for rock haulage	25		
		80	
<u>TOTAL</u>			<u>195 KW.</u>

Direct Current Motors installed up to Dec. 31st, 1934:

CANISTEO MINE:				
Rack drives on classifiers	4 - 5 HP. motors	20 HP.		
Hoist motor on shovel	2 shovels	375		
Swing " " "	2 "	80		
Thrust " " "	2 "	80		
Pan conveyer		<u>40</u>		595 HP.
HILL-TRUMBULL MINE:				
Feeder motor		60		
Hoist motor on shovel		187½		
Swing " " "		40		
Thrust " " "		39		
Dorr bowl classifiers	2 - 5 HP. motors	<u>10</u>		336½
HOLMAN-CLIFFS MINE:				
Pan conveyer		40		
Log washers	3 - 40 HP. motors	<u>120</u>		
			160	
<u>TOTAL</u>				<u>1,091½ HP.</u>

Spare Direct Current Motors on Mesaba Range Dec. 31st, 1934:

CANISTEO MINE:			
Generator (from Pontiac Mine)		<u>7 KW.</u>	7 KW.
HOLMAN-CLIFFS MINE:			
1 D.C. motor		5 HP.	
1 " "		3	
1 " "		<u>3</u>	11 HP.

MESABA RANGE:

Total Exciters and Generators installed to Dec. 31st, 1934 -	1,043 KW.
" Haulage Generators " " " " " -	195 KW.
" Direct Current Motors " " " " " -	1,091½ HP.

MECHANICAL DEPARTMENT
ANNUAL REPORT
YEAR 1934

Electrical Department: (Cont'd)

SPIES-VIRGIL MINE:

Exciters installed to December 31st, 1934:

Compressor motor exciter	10 KW.
Ungeround Haulage Generators installed to December 31st, 1934:	150 KW.
Top tram larry cars - 20 HP. D.C. motors	40
Fan	<u>15</u>
	55 HP.

ISHPEMING DISTRICT:

Total D.C. Generators and Exciters installed to December 31st, 1934 - 2,904 $\frac{3}{4}$ KW.

" Underground Haulage Generators	"	"	"	"	"	- 1,245 KW.
" Direct Current Motors	"	"	"	"	"	- 3,784 $\frac{3}{4}$ HP.
" Spare D.C. Generators and Exciters on hand	"	"	"	"	"	- 0
" " Underground Haulage Generators	"	"	"	"	"	- 100 KW.
" " Direct Current Motors	"	"	"	"	"	- 268 $\frac{1}{2}$ HP.

MECHANICAL DEPARTMENT
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YEAR 1934

Electrical Department: (Cont'd)

Substation Transformers installed up to December 31st, 1934:

<u>66,000/2300 Volts</u>	<u>Phase</u>	<u>No.</u>	<u>K.V.A.</u>	<u>TOTAL K.V.A.</u>	
Munising Substation	1	3	667	2,001	
Sensy "	1	1	25	25	
Inland #1 "	1	3	500	1 500	
" #2 "	1	3	500	1 500	
					5,026 K.V.A.
<u>33,000/66,000 Volts</u>					
Gwinn Substation	1	3	1,250	3,750	
					3,750 "
<u>33,000/13,200 Volts</u>					
Clarksburg Substation	1	3	37½	112½	
					112½ "
<u>33,000/6,600 Volts</u>					
Eben Substation	1	1	25	25	
					25 "
<u>33,000/2300 Volts</u>					
Brownstone Substation	1	3	400	1,200	
Cliffs Shaft-Holmes Substation	1	6	500	3 000	
Morris-Lloyd "	1	3	590	1 770	
Princeton "	1	3	250	750	
Republic "	1	3	400	1 200	
Maas "	11	6	590	3 540	
Escanaba Plant "	1	3	590	1 770	
Gwinn "	1	3	625	1 875	
Munising "	1	3	200	600	
McClure Plant "	3	2	5,000	10 000	
Carp "	1	3	1 900	5 700	
Au Train "	3	1	1 250	1 250	
Palmer "	1	3	625	1 875	
Hoist Plant "	1	3	667	2 000	
Greenwood "	1	3	150	450	
Ghatham "	1	2	15	30	
					37,010 "
<u>6,600/2,300 Volts</u>					
Gwinn Substation	1	3	350	1,050	
Mackinaw "	1	3	350	1 050	
Inland #1 "	1	3	25	75	
Blaney Park "	1	2	25	50	
" " "	1	1	15	15	
					2,240 "
<u>6,600/115-230 Volts</u>					
Germfask	1	1	15	15	
"	1	2	1.5	3	
"	1	2	3	6	
					24 "
					<u>GRAND TOTAL</u> 48,187½ K.V.A.
<u>12,000/2300 Volts</u>					
McClure Plant (belong to Marquette City)	3	2	1,250	2,500	K.V.A.

Transformers used for Underground Haulage installed to Dec. 31, 1934:

Athens Mine converters	1	6	35	210	
Mackinaw Mine converter	1	3	35	105	
					315 K.V.A.

MECHANICAL DEPARTMENT
ANNUAL REPORT
YEAR 1934

Electrical Department: (Cont'd)

Distribution Transformers installed up to December 31st, 1934:

<u>2300/220/110 Volts</u>	<u>Phase</u>	<u>No.</u>	<u>K.V.A.</u>	<u>TOTAL K.V.A.</u>
<u>ANGELINE MINE:</u>				
Hoist control	1	1	<u>7½</u>	7½
<u>CLIFFS SHAFT MINE:</u>				
Office lights	1	1	10	
" "	1	1	15	
"A" Shaft hoists	1	2 (15)	30	
Pump station lights	1	1	3	
Crusher house lights	1	2 (1)	2	
Crushers & surface lights	1	3 (10)	30	
Gravel scraper	1	2 (37)	75	
Underground scrapers	1	4 (50)	200	
" "	1	3 (25)	75	
Motor-Generator set for battery charging and 1st level "A" scrapers	1	3 (15)	45	
Rectifiers	1	7 (5)	35	
Lights	1	34 (1½)	51	
Scraper lights	1	1	2	
Signal in engine house	1	1	5	
Scraper lights	1	1	3	
Top tram control	1.	1	1	
Laboratory	1	2 (15)	<u>30</u>	612
<u>HARD ORE, BROWNSTONE, ETC.</u>				
Light & power	1	1	15	
" " "	1	1	<u>7½</u>	
Blacksmith Shop	1	1	30	
Manager's residence	1	2 (10)	20	
" "	1	1	5	
F. C. Stanford & testing	1	1	<u>7½</u>	
" " "	1	1	5	
Manager's residence	1	1	<u>7½</u>	
" "	1	1	<u>1½</u>	
Hospital	1	3 (25)	75	
Shop power	1	3 (15)	45	
" lights	1	1	5	
Blacksmith shop lights	1	1	<u>15</u>	239
<u>TILDEN MINE:</u>				
Pump	1	2 (10)	20	
Lights & power	1	2 (5)	10	
" " "	1	2	2	
Drills	1	3 (10)	30	
Shovel	1	3 (5)	15	
Crusher	1	3 (10)	30	
Synchronous condenser	1	2 (7½)	15	
Scrapers	1	3 (15)	45	
#31 shovel	3	1	<u>15</u>	162
			fwd.	1,040½

MECHANICAL DEPARTMENT
ANNUAL REPORT
YEAR 1934

Electrical Department: (Cont'd)

Distribution Transformers (Cont'd)		Phase	No.	K.V.A.	TOTAL K.V.A.
brt. fwd.					1,040½
ATHENS MINE:					
Machine Shop		1	2 (10)	20	
Surface lights & "ab. hot plates		1	3 (10)	30	
Pump station lights		1	1	5	
" " "		1	1	2	
100 G.P.M. pump		3	1	40	
Signal system		1	1	1	
Engine house lights		1	1	5	
" " "		1	1	4	
Top tram		1	1	2	
" " control		1	1	1	
Pump at Breitung Shaft		1	1	<u>1</u>	111
MAAS MINE:					
Lights & injection pump		1	3 (10)	30	
Coal crusher & shop		1	2 (10)	20	
Signal system		1	1	1/2	
3rd Level pump station		1	2 (5)	10	
Cage hoist control		1	1	10	
Skip " "		1	1	2	
" " "		1	1	3	
Rock tram		1	1	1	
Heaters in engine house		1	1	7½	
Top tram		1	1	2	
Shop		1	1	<u>15</u>	101
MAAS CRUSHING PLANT:					
Lights		1	1	<u>7½</u>	7½
NEGAUNEE MINE:					
Shop light and power		1	1	10	
" " " "		1	1	7½	
Engine house lights and power		1	1	10	
" " " " "		1	1	5	
Signal system		1	1	1/2	
Pump station lights, etc.		1	3 (7½)	22½	
13th Level pump		1	3 (5)	15	
Barn		1	1	5	
Gravel pit		1	1	7½	
Hoist and lights - #2 Shaft		1	3 (10)	30	
Underground haulage		1	1	<u>3</u>	116
LLOYD MINE:					
Cage hoist control		1	1	7½	
Skip " "		1	1	7½	
Water supply pump house lights		1	1	2	
Engine house lights and bell system		1	1	5	
Shaft house lights		1	1	5	
Auxiliary compressor		1	1	2	
Lights and power		1	1	2½	
Underground haulage		3	1	100	
" " from Wade Mine		1	3 (35)	<u>105</u>	236½
					fwd. 1,612½

MECHANICAL DEPARTMENT
ANNUAL REPORT
YEAR 1934

Electrical Department: (Cont'd)

Distribution Transformers (Cont'd)	Phase	No.	K.V.A.	Total K.V.A.
brt. fwd.				1,612½
NORTH LAKE LOCATION:				
Location lights	1	1	7½	
Club House "	1	1	<u>10</u>	17½
SECTION 6 SHAFT:				
Hoist control	1	1	7½	
Lights	1	2 (2)	<u>4</u>	11½
REPUBLIC MINE:				
Engine house lights	1	1	7½	
Water Power Plant lights	1	1	1½	
" " " "	1	1	<u>3</u>	12
PALMER SUBSTATION:				
Circuit breaker control	1	1	<u>1½</u>	1½
AUSTIN MINE:				
Shop	1	1	<u>10</u>	10
GARDNER MINE:				
Cage hoist control	1	1	10	
Power and lights	1	2 (10)	<u>20</u>	30
MACKINAW MINE:				
Machine shop	1	2 (5)	10	
Hoist control	1	1	10	
Top tram	1	1	1	
7th level Engine House lights	1	1	1	
Engine house heaters	1	1	<u>3</u>	25
PRINCETON #2:				
Stockpile	1	2 (10)	<u>20</u>	20
PRINCETON #3:				
Lighting and bell system	1	1	<u>1½</u>	1½
PRINCETON CENTRAL POWER PLANT:				
Coal crusher	1	3 (7½)	22½	
Power plant lights	1	1	<u>10</u>	32½
PRINCETON CENTRAL SHOPS:				
Power and lights	1	2 (10)	<u>20</u>	20
GWINN DISTRICT OFFICE:				
Lights	1	1	<u>10</u>	10
PRINCETON PUMP STATION:				
Power	1	3 (15)	45	
Lights	1	1	<u>5</u>	50
GWINN DISTRICT CRUSHING PLANT:				
Power and lights	1	2 (10)	<u>20</u>	20
GWINN SUBSTATION:				
Lights	1	1	<u>1/2</u>	1/2
			fwd.	<u>1,874½</u>

MECHANICAL DEPARTMENT
ANNUAL REPORT
YEAR 1934

Electrical Department: (Cont'd)

Distribution Transformers (Cont'd)		Phase	No.	K.V.A.	Total K.V.A.
AU TRAIN WATER POWER: brt. fwd.					1,874½
Operators dwelling lights		1	1	2	
Control		1	3 (1)	3	
Power and Lights, Dixon Location		1	1	5	
" " " Grand Island		1	2 (5)	10	
Lights, Forest Lake Location		1	1	10	
Chief Operator's dwelling lights		1	1	5	
Surge tank heaters		1	2 (5)	10	
Dixon Tie Mill		1	3 (3)	9	
Gravel pit		1	2 (5)	10	
Camp lights		1	1	5	
Grand Island		1	1	7½	
" "		1	2 (5)	10	
Dixon Location, power		1	1	<u>3</u>	
					87½
GARP RIVER WATER POWER PLANT:					
Power and lights		1	1	10	
" " "		1	1	20	
Pump		1	2 (1)	<u>2</u>	
					32
HOIST PLANT:					
Power and lights		1	3 (10)	<u>30</u>	
					30
McCLURE PLANT:					
Power and lights		1	2 (10)	<u>20</u>	
					20
ESCANABA RIVER PLANT:					
Power and lights		1	3 (5)	<u>15</u>	
					15
				<u>GRAND TOTAL</u>	<u>2,059</u>
RETAIL SERVICE:					
Austin Location lighting		1	1	10	
Gwinn street lights		1	2 (1)	2	
" " "		1	1	2	
Gwinn lighting - near Depot		1	1	1/2	
" " - Poplar Alley		1	1	30	
" power - Club House		1	1	5	
" lighting - " "		1	1	10	
" " - Mineral Street		1	1	10	
" " - Pine "		1	3 (15)	30	
" power - School		1	3 (5)	15	
" lighting - "		1	1	10	
Cyr location lighting		1	1	2	
Princeton Upper Location lighting		1	1.	10	
" Lower " "		1	1	5	
New Swansy " "		1	1	10	
Little Lake " "		1	1	5	
" " " "		1	1	7½	
State Farm - Chatham		1	2 (7½)	15	
Chatham lighting		1	1	10	
" " "		1	1	5	
" " "		1	1	1	
Eben lighting - School		1	1	10	
Seney " "		1	1	10	
" " "		1	1	<u>3</u>	
				fwd. 218	

MECHANICAL DEPARTMENT
ANNUAL REPORT
YEAR 1934

Electrical Department: (Cont'd)

Distribution Transformers (Cont'd)		Phase	No.	K.V.A.	TOTAL K.V.A.
RETAIL SERVICE				218	
	brt. fwd.				
Rumely lighting		1	2 (5)	10	
Dorsey farm lighting		1	1	2½	
" " "		1	1	3	
Eben " "		1	1	3	
" " "		1	1	2½	
Blaney lighting extensions		1	1	3	
Dorsey lighting		1	1	5	
" "		1	11 (1½)	16½	
" "		1	2 (3)	6	
Chatham rural lighting		1	1	1	
Eben Corner "		1	1	7½	
State Farm chicken coop		1	1	5	
Alger County Infirmary		1	1	7½	
" " Shed		1	1	5	
			<u>TOTAL</u>		295½

Spare Transformers on hand December 31st, 1934:

ANGELINE MINE:

General Electric	1	1	1	1
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GENERAL STOREHOUSE & BARN:

General Electric for 440 V. Shaft Pump	1	1	100	
" "	1	1	10	
" " from Republic	1	1	15	
" " " "	1	1	7½	
" "	1	1	75	
" "	1	1	10	
" "	1	1	10	
" "	1	1	10	
" "	1	1	5	
" "	1	1	5	
" "	1	2 (15)	30	
" "	1	1	25	
" "	1	1	1/2	
Pittsburgh	1	1	10	
General Electric	1	1	3	
" "	1	1	3	
" "	1	1	1	
" "	1	1	5	
" "	1	1	3	
" "	1	3 (75)	225	
" "	1	1	10	

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ATHENS MINE:

Spare	1	1	3	
"	1	1	3	

6

REPUBLIC MINE:

General Electric	1	1	4	
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4

GWINN SUBSTATION:

Spare	1	1	10	
"	1	1	10	

20

PRINCETON MINE ENGINE HOUSE:

Surface lighting	1	1	5	
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5

TOTAL 599

MECHANICAL DEPARTMENT
ANNUAL REPORT
YEAR 1934

COMPARATIVE TABLES:

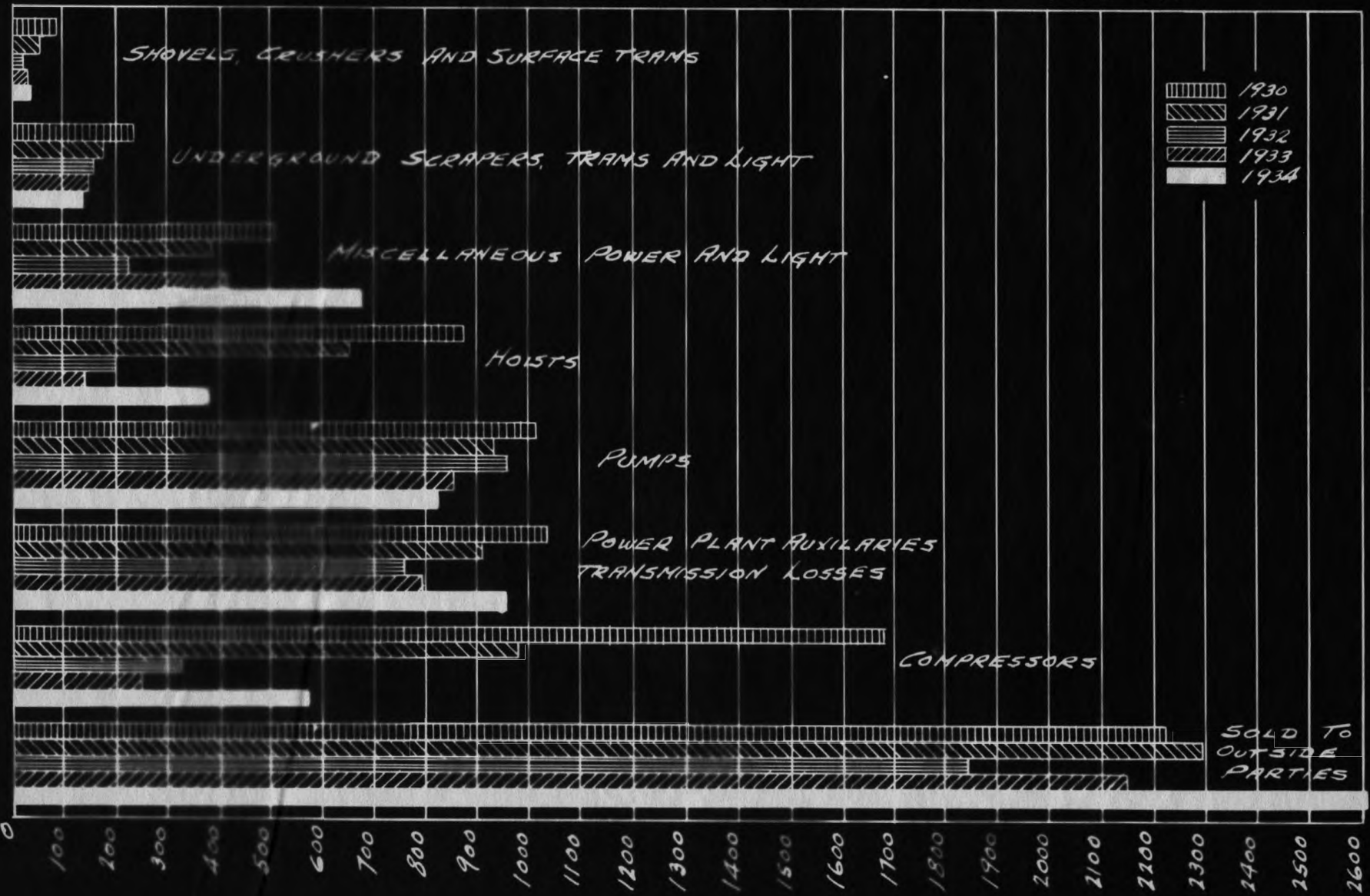
<u>YEAR</u>	<u>TONS COAL BURNED</u>	<u>TONS ORE & ROCK HOISTED</u>	<u>CU. FT. AIR USED</u>	<u>FT. AIR PER TON HOISTED</u>	<u>GALLONS OF WATER PUMPED</u>	<u>G.P.M.</u>
<u>CLIFFS SHAFT MINE:</u>						
1925	2,900	322,928	824,005,547	2,551	327,655,585	
1926	1 470	350 604	801 351 000	2 285	379 727 700	
1927	957	426 830	766 647 000	1 796	440 517 425	
1928	1 008	416 344	804 600 000	1 932	463 182 750	
1929	934	451 334	853 572 500	1 891	461 403 025	
1930	716	444 511	896 693 000	2 017	446 650 100	
1931	560	315 492	592 506 000	1 878	350 061 000	
1932	611	92 125	188 127 000	2 042	369 057 075	
1933	495	61 623	160 033 500	2 596	362 896 379	
1934	373	235 639	394 168 500	1 672	348 670 324	664
<u>ATHENS MINE:</u>						
1925	789	214,510	468,900,000	2,186	131,715,395	
1926	869	226 229	547 650 000	2 421	140 788 044	
1927	790	233 221	679 815 000	2 914	127 086 869	
1928	827	241 977	710 640 000	2 936	120 178 303	
1929	767	344 534	1,154,380,000	3 350	117 645 969	
1930	657	384 801	1 060 650 000	2 756	121 785 145	
1931	621	254 660	686 750 000	2 696	136 215 501	
1932	578	77 639	209 925 000	2 703	205 070 447	
1933	546	49 506	152 235 000	3 075	194 073 179	
1934	672	166 412	334 485 000	2 009	179 244 454	341
<u>MAAS MINE:</u>						
1925	670	144,408	372,735,000	2,581	480,918,511	
1926	829	245 992	420 930 000	1 711	508 242 996	
1927	767	274 586	521 730 000	1 900	534 129 791	
1928	657	272 740	679 005 000	2 489	553 419 346	
1929	577	347 232	1,067,265,000	3 074	554 452 221	
1930	606	443 504	1 374 390 000	3 098	577 702 994	
1931	618	332 206	756 405 000	2 076	585 922 823	
1932	585	97 295	210 825 000	2 166	576 727 573	
1933	662	143 845	367 560 000	2 555	554 157 402	
1934	747	294 372	601 920 000	2 044	550 020 020	1,048
<u>NEGAUNEE MINE:</u>						
1925	1,100	342,824	660,600,000	1,927	436,422,253	
1926	1 229	374 004	602 010 000	1 609	440 271 619	
1927	1 139	501 516	895 680 000	1 785	603 746 976	
1928	1 278	472 458	1,047,240,000	2 216	629 675 383	
1929	1 410	569 489	1 123 840 000	1 973	648 591 436	
1930	1 254	597 364	1 044 270 000	1 748	556 227 893	
1931	885	346 533	620 641 000	1 791	482 294 599	
1932	1 092	86 650	209 970 000	2 423	477 360 416	
1933	708	65 661	166 050 000	2 528	448 928 213	
1934	819	240 808	437 985 000	1 818	435 724 897	830

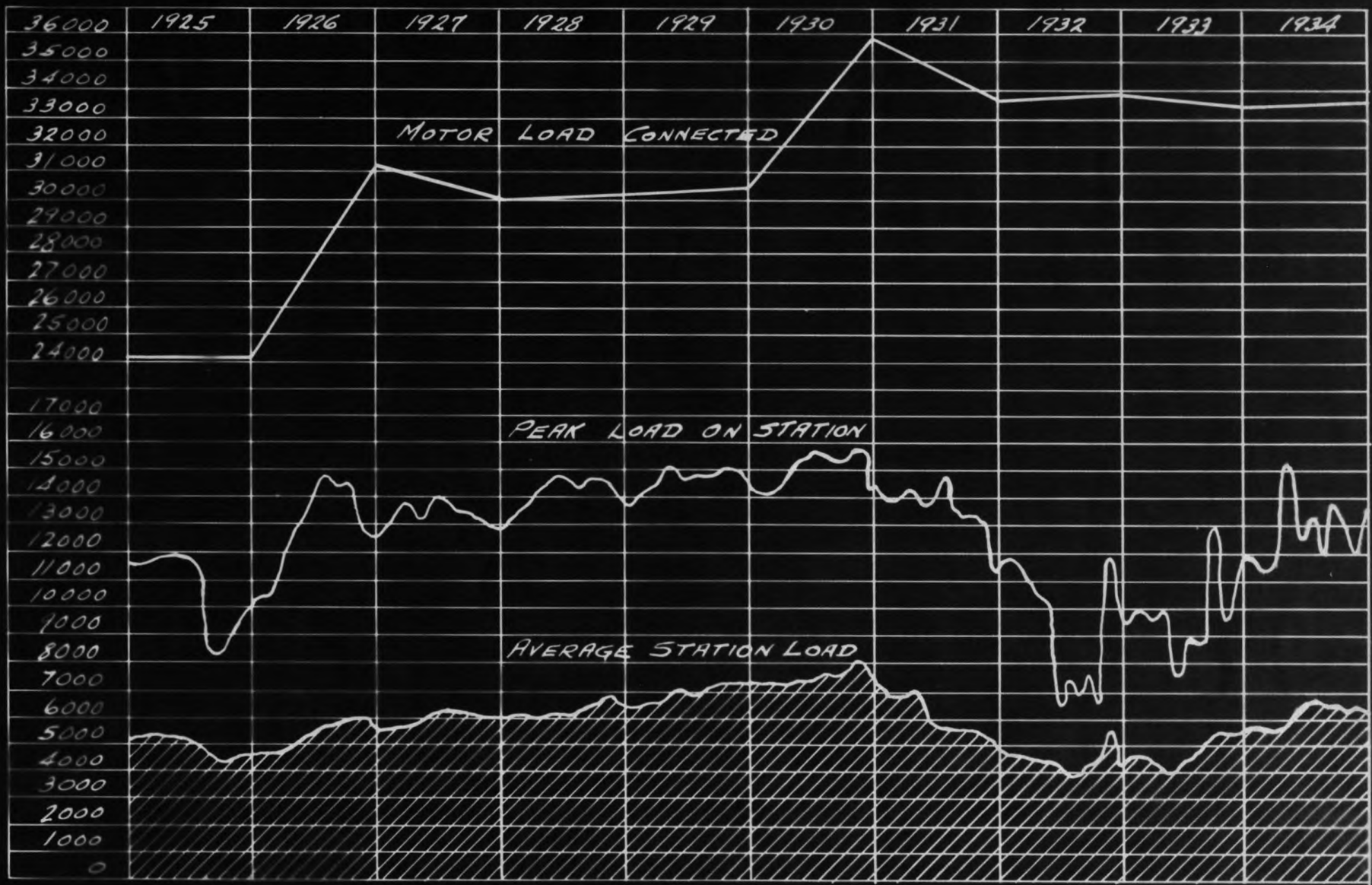
MECHANICAL DEPARTMENT
ANNUAL REPORT
YEAR 1934

COMPARATIVE TABLES:

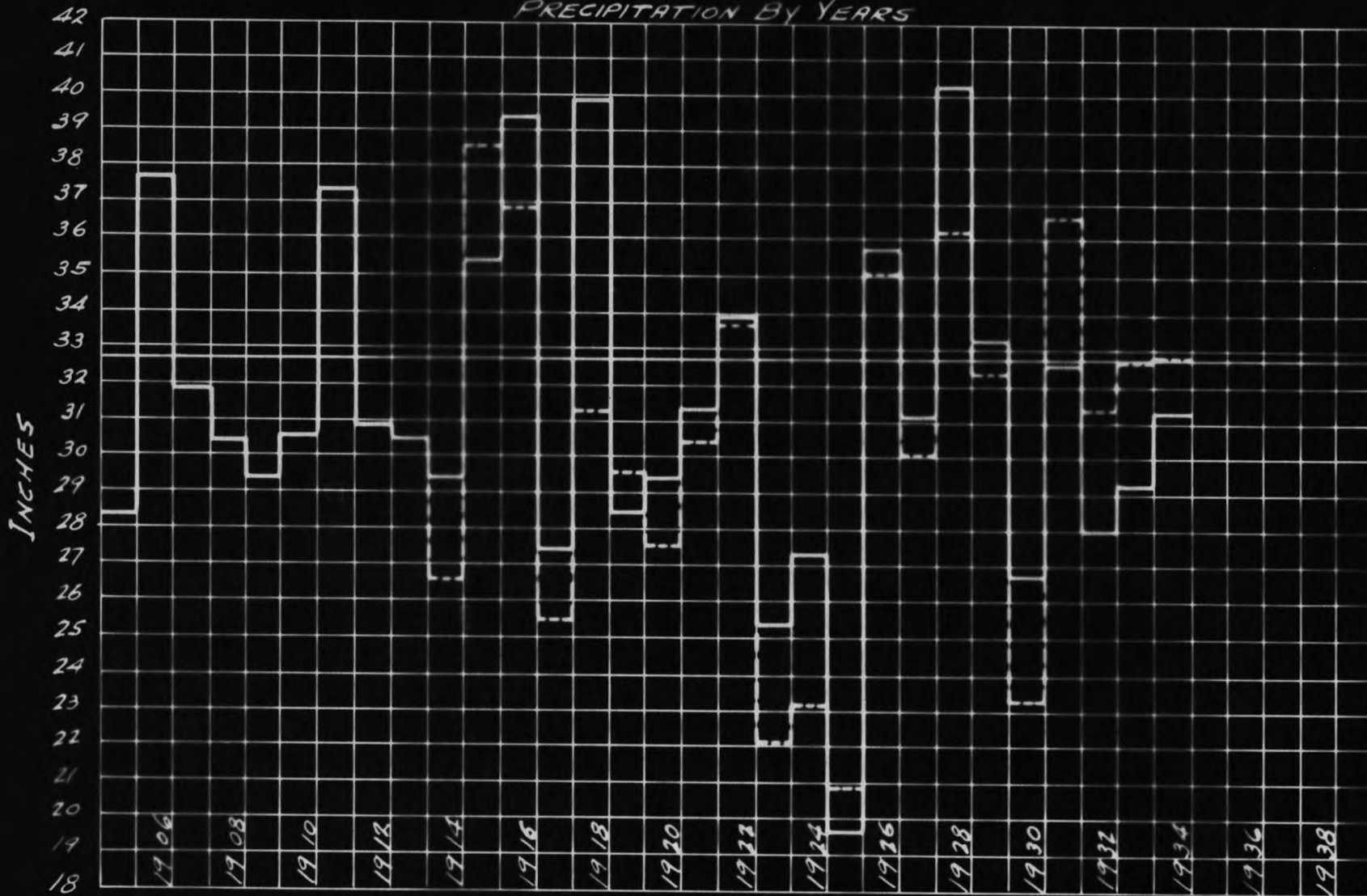
<u>YEAR</u>	<u>TONS COAL BURNED</u>	<u>TONS ORE & ROCK HOISTED</u>	<u>CT. FT. AIR USED</u>	<u>CUBIC FT. AIR PER TON HOISTED</u>	<u>GALLONS OF WATER PUMPED</u>	<u>G.F.M.</u>
<u>TILDEN MINE:</u>						
1929	625	441,769				
1930	498	287 043				
1931	244	137 010				
1932	38	19 957				
1933	164	94 194				
1934	325	167 688				
<u>LLOYD MINE:</u>						
1933	96	4,554				
1934	127	136 951	145,926,000	1,065		
<u>GARDNER-MACKINAW MINE:</u>						
1928	336	91,293	214,020,000	2,344	52,760,063	
1929	531	119 189	570 635 000	4 703	56 528 157	
1930	316	129 321	621 450 000	4 805	74 823 761	
1931	152	80 801	489 240 000	6 054	172 438 518	
1932	106	24 781	126 945 000	5 122	119 155 845	
1933	40	3 944	49 770 000	12 619	103 051 726	
1934	269	79 187	291 510 000	3 681	82 416 531	156

DISTRIBUTION OF ELECTRIC POWER 1930 - 1931 - 1932 - 1933 - 1934





PRECIPITATION BY YEARS



— MARQUETTE RECORD --- ISHPERING RECORD

1934



CURRENT MADE BY WATER POWER
 WATER LOST BY OVERFLOW
 POWER PURCHASED

PENSION DEPT. ANNUAL REPORT YEAR 1934.

11.

a. Workmen's Compensation.

The direct work of the Compensation Department has been taken care of by Walter E. Johnson, as has been done since 1926.

The regular plan of seeing an injured man just as soon as possible has been followed and this has served to maintain the most friendly relations with the men making it possible to readily secure their signatures to the compensation agreements and keep them satisfied with the provisions of the Compensation Laws.

The payments have been made promptly, the checks being delivered to them at the office when they are able to come for them, for the Ishpeming mines, or delivered to them at the hospitals or at their homes when they are unable to be out.

In the outside districts the mine clerks do this work for us.

In many cases this year while the mines were operating on a reduced basis the compensation paid is more than the men would receive on their return to work, but there has been very little difficulty in getting them to return to work when the physicians have reported them able to do so and there was work for them.

The compensation based on the Michigan Law is $66 \frac{2}{3}$ per cent of the weekly wage which is six times the daily wage, regardless of the number of days regularly employed. In Minnesota the minimum weekly wage to be considered is five and one-half times the daily wage.

The men have shown a good spirit in returning to work just as soon as possible.

The greatly reduced number of accidents will result in reduced compensation costs which will be reflected in total costs as the old cases are ended, which run for 300 weeks in the case of a fatality and for 500 weeks for total disability.

Early in the year the Department of Labor and Industry issued a rule that for employers working under a Government code the method of computing compensation would be on the basis of five times the daily wage, instead of six times. In a few months we were notified that the rule had been rescinded and that the provisions of the Law would be in effect.

From May 17, 1933 to May 16, 1934 the Fidelity & Casualty company of New York carried the compensation risk for all departments of the Company in Michigan. Previous to the end of the insurance year the Fidelity & Casualty Company decided not to continue as insurer.

A very careful calculation of compensation costs was made. On May 17, 1934 the Company assumed its own risk and so continued throughout the year.

Following is a list of cases requiring special attention during the year:

DOMINIC FRANCISCO - MAAS MINE - Acc. Rept. #386.

Francisco was injured January 24, 1926. He suffered a fractured left hip. A nail in an old plank which he was throwing from the stocking trestle caught in his clothing and pulled him off the trestle and he landed on the ore pile about 35 feet below. Following this accident he was disabled for a year and then returned to work as an underground sampler. He continued at this work for five years and then the hip again troubled him and in January 1932 he was forced to discontinue work and he was again placed on the compensation roll with the understanding that the injury in 1926 was the proximate

PENSION DEPT. ANNUAL REPORT YEAR 1934.

11.

a. WORKMEN'S COMPENSATION (Continued)DOMINIC FRANCISCO - MAAS MINE - ACC. REPT. No. 386.(Continued)

cause of his present disability. Our doctors agreed that he was disabled but apparently there was nothing they could do for him so in January 1934 he was sent to Ann Arbor and it was the opinion of specialists there that he was totally disabled for heavy work. His compensation will expire in 1935.

OTTO PULKKINEN - ATHENS MINE - Acc. REPT. No. 327.

Pulkkinen suffered a severe contusion of the left thigh on December 8, 1930, and as a result was disabled until April 6, 1931. He then returned to light work until March 17, 1932, when he was forced to quit because of the condition of his leg. Continued treatment for two years was ineffectual and the case had all the ear-marks of total disability. On October 15, 1934, we settled with Pulkkinen on a partial disability basis and a lump sum was paid him with which he purchased a farm on the outskirts of Negaunee.

DAVID LAMPINEN - ATHENS MINE.

Lampinen claimed a leg injury on May 29th, 1930, caused by being struck by falling ore while he was bending over to pick a hitch for a timber leg. The injury did not disable him at the time and he continued to work as a miner until the mine closed in the spring of 1933. He did not return to work in the fall of 1933 when the mine re-opened, claiming he was unable to do so because of the condition of his leg. Our doctors said that any disability Lampinen had was due to a bad varicose condition and that this condition was not the result of any injury. Lampinen petitioned for compensation in 1934 and his case was heard before a Deputy Commissioner on October 19th, and an award was made in his favor. We have appealed for a hearing before the Full Board but up to the end of the year the case had not been set for hearing.

WILLIAM MERRILA - NEGAUNEE MINE - ACC. REPT. No. 605.

Merrila was fatally injured by a fall of ground on March 20, 1934. At the time of his death William was maintaining a home for himself and his two younger brothers, Eli 22 and Emil 21, neither of whom were working at the time of William's death. Eli and Emil filed a claim against the Fidelity & Casualty Company which came on for hearing on October 19th, 1934, at which time they claimed their father had died a good many years ago following which William was considered the head of the family; that their mother died two years ago, and since that time they have done the housework and the cooking; that neither of them have been employed during this period except at odd jobs, and that they were both entirely dependent upon William for the necessities of life. Their claim for compensation was denied by the Deputy Commissioner and they have appealed.

PENSION DEPT. ANNUAL REPORT YEAR 1934.

11.

a. WORKMEN'S COMPENSATION (CONTINUED)

FATALITIES.

The following fatalities occurred during 1934. The Luoma and Merrila fatalities occurred during the time we were insured by the Fidelity & Casualty Company of New York.

Gust Luoma

Age 30

C.P. & L. CO., Acc. Rept. No. 18.
 Occurred March 16, 1934.
 Fell from transmission line tower.
 Dependent wife and one child.
 Compensation at \$14.56 per week
 for 300 weeks

4368.00

200.00

\$ 4568.00

William Merrila

Age 35

Negaunee Mine, Acc. Rept. No. 605.
 Occurred March 20, 1934.
 Caught by fall of ground.
 Question of dependency of two brothers
 has not been determined.
 Funeral expense

200.00

Matt Toppila

Age 62

Cliffs Shaft Mine, Acc. Rept. No. 1063.
 Occurred June 11, 1934.
 Slipped from ladder and fell on ore pile.
 Dependent wife.
 Compensation at \$16.80 per week
 for 300 weeks

5040.00

200.00

\$ 5240.00

John Nicholas

Age 56.

Tilden Mine, Acc. Rept. No. 8.
 Occurred July 24, 1934.
 Arm caught between conveyor belt and pulley.
 Dependent sister. Three dependent children.
 Compensation at \$18.00 per week
 for 300 weeks

5400.00

200.00

\$ 5600.00

Payments on account of the following fatal accidents were completed during the year:

<u>Mine</u>	<u>Name</u>	<u>Acc. Rept.</u>	<u>Date of Accident</u>	<u>Date of Final Payment.</u>
C.P. & L.Co.	Oscar Anderson	6	6/14/28	3/14/34
Negaunee	Gust Koski	572	12/17/28	9/17/34
Negaunee	Matti Siik	576	3/30/29	12/29/34

PENSION DEPT. ANNUAL REPORT YEAR 1934.

11.

a. WORKMEN'S COMPENSATION (Continued)

Following is a list of the more serious cases occurring during 1934, other than fatalities:

<u>Mine & Rept. No.</u>	<u>Name</u>	<u>Nature of Injury</u>	<u>Compensation Paid.</u>
Athens #334	John H. Johns	Fracture of 4th metatarsal right foot	432.00 *
Cliffs Shaft No. 1064	Simon Luoma	Infected hand	216.93 *
Cliffs Shaft No. 1066	Oscar Kurin	Loss of right eye. will be paid 100 weeks- \$1800.00.	576.00*
Mans No. 472	Matt Hill	Fractured left leg	252.00*
Negaunee No. 607	Chas. Johnson, Sr.	Severe contusion and sprain of right foot and ankle.	422.40*

* Payments are still being made.

11. a. WORKMEN'S COMPENSATION(Continued)

Compensation Payments including Medical Expense.

<u>Year</u>	<u>C.C.I.Co.</u>	<u>Negaunee Mine Co.</u>	<u>Athens Ir. Mng. Co.</u>	<u>Cliffs Pr. & Light Co.</u>	<u>Mesaba Cl. Ir.Mng.Co.</u>	<u>Holman Cl. Mng. Co.</u>	<u>Canistee Cl.Mng. Co.</u>	<u>Alexandria Mine</u>	<u>TOTAL.</u>
1912	1073.81	105.08							1178.89
1913	13149.70	1152.87	27.15						14329.72
1914	27416.82	2840.13	446.63						30702.58
1915	15657.71	1699.28	656.07						18013.06
1916	32404.74	3496.75	672.29						36573.78
1917	45129.92	5301.30	911.46						51342.68
1918	43734.77	6198.93	1197.57						51131.27
1919	59417.51	11724.68	2234.77		263.00				73639.96
1920	59535.76	8888.01	2928.15		3057.46				74409.38
1921	59065.26	4709.80	5208.92		2953.08				71937.06
1922	56794.35	5283.24	2048.23		1866.67				65992.49
1923	57856.37	4142.00	5007.88		4874.48				71880.73
1924	56335.89	5487.07	6394.01		9408.59				77625.56
1925	49376.47	4464.79	8305.60		7316.55				69463.41
1926	51123.41	5433.85	7087.93	514.40	9537.84				73697.43
1927	86156.10	5311.69	5489.81	939.86	7147.98				105045.44
1928	87186.58	6532.66	6235.08	1831.30	4576.56	9.00			106371.18
1929	76959.01	8899.76	6303.92	1895.50	3557.86	292.63	4.50		97913.38
1930	76753.51	10603.63	5803.45	1930.48	2531.15	1236.18	1357.05	1993.76	102209.24
1931	75167.79	10723.30	5233.65	1867.50	1489.36	559.63	1346.64	1700.87	98088.74
1932	52920.75	12137.00	5012.72	1398.25	1336.00	33.75	65.50	1074.00	73972.97
1933	23425.69	9605.70	5298.56	993.45	2180.61			614.00	42128.01
1934	26672.34	7573.97	8429.38	468.46	2468.61				45612.76
Totals	1133324.26	142315.52	90933.23	11839.20	64565.80	2131.39	2768.69	5372.63	1453260.72

PENSION DEPT. ANNUAL REPORT YEAR 1934

11.
a. Workmen's Compensation (Cont.)

ANNUAL STATEMENT OF COMPENSATION PAYMENTS
FROM JANUARY 1st, 1934 TO DECEMBER 31st, 1934.

Compensation paid on 1934 accidents	\$ 3735.35	
Compensation still pending	61488.29	
Cost of medical and hospital service	<u>7314.25</u>	
Total		\$ 72537.89
Less pending for years 1925 to 1933 inclusive	49262.54	
Less medical paid on accidents occurring prior to January 1, 1934	260.48	
Less medical paid on insurance company cases	<u>105.00</u>	
		<u>49628.02</u>
Cost of 1934 accidents		22909.87
Percentage of payrolls		.02214
Number of accidents on which compensation payments were made		13
Number of non-compensable accidents		1
Number of slight accidents which caused not over 1 day's lost time		173

The above figures, and those on the large compensation statement, cover only those accidents on which we carry our own risk.

Our experience under the insurance plan for Michigan properties is shown on another statement

ANNUAL REPORT - YEAR 1934

STATEMENT OF COMPENSATION PAYMENTS FROM
JANUARY 1, 1934 TO DECEMBER 31, 1934

	Average No. of Employees	No. of Fatal Accs.	No. of Non-Fatal Accidents		Actual Comp. Paid in 1934	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	Estimated Compen- sation still Pending	Actual Payments to Phy- sicians	Continuing Cases	
			Fatal	Non-Fatal															Fatal	Injury
Cliffs Shaft	302	1	5	35	4574.93				1872.00			972.00			1730.93	12828.20	1278.75	2	5	
Cliffs Shaft Laboratory	5		1														11.25			
Chief of Police	1																3.75			
District Welfare	4																15.00			
Employes Wood, Gwinn District					648.00									648.00		624.00			1	
Gardner-Mackinaw	139			4													520.50			
General Storehouse	57		1	2	979.20							936.00			43.20	1958.40	211.37	1	1	
General Welfare	2																5.63			
Geological Department	1																3.75			
Gwinn Office	1																3.75			
Holmes					1876.80					972.00	904.80					2277.60			1	
Ishpeming Hospital																	1.75			
Ishpeming Office	14																53.00			
Lloyd	127			11	4499.76	210.00		532.00		524.16	2297.60	936.00				6692.28	475.75	3	3	
Mass	304		2	19	5873.60			2226.00		1026.00		2208.00			413.60	10785.55	1337.73	1	6	
Mechanical Engineering	2																9.37			
Mining Engineering	5																17.50			
Princeton					308.00	308.00														
Purchasing Department	3																			
Republic					831.84												2967.26		1	
Safety Department	1																	1.87		
Shipping Department	3																11.25			
Spies Virgil	12																44.12			
Stephenson					2240.00												2394.00		3	
Tilden	36	1		1	596.00		784.00	728.00	728.00						596.00	5004.00	146.00	1	3	
Workmen's Compensation	1																5.62			
Saranac Investigation																	1.50			
Dismantling Lake Angeline Drainage																	8.50			
The Cliffs Power & Light Co.	21		1	5	239.46											23.46	229.00			
Negaunee	224		2	23	6701.68		476.00	155.52		1008.80	2380.00	1265.76	259.20	216.00	440.40	7090.76	872.29		8	
Athens	198		1	23	7622.38			845.14		63.20	956.00	4863.71	264.33	198.00	432.00	4300.62	807.00	1	6	
Total - Michigan Mines	1461	2	12	123	36991.65	518.00	1260.00	4451.66	2600.00	2174.84	6338.16	9331.87	5575.53	1062.00	3679.59	56922.67	6090.00	10	35	
Hibbing Office	11																62.50			
Holman-Brown	7																42.50			
Ganisteo	180		1	44	625.04									569.28	55.76	139.40	1032.75		1	
Hill Trumbull	4			6	681.82							681.82				4426.22	26.50	1	1	
Total - Minnesota Mines	202		1	50	1306.86							681.82		569.28	55.76	4565.62	1224.25	1	1	
Total - All Mines	1663	2	13	173	38298.51	518.00	1260.00	4451.66	2600.00	2174.84	6338.16	10013.69	5575.53	1062.00	3735.35	61488.29	7314.25	11	36	

This statement covers only those accidents on which we carried our own risk.

11.
a. Workmen's Compensation (Cont.)

Estimated cost of accidents which occurred at Michigan properties during the year from May 17, 1933 to May 16, 1934, inclusive, the compensation risk being carried by The Fidelity & Casualty Company of New York during this period.

	<u>C.C.I.CO.</u>	<u>C.P.& L.Co.</u>	<u>Negaunee Mine Co.</u>	<u>Athens Iron Mining Co.</u>	<u>Total</u>
Premium earned	9197.47	664.87	1564.67	1338.09	12765.10
Medical Expense	<u>3949.43</u>	<u>164.30</u>	<u>814.99</u>	<u>727.16</u>	<u>5655.88</u>
Cost to Company	13146.90	829.17	2379.66	2065.25	18420.98
Compensation paid by The Fidelity & Casualty Co.					
1933	973.60		89.88		1063.48
1934	<u>3479.60</u>	<u>811.52</u>	<u>386.68</u>	<u>24.01</u>	<u>4701.81</u>
Total Compensation payments	4453.20	811.52	476.56	24.01	5765.29
Estimated deferred liability	<u>7700.63</u>	<u>3756.48</u>			<u>11457.11</u>
Cost of Accidents	12153.83	4568.00	456.56	24.01	17222.40
Premium earned as above					<u>12765.10</u>
Estimated loss to Insurance Co.					4457.30

Two cases are being contested. One has been scheduled for hearing before a Deputy Commissioner early in 1935. In the other the Deputy Commissioner ruled for the Fidelity Company but the plaintiff has appealed and the case will probably be scheduled for hearing before the Full Board shortly.

PENSION DEPT. ANNUAL REPORT YEAR 1934.

11.

a. WORKMEN'S COMPENSATION (Continued)

In 1933 an agreement was entered into with the Fidelity & Casualty Company of New York to carry the compensation risk on our Michigan properties.

The insurance company paid the compensation and our Company paid its medical expense. This medical payment was at the rate of 50¢ per man per month.

This insurance was in effect from May 17, 1933 to May 16th, 1934, at which time the insurance agreement ceased on due notice from the insurance company.

The table following is placed in the annual report for reference purposes, omitting 1933 and 1934, during which years the insurance plan was in effect.

COMPENSATION AND MEDICAL PAYMENTS.

<u>Year</u>	<u>Total Cost</u>	<u>Medical</u>	<u>Compensation Payments</u>
1922	42090.73	11765.36	30325.37
1923	63360.07	15266.32	48093.75
1924	69889.27	15893.22	53996.05
1925	56544.37	15814.74	40729.63
*1926	81204.83	15391.11	65813.72
1927	44730.22	13839.54	30890.68
1928	40824.87	12665.85	28159.02
1929	53642.17	13985.84	39656.33
1930	50558.28	17182.50	33375.78
1931	43317.26	13759.38	29557.88
 Average 10 years:			
	54616.21	14566.38	40059.82
 1932	11875.02	7991.46	3883.56

* Barnes-Hecker disaster not included in these calculations.

PENSION DEPT. ANNUAL REPORT YEAR 1934.

11.

a. WORKMEN'S COMPENSATION. (Continued)

The following table shows the percentage of compensation costs since the Law went into effect, the percentage of non-fatal accidents on which compensation payments were made, and the percentage of the cases in which compensation payments were made of the total number of men employed. These figures cover only our own risk.

	<u>Percentage of Pay-roll</u>	<u>Percentage of Compensable Accidents</u>	<u>Percentage of men Paid Compensation.</u>
1912 (4 months)	.00648	42.73	
1913	.01104	42.88	8.06
1914	.0160	42.49	6.51
1915	.01095	36.26	6.63
1916	.01903	43.76	8.29
1917	.1268	41.71	7.84
1918	.01214	37.61	5.73
1919	.00901	48.71	8.15
1920	.0079	60.56	10.52
1921	.01444	64.53	9.79
1922	.01570	68.49	10.22
1923	.01590	61.67	10.23
1924	.01885	66.59	10.15
1925	.01613	69.61	10.19
1926	.07641	66.75	10.73
1927	.01356	68.24	6.55
1928	.01357	69.92	4.27
1929	.01616	74.12	3.02
1930	.01254	78.20	2.33
1931	.01697	89.28	1.11
1932	.01503	100.00	.71
1933 to 5/17/33	.01479	90.00	.60
1934 after 5/17/34	.02214	93.75	.90

PENSION DEPT. ANNUAL REPORT YEAR 1934.

11.

a. Workmen's Compensation.MICHIGAN COMPENSATION LAW.

Only one addition to the Law was made in 1934. This was to cover the proceedings in the case of an award to be taken to the Circuit Court to compel payment.

A new ruling and a very important one made in 1933 is still in effect. The Department of Labor and Industry are now required to approve final settlements and notify the employer of their approval, which tends to more definitely close the case. This was because of a Supreme Court decision that a case was not closed unless the Department had approved the final settlement. This is of very great importance and will tend to prevent the opening up of old cases.

During the year the Commission was the same as in 1933, with a change of Secretary from James A. Muir to Samuel B. Ostrow. The Board is as follows:

Claude S. Carney, Chairman
Wm. A. Seegmiller,
Eugene P. Berry,
Daniel O'Connor,
Samuel B. Ostrow, Secretary.

L. J. McManman continued as Deputy Commissioner for the Upper Peninsula District throughout the year.

The following table shows the principal items of the changes made at different periods as affecting our properties:

	When Law went into effect <u>Sept. 1, 1912.</u>	As amended in effect <u>Aug. 14, 1919</u>	In effect <u>Aug. 18, 1931</u>	In effect <u>Sept. 4, 1927</u>
<u>MICHIGAN LAW.</u>				
Percentage of weekly wages	50	60	60	66 $\frac{2}{3}$
Maximum weekly compensation	10.00	14.00	14.00	18.00
Minimum weekly compensation	4.00	7.00	7.00	7.00
Waiting period	2 weeks	1 week	1 week	1 week
Waiting period picked up at the end of	8 weeks	6 weeks	6 weeks	6 weeks
Maximum death payment	\$ 3000.00	4200.00	4200.00	5400.00
Maximum compensation for total disability	4000.00	6000.00	7000.00	9000.00

PENSION DEPT. ANNUAL REPORT YEAR 1934.

11.

a. Workmen's Compensation (Continued)

MINNESOTA COMPENSATION LAW.

Changes were made in the Minnesota Law which went into effect on December 28th, 1933.

A. "In every case of the death of an employe resulting from an accident arising out of and in the course of his employment where there are no persons entitled to compensation, the employer shall pay to the State Treasurer the sum of \$300.00."

The former amount to be paid to the State Treasurer was \$200.00.

B. "In every case of the total loss, or the total loss of the use thereof, of a hand, arm, foot, leg, or eye, resulting from an accident arising out of and in the course of an employe's employment, the employer shall pay to the State Treasurer the sum of \$75.00 in the case of a hand, arm, foot, or leg, and \$100.00 in the case of an eye."

The payments to be made under "B" are new provisions of the Law and not previously covered.

The present members of the Commission is the same as for 1933:

W. H. Debel, Chairman.
Frank T. Starkey,
J. D. Williams,
J. F. Emme, Secretary.

The following table shows the principal items of the changes made at different periods as affecting our properties:

<u>Minnesota Law</u>	<u>When Law went into effect Oct. 1, 1913</u>	<u>As Amended April 26, 1919</u>	<u>As Amended June 6, 1921</u>	<u>In effect since Oct. 1st 1923.</u>
Percentage of weekly wage	50	66 2/3	66 2/3	66 2/3
Maximum weekly compensation	10.00	15.00	18.00	20.00
Minimum weekly compensation	6.00	6.50	8.00	8.00
Waiting period	2 weeks	1 week	1 week	1 week
Waiting period picked up at end of	- - -	- - -	4 weeks	4 weeks
Maximum death payment	\$3000.00	4500.00	7500.00	7500.00
Maximum compensation for total disability	4000.00	5000.00	10000.00	10000.00

PENSION DEPT. ANNUAL REPORT YEAR 1934.

11.

b. Benefit Funds.

The general Benefit Funds were wiped out during the year 1927, and a complete record is shown in the annual report for that year.

Reference is made here so that this statement may be readily located at any time.

PENSION DEPT. ANNUAL REPORT YEAR 1934.

23.

a. PENSION SYSTEM.

The year 1934 completed the twenty-sixth year of the operation of the Pension System.

On January 1, 1933, the pension payments were reduced fifty per cent, those under \$20.00 remaining the same; those over \$20.00 having a minimum rate of \$20.00.

No pensions were granted during the year.

The following Mining Department pensioners died during the year.

<u>No.</u>	<u>Name</u>	<u>Date Pensioned</u>	<u>Date Died</u>
46	Gust A. Lyman	5/1/1914	1/ 9/1934
55	Eric J. Hammer	10/ 1/1914	3/ 3/1934
120	John Lemin	6/ 1/1921	5/12/1934
123	John H. Paynter	6/ 1/1921	9/ 4/1934
155	Victor Carl son	4/ 1/1922	2/10/1934
159	Charles Sundine	7/ 1/1922	1/19/1934
198	John Ellis	6/ 1/1926	6/ 9/1934
222	Louis Rasmussen	1/1 /1928	1/ 2/1934
237	Fred Voegtline	2/ 1/1929	4/ 6/1934
239	Peter Carlson	5/ 1/1929	9/23/1934
246	Sinai Nault	3/ 1/1930	5/18/1934

	<u>1933</u>	<u>1934</u>
Number of pensions granted during year	0	0
Number of deaths	11	11
Number of Old Age Pensions in force Dec. 31,	105	94
Average annual pension	285.15	268.78

There were no additions to the Furnace Department pension roll during the year 1934. There was one death, this being

	<u>Date Pensioned.</u>	<u>Date Died</u>
#21 Neils Hansen,	1/ 1/1932	3/30/1934.

On December 31, 1934 there were eight pensioners on the Furnace Department pension roll with an average annual pension of \$279.56.

PENSION DEPT. ANNUAL REPORT YEAR 1934.

23.

a. PENSION SYSTEM (Continued)

Pension payments for the years 1908 to 1934 inclusive are as follows:

<u>MINING DEPARTMENT:</u>			
<u>Year</u>	<u>Old Age</u>	<u>Widows and Orphans</u>	<u>Total</u>
1908	60.10	48.00	117.10
1909	351.92	464.00	815.92
1910	896.44	1043.00	1939.44
1911	1690.37	2649.00	4339.37
1912	3865.95	3113.00	6978.95
1913	5133.62	3025.00	8158.62
1914	6179.57	3403.00	9582.57
1915	7910.35	2372.00	10282.35
1916	8787.02	1694.00	10481.02
1917	9327.22	1266.00	10593.22
1918	8889.14	944.00	9833.14
1919	9605.02	888.00	10493.02
1920	12613.29	814.00	13427.29
1921	21856.64	14.00	21870.64
1922	29063.85	168.00	29231.85
1923	29564.57	168.00	29732.57
1924	31987.64	168.00	32155.64
1925	34926.34	163.00	35089.34
1926	38924.88	143.00	39067.88
1927	45841.03	0.00	45841.03
1928	51869.03	0.00	51869.03
1929	52701.19	0.00	52701.19
1930	53779.24	0.00	53779.24
1931	56379.39	0.00	56379.39
1932	40615.13	0.00	40615.13
1933	30981.29	0.00	30981.29
1934	<u>28205.25</u>	<u>0.00</u>	<u>28205.25</u>
	622014.48	22547.00	644561.48
Payment made by Cleveland Office in 1930	<u>2500.00</u>		<u>2500.00</u>
	624514.48	22547.00	647061.48

PENSION DEPT. ANNUAL REPORT YEAR 1934.

23. a. PENSION SYSTEM (Continued)

FURNACE DEPARTMENT.

The pension payments for the years 1910 to 1934 inclusive are as follows:

<u>Year</u>	<u>Old Age</u>	<u>Widows & Orphans</u>	<u>Total</u>
1910	111.75	0.00	111.75
1911	268.20	120.00	388.20
1912	268.20	180.00	448.20
1913	268.20	180.00	448.20
1914	268.20	180.00	448.20
1915	268.20	180.00	448.20
1916	268.20	60.00	328.20
1917	268.20	0.00	268.20
1918	268.20	0.00	268.20
1919	130.55	0.00	130.55
1920	223.80	0.00	223.80
1921	781.63	0.00	781.63
1922	1118.04	0.00	1118.04
1923	1178.38	0.00	1178.38
1924	2085.82	0.00	2085.82
1925	2833.39	0.00	2833.39
1926	5351.35	0.00	5351.35
1927	4819.73	0.00	4819.73
1928	5481.50	0.00	5481.50
1929	6137.02	0.00	6137.02
1930	6191.42	0.00	6191.42
1931	5531.30	0.00	5531.30
1932	3327.09	0.00	3327.09
1933	2528.04	0.00	2528.04
1934	2309.43	0.00	2309.43
	\$ 52286.84	\$900.00	\$53186.84

PENSION DEPT. ANNUAL REPORT YEAR 1934.

23.

a. PENSION SYSTEM (Continued)

REPUBLIC MINE.

No new pensioners were added to the pay-roll during the year.
There are fourteen pensioners on the roll, the average annual pension being \$247.65.

The payments made from Oct. 1, 1920 to Dec. 31, 1934 are as follows:

1920	278.61
1921	3427.97
1922	5672.84
1923	6641.51
1924	8172.96
1925	8279.07
1926	9539.90
1927	12185.24
1928	12768.21
1929	14199.74
1930	13148.40
1931	11809.51
1932	7673.30
1933	4908.04
1934	<u>4400.52</u>

\$ 123205.83

The following Old Age Pensions ceased during the year:

<u>No.</u>	<u>Name</u>	<u>Date Pensioned.</u>	<u>Date Died.</u>
9	Benjamin Douquette	June 1, 1921	Feb. 8, 1934
13	Frank Weinberg	Nov. 1, 1921	Oct. 3, 1934.

LAND DEPARTMENT.

Erick Johnson continued on the pension roll during the year.
Total pension payments from January 1, 1927 to December 31, 1934 are as follows:

1927	333.36
1928	333.36
1929	333.36
1930	333.36
1931	333.36
1932	250.08
1933	240.00
1934	<u>240.00</u>

\$ 2396.88

PENSION DEPT. ANNUAL REPORT YEAR 1934.

25.

b. Republic Mine Funds.

In the report for 1930 will be found a full statement of the Sick Benefit Relief and Fatal Accident Funds.

When the balance remaining unpaid was turned over to the Marquette Chapter of the American Red Cross a small amount was retained to take care of outstanding checks and within a few years this balance can be safely turned over to the Red Cross if no further payments are called for.

We have had during the year a number of calls from people in connection with the old Republic Mine Funds, but in these cases it was found that the people applying were not entitled to the payments as their relationship was so remote as not to come within the provisions of the rules and resolutions adopted by the Club when the business was closed and the present balance of the fund turned over to the American Red Cross.

It is probably best to keep these funds intact in these small savings accounts for some time longer to make sure that there can be no question as to the payment to any people to whom the money rightfully belongs.

The funds turned over to the Red Cross were to be used for emergency relief and in accordance with this some use has already been made of them. The heating boiler at the hospital gave out and the schools assumed the care of the building and the heating of it, and money was used to put in a new boiler. The schools make quite a little use of the building in connection with its physical training and other work, and because of this were willing to supply the fuel.

The Republic Bank was closed in 1932 and the Relief Organization had on deposit \$165.00, and this was not available up to the end of the year. To meet the requirements and also because of the impossibility of raising any particular sums of money at this time in Republic, some \$400.00 was appropriated from the funds in the care of the Marquette County Red Cross Chapter for direct relief at this particular time.

During 1934 coal was furnished to heat the hospital building as the school was without funds for this purpose.

The statement of these balances in savings accounts at the Miners' National Bank and the Miners' First National Bank is as follows:

PENSION DEPT. ANNUAL REPORT YEAR 1934.

23.

b. Republic Mine Funds (Continued)

STATEMENT OF FUNDS REMAINING IN REPUBLIC MINE RELIEF & SICK
BENEFIT FUND "SAVINGS ACCOUNT" AS OF DECEMBER 31ST, 1934.

Miners' National Bank:

Amount on deposit Dec. 31, 1933			58.83
Distribution 1934 60%	35.30		
Distribution 1934 20%	<u>11.76</u>		<u>47.06</u>
Balance in old bank			\$ 11.77

Miners' First National Bank

January 15, 1934 60%		35.30
Interest for 1934		.79
Distribution 1934 20%		<u>11.79</u>
Balance on hand		\$ 47.86

STATEMENT OF FUNDS REMAINING IN REPUBLIC MINE FATAL
ACCIDENT FUND "SAVINGS ACCOUNT" AS OF DECEMBER 31, 1934.

Miners' National Bank:

Amount on Deposit Dec. 31, 1933			169.32
Distribution 1934 60%	101.59		
Distribution 1934 20%	<u>33.86</u>		<u>135.45</u>
Balance in old bank			\$ 33.87

Miners' First National Bank:

January 15, 1934 60%		101.59
Interest for 1934		2.28
Distribution 1934 20%		<u>33.86</u>
Balance on hand		\$137.73

PENSION DEPT. ANNUAL REPORT YEAR 1934.

23.

c. Suspense Funds.

In the 1918 Annual Report there is a complete statement of the payments made from the Suspense Fund from September 1st, 1912, at which time the Compensation Law in Michigan went into effect. The Funds were exhausted and report is made here from year to year so that it can always be readily determined where to look for the final report of the Suspense Funds.

d. Visiting Nurses.

The work of the visiting nurses has continued throughout the year and, because of the depression, their services have been of very great help.

This work was begun in Ishpeming on May 1, 1908, at Negaunee on September 1, 1912. It began at Gwinn on September 1, 1910 and was continued until October 1, 1927, when the mines were closed.

The following nurses were employed during the year:

- Ishpeming - Miss Myrtle Welander.
- Negaunee - Miss Ina E. Atkin.
- Iron River - Miss Laura N. Fisk,
(who is employed jointly with other companies).

PENSION DEPT. ANNUAL REPORT YEAR 1934.

23.

d. Visiting nurses.

The following is the report of the Ishpeming Visiting Nurse for the year 1934:

Total number of patients cared for during year	554
Number of new cases cared for during year	236
Total number of visits to patients	3956
Number of families visited for the first time	42
Number of families investigated 5	Number of investigation calls 8
Number of social calls	30
Number died	9

Classification of new cases for the year:

Number of adults	143	Male	21	Female	122
Number of children	95	Male	45	Female	52

Nationalities of new cases for the year:

American	162	Italian	14
English	17	Norwegian	2
Finnish	23	Swedish	12
French	8		

Diseases and number of new cases:

Abscess	1	Heart Trouble	5	Pneumonia	10
Adhesions	2	Hypertension	4	Post Operative	21
Appendicitis	2	Infants, Newborn	18.	Prenatal	18
Asthma	7	Infant Welfare	5	Pul. Tubercul.	1
Bowel Trouble	2	Infections	25	Rheumatism	1
Bronchitis	11	Injury	18	Rupture	1
Carcinoma	5	Kidney trouble	1	Stomach trouble	1
Cold	16	Miscarriage	2	Tonsillitis	4
Colitis	1	Nephritis	1	Unclassified	12
Diabetic	2	Obstetrical	12	Undiagnosed	7
Fracture	2	Otitis Media	1	Var. Ulcer	6
Grippe	1	Paralysis	2		

Visiting Nurse: Miss Myrtle Welander.

PENSION DEPT. ANNUAL REPORT YEAR 1934.

23.

d. Visiting Nurses (Continued)

The following is the report of the Negaunee Visiting Nurse for the year 1934:

Total number of patients cared for during year					1033
Number of new cases cared for during year					711
Total number of visits to patients					5119
Number of families visited for the first time					19
Number of families investigated	81	Number of investigation calls			117
Number of families helped	14	Provisions	14		
Number of social calls					576
Number died					10

Classification of new cases for the year:

Number of adults	320	Male	59	Female	261
Number of children	391	Male	210	Female	181

Nationalities of new cases for the year:

American	333	French	13
Austrian	1	German	2
Denish	2	Irish	1
English	39	Italian	52
Finnish	250	Swedish	18

Diseases and Number of new cases:

Anemia	1	Gen. Debility	5	Pleurisy	2
Apoplexy	2	Grippe	44	Pneumonia	3
Appendic itis	25	Heart trouble	5	Post Operative	62
Bowel Trouble	45	Herpes	1	Pregnancy	30
Bronchitis	9	Infants, Newborn	54	Pul. Tuberculosis	3
Burns	4	Infections	23	Quincy	3
Garcinoma	1	Injury	37	Reynaud's Disease	2
Carvical Adenitis	9	Kidney trouble	3	Rheumatism	13
Chicken Pox	5	Lumbago	8	Rupture	8
Cholystitis	7	Mal-Nutrition	3	Scarlet Fever	24
Cold	39	Measles	60	Sore Eyes	4
Croup	3	Mumps	18	Sprains	3
Cystitis	1	Neuralgia	1	Stomach trouble	13
Dermatitis	2	Neuritis	1	Tonsillitis	41
Diabetes	2	Obstetrical	61	Unclassified	10
Eczema	1	Otitis Media	2	Undiagnosed	2
Erysipelas	2	Pertussis	1	Whooping Cough	3

Visiting Nurse: Miss Ina E. Atkin.

PENSION DEPT. ANNUAL REPORT YEAR 1934.23.
d. Visiting Nurses (Continued)NUMBER OF PATIENTS ATTENDED AND CALLS MADE BY VISITING NURSES.

	<u>No. of Patients</u>	<u>No. of New Cases</u>	<u>Male Adult</u>	<u>Female Adult</u>	<u>Male Children</u>	<u>Female Children</u>
Ishpeming	554	238	21	122	43	52
Negaunee	1033	711	59	261	210	181
	<u>1587</u>	<u>949</u>	<u>80</u>	<u>383</u>	<u>253</u>	<u>233</u>

	<u>Total No. of Visits</u>	<u>Number Died.</u>	<u>Social Calls.</u>	<u>Families Visited for the First Time.</u>
Ishpeming	3956	9	30	42
Negaunee	5119	10	576	19
	<u>9075</u>	<u>19</u>	<u>606</u>	<u>61</u>

NATIONALITY OF CASES.

	<u>American</u>	<u>Austrian</u>	<u>Danish</u>	<u>English</u>	<u>Finnish</u>	<u>French</u>
Ishpeming	162	0	0	17	23	6
Negaunee	333	1	2	39	250	13
	<u>495</u>	<u>1</u>	<u>2</u>	<u>56</u>	<u>273</u>	<u>21</u>

	<u>German</u>	<u>Irish</u>	<u>Italian</u>	<u>Norwegian</u>	<u>Swedish</u>
Ishpeming	0	0	14	2	12
Negaunee	2	1	52	0	18
	<u>2</u>	<u>1</u>	<u>66</u>	<u>2</u>	<u>30</u>

PENSION DEPT. ANNUAL REPORT YEAR 1934.

23.

f. North Lake Club.

The work of the Club has continued during the year under the supervision of Mr. Stakel. George S. Bowden has acted as Treasurer and John Lawry as superintendent.

The cooperation of the Inland Steel Company has been secured in its operation and it is doing a very useful service in that community.

On account of the talking movies in Ishpeming the moving pictures have been discontinued at the Club House.

Following is the financial statement for the year.

PENSION DEPT. ANNUAL REPORT YEAR 1934.

23.

g. GWINN ASSOCIATION.

Mr. E. L. Miller has continued in charge of the work at the Club House as Superintendent, under the personal supervision of Mr. Graff.

After our properties shut down a new plan of operation went into effect on October 1, 1927. At this time the Company reduced its salary payments to \$50.00 per month, paying this amount in order to retain control and supervision of the Club.

Those employed at the mines have paid 50 cents per month and the School Board pays a substantial sum for the use of the building for its physical training and the assistance rendered by Mr. Miller in this and the school athletic work.

In November 1932 it was decided to reduce the payment made by the men to 25 cents per month, the Company paying an additional 25 cents.

On the following sheets will be found a complete financial statement for the year and a statistical report prepared by Mr. Miller.

Attention is called to the following features from which a substantial revenue is received:

	<u>Receipts</u>	<u>Expenditures</u>	<u>Profit</u>
Bowling alley	170.00	79.06	90.94
Pool and Billiards	417.00	42.60	374.40
Buffet	283.50	170.27	113.23
Camp	<u>10.00</u>	<u>7.16</u>	<u>2.84</u>
	\$ 880.50	299.09	581.41

PENSION DEPT. ANNUAL REPORT YEAR 1934.

23.

g. GWINN ASSOCIATION.

Cash on hand January 1st, 1934	1025.75	
Total Receipts	<u>4170.30</u>	
Total	5196.05	
Total Expenditures	<u>4111.15</u>	
Balance on hand December 31, 1934		\$ 1084.90

RECEIPTS

Membership Fees - men	825.75	
Bowling Alley	170.00	
Pool and Billiards	417.00	
Buffet	283.50	
Towels and soap	27.50	
Camp	10.00	
Telephone	26.55	
School and Rental	<u>2410.00</u>	
		\$ 4170.30

EXPENDITURES.

Building, maintenance	170.24	
Lighting	16.71	
Heating	282.91	
Water	8.40	
Bowling alleys	79.06	
Pool and Billiards	42.60	
Buffet	170.27	
Entertainments	34.78	
Towels and soap	9.25	
Office Expense	11.02	
Camp	7.16	
Salaries	3050.00	
Library	13.50	
Reading room	17.55	
Athletics	123.16	
Telephone	72.50	
Tax- Government and Sales	<u>2.04</u>	
		\$ 4111.15

PENSION DEPT. ANNUAL REPORT YEAR 1934.

23.

g. Gwinn Association (Continued)

The following report and summary of the activities of the Association Club-House has been taken from the records kept daily during the year.

MEMBERSHIP

There was a slight increase in the membership of the Club due to the fact that the Gardner-Mackinaw mine employed more men.

Members carried on roll Jan. 1, 1934	154
Members carried on roll Jan. 1, 1935	229
High membership for year - June	242
Low membership for year - January	156

As in the previous years an opportunity was given to members to secure their membership for an entire year by working on a wood cutting job. 49 men secured their membership in this manner.

ATTENDANCE.

The attendance as estimated at the building for the year is below that of last year and is accounted for by the fact that during the period from June until October most of the activities conducted by the Association were held out-of-doors.

Total estimated attendance at building for year	69960
Average monthly attendance	5830

Total estimated attendance for all outdoor activities for which material and supervision was furnished by the Association: -including, ice-skating rink, playground and tennis court, classes at school playground, baseball leagues for adults, junior boys and high school girls, Association baseball team and Bass Lake Camp, 13355.

RECEIPTS AND EXPENDITURES.

Total receipts including 1933 balance (\$1,025.75)	\$5196.05
Total Expenditures (1933)	<u>4111.15</u>
Balance January 1st, 1935	\$1084.90

BUFFET ACCOUNT.

Receipts for year	283.50
Expenditures for year	<u>170.27</u>
Profit	113.23
Inventory Jan. 1st, 1935	10.65

POOL, BILLIARDS & BOWLING ACCOUNTS.

Receipts for year	587.00
Expenditures for year	<u>121.66</u>
Profit	\$ 465.34

GENERAL ACTIVITIES AND ORGANIZATIONS USING BUILDING:

32 committee meetings.
68 sessions nursery school.
62 sessions kindergarden school.
15 meetings by Health & Hygiene Class.

PENSION DEPT. ANNUAL REPORT YEAR 1934.

25.

g. Gwinn Association (Continued)

General Activities and Organizations using Building: Continued)

- 18 meetings by Women's Study Club.
- 8 meetings - 1 dance - 2 social parties by Town Club.
- 3 parties under supervision of High School - no dancing.
- 4 dancing parties by High School classes.
- 1 demonstration by archery expert.
- 4 social showers by women.
- 1 meeting mothers nursery children.
- 28 total number dances held by different organizations.
- 88 lunches served by different organizations.

CHURCH ORGANIZATIONS USING BUILDING.

- 4 events by church organizations to raise funds.
- 8 meetings by Episcopal Ladies Guild.
- 5 meetings by Gwinn Missionary Society.
- 10 meetings by Methodist Ladies Aid.
- 2 church suppers.
- 1 bazaar and fair by Methodist Church.
- 7 meetings by Epworth League.
- 3 Sunday School parties.

Events of Special Interest.

- Annual physical training exhibition by High School students.
- Easter Monday Ball by Local Firemen.
- Annual Junior Party or Prom by Junior Class High School.
- Annual Scout Ceremonial by Scout Troops.
- Two Church Suppers by Methodist & St. Anthony's Churches.
- Dance and social party in honor of High School Basketball Team by Community.
- Card Party -for Christmas treat by Gwinn Ladies Guild.
- Dance -for Christmas funds by Town Club.
- Hallowe'en Party by Scout Troops.
- Annual Christmas Treat for Children by Community.
- Annual Firemen's Ball by Local Firemen.

MUSICAL ORGANIZATIONS.

The Senior Band continued to be active and held regular rehearsals during the year.

- Summary: 35 rehearsals by Band.
- 4 local engagements - 1 concert.
- 1 out-of-town engagement.
- 11 rehearsals by orchestra.
- 10 rehearsals by groups for plays.
- 1 music recital.

LIBRARY AND READING ROOM.

During the period from January first to May first the CWA unit placed a librarian in the building and all books were re-checked and put in good condition. Many books were in such bad condition that it was impossible to repair

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23.

g. GWINN ASSOCIATION (Continued)

Library and Reading Room (Continued)

them and they were discarded.

The reading room was very popular during the year both for the reading of the daily papers and magazines. As the magazines were subscribed for during 1933 for a two-year period there was no change in the number now received.

Number of books loaned from library during year		1470
Weekly magazines	4	Daily Newspapers 2
Monthly magazines	18	Weekly Newspapers 2

Cribbage League.

During January 1934 a Cribbage League was organized and match games were held once per week over a ten week period. Six teams with six members to a team entered the league and at the conclusion of play at the end of the schedule a banquet was given the winning team. This league is composed of all adults.

The league for 1934-1935 was organized in December and play will be over a 15 week period with four teams and ten men to a team.

Bowling Leagues.

The Senior Men's League was composed of six teams of three men to a team and each team completed a schedule of 60 games.

The Women's League consisted of three teams of three members to a team and they completed a schedule of 45 games.

During the day when the alleys were not being used by the adults, High School students in the Junior and Senior classes were given instruction in bowling as part of their work in physical education.

The bowling alleys were given much attention in the way of repair during November and are now in better shape than they have been for several years. The room was also re-decorated throughout.

Physical and Athletic Department.

This includes all work done in the gymnasium and all outdoor recreations, such as: supervising work at school playgrounds, baseball leagues for adults, Junior boys and girls; also the management of the City baseball and basketball teams; ice-skating rink, tennis court, horse-shoe courts, and supervision of Bass Lake Camp.

Employees of the Association continue to supervise all athletic work for the local High School-teams and class work, and furnish most of the equipment

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23.

g. GWINN ASSOCIATION (Continued)

Physical and Athletic Department.(Continued)

for carrying on this work as well as providing equipment for all summer recreations.

The Senior men continue to make use of the gym for volleyball, handball and miscellaneous games. The women's class meets twice weekly under Association supervision.

(Supervised Work)		
<u>Gymnasium</u>		
	<u>Periods</u>	<u>Attendance</u>
High School Girls' Classes	125	2922
High School Boys' Classes	129	3060
High School Basketball practice	71	748
Junior Boys Recreation (Saturday A.M.)	14	600
Senior men using gym	68	562
Women's Classes	28	272
Swimming pool (Not operated)	—	—
Total gym class work not including basketball games	435	8164

(Supervised Work)		
<u>at school playgrounds.</u>		
High School Girls' Classes	39	1067
High School Boys' Classes	43	1298

The following basketball games were played under Association supervision:

- High School team: 7 games at home; 11 away.
- (High team were Class "C" Champions of the Upper Peninsula)
- Club Team: 4 games at home; 7 away.
- Junior League teams (including tournament) 59 games
- Senior League 30 games
- Senior League (practice sessions) 6 teams 30
- High School Girls' tournament open to public 2 games.

Attendance at all home games including practice periods . . . 6475.

Tennis Court and Playground.

The tennis court was in condition for play 84 days during the season. Attendance at court 835; playground 1725.Total 1660.

Ice Skating Rink.

The ice-skating rink was in good condition but 11 days during the season. Estimated attendance 775.

Base-Ball.

The Inter-County Baseball league composed of teams in Marquette and

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23.

g. GWINN ASSOCIATION (Continued)

Base-Ball.

Alger Counties was again organized under the Association. The league was made up of ten teams and the race was close. The Gwinn Team finished in second place and played good ball the entire season.

Base-ball was very popular the past summer. A Four-Team league was organized and games played three evenings a week. This league was composed of adults. A junior league was also operated - games being played three afternoons a week. There was very little "Kitten" or "Playground" ball played except by the girls, and a league under the Association supervision was in progress most of the summer.

The senior High School boys entered baseball competition this year with Negaunee and Ishpeming High Schools and the local boys won the district championship.

<u>Summary:</u> High School team	2 games at home	3 away
Club Team	8 games at home	10 away
Senior Twilight League	22 games.	
Junior League	22 games.	
Girls' League	14 games.	
Attendance at all home games and practice sessions . . . 8420.		

Bass Lake Camp.

As in the previous year, there were very few requests for the use of the cottage at the Lake, but the attendance at the camp on Sundays was about the same as other years. No doubt the falling off in the use of the cottage is due to the fact that many who used the camp in other years, now have camps of their own.

Summary: 7 all-day picnics by organizations.

- 1 party used camp for day during winter.
- 80 basket picnics by families.
- 9 evening parties in camp.
- 2 parties had camp one week.
- 3 parties had camp 4 days each.
- 3 parties had camp 2 days each.
- 22 Scouts had use of camp one week.
- Estimated attendance at grounds during season 1600.

Many outside people - residents of Marquette, Ishpeming, Negaunee and Escanabam use the lake for fishing. They bring their own boats on trailers and the fishing the past few years has been above average. Bass as large as six and one-half pounds being caught the past season.

Scout Activities.

During the year it was necessary to change supervision of the Scout troops. The retiring Scout captain had been in charge of the Scouts since

PENSION DEPT. ANNUAL REPORT YEAR 1934.

23.

g. GWINN ASSOCIATION (Continued)Scout Activities (Continued)

the organization in 1920. However, a trained leader has been secured and the Scout work continues to be one of the features on the Association program. Both troops continue to meet weekly. Troop No. 1 has 32 members registered with the National Council and the other troop of smaller girls has 20.

The following summary covers the work of both troops:

Meetings for class and social parties	88
Attendance	1681
18 lunches or suppers were held; this includes lunches after meetings indoors or after hikes outdoors, such as pot luck suppers, watermelon feeds, etc., .	
10 social parties indoors.	
2 all-day picnics	
8 hikes.	
1 masquerade party.	
1 valentine party.	
1 entertainment for mothers.	
2 Christmas parties.	
1 invitation dance party.	
1 annual ceremonial.	

Funds for Scout activities are raised locally by the Scout members in various ways.

Scout members received 50 merit, 14 tenderfoot and 7 attendance badges during the year from the National Council. During Scout Week the Scouts presented a program at school and on Sunday attended church in a body, and also during the year they assisted at the Memorial Day celebration and sang carols at the Community Christmas treat for the children.

Building.

During the year an effort was made to re-decorate the interior of the building and the entire building, except the locker and shower rooms and the living quarters of the superintendent, received attention. The building now presents a fine appearance and those in charge are hoping to complete the work within the next few months. The work was done by the regular employees, no extra help being employed.

Part of the building is now being used as a kindergarten for the local schools. This arrangement will be an advantage to all parties concerned.

The Cleveland-Cliffs Iron Company continues to assist in a financial way and the Cliffs Power & Light Company continues to give free service. Those in charge appreciate the assistance from the above organizations.

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23.

h. ISHPEMING Y.M.C.A.

The year at the "Y" has been a good one in spite of the general poor conditions. It was impossible to make a financial canvass for funds but the people employed at the building have made the very best use of the funds available.

Mr. Louis Smith has acted as Secretary and has done good work.

The "Y" camp at Ross Lake was conducted during the summer with a number of very successful periods of ten days each.

The officers are as follows:

- | | |
|--------------------|----------------|
| C. J. Stakel | President |
| Sam Cohodas | Vice-President |
| R. J. Chermour | Secretary |
| Judge Wm. St. John | Treasurer. |

PENSION DEPT. ANNUAL REPORT YEAR 1934.

23.

1. SAFETY WORK.

Meetings of the Central Safety Committee were held when necessary throughout the year.

The following are the present members of the Committee:

Mr. G. R. Jackson, Chairman.
Mr. S. R. Elliott
Mr. O. D. McClure
Mr. C. J. Stakel
Mr. W. W. Graff
Mr. W. R. Meyers
Mr. Carl Brewer
Mr. William Conibear,
Mr. W. H. Moulton, Secretary.

The regular work of the Safety Department is covered by Mr. Conibear's report.

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23.

j. HOSPITALS AND MEDICAL SERVICE.

Throughout the year this Department has kept in touch with the hospitals in Ishpeming and Iron River and the dispensary service at Negaunee and Republic.

ISHPEMING HOSPITAL.

The hospital has maintained its standards of fine service and has continued on the accredited list of the American College of Physicians and Surgeons.

Miss Hildur Swanson has continued in charge as Superintendent, having begun her work as superintendent on July 1, 1930.

The work of the hospital force has been very satisfactory in every way. The operating costs have resulted in a very good showing for the year.

The staff of the Ishpeming Hospital and the Negaunee Dispensary are as follows:

Dr. V. H. Vandeventer, Chief.
Dr. J. D. Crane
Dr. P. P. Hartt
Dr. A. W. Erickson
Dr. D. R. MacIntyre
Dr. W. A. Mudge
Miss Hildur Swanson, Superintendent.

During the year regular meetings of the staff have been held each month with Dr. Vandeventer as Chairman.

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25.

j. Hospitals, (Continued)

ISHPEMING HOSPITAL
STATISTICAL REPORT FOR THE YEAR 1934.

Number of patients remaining in Hospital at beginning of year		20
Number of adult patients admitted	696	
Number of child patients admitted	88	
Number of births	<u>84</u>	
Total new patients for the year		868
Total of all patients for the year		888
Number of deaths	50	
Number discharged during year	<u>808</u>	
Total number leaving Hospital		<u>858</u>
Number of patients remaining at end of year, Dec. 31, 1934		30
Classification of New Cases:		
Surgical	520	
Medical	181	
Obstetrical	83	
New Born	<u>84</u>	
Total		868
Number of operations		410
Number of emergency room operations		57
Number of patient days		10556
Number of meals for patients	31671	
Number of meals for nurses, superintendent, & Dietitian	15731	
Number of meals for physicians and guests	193	
Number of meals for help	<u>4891</u>	
Total number of meals		52486

Average Number of Patients Per Day:

1919	12.2
1920	17.6
1921	15.9
1922	16.5
1923	20.1
1924	20.5
1925	19.9
1926	21.3
1927	21.8
1928	25.4
1929	30.1
1930	31.4
1931	29.9
1932	21.8
1933	19.6
1934	28.9

PENSION DEPT. ANNUAL REPORT YEAR 1934.

23.

J. HOSPITALS (Continued)

NEGAUNEE HOSPITAL.

The plan of using the former hospital building for the doctors' offices and a dispensary has continued to work out well, all hospital cases being taken to the Ishpeming Hospital.

The work in Negaunee has been taken care of during the year by two physicians, Dr. D. R. MacIntyre and Dr. W. A. Mudge, who have been kept very busy.

REPUBLIC HOSPITAL.

Dr. van Riper of Champion goes to Republic regularly for one hour each day and at such other times as he is called. Dr. Van Riper is exceedingly conscientious in his work and has done a great deal of work for which there can be no payment, but he receives some payment from the County as Poor Physician which helps to re-imburse him for the work, and some payment for men living in Republic, Champion, and Humboldt and who work in the mines of our Company and for the Inland Steel Company.

GWINN

Dr. R. A. Burke of Negaunee and Palmer is in charge of the medical service for the district and has an assistant, Dr. P. N. Wharton, living and having his office in Gwinn.

IRON RIVER.

The new hospital has now had three years of service and it has been very satisfactory in all respects. This is covered by the report of Mr. Meyers.

PAYMENTS TO PHYSICIANS.

On August 1, 1927 a new rate of payment for our Company went into effect. The men pay \$1.25 for the medical service for themselves and immediate members of their families, the Company paying 50¢ per man per month to cover medical and hospital services under the provisions of the Workmen's Compensation Law.

PENSION DEPT. ANNUAL REPORT YEAR 1934.

23.

j. MEDICAL SERVICES (Continued)

PHYSICAL EXAMINATION OF EMPLOYEES.

The arrangements with the Trudeau Foundation of Saranac, N.Y. continued throughout the year with very satisfactory results.

The first examination was made on November 28, 1933. At the beginning the examinations were for the men of our Company and those of the Inland Steel Company. Later in the year the employees of the Volunteer Mine of the Pickands Mather & Company, and the Richmond Mine of the M.A. Hanna Company, were examined. Just before the close of the year the Republic Steel Company decided to have their men examined and work for them was begun on December 21st and will be completed early in January.

The following examinations had been made on December 31, 1934:

Cleveland-Cliffs Iron Co.,	1048
Cliffs Power & Light Co.,	3
Negaunee Mine	246
Athens Mine	201
Inland Steel Co.,	292
Pickands Mather & Co.,	42
M. A. Hanna Co.,	29
Republic Steel Co.,	<u>56</u>
	1917

During this period a number of men have been sent back for re-examinations because of some special defect or for the remedy of some existing conditions. 53 such re-examinations are included in the total of examinations made.

Mr. D. E. Cummings has been in charge of the work and has made frequent visits here to go over the examination reports and to consult with Mr. Conibear in regard to the work at the mines.

Mr. Richard F. Libby from Saranac has looked after the X-ray work and the interpretation of the X-ray films. Desiring a month's vacation, his place was filled by Joseph Goldstein, from Saranac. Their work has been of a very high standard.

The films of each case are sent to Saranac where they are studied by Dr. Samsom, who then reports his findings to us. These reports are gone over by us with Mr. Cummings, and the superintendents at the different mines are advised of the condition of any man requiring further consideration of examination.

The work has been very satisfactory and the examinations so thorough that the Company and the men themselves are bound to be greatly benefitted by the knowledge thus obtained.

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23.

j. MEDICAL SERVICE (Continued)

PHYSICAL EXAMINATION OF EMPLOYEES (Continued)

At the end of January 1935 the original examinations will have been completed and for the year 1935 the only examinations to be made will be those of any new men and any who should be again looked over.

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23.

k. HEALTH.

All of our cities have been free from any serious epidemic but have had considerable scarlet fever and measles, but fortunately not of a serious character.

The Health Officers of our three cities have been active and the work done by them throughout the year has been very satisfactory. They are as follows:

- Ishpeming - Dr. G. G. Barnett
- Negaunee - Dr. W. A. Mudge
- Marquette - Dr. T. R. Laughbaum.

Just before the close of the year Dr. Laughbaum, of Marquette, resigned to go elsewhere and Dr. F. McD. Harkin was appointed in his place.

1. Red Cross.

The following officers were elected on October 30th, 1934:

Chairman: T. M. Redmond.

Vice-Chairmen:

- Marquette E. L. Pearce
- Miss Elba L. Morse.

Negaunee

- G. Sherman Collins
- Michael F. De Fant

Ishpeming

- R. J. Cheneour
- G. R. Jackson

Secretary

John Walsh

Treasurer

Edward S. Bice.

Directors for three years.

- Walter F. Gries Marquette
- R. S. Archibald Negaunee
- J. E. Hayden Ishpeming
- Dr. Paul Van Riper Champion
- H. E. Perkins Big Bay

Directors for two years.

- Webster Pearce Marquette
- W. W. Graff Negaunee
- George Quinnell Marquette
- Miss Stella Fuller Morgan Heights
- G. J. Stakel North Lake

Directors for one year.

- Peter Trudell Negaunee
- Mrs. Kiril Rosberg Ishpeming
- Dr. J. E. Elzinga Marquette
- Sam Cohodas Ishpeming
- R. J. Jeffrey Gwinn

PENSION DEPT. ANNUAL REPORT YEAR 1934.

23.

1. RED CROSS (Continued)

During the year the Red Cross has been of great service to the families of Marquette County, and this has included many in Ishpeming, Negaunee, Gwinn and Republic.

Mr. Walter Gries has continued as Chairman of the Nursing Activities Committee of the Chapter. Mrs. A. L. Johnson has continued as County Nurse under the direction of the Nursing Activities Committee of the Red Cross. Her salary and expenses are paid by the County, the Committee directing her work by request of the County Board of Supervisors.

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23.
1. RED CROSS (Continued)

Report of Nurse
Marquette County Chapter
American Red Cross.

School Examinations.

Number of schools in County	39
Number of schools examined	39
Number of children	<u>2892</u>

Number of children found with defects:

Eyes	61
Teeth	1975
Tonsils	87
Skin	18
Orthopedic	<u>12</u>
	2154

Number of Corrections made by Parents:

Eyes	11
Teeth	69
Tonsils	<u>5</u>
	85

Children immunized against Diphtheria

277

Number of days spent at Clinics:

Mental	1
Chest	2
Speech Defect	<u>1</u>
	4

Number of Children taken to
Hospitals and Schools:

Orthopedic cases to Ann Arbor	17
Orthopedic cases to Detroit	6
School for the Deaf - Flint	7
School for the Blind - Lansing	3
Michigan Children's Clinic - Marquette	<u>32</u>
	65

Investigations Made:

National Red Cross	1
Board of Health - Chicago	1
Board of Health - Grand Rapids	1
Cleveland Associated Charities	4
County Poor Commission	92
Home Calls	<u>477</u>
Total	576

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1. RED CROSS (Continued)Report of Nurse (Continued)Meetings attended:

District Nurses' Meeting	6
Marquette Clinic with Miss Morse and C. W. A. nurses	4
Red Cross meeting	1
Nurses Convention	1
Home Hygiene & Care of the Sick- regular summer program	2
Advisory Meeting with Mr. Gries regarding summer dental program	3
Achievement Day at Marquette, assisting Dr. Bottum	1

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23.

m. RELIEF WORK.

Help has been extended to certain families who have been in special need, through sickness or death, or special disability.

Following is a list of the assistance rendered.

	<u>Ishpeming</u>	<u>Negaunee</u>	<u>Republic</u>	<u>Gwinn</u>	<u>Total</u>
January	231.79	210.66	32.51		474.96
February	219.37	150.67	8.78	22.14	400.96
March	304.09	201.13	37.12	11.36	553.70
April	309.68	163.48	28.59	11.27	513.02
May	222.95	159.17	17.80	11.26	411.18
June	322.86	141.59	10.70	11.21	486.36
July	289.37	224.12	17.94	11.19	542.62
August	300.03	198.72	128.14	11.33	638.22
September	275.70	293.96	26.05	11.57	607.28
October	345.01	269.82	17.93	11.33	644.09
November	374.05	265.69	8.44	26.64	674.82
December	<u>433.58</u>	<u>289.94</u>	<u>48.73</u>	<u>20.44</u>	<u>792.69</u>
Total	\$3628.48	2568.95	382.73	159.74	6739.90

No. of families assisted	40	24	3	2	69
--------------------------	----	----	---	---	----

Average amount of relief per family \$ 97.68

n. Employment.

The records of employment are kept in this Department, although from lack of clerical assistance the records are not now up to date. These will be gone over and corrected as opportunity permits.

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23.

c. INCAPACITATED EMPLOYEES.

During the year payments have continued to certain men whose years of service to not bring them within the provisions of the Pension System. These men are those who have become incapacitated after a considerable period of service, and some with very large families and who have been injured while in our employment.

Some widows of men who lost their lives in previous years are included in this list.

The following is a statement of the families to whom these donations have been made:

DONATIONS TO INCAPACITATED EMPLOYEES.

	<u>Monthly Rate for Yr. 1934</u>	<u>Total Amount paid during 1934.</u>	
Fred Fredette	20.00	240.00	
Sam Metherell	14.40	172.80	
August Samuelson	20.00	240.00	
John Aho	14.40	172.80	
Bennett Andrews	16.00	192.00	
Andrew Niemi	16.60	199.20	
Edmond Durante	20.00	240.00	
August Wallins	20.00	240.00	
Axel Erickson	20.00	240.00	
Edward Van Langenhoven	20.00	240.00	
Nick Detoma	18.00	216.00	
Edwin J. Goodman	20.00	240.00	
Henry Maki	20.00	240.00	
Donato Valenzio	20.00	240.00	
William Anderson	20.00	240.00	
Fred Carlson	16.00	192.00	
Napoleon Mayrend	<u>17.66</u>	<u>123.62</u>	Died July 20, 1934.
		<u>\$ 3668.42</u>	

HOLMES MINE DONATIONS.

Peter Lesage	20.00	240.00
Carl Jarvinen	16.99	203.88
Bernt Wiggen	20.00	240.00
Martin Trondson	20.00	240.00
Evan Kinnish	20.00	<u>240.00</u>
		<u>\$ 1163.88</u>

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23.

c. INCAPACITATED EMPLOYEES (Continued)DONATIONS TO WIDOWS.

	<u>Monthly Rate for Year 1934</u>	<u>Total Amount paid during 1934.</u>	
Mrs. John Makela	20.00	240.00	
Mrs. Rose Bertucci	12.00	144.00	
Mrs. Wilhelmina Marjamaa	12.00	144.00	
Mrs. Henry Karkkainen	12.00	144.00	
Mrs. Matilda Carlson	12.00	144.00	
Gust Myllimaki Estate	12.00	12.00	Discontinued Jan. 31, 1934.
Mrs. Kate Tuomela	16.00	<u>112.00</u>	Died July 5, 1934.
		\$ 940.00	

Amount of Donations paid to Incapacitated Employees during 1934	\$ 3668.42
Amount of Donations paid to Incapacitated Holmes Mine Employees	1163.88
Amount of Donations paid to Widows during 1934	<u>940.00</u>
Total Donations	\$ 5772.30

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23.

p. COST OF LIVING.

We have continued to send out our report blanks on the 15th of each month to various stores in our different communities upon which are reported the prices of the different commodities considered by the United States Government in computing the cost of living.

This serves to advise the storekeepers that we are keeping track of the prices which they are charging which we believe has served in some measure to keep the prices in our various stores at a somewhat reasonable figure.

We have made one complete calculation of Cost of Living, this being on December 15, 1933.

The following tabulation shows comparison with previous years based on a family of five.

June 1913	-	\$ 692.56
June 1914		706.17
June 1917		1006.79
June 1920		1408.65
June 1921		1054.28
June 1924		1015.83
Dec. 1925		1049.16
Oct. 1931		910.82
Dec. 1932		752.52
Dec. 1933		757.89
Dec. 1934		801.94

The Governments reports show that the index number for the cost of living in October 1934, as compared with 1914, is 130.49. This compares with 125.81 for October 1933.

From our own calculations from the prices furnished to us by the store-keepers here the cost of living in Ishpeming is lower than it is in some other places.

Our index figure for the cost of living as compared with 1914 is 113.57, and 107.65 for 1933, as compared with 1914.

The value of \$1.00 as compared with 1914 by the U. S. tables in October 1934 was 76.6 cents. Our value in living costs in Ishpeming for December 1934 was 88.0 cents.

q. IMPROVEMENT WORK.

We were without the services of Mr. Warren H. Manning and Mr. Julien Payen throughout the year.

The work at the different locations and mines was looked after by the superintendents and kept up to regular standards so far as possible.

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23.

r. PRIZE PREMISES.

No prizes were offered for the season of 1934, but the people continued to have an interest in keeping their properties in good condition and the homes of our people showed the usual excellence.

s. COMMUNITY SERVICE WORK.

The Legion building and the Y.M.C.A. at Ishpeming are serving the community as a meeting place for civic activities, outside of those using the High School auditorium and gymnasium.

The Legion building in Negaunee, opened in 1927, has been of continuous service to the city.

t. CLUBS.

On account of the men working on short time, no club meetings were held during the year.

u. OUT*DOOR SPORTS.

The Department helped with the Ski Tournament held in Ishpeming on February 22nd.

This was conducted in an economic manner and without any considerable cost to any one. It was a very successful tournament and the records are continually being bettered as the hill is improved. Paul Bietila, 14 years old, has become National Boy Champion.

During the summer a large number of teams played kitten ball on different grounds around the city. The people attended in large numbers and it was one of the best things that could have taken place in the city during this time when the men were employed only part time.

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23.

w. Various Departments.

Throughout the year we have cooperated with the different Departments principally in connection with accident cases and Workmen's Compensation.

We have visited the camps of the Land Department, and assisted Mr. Clancey in preparing cases for hearings before the Deputy Commissioner.

The Welfare and Compensation statements of the different Departments will be found on the following sheets.

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23.

w. VARIOUS DEPARTMENTS (Continued)

LAKE SUPERIOR & ISHPEMING RAILROAD CO.

COMPARATIVE STATEMENT OF GENERAL WELFARE EXPENSE.

FOR THE YEARS 1930 to 1934 INCLUSIVE.

	<u>1931</u>	<u>1932</u>	<u>1933</u>	<u>1934.</u>
<u>Donations:</u>				
Fire Department	35.00	30.00	25.00	25.00
Ishpeping Y.M.C.A.	200.00			
Visiting Nurse-Marquette	120.00	120.00	120.00	120.00
St/ Luke's Hospital	400.00	400.00	400.00	400.00
To Employees' & Families		200.00	203.40	20.00
Pensions	1165.34	2207.88	2207.88	3479.28
	<u>\$1920.34</u>	<u>2957.88</u>	<u>2956.28</u>	<u>4044.28</u>
 <u>Compensation:</u>				
Compensation Paid	2308.00	3249.20	2548.30	2938.18
Medical Expense	693.21	305.81	763.05	251.94
Percentage of Pay-rolls				
Acct. Comp. Payments	.0027	.0096	.0049	.0052

PIONEER IRON COMPANY FURNACE DEPT.
COMPARATIVE STATEMENT OF GENERAL WELFARE EXPENSE
YEARS 1931, 1932, 1933 and 1934.

	<u>1931</u>	<u>1932</u>	<u>1933</u>	<u>1934</u>
<u>General Welfare Acct. No. 11.</u>				
A-2 Prop. Charged by Treas.	771.85	438.88	444.61	550.00
B Prizes to tenants				
Flowers - Deceased Employees	22.00	5.00		
Marquette Kittenball League				94.10
<u>Donations:</u>				
Americal Legion	12.00		5.00	5.00
Fire Department	10.00	5.00	5.00	5.00
Persons	673.00	681.00	637.34	822.78 *
B. of R. T. (Railroad Trainmen)		5.00	5.00	5.00
Community Chest	375.00	281.25	131.25	118.75
Nurse Expense - Deceased Employee				45.75
<u>Institutions.</u>				
St. Luke's Hospital	400.00	100.00		
Tubercular Stamps	10.00	10.00	5.00	
<u>Pensions Paid</u>	<u>5531.30</u>	<u>3327.09</u>	<u>2528.04</u>	<u>2309.43</u>
Total	7805.15	4848.22	3761.24	3955.81
<u>Safety Work.</u>				
Charges for work and equipment	41.18	53.04	92.77	143.69
<u>Compensation.</u>				
Medical and Hospital Expense	1664.37	1938.61	2592.92	2359.18
Compensation Paid	1795.54	1209.16	2292.70	4469.08
<u>Compensation Payments - Percentage of Payrolls</u>				
Marquette Plant	.008992	.0093413	.0148622	.0155543

* Detail of donations - persons.

	<u>1934</u>
Mrs. George Cameron	240.00
" " " (wood)	42.78
Julius Olson	300.00
Patsy DePetro	<u>240.00</u>
	\$ 822.78

PENSION DEPT. ANNUAL REPORT YEAR 1934.

23. VARIOUS DEPARTMENTS (Continued)

LAND DEPARTMENT

COMPARATIVE STATEMENT OF GENERAL WELFARE EXPENSE

FOR THE YEARS 1931 to 1934, INCLUSIVE.

	<u>1931</u>	<u>1932</u>	<u>1933</u>	<u>1934</u>
<u>General Welfare Acct. No. 11.</u>				
A-2 Prop. Charged by Treas.	821.38	318.08	323.01	540.50
11-F Miscellaneous Expense	810.96	523.47	246.51	240.00
	<u>1632.34</u>	<u>841.55</u>	<u>569.52</u>	<u>780.50</u>
<u>Donations:</u>				
Negaunee Fire Department	10.00	10.00		
Munising Fire Department	10.00	10.00	10.00	10.00
U.P. Development Bureau	750.00	500.00	500.00	500.00
Sacred Heart Church - Munising	12.31			
B. of R.T.- No. 612, Marquette	10.00			
Christmas Presents to school children- Logging Operations		25.00	28.18	22.23
<u>Compensation:</u>				
a. Funeral Expense				
d. Legal Expense				
g. Medical expense				
h. Compensation	99.00			
i. Monthly Payments to doctors	99.50	82.50	86.00	95.50
Percentage of Payrolls				
Actual Compensation Payments	.00146	-	-	-
<u>Safety Work - Logging Operations.</u>				
Supplies	129.09		23.27	14.56
<u>Compensation - Logging Operations.</u>				
Medical & Hospital	6798.12	3106.16	4103.12	5147.41
Compensation Payments	6882.28	5394.33	5620.88	4660.84
Compensation Insurance Premium			7116.76	4916.77
Percentage of Pay-roll	.07166	.06475	.0891	.04987

