

MECHANICAL DEPARTMENT
ANNUAL REPORT
YEAR 1947

MATHER MINE "A" SHAFT: (Continued)

Underground a vug of water was encountered in February that almost flooded the mine. By the use of dams, spare pumps and using the skips as bailers the mine was saved, but it also brought out the fact that a pump house of at least 1000 G.P.M. capacity was needed on the 2200 foot level. As the pumps had been purchased work started cutting the pump house which is now complete and the pumps are being installed. As the rock was weak at this level it was necessary to concrete the entire pump station.

A saw mill was installed in east yard to salvage lumber from mine timber and secure immediate delivery when planks were needed.

MATHER MINE "B" SHAFT:

When final plans were completed in the spring to sink "B" Shaft work was rushed to install temporary machinery and buildings to get shaft sinking started. In the engine house the Nordberg compressor was transferred from the Princeton Mine; the Republic Mine hoist equipped with 12' x 12' drum and driven by two 400 H.P. motors was brought in by truck; a 50 H.P. heating boiler from Princeton Mine was equipped with new stoker and set to heat the buildings; the collar and tunnel openings were concreted and actual sinking started October 20th. Some of the delay was caused by poor delivery of Truscon steel engine house and other items whose material is scarce but with all the handicaps encountered progress was satisfactory. Some experiments were tried using mechanical mucking but so far the Armstrong method is still being used in the shaft. A series of small centrifugal pumps were purchased to use in the shaft as needed and are of ample capacity if the water encountered does not exceed 100 GPM. If any records are broken it will be due to the new type tungsten carbide bits being used on the drills. To eliminate freezing in the shaft some portable gasoline motor driven heating units developed during the war are being used.

NEGAUNEE MINE:

No new machinery was installed for the year, the best improvement being a 4" air line laid on 4th. level to connect with Athens air system. In this way either mine can benefit if a compressor gives trouble. In March the skip hoist drum worked loose on shaft but was tightened the following Sunday.

At No. 2 ventilating shaft the fan was cleaned and painted, the boiler cleaned and new texropes were added ready for operation during the winter. Two skips in main shaft were out and were replaced, steel dividers between skip and cage roads were reconditioned and wood casing in shaft house skip road replaced with steel plate.

SARGENT MINE:

This underground mine was taken over from International Harvester Company on March 1, 1947. It is located near Kewatin, Minnesota and has averaged shipments of 150,000 tons per year. It was opened in 1919, has shipped about four million tons and close to two million tons is still available.

The surface equipment consists of a steel shaft house, an office, shop and supply house, change house and engine house built of steel frame and stucco finish. A central heating plant near the tracks supplies steam through underground pipes to all the buildings. During the winter ore is stocked to the east of shaft

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SARGENT MINE: (Continued)

house by stocking car run by electric locomotive.

In engine house an Ottumwa Iron Works hoist equipped with post brake, 60" x 60" drum and 150 H P motor runs the skips in balance. There is no cage hoist as the men climb and the timber is lowered thru a timber shaft equipped with a small electric hoist. An Imperial type 10 Ingersoll Rand compressor belt driven to 200 HP motor with capacity of 900 C. F. M. supplies air at 90# P. S. I. The 100 HP Synchronous Converter set was found to be small to carry both the underground haulage locomotives and double drums slushers, and a second set is being installed. The only improvement needed was adding a dial thermometer and temperature relay on compressor discharge to stop the machine if excessive air temperature develops. The equipment gave no trouble for the year.

Spies - Virgil Mine:

On surface the top tram larry car required overhauling in the spring, the shaft house loading pocket was relined and reinforced with steel channels and the chutes repaired. In the engine house the main bearings on compressor were so badly scored too much labor was required to keep compressor operating. When the mine was closed for a weeks holiday in August, the main shaft was removed and hauled by truck to the Calumet and Hecla Shop at Calumet, Michigan. The bearings were turned true and the shells rebabbitted. On assembly the machine gave no trouble and is now satisfactory. At change house the stoker wore out on heating boiler and was replaced with a new heavy type Brownell Stoker which should last longer than the old one. In the shops a new J. M. C. Jackm~~all~~ was installed in May.

At the air shaft the Jeffrey Aerodyne fan was installed drawing air from 4th level. One of the three Ingersoll Rand Motorpumps, was set up in station and removes all the water collected here.

For

loading at stockpile No. 16 shovel was sent down from Ishpeming in November, and No. 30 shovel sold for scrap. No. 15 shovel is still at the Spies and will be kept for stockpile loading along with No. 16.

Underground the pumps recieved severe abuse due to excessive mud in the sumps. On 4th level the Aldrich Triplex broke both main frames which were repaired. On 6th level the Aldrich Quintuplex broke two belts but a rayon cord rubber belt was secured from Mesabi Range in November and is still in good shape. On 8th level the gate and check valves from the Prescott Triplex pump were so bad a new 8" check and gate were installed in the discharge line to be used for both pumps. After September month more time was spent on sump cleaning which caused the pumps to give better service but the mud condition is still bad. On 6th level new doors and slide members were installed for skip measuring pocket.

TILDEN MINE:

During the first two months of the year the shovel crews were kept busy dismantling the 120-B electric shovel No. 56 at the Negaunee Mine and re-erecting at "ather "A" mine stockpile. In May the loading pocket repairs were completed and new bearings installed on conveyor Motor. The mine did not start until July 7th and shut down Nov. 24th with the years production totaling 168,669 tons. New concaves were installed in East 10 crusher in August, but some tramp iron caused the motor to burn out in October and the season was finished using only the west machine. Some minor repairs were needed on the Euclid trucks but they gave good service all season.

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GENERAL:

The 16" Layne and Bowler pump the Holman Mine rented to Pickands Mather and Co. at the Kennedy shaft on the Cayuna range was returned in December and then shipped to the Sherwood mine of Inland Steel Co. to be used to unwater the Bristol Mine at Crystal Falls.

At the general shops a set of machines were assembled in the welding shop to turn out steel sets made of 4" H beams. An average of 150 sets are being made per month.

On the Mesabi range all 15 and 20 ton deisel Trucks were equipped with a clock recorder in one front wheel that is tamper proof. These recorders produce on a small circular paper chart a record of all trips for 24 hrs., at what time they were made, at what speed the truck operated during the trip and how much time the truck was idle. These discs are collected each mornigg at 7 a. m. with the names of drivers and which of the 3 shifts they worked. From these charts the performance records of the trucks are maintained and made up each month.

On

On January 1st R. G. Schall joined the dept. as Assistant Chief Mechanical Engineer.

Starting August 1st the mechanical department on the Mesabi Range is as follows:

Wm Waite, Mechanical Engineer, ^{TACOMTI} Minnesota
 Russel Barkla, District Master Mechanic, Tacomti Minnesota.
 Joel Olson, Shop Foreman, Hawkins Mine, Nashwauk, Minnesota.
 M. E. Goffrey, former District Master Mechanic was retired due to age on July 1st.

MECHANICAL DEPARTMENT
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COMPARATIVE TABLES

<u>CLIFFS SHAFT MINE:</u> <u>YEAR</u>	<u>TONS ORE AND ROCK HOISTED</u>	<u>CU. FT. AIR USED</u>	<u>CUBIC FT. AIR PER TON HOISTED</u>	<u>GALLONS OF WATER PUMPED</u>	<u>G.P.M.</u>
1938	352,983	735,452,000	2,083	362,700,824	689
1939	415 682	790 875 000	1 902	363 540 036	693
1940	573 487	1,053 990 000	1 837	362 590 686	686
1941	677 249	1 218 780 000	1 799	343 850 964	655
1942	733 970	1 223 325 000	1 666	339 185 356	643
1943	669 300	1 368 045 000	2 044	376 325 326	718
1944	614 214	1 459 890 000	2 376	448 361 410	851
1945	567 691	1 194 570 000	2 104	444 687 684	848
1946	415 426	968 670 000	23331	397 294 033	751
1947	562 650			424 721 789	809

ATHENS MINE:

1938	276 800	643 005 000	2 322	165 316 266	313
1939	416 225	819 405 000	1 968	178 774 003	331
1940	526 456	1 196 505 000	2 272	185 418 833	351
1941	638 178	1 305 945 000	2 116	185 835 174	354
1942	699 590	1 351 440 000	1 931	204 533 558	387
1943	532 590	1 013 220 000	1 902	195 041 792	372
1944	443 576	900 765 000	2 030	162 835 951	308
1945	429 136	873 710 000	2 035	174 073 654	331
1946	376 417	7 745 605 000	19988	168 139 933	317
1947	533 366			178 537 561	340

MAAS MINE:

1938	438 359	742 635 000	1 694	752 268 448	1 429
1939	528 389	1 005 165 000	1 902	726 916 014	1 388
1940	709 755	1 288 665 000	1 815	710 849 782	1 346
1941	849 963	1 646 145 000	1 936	595 239 587	1 135
1942	894 963	1 703 655 000	1 905	553 194 582	1 049
1943	782 074	1 916 100 000	2 450	575 868 620	1 098
1944	614 836	1 542 835 000	2 509	578 257 239	1 097
1945	572 652	1 205 145 000	2 104	555 380 166	1 058
1946	487 523	965 880 000	1 981	607 511 502	1 148
1947	721 051			571 767 866	1 090

NEGAUNEE MINE:

1938	439 588	771 210 000	1 754	534 118 975	1 015
1939	577 510	1 026 945 000	1 778	532 642 228	1 015
1940	890 598	1 296 675 000	1 455	377 169 929	714
1941	1 077 854	1 300 165 000	1 391	338 385 511	644
1942	1 128 737	1 432 260 000	1 268	345 945 101	656
1943	978 130	1 137 375 000	1 162	401 169 615	765
1944	760 871	1 165 140 000	1 531	375 706 897	713
1945	671 220	873 270 000	1 301	357 175 559	681
1946	418 232	542 025 000	1 295	360 778 626	682
1947	531 492			390 741 304	744

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COMPARATIVE TABLES

<u>YEAR</u>	<u>TONS ORE AND ROCK HOISTED</u>	<u>CU. FT. AIR USED</u>	<u>CUBIC FT. AIR PER TON HOISTED</u>	<u>GALLONS OF WATER PUMPED</u>	<u>G.P.M.</u>
<u>CAMBRIA-JACKSON MINE:</u>					
*1943	155,513	216,657,000	1,393	123,714,000	431
1944	286 761	410 875 000	1 432	196 252 831	372
1945	319 222	386 626 500	1 211	190 159 826	362
1946	303 881	374 013 000	1 230	159 192 131	300
1947	548 027			190 950 934	363

(*Mine operated by The Cleveland-Cliffs Iron Co. since June 1, 1943 and the above figures are for the last 7 months of the year only)

LLOYD MINE:

1938	286 864	293 247 000	1 022		
1939	323 639	273 042 000	843		
1940	487 287	398 308 500	839		
1941	572 778	534 456 000	933	40 031 200	91 (10 Mos)
1942	588 749	588 451 000	999	39 486 100	74
1943	531 260	525 280 500	988	65 024 800	124
1944	391 057	436 293 000	1 115	51 625 550	97
1945	334 117	419 088 500	1 254	59 943 400	114
1946	243 836	264 838 500	1 086	51 014 600	84
1947	262 395			69 182 000	131

MATHER MINE "A" SHAFT:

1943	29 517	(First hoisting in September)			
1944	127 438	425 700 000	3 340	74 006 311	140
1945	258 028	378 600 000	1 467	134 384 517	256
1946	417 677	542 250 000	1 298	97 460 579	184
1947	817 145			133 005 294	253

TILDEN MINE:

1938	85 889
1939	170 276
1940	205 612
1941	302 943
1942	235 207
1943	139 991
1944	214 824
1945	197 476
1946	101 968
1947	168 669

THE CLIFFS POWER & LIGHT CO.
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The year 1947 produced the highest sales of energy and the highest quantities generated and purchased in the history of the company. The total sales for the year amounted to 102,948,245 Kwh and there were 111,372,320 Kwh generated and purchased. Correspondingly, the company revenues from sale of energy were 16.8% greater than in 1946 and 3.5% greater than in the previous maximum year of 1943. Direct comparison with 1946, of course, is not representative of the normal growth of energy sales or revenues since the strike reduced both of these items during the first six months of that year.

We entered the year 1947 with an estimated amount of water in storage equal to 10,526,000 Kwh, which constituted only 24.1% of our storage capacity. This necessitated very heavy energy purchases during the first part of the year and up until the middle of April. During the first four months of 1947 energy purchases amounted to more than 15,000,000 Kwh and immediately after the break-up purchases were resumed in June and continued throughout the year at an average of approximately 2,000,000 Kwh a month. Water conditions were fairly good throughout the year and we completed 1947 with a total of 17,420,000 Kwh in storage, which amounts to approximately 36.7% of our reservoir capacity.

It was recognized during the latter part of 1946 that our production facilities were inadequate to meet our load conditions without heavy purchases from the Wisconsin Michigan Power Company. Purchases throughout the winter of 1946-47 were severely restricted by the Wisconsin Michigan Power Company and during the latter part of the winter we were informed that it was highly improbable that this company would permit purchases during the coming year on the basis that they were made during the winter then passing. On April 15th. that company notified us that during the remainder of our contract with them, which lasts until 1950, our purchases would be restricted to the amount called for in the contract (4,000 K.W. between 7 PM and 7 AM) and that even this purchase contract would not be renewed at its termination in 1950. This created an acute situation with us and we retained Stone and Webster Engineering Corporation to make a study of our load conditions and the possibility of installing additional generating capacity. An engineer from this firm arrived on May 1st. to make the study and before he left Ishpeming we had his verbal recommendation that we install immediately at least 5,000 K.W. in diesel engine generating capacity which could be purchased second-hand and which would enable us to make a very economical standby installation. Accordingly, negotiations were started in May for the purchase of five 1000 K.W. generating units. The result of this decision was that five General Motors, 16 cylinder, 1600 H.P. second-hand diesel engines were purchased from the Hugo Neu Corporation (which units were being salvaged from destroyer escort vessels) and the generators necessary for these engines were purchased from the War Assets Administration as they were salvaged from the River Rouge plant of the Ford Motor Company. After considerable study it was finally decided to locate this diesel plant in the northeast corner of the Brownstone Yard. The first of the engines was received on June 24th. and overhauling was started immediately. The first of the generators for the engines was received in August and overhauling of these was also started immediately. Power plant building, cooling tower, fuel tanks and other equipment was purchased as rapidly as possible and construction of the new power plant was commenced early in July. Delay in delivery of equipment and materials caused serious delays in the installation of the power plant equipment and the end of 1947 found us with the building and engine foundations completely installed, the cooling tower erected, the fuel oil storage tank erected

and filled and the power plant building partially erected. Delay in delivery of materials, especially the power plant building, caused very difficult working conditions after cold weather arrived and the construction of the entire power plant has been materially delayed. It is not anticipated that this plant will be in operation before the spring of 1948. Fortunately, however, water conditions during the winter have been such that we do not anticipate any difficulty in supplying the power demands on the system until the power plant construction is completed.

The labor contract between the United Steelworkers of America and The Cliffs Power & Light Company, which had been executed during 1946, expired on July 15, 1947 and negotiations were entered into for renewal of this contract. This contract was renewed under date of June 26, 1947 for a period of two years, until July 15, 1949, with three changes. First, the check-off provision was limited to provide for a maximum term of one year's duration for the check-off authorization card; second, it provided for a wage increase equivalent to 12½¢ per hour effective May 9, 1947; third, the vacation privilege was extended to provide for three weeks vacation to employees with continuous service records of 25 years or more.

The work welding the steel pipe line between the Carp intake dam and the power plant was started during June as soon as weather permitted. There remained at that time approximately 3,000 feet of the pipe line to be welded and work was continued on this steadily until Monday, October 27th., as which time all of the welding was completed.

During 1946 we had studied the various methods which could be used to repair the deteriorated surfaces on the face of the Hoist power plant dam and work repairing this dam was started during the latter part of that year. This proved to be a very tedious and expensive maintenance project, but work was continued throughout the winter and until the middle of the summer. We estimate that approximately 25% of the total repairs were accomplished during this period. The construction of the diesel power plant demanded that repairs on the dam be stopped as soon as construction on the power plant started in order that we would have available for this new project the men and equipment which were being used on the repair of the dam. No further repairs have been made to the structure since cessation of the work during July. It is hoped to resume the repairs on this dam during the fall of 1948.

Commencement of the work of sinking the Mather Mine "B" Shaft necessitated the removal and re-location of a considerable portion of our transmission line between the Maas and the Brownstone substations. Work was started during February rerouting this portion of the line and was continued until the line was completely removed from the area in which it would have been objectionable in the construction of the new mining structures.

During June a quonset hut was erected in the Brownstone Storehouse Yard for the purpose of storing construction equipment, oil, paint and other inflammable materials. This material had in the past been stored in the Brownstone substation and has created a fire hazard at that point and has resulted in a high insurance rate for that building and all of the equipment contained therein. Moving this material to the quonset hut will materially reduce the insurance premiums which will be necessary to insure the Brownstone substation.

It was said earlier in this report that the Stone and Webster Engineering Corporation made a survey of our system power requirements during May and the final report giving the results of this study indicated that we should immediately install standby diesel engine generating equipment and that we should further either make arrangements for the purchase from the Wisconsin Michigan Power Company of approximately

7500 K.W. of firm power or construct a steam generating station of that capacity. We immediately opened negotiations with the Wisconsin Michigan Power Company to determine the basis upon which they would sell us the required energy at the expiration of our present contract in 1950. On October 27th, the Wisconsin Michigan Power Company formally notified us that they would not be in a position to supply this energy in 1950 under any terms, which made it imperative for us to take immediate steps to decide our course of action so that we would have a supply of power available at the expiration of the present contract. Accordingly, a conference was held in Cleveland and it was decided to notify certain of our customers that their contracts could not be renewed after 1950, recommending to them that they consider the various economic problems which would be involved in their renewing their contracts at an increased cost of energy to them as compared to supplying their own needs after 1950. In addition, we again retained Stone and Webster Engineering Corporation for the purpose of determining what action we should take and also retained Holland, Ackerman and Holland for the purpose of determining whether or not there was any available water power which might be used to supplement our present hydro electric capacity and to provide the required power and energy. Reports from both of these organizations were received during December. The Stone and Webster Engineering Corporation recommended that The Cliffs Power & Light Company install a steam plant of adequate capacity to meet the requirements and that the various companies not now served under our rate schedule W.P.-1 have their contracts re-written in 1950 to provide for service under that rate schedule with adequate escalator clauses to provide for changes in fuel and labor costs instant to generating energy by steam. Holland, Ackerman and Holland reported that their investigations had revealed no water power available in our territory which would provide sufficient capacity to meet our system requirements in 1950. Accordingly, a conference was called for the early part of January 1948 to determine what action our company should take to meet this situation.

In the latter part of October the North Range Mining Company announced that it was preparing to open the Champion Mine at Champion, Michigan and requested service from our company for the dewatering of the mine and the ultimate operation thereof. Since this mine is located in the territory of the Wisconsin Michigan Power Company consultations were held with that company and the conclusion reached that it would be best for all concerned if service for the mine were rendered directly by our company rather than through the Wisconsin Michigan Power Company's facilities. Accordingly, Expenditure and Authorization was requested for the construction of approximately eight miles of 30 K.V. line to serve the mine, together with substation, etc. Construction was started early in December of a temporary line which would serve during the dewatering period and while the permanent 30 K.V. line was being put into service. It is anticipated that this temporary service will be available during the latter part of January 1948 and the complete line will be in service during the early spring of 1948.

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SUBSTATION TRANSFORMERS:

Substation transformers installed as of December 31, 1947.

<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	
Seney "	1	1	25	25	
Inland #1 "	1	3	500	1 500	
Inland #2 "	1	3	500	<u>1 500</u>	5,026 KVA
<u>2300/66,000 Volts</u>					
AuTrain Substation	1	3	333-1/3	<u>1 000</u>	1 000
<u>33,000/66,000 Volts</u>					
Gwinn Substation	1	3	1 250	<u>3 750</u>	3 750
<u>33,000/12,000 Volts</u>					
Clarksburg Substation	1	2	150	300	
Princeton "	1	1	37 $\frac{1}{2}$	<u>37$\frac{1}{2}$</u>	337 $\frac{1}{2}$
<u>33,000/2300 Volts</u>					
Gwinn Substation	1	3	75	225	
Cliffs Shaft Substation	1	3	500	1 500	
Morris-Lloyd "	1	3	590	1 770	
Cambria-Jackson "	1	3	400	1 200	
Maas "	1	6	590	3 540	
Brownstone "	1	3	625	1 875	
Palmer "	1	2	625	1 250	
Greenwood "	1	2	400	800	
Princeton "	1	1	25	25	
Tilden "	1	1	400	400	
" "	1	1	625	625	
Palmer Rural "	1	4	15	60	
Negaunee-Athens "	1	3	1 000	3 000	
Mather "	1	3	2 000	<u>6 000</u>	22 270
<u>2300/33,000 Volts</u>					
Republic Substation	1	3	250	750	
Hoist Plant "	3	1	2 500	2 500	
Escanaba " "	1	3	500	1 500	
McClure Plant "	3	2	5 000	10 000	
Carp " "	1	3	1 900	5 700	
Hoist " "	1	3	667	2 000	
" " "	1	3	200	<u>600</u>	23 050
<u>12,000/440-220 Volts</u>					
Champion Mine Substation	1	3	100	300	
Piqua-Marquette "	1	3	500	<u>1 500</u>	1 800
<u>12,000/220-110 Volts</u>					
D.S.S.&A.Ry. at Clarksburg	1	1	3	<u>3</u>	3
<u>12,000/2300 Volts</u>					
McClure Plant (Furnace Lines)	3	2	1 250	2 500	
AuTrain Substation	1	3	185	555	
Chatham "	1	3	50	150	
Eben "	1	1	25	25	
Rumely "	1	2	15	30	
Inland #1 (Wis. Mich. Line)	1	3	50	150	
Rumely Substation	1	1	25	<u>25</u>	3 435

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SUBSTATION TRANSFORMERS: (Continued)

	<u>Phase</u>	<u>No.</u>	<u>K.V.A.</u>	<u>Brought Fwd. Total K.V.A.</u>	60,671½
<u>6600/2300 Volts</u>					
Inland #1 Substation	1	3	25	75	
Blaney Park "	1	2	25	50	
" " "	1	1	15	15	
AuTrain Lake "	1	1	25	25	
Gwinn "	1	1	50	50	
Princeton "	1	1	50	<u>50</u>	265
<u>6600/115-230 Volts</u>					
Furnace Substation Lighting	1	1	1½	<u>1½</u>	1½
<u>2300/110-220 Volts</u>					
Interstate Laboratory	1	3	100	<u>100</u>	<u>100</u>
Grand Total.....					61,038 KVA

DISTRIBUTION TRANSFORMERS:

	<u>Number</u>	<u>Capacity</u>
Total at first of year	435	2,608 KVA
" purchased during year	113	523
" installed " "	18	56½
" sold " "	0	0
" at close of year	548	3 131
In stock at close of year	115	543 KVA
" service at " " "	395	2 209
C.P.&L.Co. Plants & Auxiliaries	<u>38</u>	<u>379</u>
	548	3,131 KVA

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THE CLIFFS POWER & LIGHT COMPANY

STATISTICAL DATA - 1947

KILOWATT HOURS GENERATED & PURCHASED

	<u>McCLURE</u>	<u>CARP</u>	<u>HOIST</u>	<u>AuTRAIN</u>	<u>REPUBLIC</u>	<u>ESCANABA</u>	<u>PURCHASED</u>	<u>TOTAL</u>	<u>STATION USE</u>	<u>DELIVERED TO LINES</u>	<u>KWH SOLD</u>	<u>TRANSMISSION LOSSES</u>	
												<u>KWH</u>	<u>%</u>
Jan	2,208,000	845,000	820,000	287,500	107,900	255,000	4,268,120	8,791,520	17,480	8,774,040	8,115,035	659,005	7.51
Feb	2 137 000	763 000	774 000	252 100	82 100	216 000	4 335 120	8 559 320	16 250	8 543 070	7 939 910	603 160	7.06
Mar	2 252 000	900 000	784 000	225 400	81 200	203 000	4 479 320	8 924 920	16 540	8 908 380	8 138 087	770 293	8.64
Apr	2 840 000	1 576 000	921 000	594 600	168 300	690 000	2 263 920	9 053 820	14 400	9 039 420	8 760 221	279 199	3.08
May	3 505 000	2 314 000	1 251 000	790 800	286 900	1 060 000	361 000	9 568 700	17 600	9 551 100	8 954 221	596 879	6.24
Jun	3 307 000	1 362 000	1 259 000	703 200	327 300	864 000	1 646 000	9 468 500	16 510	9 451 990	8 780 101	671 889	7.10
Jul	4 225 000	1 303 000	1 521 000	390 700	269 300	470 000	964 000	9 143 000	17 570	9 125 430	8 372 107	753 323	8.25
Aug	3 950 000	1 061 000	1 461 000	421 300	89 200	217 000	1 925 440	9 124 940	17 240	9 107 700	8 381 677	726 023	7.97
Sep	3 769 000	1 469 000	1 334 000	362 800	62 800	254 000	1 985 840	9 237 440	19 600	9 217 840	8 530 208	687 632	7.45
Oct	4 349 000	1 467 000	1 513 000	362 400	65 100	335 000	2 006 800	10 098 300	18 920	10 079 380	9 332 329	747 051	7.40
Nov	3 762 000	1 429 000	1 309 000	297 300	64 900	421 000	2 299 520	9 582 720	19 530	9 563 190	8 843 263	719 927	7.52
Dec	4 046 000	1 257 000	1 396 000	312 200	78 900	284 000	2 445 040	9 819 140	20 140	9 799 000	8 801 086	997 914	10.18
	40,350,000	15,746,000	14,343,000	5,000,300	1,683,900	5,269,000	28,980,120	111,372,320	211,780	111,160,540	102,948,245	8212,295	7.36

THE CLIFFS POWER & LIGHT CO.

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YEAR 1947

STATISTICAL DATA: - 1947

Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Precipitation -	1.10	2.08	0.86	4.00	2.65	4.57	3.25	5.38	4.15	1.50	2.50	0.84
Total precipitation at Ishpeming during 1947 -	32.88" (2.74 ft.)											
Average " " Marquette	- 32.80" (46 year record)											

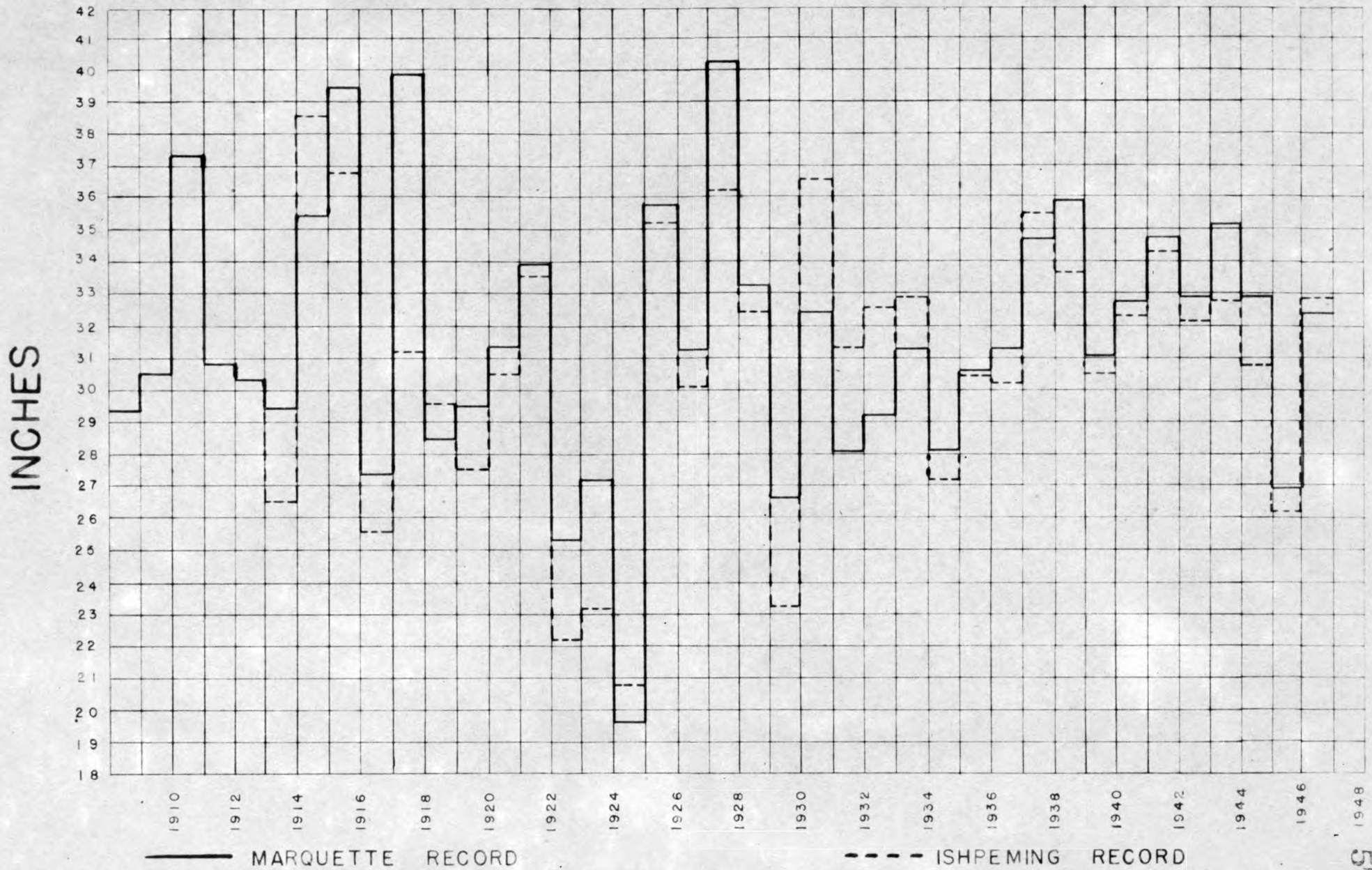
CARP RIVER PLANT:

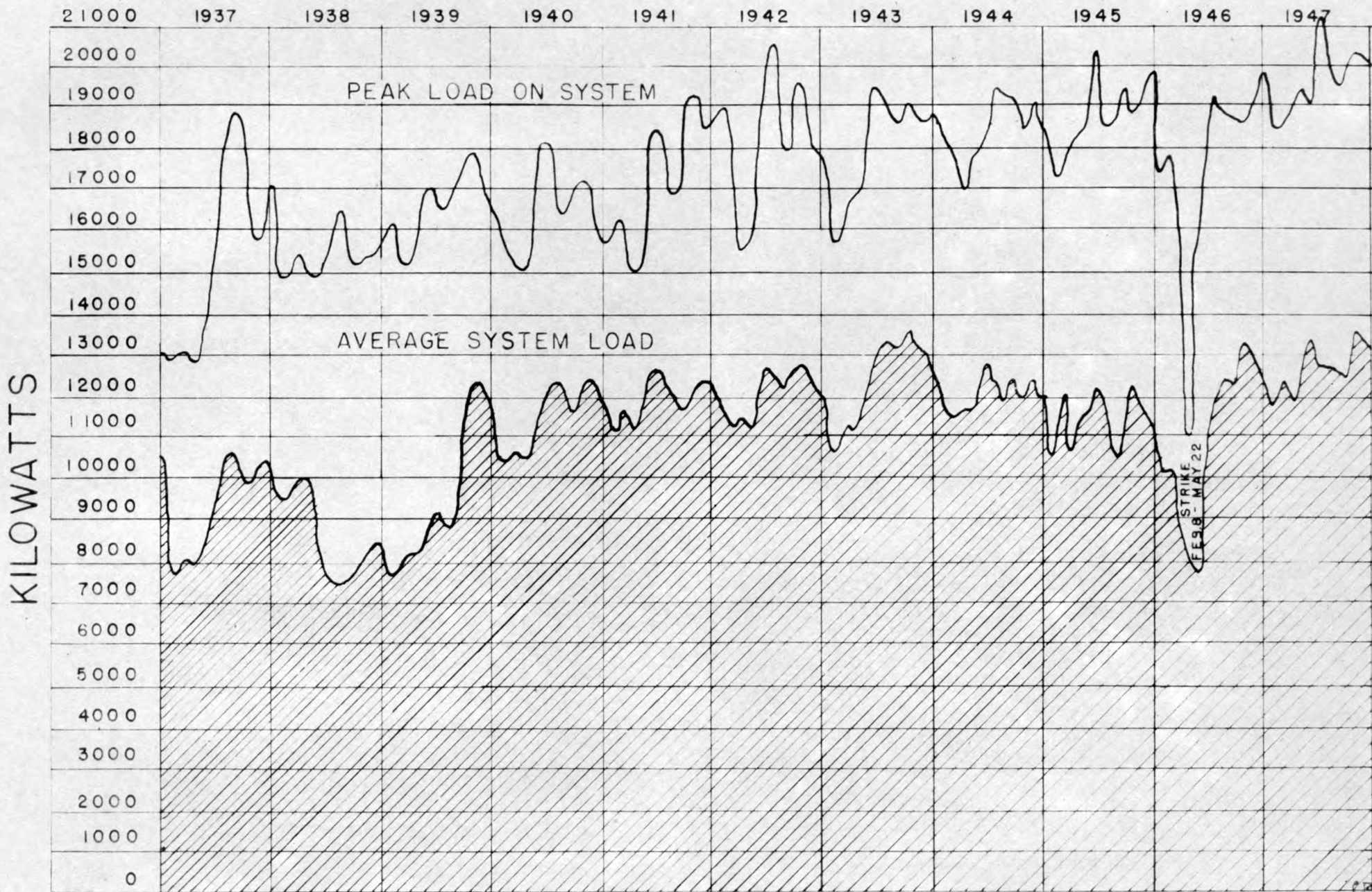
Drainage area above intake dam	66.66 sq. miles												
Cubic feet precipitation in 1947	5,091,945,154												
Kilowatt hours generated in 1947	15 746 000												
Cubic feet water utilized (90 cu. ft. - 1 Kwh)	1 417 140 000												
" " " in Carp storage basin Dec. 23, 1946	185 986 000												
" " " " " " " " Dec. 22, 1947	521 848 000												
" " " added to storage in 1947	335 862 000												
" " " wasted over intake dam	114 048 000												
Total run-off for year 1947 (Cubic feet)	1 867 050 000												
Run-off per sq. mile of drainage area (Cubic feet)	28 008 550												
Second-feet of run-off	0.8881												
	<u>1913</u>	<u>1914</u>	<u>1915</u>	<u>1916</u>	<u>1917</u>	<u>1918</u>	<u>1919</u>	<u>1920</u>	<u>1921</u>	<u>1922</u>	<u>1923</u>	<u>1924</u>	<u>1925</u>
Total Precip.	30.11	26.53	38.40	36.83	25.46	31.05	29.50	27.40	30.38	33.67	21.90	22.95	20.71
Sec.ft. run-off	1.03	0.67	0.93	1.29	0.70	0.79	0.83	0.73	0.68	1.06	0.59	0.50	0.25
	<u>1926</u>	<u>1927</u>	<u>1928</u>	<u>1929</u>	<u>1930</u>	<u>1931</u>	<u>1932</u>	<u>1933</u>	<u>1934</u>	<u>1935</u>	<u>1936</u>	<u>1937</u>	<u>1938</u>
Total Precip.	35.69	29.86	36.06	32.28	23.14	36.70	31.20	32.72	32.87	27.10	30.23	30.10	35.32
Sec.ft. run-off	0.85	0.98	1.11	0.67	1.10	0.83	1.13	1.14	1.00	0.79	0.89	0.86	1.33
	<u>1939</u>	<u>1940</u>	<u>1941</u>	<u>1942</u>	<u>1943</u>	<u>1944</u>	<u>1945</u>	<u>1946</u>	<u>1947</u>				
Total Precip.	33.58	30.34	32.20	34.26	32.04	32.77	30.81	26.12	32.88				
Sec.ft. run-off	1.47	1.05	0.83	0.84	1.17	0.70	0.81	0.56	0.88				

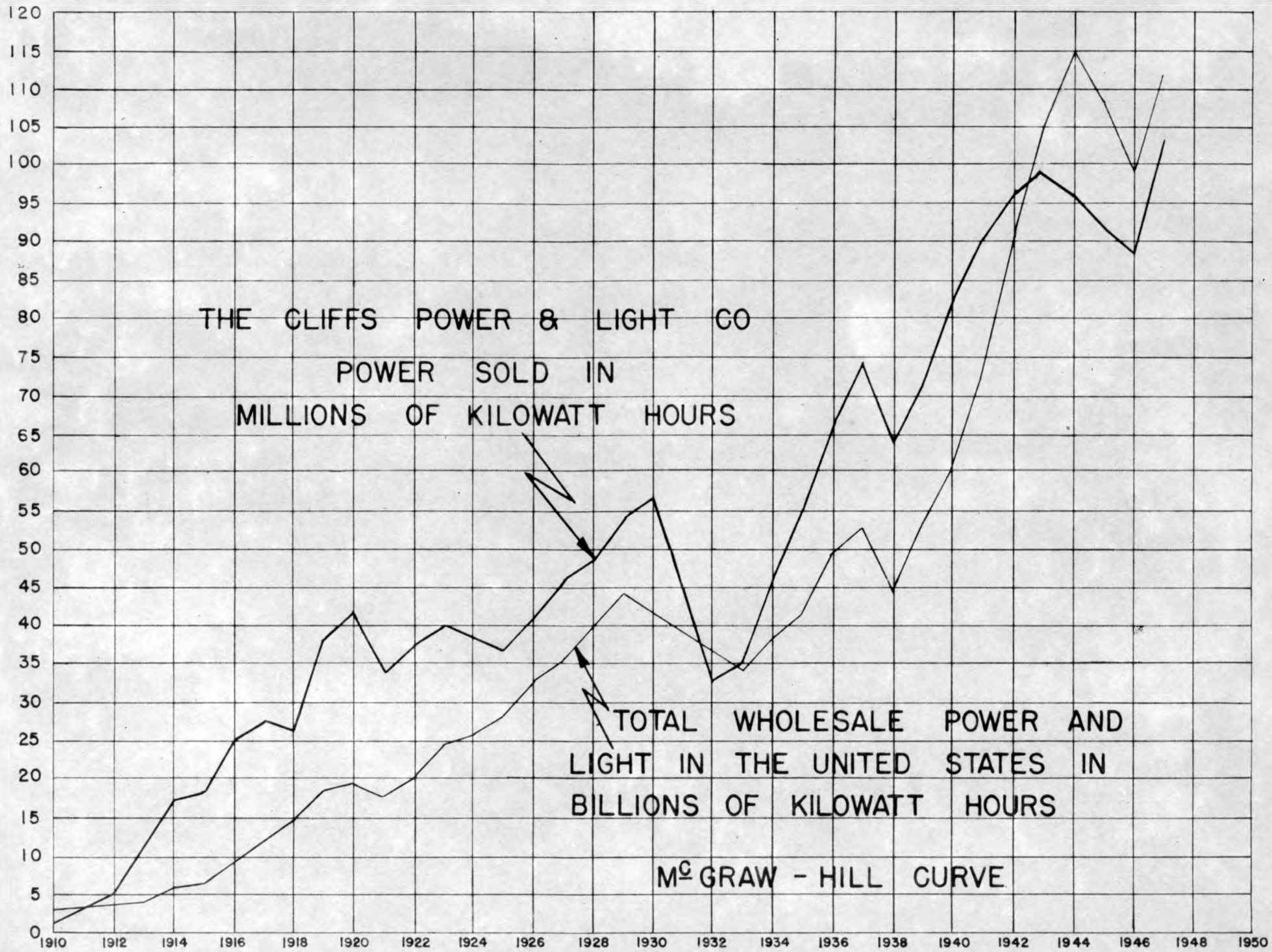
McCLURE PLANT:

Drainage area above intake dam	140.52												
Cubic feet precipitation in 1947 (Hoist Plant-37.22"-3.105')	12,167,670,000												
Kilowatt hours generated at McClure Plant in 1947	40 350 000												
Cubic feet water utilized (125 cu. ft. - 1 Kwh)	5 043 750 000												
" " " wasted over intake dam	0												
" " " in Hoist storage basin Dec. 23, 1946	818 921 000												
" " " " " " " " Dec. 22, 1947	1 184 548 000												
" " " added to Hoist storage basin in 1947	365 627 000												
" " " in Silver Lake Dec. 23, 1946	0												
" " " " " " " v Dec. 22, 1947	0												
" " " taken from Silver Lake in 1947	0												
Total run-off for year 1947 (Cubic feet)	5 409 377 000												
Run-off per sq. mile of drainage area (Cubic feet)	38 495 424												
Second-feet of run-off	0.2207												
	<u>1921</u>	<u>1922</u>	<u>1923</u>	<u>1924</u>	<u>1925</u>	<u>1926</u>	<u>1927</u>	<u>1928</u>	<u>1929</u>	<u>1930</u>	<u>1931</u>	<u>1932</u>	<u>1933</u>
Total precip.	35.10	42.03	26.60	30.49	24.06	43.95	35.51	43.80	38.75	30.81	37.02	32.54	35.07
Sec.ft. run-off	1.02	1.54	0.85	0.92	0.52	1.52	1.80	2.22	1.36	1.45	1.10	1.23	1.30
	<u>1934</u>	<u>1935</u>	<u>1936</u>	<u>1937</u>	<u>1938</u>	<u>1939</u>	<u>1940</u>	<u>1941</u>	<u>1942</u>	<u>1943</u>	<u>1944</u>	<u>1945</u>	<u>1946</u>
Total precip.	35.02	29.96	32.16	38.18	40.93	41.22	36.59	38.15	40.20	35.64	37.62	37.94	31.91
Sec.ft. run-off	1.16	0.90	1.05	1.19	1.75	1.69	1.47	1.28	1.15	1.43	1.17	1.36	0.86
	<u>1947</u>												
Total precip.	37.27												
Sec.ft. run-off	1.22												

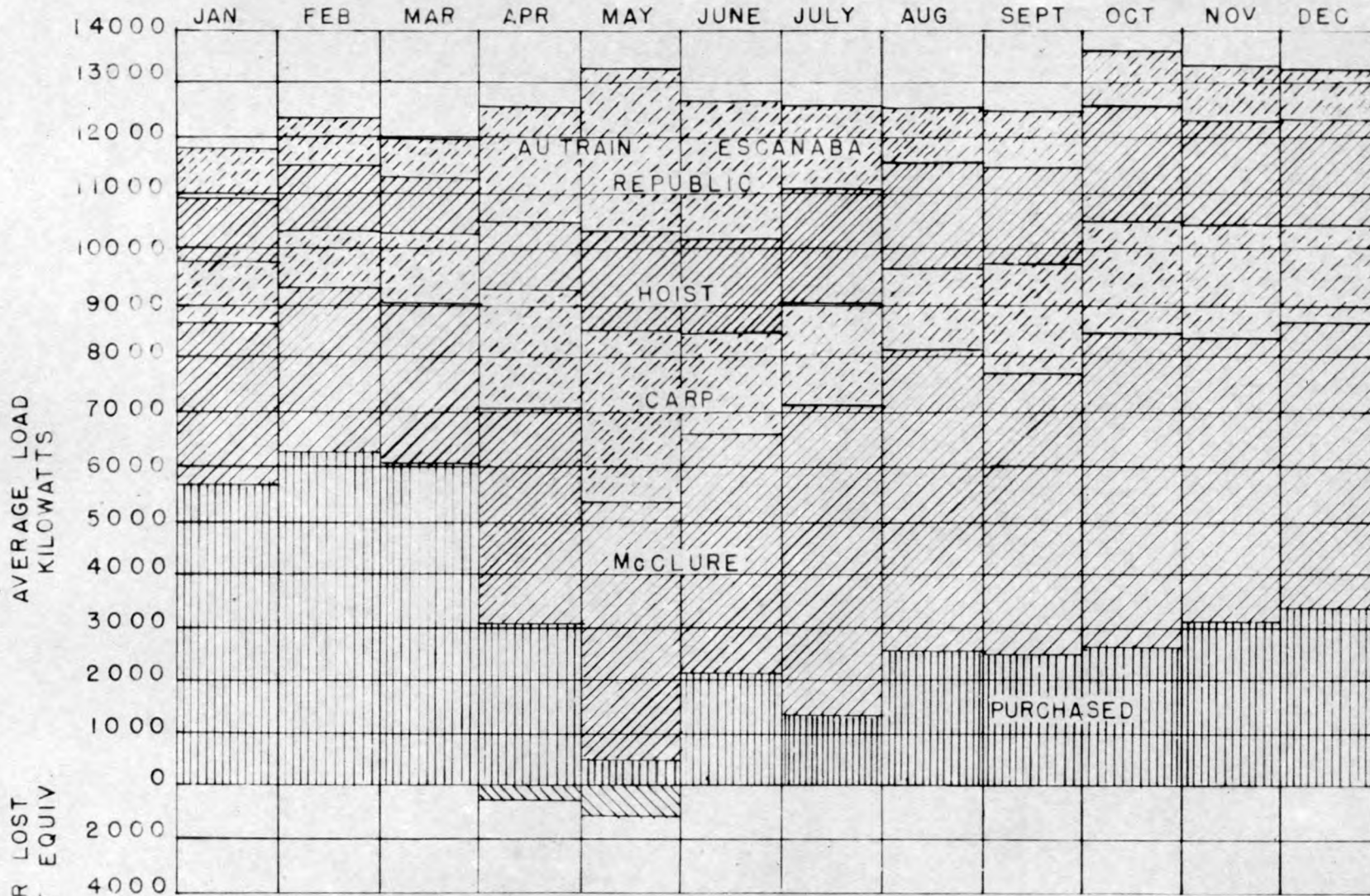
PRECIPITATION BY YEARS







1947



AVERAGE LOAD
KILOWATTS

 WATER LOST
KILOWATT EQUIV

- CURRENT GENERATED BY WATER POWER
- POWER PURCHASED
- KILOWATT EQUIVALENT WATER LOST AT CARP
- " " " McCLURE

McCLURE	36.23%
CARP	14.14%
HOIST	12.88%
AU TRAIN	4.49%
ESCANABA	4.73%
REPUBLIC	1.51%
PURCHASED	26.02%

WELFARE DEPT. ANNUAL REPORT YEAR 1947

The usual functions of the Welfare Department were carried on in regular fashion during the year 1947. These functions include matters which concern the welfare of employees, relief, human interests, insurance, compensation, problems of personnel, public relations, retirements, donations, special direct relief problems, police and plant protection, publication of the company's house organ, the "Orbit", matters dealing with civic and community affairs, public health problems, safety, the administration of the Ishpeming Hospital, social security, and many other matters which are referred to the department for consideration and processing. It has been necessary, because of the number of returned veterans being employed, to give some attention to post-war problems which particularly concern the returned veteran.

Each year we include a statement in the record regarding the Welfare Department and it is here again recorded that this department was formerly known as the Pension Department and for many years Mr. W. H. Moulton, who retired on July 1, 1938, headed the department with the title of Secretary. Mr. Moulton passed away in January of 1944. In July of 1938 the name of the department was changed from the Pension Department to the Welfare Department and Walter F. Gries became the head of the department with the title of Superintendent.

We wish to record at the outset that this department has had the excellent cooperation of the Safety Department under the leadership of Mr. A. J. Stromquist, Director, and Captain H. F. Rogers, Assistant Director. We believe that the cooperative association of the two departments has resulted in considerable benefit to the company and its employees.

We are very grateful to Mr. Walter E. Johnson who has been in charge of the Compensation Department for many years and whose loyal and faithful service and cooperation means a great deal to the proper functioning of this department. During the year, upon the institution of our new group insurance and group hospitalization plan, Mr. Lowell C. Holmgren, who has been acting as assistant to Mr. Johnson, was placed directly in charge of the whole insurance plan. Mr. Holmgren was instructed by Mr. Walsh of the Aetna office in Cleveland and he has assumed responsibility for the functioning of the plan. We are pleased to report that Mr. Holmgren has, by previous experience and by full cooperation, made it possible for the new plan to get underway and it is functioning smoothly and effectively. We wish to commend Mr. Holmgren for the fine manner in which he is handling his duties. It should also be recorded that Miss Shirley Holmgren has accepted a secretarial position in the office of Mr. Johnson and Mr. Holmgren.

We wish to record also our appreciation of the cooperation of Mr. Robert J. Veale, our Chief of Police, who works under the supervision of the Superintendent of the Welfare Department. Mr. Veale makes contacts with the head of the department almost daily and matters governing police supervision and plant protection are discussed continually.

WELFARE DEPT. ANNUAL REPORT YEAR 1947

Miss Mary Ryan continues to act as office receptionist in the usual efficient way. Mrs. Emily Nicholas Kivisto continues in the capacity of secretary to the Superintendent of the department and we express again our appreciation for her continued loyalty and faithful service throughout another busy year.

The personnel of the Welfare Department is made up of the following people:

Walter F. Gries, Superintendent
Walter E. Johnson, Compensation Agent
Lowell C. Holmgren, Clerk, Group Hospitalization Division
Miss Mary Ryan, Receptionist and File Clerk
Mrs. Emily Kivisto, Secretary to the Superintendent
Miss Shirley Holmgren, Secretary in the Compensation and
Insurance Division
Robert J. Veale, Chief of Police

11.

a. WORKMEN'S COMPENSATION

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

Following are the cases of those men who required some special attention during the year.

JOHN AHO-Negaunee Mine

Mr. Aho originally made a claim for compensation on October 1, 1944 stating that he had been struck on the back by some loose dirt while employed as a miner at the Negaunee Mine. Our records indicated that he had been on group insurance on four occasions prior to and after the alleged date of accident. Each case indicated that he had a lame back and on each occasion he had signed an application for group insurance benefits in which he stated that his disability was not due to an accident. The case first was scheduled for hearing on December 20, 1944 but at that time he withdrew his application. Since then, the matter has been set for hearing on five separate occasions, the last one being scheduled for August 19, 1947. We appeared on each occasion and each time Mr. Aho's attorney withdrew the case from the calendar. In making an award following the August 19 scheduled hearing the commission made an award dismissing plaintiff's application for lack of prosecution.

GEORGE BUTLER - MATHER "A" MINE - Acc. Rept. No. 11

Mr. Butler sustained a severe fracture of the pelvic bone when he was caught between a motor and side of the drift on January 21, 1946. He was totally disabled from the date of the accident until his return to work on May 21, 1946. He was employed in various capacities on surface and underground until January of 1947 when he claimed he was unable to continue working underground because of the dampness. He filed a petition for further compensation through his attorney and the matter was scheduled for hearing on April 18, 1947. A mutual settlement was agreed to on the basis of \$1500.00 for permanent partial disability and the matter was settled by redemption of liability on that basis.

THOMAS ANDERSON - NEGAUNEE MINE - Acc. Rept. No. 732

Mr. Anderson was discharged in October of 1946 because of excessive loss of time from his work. The records show that he was absent from 20% to 30% of the time from August of 1944 up until his discharge. He countered with a claim for compensation in which he stated that he was still suffering from an injury of June 7, 1943 when he fractured several ribs. He subsequently hired an attorney and the case was heard on June 23, 1947. Following this hearing the Deputy Commissioner ruled in our favor denying Mr. Anderson's claim and stating in it his opinion that he has had no disability since August 14, 1943 which can be attributed to the injury he sustained. An appeal was taken by Mr. Anderson and the cause was heard by the full board on October 28, 1947. Their opinion dated November 21, 1947 sustained the Deputy Commissioner and further compensation was denied. As there is no question of law involved no further appeal can be taken by Mr. Anderson and the case was therefore closed.

WELFARE DEPT. ANNUAL REPORT YEAR 194711.
a. WORKMEN'S COMPENSATION (Continued)EUGENE JETTY- CAMBRIA JACKSON MINE- Acc. Rept. No. 48

On the night of April 18, 1947 Dr. Burke was called to the Cambria Jackson Mine to treat Mr. Jetty for a strained back. He was assisting a miner to carry some staging planks when he suddenly collapsed and was unable to straighten up. It was necessary to transport him from underground to surface in a basket stretcher where the doctor managed to relieve the spasm. There was a history of a back condition going back to December of 1943. We denied Mr. Jetty's request for compensation on the basis that his disability was a continuation of the old accident and also upon the information we first received that Mr. Jetty had just stooped over to pick up one end of the plank and that he had done no lifting when the spasm occurred. He consulted an attorney and the matter was set for hearing on November 7, 1947. Prior to the date of the hearing we obtained additional information to the effect that Mr. Jetty had picked up one end of the plank and that he slipped and stumbled as he was carrying it to one side of the drift. This information damaged our position somewhat so the matter of settlement was broached to his attorney. His original request was that we furnish an operation to correct a slipped disc, this operation to be performed at the Mayo Clinic, and in addition pay him compensation until he recovered from the effects of the operation. In knowing the type of man that Mr. Jetty was, we felt that he would drag this out for an indefinite period if we acceded to his request. In discussing the matter with his superintendent he advised that in addition to the chronic back condition, he was not a desirable type of employee and it was felt that should he return to underground work, there was a possibility that he would receive one of these spasms which might lead to a serious or fatal accident as apparently he just collapses when one hits him. We later made an offer to settle the case on a redemption case for \$2,500.00 and we think that Mr. Jetty will accept it.

CHESTER UREN - LLOYD MINE -Acc. Rept. No. 868

Mr. Uren was employed as a motorman at the Lloyd Mine. On October 17, 1946 while operating the motor he was struck in the chest by a small piece of board which came from a raise. He considered the accident a minor one and wanted to return to work on the following day but the attending physician advised him to take a few more days. He never returned to work. Shortly after the injury he began developing a chest condition which finally hospitalized him in December of 1946, and at that time the attending physician strongly suspected a carcinoma. Mr. Uren died on February 17, 1947. His widow filed a claim for compensation on the basis that the injury of October 17, 1946 was the cause of the resulting cancer and his ultimate death. At the time of his death, we had requested that she permit an autopsy on her husband's body which she steadfastly refused. Later when she filed her claim for compensation she had the autopsy performed and the report indicated that Mr. Uren had a cancer which had spread pretty much through his entire body. In view of the fact that the Michigan Supreme Court has ruled in several cases that a cancer can be aggravated by a blow, we felt that it would be well to settle this case if a reasonable basis could be agreed upon. On November 21, 1947, the Workmen's Compensation Commission approved a settlement on a redemption basis for \$1,800.00. In addition to this we paid \$200.00 to cover the cost of autopsy, making the total settlement \$2,000.00.

WELFARE DEPT. ANNUAL REPORT YEAR 1947

11.
a. WORKMEN'S COMPENSATION (Continued)

ARNE W. KASKI--MATHER "A" MINE

On December 27, 1946 Mr. Kaski became ill while at work underground at the Mather "A" Mine and it was necessary to move him to the Ishpeming Hospital by ambulance. An examination revealed that he was suffering from a heart condition and he was subsequently paid group insurance benefits until the date of his death on March 23, 1947. Subsequently his widow filed a notice of application for hearing stating in her application that her husband had been struck across the chest by a scraper cable some time in September of 1946 and it was her claim that this injury resulted in the heart condition which subsequently caused his death. Our records show that he did sustain such an injury on September 18, 1946. Mr. Kaski was scraping ore from his contract into the transfer drift where another scraper was pulling the dirt from the transfer. The transfer scraper was stopped while the operator broke some chunks. While operating the scraper Mr. Kaski had pulled a pick into the scraper load of dirt and he stopped his scraper and leaned over the rope to retrieve the pick. At that moment, the transfer operator began scraping and as his rope tightened it caught the scraper rope that Mr. Kaski was leaning over and the whip in the rope struck him across the chest. This case was heard on August 18, 1947. As the question involved was largely medical we obtained the services of Dr. G. K. Fenn of Chicago, an outstanding heart man and of Dr. Lemuel C. McGee who was connected with the Hercules Powder Company. Both testified strongly to the effect that a blow in the chest such as Mr. Kaski obtained did not cause myocarditis. Dr. McGee particularly had made exhaustive studies of heart cases for the Hercules Company and had followed through on a number of cases of chest injury and testified that in no instance had he found myocardial damage except in those cases where the blows were severe enough to crush the chest. The award of the Deputy Commissioner was in our favor, he stating that the employee's death on March 23, 1947 was not casually connected with the injuries sustained on September 18, 1946. The award has been appealed from by Mrs. Kaski but will not be heard until 1948.

11.
a. WORKMEN'S COMPENSATION (Continued)

LUMP SUM SETTLEMENTS

During 1947, settlements on a partial basis were made in the following cases. The first six cases listed occurred in Michigan mines and were settled on a redemption of liability basis. The settlement in the Jelecich case was by stipulation under the Minnesota law. Both methods definitely fix our liability.

Rhinehardt Hansen	Negaunee Mine	Fractured leg	\$1,500.00
Chester Uren	Lloyd Mine	Chest injury	1,800.00
Crescenzo Sauro	Cliffs Shaft Mine	Fatal	1,200.00
George E. Butler	Mather "A" Mine	Fractured pelvis	1,500.00
Vito Vallela	Lloyd Mine	Back injury	1,250.00
Corell Pepin	Princeton Mine	Fracture, left shoulder	2,600.00
Louis Jelecich	Hill Trumbull Mine	Partial loss of use of right arm	1,700.00

WELFARE DEPT. ANNUAL REPORT YEAR 194711. a. WORKMEN'S COMPENSATION (Continued)FATALITIES

The following fatalities occurred in 1947:

AUGUST E. TYYNISMAA

Age 41

Cambria Jackson Mine
 Occurred June 8, 1947
 Struck by fall of ground
 Dependent widow and four children
 Compensation - 400 weeks at \$27.00
 Funeral expense

\$10,800.00
 300.00
\$11,100.00

WILLIAM F. RACINE

Age 31

Cliffs Shaft Mine
 Occurred April 26, 1947
 Struck by ore falling from raise
 Dependent widow and one child
 Compensation - 400 weeks at \$21.00
 Funeral expense

\$8,400.00
 300.00
\$8,700.00

OTTO BACKA

Age 54

Cliffs Shaft Mine
 Occurred June 27, 1947
 On ladder barring pillar. Huge slab
 peeled off, crushing him
 Dependent widow
 Compensation - 400 weeks at \$19.00
 Funeral expense

\$7,600.00
 300.00
\$7,900.00

ANGELO TASSON

Age 48

Cliffs Shaft Mine
 Occurred May 9, 1947
 Fell 200 feet to bottom of shaft
 while repairing pocket
 No dependents
 Payment to State Second Injury Fund
 Funeral expense

\$1,000.00
 300.00
\$1,300.00

OLIVER R. HILL

Age 32

Maas Mine
 Occurred October 16, 1947
 Head caught between hoist which
 tipped and timber cap above
 Dependent widow and three children
 Compensation - 400 weeks at \$25.00
 Funeral expense

\$10,000.00
 300.00
\$10,300.00

WELFARE DEPT. ANNUAL REPORT YEAR 194711. a. WORKMEN'S COMPENSATION (Continued)FATALITIESSAM JACOBSON

Age 57

Maas Mine

Occurred October 31, 1947

Struck by last car of motor train

Dependent widow

Compensation - 400 weeks at \$19.00

\$7,600.00

Funeral expense

300.00

\$7,900.00ROY A. WENDT

Age 40

Mather "A" Mine

Occurred February 19, 1947

Caught between motor car and side

of drift

Dependent widow and five children

Compensation - 400 weeks at \$27.00

\$10,800.00

Funeral expense

300.00

\$11,100.00

WELFARE DEPT. ANNUAL REPORT YEAR 194711.
a. WORKMEN'S COMPENSATION (Continued)

Following is a list of the more serious cases other than fatalities which occurred in 1947:

<u>Mine and Report No.</u>	<u>Name</u>	<u>Nature of Injury</u>	<u>Compensation Paid to 12-31-47</u>
Athens 487	Raymond Vial	Comminuted fracture both bones lower arm, left. Fracture left arm above elbow.	\$630.00
Athens 490	Albert Saari	Ruptured muscle upper right arm.	672.00
Athens 494	Raymond Arcand	Bruised back, chest, shoulders and dorso-lumbar spine	507.50
Cliffs Shaft 1196	Richard O. Laramie	Amputation, left hand.	966.00*
Cliffs Shaft 1198	Ernest Ayotte	Fracture, right shoulder	840.00*
Cliffs Shaft 1212	Joseph Marra	Ruptured intestine. Peritonitis	231.00*
Lloyd 877	John Marietti	Fracture, right ankle	364.00
Negaunee 806	Clayton Leveillie	Fracture, left ankle	490.00
Negaunee 808	Jacob Annola	Puncture wound, left knee with infection	329.00
Negaunee 810	Gust Peterson	Fracture 2 ribs, left. Fracture transverse process 3rd lumbar vertebra	427.00
Mather "A" 31	George O. Ferguson	Fractured pelvis	924.00*
Mather "A" 35	Guerino Bezzi	Traumatic injury to right eye	640.50
Mather "A" 47	Lawrence Anderson	Fracture left leg	339.50
Spies 169	Richard Roberts	Fracture both bones, left leg	609.00
Cambria Jackson 43	Isaac Leppala	Fracture both bones, left leg	700.00

WELFARE DEPT. ANNUAL REPORT YEAR 1947

11.
a. WORKMEN'S COMPENSATION (Continued)

<u>Mine and Report No.</u>	<u>Name</u>	<u>Nature of Injury</u>	<u>Compensation Paid to 12-31-47</u>
Sargent 2	John T. Hill	Compound fracture left leg. Separation right shoulder joint.	\$604.00
Canisteo 40	Robert Bogdonovich	Amputation left thumb and left ring finger	624.00*
Atkins 3	Wilho Rikala	Laceration of scalp. Concussion	152.00*
Mather "A" 52	Francis Roseveare	Amputation both legs above knees.	(1)

(1) To date Roseveare has refused to accept compensation payments.

* Payments still being made.

ANNUAL REPORT - 1947
STATEMENT OF COMPENSATION PAYMENTS FROM
JANUARY 1, 1947 TO DECEMBER 31, 1947

	Average No. of Employees	No. of Fatal Accs.	No. of Non-fatal Accidents			Actual Comp. Paid in 1947	1937	1938	1941	1942	1943	1944	1945	1946	1947	Estimated Compensation Still Pending	Medical & Special Expense	Fatal Cases Pending	Accidents Cases Pending	O. D. Cases Pending
			14	21	29															
Cambria Jackson	248	1	14	21	29	6,836.47														
Cliffs Shaft	443	3	16	17	75	14,448.50		414.00		1,237.47		1,270.50	1,386.00	2,942.50	13,082.00	3,136.85	1	3	1	
General Storehouse & Shops	137		2	3	13	199.50				2,136.00	2,816.00	1,771.00	1,183.00	6,128.50	23,844.00	4,850.85	2	7		
Ishpeming Hospital	60		1			346.50							112.00	87.50		1,367.25				
Ishpeming Office	148												112.00	234.50						
Lloyd	134		9	15	34	11,405.15	756.00		1,524.00	1,404.00	2,288.00	350.15	2,076.50	1,144.50	12,186.00	1,333.50	2	2		
Maas	380	2	25	30	80	10,384.96	1,250.00	936.00			1,092.00	3,276.00	1,060.46	3,084.50	32,251.54	5,349.02	3	6	1	
Princeton						7,401.12			224.64	2,184.00	2,900.00	1,945.48	147.00		6,065.96	95.50	3	4	1	
Spies	114		3	5	29	1,891.00				988.00	42.00		213.50	647.50	3,230.00	684.00	1			
Tilden	14															123.75				
Miscellaneous	16				6											141.00				
Cleveland Roll	24															222.00				
Cliffs Power & Light Company	79				10	396.00		396.00								737.75				
Negaunee	256		10	20	46	13,168.32		112.32	936.00	2,808.00	1,092.00	4,258.00	2,177.00	1,785.00	7,102.52	2,787.45	2	6	3	
Mather "A"	420	1	28	37	151	7,989.50					1,092.00		1,556.00	5,341.50	15,461.00	4,280.50	2	3		
Mather "B"	62		1	2	6	31.50								31.50		324.75				
Athens	346		26	32	67	8,705.41			606.42				4,766.99	3,332.00	17,176.75	5,835.30		6	3	
Total - Michigan Mines	2,881	7	135	182	549	83,203.93	756.00	2,600.00	2,056.32	3,291.06	10,757.47	11,322.00	12,871.13	14,790.45	24,759.50	130,399.77	32,810.47	13	37	9
Hibbing Office	49															294.00				
Agnew	82		3	3	53	303.57								303.57		416.00				
Canisteo	168		1	3	87	624.00								624.00	1,133.60	1,025.00		1		
Hawkins	129		3	8	45	306.00								306.00		660.50				
Sargent	73		2	2	68	816.00								816.00		466.70				
Hill Trumbull	183		1	1	63	1,728.00						1,700.00		28.00		1,315.61				
Holman Cliffs	232		6	9	72	3,702.32					881.92		1,700.00	1,120.40	8,562.37	2,146.50	1	2		
Atkins	62		2	4	21	912.00								652.00	636.00	441.77		2		
Total - Minnesota Mines	978		18	30	409	8,391.89					881.92	1,700.00	2,352.00	3,457.97	10,331.97	6,766.08	1	5		
Total - All Mines	3,859	7	153	212	958	91,595.82	756.00	2,600.00	2,056.32	3,291.06	10,757.47	12,203.92	14,571.13	17,142.45	28,217.14	140,731.74	39,576.55	14	42	9

WELFARE DEPT. ANNUAL REPORT YEAR 1947

11.
a. WORKMEN'S COMPENSATION (Continued)

ANNUAL STATEMENT OF COMPENSATION PAYMENTS
FROM JANUARY 1st, 1947 to DECEMBER 31st, 1947

Compensation paid on 1947 cases	28,217.14	
Estimated compensation still pending	140,731.74	
Cost of medical and hospital service, also special expense	<u>39,576.55</u>	
		208,525.43
Less pending for years 1941 to 1946 inclusive	80,564.14	
Less medical and special expense on accidents occurring prior to January 1, 1947	<u>5,014.63</u>	
		<u>85,578.77</u>
		122,946.66
Less compensation paid on 1947 occupational disease cases		<u>294.00</u>
Estimated cost of 1947 accidents		122,652.66
Percentage of payrolls		.01019
Percentage of payrolls including Occup. Dis. cases		.01022
Number of fatal accidents		7
Number of compensable accidents		153
Number of lost-time accidents - non-compensable		212
Number of slight accidents		958

The following occupational disease cases occurred during 1947. The cost of these cases is included in the regular compensation costs, but for statistical purposes they are not included in the accident table.

Number of deaths		0
Number of disability cases		2

During 1947 a total of \$11,611.75 was paid on occupational disease cases, and it is estimated that it will cost \$22,880.00 to complete payments on the eight cases still active on December 31, 1947. Of these, two originated in 1944, two in 1945, and four in 1946.

WELFARE DEPT. ANNUAL REPORT YEAR 1947

11. a. WORKMEN'S COMPENSATION (Continued)

Compensation Payments including Medical and Special Expense

Year	C.C.I. Co.	Negaunee Mine Co.	Athens Ir. Mng. Co.	Cliffs Pr. & Light Co.	Mesaba-Cl. Mng. Co.	CCI Co, Opt. Agt, Atkins	Miscellaneous Companies	TOTAL
1912								
to								
1937	1,232,236.70	165,004.78	107,912.05	13,112.17	75,575.15		10,282.71	1,604,123.56
1938	35,644.38	11,236.47	6,174.30	526.75	3,465.08			57,046.98
1939	39,532.53	7,183.99	6,838.49	855.50	4,110.34			58,520.85
1940	38,659.10	9,720.57	6,754.69	642.50	5,281.16			61,058.02
1941	37,451.05	12,085.67	12,376.95	1,238.50	5,501.05			68,553.22
1942	38,471.33	19,984.64	10,755.90	1,575.25	6,820.97			77,708.09
1943	53,607.70	17,270.60	8,993.40	1,715.25	9,337.43			90,921.38
1944	66,219.66	21,147.85	11,489.34	1,594.75	6,325.95			106,777.55
1945	85,558.58	32,400.22	7,152.70	1,468.50	5,630.00			132,210.00
1946	84,009.42	25,391.20	5,373.63	1,528.50	7,693.03	174.50		124,170.28
1947	<u>76,355.69</u>	<u>28,582.02</u>	<u>14,540.71</u>	<u>1,153.75</u>	<u>9,186.43</u>	<u>1,353.77</u>		<u>131,172.37</u>
	1,787,746.14	350,008.01	198,362.16	25,411.42	138,926.59	1,528.27	10,282.71	2,512,265.30

Detail of Miscellaneous Companies:

Holman-Cliffs Mining Company	2,131.39
Canisteo-Cliffs Mining Company	2,768.69
Alexandria Mine	5,382.63
	<u>10,282.71</u>

11. c. GROUP INSURANCE (Continued)

A new group insurance plan which provides for death, disability, hospitalization and surgical expense benefits became effective on September 1, 1947. This plan was written by the Aetna Life Insurance Company of Hartford, Connecticut under group policies 14,440, GS-14,440, and H-14,440 for the Michigan properties of The Cleveland-Cliffs Iron Company and associated companies. It supersedes the original plan carried with the Aetna Company under policies 7089 and GS-4876 which became effective on October 1, 1936.

The new plan is self-administering, and the Welfare Department has now become the clearing point for all administrative insurance transactions which were formerly cleared through the home offices of the insurance company at Hartford, Connecticut. This administrative procedure includes the issuing and cancelling of policies, increasing and decreasing of coverage where necessary, changing of beneficiary designations, and monthly computation of the premium cost of the plan to our Company. Because of the close contact maintained with the various properties these transactions are effected very speedily and with a minimum of correspondence.

As in the past, claims are handled by this Department. The addition of hospitalization and surgical expense benefits for both employees and dependents has greatly increased the claims load. Disability and hospitalization and surgical expense claims are paid through the Milwaukee claims office of the Aetna Company, while the death claims are cleared through the Aetna's Cleveland office. Under the old plan both death and disability claims were paid through the Milwaukee office.

For the purpose of comparison resumes of both the old and new insurance plans follow:

NEW PLAN

	2400 and under	Annual Earnings Rate		4800 and over
		2400 to 3600	3600 to 4800	
<u>Employee</u>				
Life Insurance	\$1875	\$2500	\$5000	\$6250
Weekly disability benefits	14	20	25	30
Daily hospital benefit	6	6	6	6
Maximum for miscellaneous hospital benefits	60	60	60	60
Maximum surgical fee	150	150	150	150
<u>Dependent</u>				
Daily hospital benefit	5	5	5	5
Maximum for miscellaneous hospital benefits	50	50	50	50
Maximum surgical fee	150	150	150	150
<u>Monthly Premium</u>				
Employee - without dependents	2.22	2.77	4.42	5.32
Employee - with dependents	3.87	4.42	6.07	6.97

Upon retirement the life insurance will be reduced to 50 per cent of the amounts shown in the above schedule, and all other benefits are cancelled.

WELFARE DEPT. ANNUAL REPORT YEAR 1947

11. c. GROUP INSURANCE (Continued)

New Insurance Plan (Continued)

The daily hospital benefits provided are paid regardless of the accommodations chosen.

Actual charges made for miscellaneous hospital benefits are paid for up to the maximum provided.

Allowances for surgical fees are covered in a schedule contained in the individual policy and vary according to the type of operation.

OLD PLAN

<u>Employee</u>	<u>Annual Earnings Rate</u>					
	<u>900 and under</u>	<u>900 to 1200</u>	<u>1200 to 2400</u>	<u>2400 to 3600</u>	<u>3600 to 4800</u>	<u>4800 and over</u>
Life Insurance	1000	1000	1500	2000	4000	5000
Weekly disability benefits	8	12	14	20	25	30
No hospitalization benefits						
No surgical fee benefits						
No dependent's benefits						
Monthly premium	1.35	1.70	2.25	3.10	5.00	6.15

Under this plan a 25% increase in life insurance was granted effective December 20, 1937 at no additional premium cost.

Upon retirement the weekly disability feature of this plan was canceled, and the life coverage was reduced to 50 per cent of the amounts shown in the above table. The 25% increase in life coverage was not considered a part of the original principal of the policy upon retirement.

WELFARE DEPT. ANNUAL REPORT YEAR 1947

11.

c. GROUP INSURANCE

The group insurance plan which became effective on October 1, 1946 was superseded by a new group plan which became effective September 1, 1947.

The Following statement shows the cost under the old plan to August 31, 1947. It includes payments subsequent to August 31 on cases which originated while the old plan was in force.

	<u>Death Claims</u>		<u>Health & Accident</u>		<u>Total</u>	
	<u>No. of Cases</u>	<u>Amount Paid</u>	<u>No. of Cases</u>	<u>Amount Paid</u>	<u>No. of Cases</u>	<u>Amount Paid</u>
Cambria Jackson	2	3,750.00	19	1,471.71	21	5,221.71
Cliffs Shaft	4	7,500.00	34	2,733.42	38	10,233.42
General Roll	1	2,500.00	12	973.99	139	3,473.99
General Storehouse & Shops	1	1,875.00	9	808.00	10	2,683.00
Ishpeming Hospital	1	5,000.00	6	348.00	7	5,348.00
Lloyd	1	1,875.00	16	837.15	17	2,712.15
Maas	1	1,875.00	42	2,501.71	43	4,376.71
Princeton	1	1,250.00	1	50.00	2	1,300.00
Spies			7	352.86	7	352.86
Tilden			2	232.00	2	232.00
Inactive Roll	13	8,750.00			13	8,750.00
Total - C. C. I. Co.	25	34,375.00	148	10,308.84	173	44,683.84
Negaunee	1	1,875.00	33	2,548.58	34	4,423.58
Mather "A"	3	5,625.00	28	1,552.57	31	7,177.57
Total - Neg. Mine Co.	4	7,500.00	61	4,101.15	65	11,601.15
Athens Iron Mining Co.	2	3,125.00	49	2,691.99	51	5,816.99
Cliffs Power & Light Co.			2	272.85	2	272.85
Total--All companies	31	45,000.00	260	17,374.83	291	62,374.83

WELFARE DEPARTMENT

WELFARE DEPT. ANNUAL REPORT YEAR 1947

11.

c. GROUP INSURANCE (Continued)

The following deaths occurred during the policy year under the original group plan:

<u>Name</u>	<u>Mine</u>	<u>Date of Death</u>	<u>Amount of Insurance</u>
Gust Danielson	Athens Mine	11-19-46	1875.00
Irving Gullackson	Athens Mine	11-16-46	1250.00
William F. Racine	Cliffs Shaft Mine	4-26-47	1875.00
Angelo Tasson	Cliffs Shaft Mine	5-9-47	1875.00
Otto Backa	Cliffs Shaft Mine	6-27-47	1875.00
Richard W. Mitchell	Cliffs Shaft Mine	9-30-47	1875.00
George E. Barry	General Roll	10-29-46	2500.00
Henry L. Carlson	General Storehouse	7-16-47	1875.00
Donald R. MacIntyre	Hospital	6-5-47	5000.00
Chester Uren	Lloyd Mine	2-17-47	1875.00
Louis Catto	Maas Mine	7-8-47	1875.00
Angelo Dellangelo, Sr.	Negaunee Mine	11-23-46	1875.00
Richard Lemm	Mather "A" Mine	9-24-46	1875.00
Arne W. Koski	Mather "A" Mine	3-23-47	1875.00
Roy A. Wendt	Mather "A" Mine	2-19-47	1875.00
John F. Annear	Cambria Jackson Mine	12-15-46	1875.00
August E. Tyynismaa	Cambria Jackson Mine	6-8-47	1875.00
Andrew Keskimaki	Princeton Mine	2-18-47	1250.00
Philip R. Perring	Inactive	11-8-46	1000.00
Richard H. Coad	Inactive	11-13-46	500.00
John A. Cox	Inactive	11-30-46	500.00
Querino Piziali	Inactive	12-22-46	500.00
Gust Palomaki	Inactive	1-6-47	500.00
Henry Beale	Inactive	1-9-47	750.00
Thomas Welsh	Inactive	1-19-47	750.00
Albin A. Lyman	Inactive	3-9-47	750.00
Charles H. Vincent	Inactive	4-11-47	1250.00
Wm. John Pascoe	Inactive	4-17-47	750.00
John Chirio	Inactive	6-9-47	500.00
Otto Schadt	Inactive	7-27-47	500.00
Joseph A. Villeneuve	Inactive	8-13-47	500.00

WELFARE DEPT. ANNUAL REPORT YEAR 1947

23.

a. PENSION SYSTEM

The pension system which went into effect on January 1, 1909 completed the thirty-ninth year of its operation in 1947.

No change in the rates of pensions were made during the year 1947. On January 1, 1933 the pension payments were reduced fifty per cent, those under \$20.00 remaining the same and those over \$20.00 having a minimum rate of \$20.00. There have been no additions to the pension rolls since January 1, 1932.

There was one death on the Mining Department pension roll during the year.

<u>No.</u>	<u>Name</u>	<u>Pension Began</u>	<u>Date of Death</u>
103	Emanuel Asikainen	11/1/1920	3/17/1947

Number of deaths during year 1947	1
Number of pensions in force January 1, 1947	19
Number of pensions in force December 31, 1947	18

Average annual pension for 1947	\$218.77
Average annual pension for 1946	245.59

John A. Johnson continued as the only pensioner on the Holmes Mine pension payroll during the year, and he receives \$240.00 annually. The Holmes Mine Department is included in the above tabulations.

WELFARE DEPT. ANNUAL REPORT YEAR 1947

23. a. PENSION SYSTEM (Continued)

The table below shows pension payments for the Mining Department and Holmes Mine Department combined for the years 1908 through 1947.

<u>Year</u>	<u>Old Age</u>	<u>Widows and Orphans</u>	<u>Total</u>
1908			
thru	692,632.12	22,547.00	715,179.12
1937			
1938	18,360.44	0.00	18,360.44
1939	16,544.14	0.00	16,544.14
1940	14,237.87	0.00	14,237.87
1941	14,276.76	0.00	14,276.76
1942	11,632.15	0.00	11,632.15
1943	10,246.66	0.00	10,246.66
1944	8,485.25	0.00	8,485.25
1945	7,446.32	0.00	7,446.32
1946	5,648.60	0.00	5,648.60
1947	<u>4,156.68</u>	<u>0.00</u>	<u>4,156.68</u>
	801,866.99	22,547.00	824,413.99

Includes payment of \$2,500.00 made by the Cleveland office in 1930.

WELFARE DEPT. ANNUAL REPORT YEAR 1947

23.
a. PENSION SYSTEM (Continued)

Republic Mine Department

Emanuel Isaacson, Pension #31, died November 11, 1947. This left two pensioners on the roll as of December 31, 1947. The average annual pension was \$238.35.

The table below shows the pension payments made over this roll for the years 1920 through 1947.

<u>Year</u>	<u>Amount</u>
1920	
thru	134,251.28
1937	
1938	2,028.88
1939	1,868.88
1940	1,868.88
1941	1,741.92
1942	1,488.00
1943	1,285.00
1944	995.04
1945	995.04
1946	856.04
1947	<u>715.04</u>
	148,094.01

WELFARE DEPT. ANNUAL REPORT YEAR 1947

23.

a. PENSION SYSTEM (Continued)Furnace Department

John Ollila continued as the only pensioner on the Furnace Department pension payroll for the year. He is paid \$223.80 annually.

The table below shows the pension payments made over this roll for the years 1910 through 1947.

<u>Year</u>	<u>Old Age</u>	<u>Widows and Orphans</u>	<u>Total</u>
1910			
thru	57,782.82	900.00	58,682.82
1937			
1938	1,446.90		1,446.90
1939	1,374.96		1,374.96
1940	1,158.78		1,158.78
1941	926.72		926.72
1942	846.72		846.72
1943	687.17		687.17
1944	303.80		303.80
1945	223.80		223.80
1946	223.80		223.80
1947	223.80		223.80
	<hr/>	<hr/>	<hr/>
	65,199.27	900.00	66,099.27

WELFARE DEPT. ANNUAL REPORT YEAR 1947

23. a. PENSION SYSTEM (Continued)

Land Department

Erick Johnson continued as the only pensioner on the Land Department pension payroll during the year. He is paid \$240.00 annually.

The table below shows the pension payments made over this roll for the years 1927 through 1947.

<u>Year</u>	<u>Amount</u>
1927	
thru	3,116.88
1937	
1938	240.00
1939	240.00
1940	240.00
1941	240.00
1942	240.00
1943	240.00
1944	240.00
1945	240.00
1946	240.00
1947	<u>240.00</u>
	5,516.88

WELFARE DEPT. ANNUAL REPORT YEAR 1947

23. b. REPUBLIC MINE FUNDS

Every year it is recorded in the annual report of this department that the 1930 annual report carries a full statement of Sick Benefit Relief and Fatal Accident Funds of the closed Republic Mine. The unused balances which remained in these funds have now been all expended. In our report for 1942 we carry an outline of the use which was made of these funds.

Dr. Paul Van Riper, who has his home and office at Champion, continues to take care of our employees in the Champion-Republic district. He uses the building at Republic, formerly used as a hospital and now established as a health center for the district, as his office when he holds office hours at Republic. Dr. Van Riper is paid on the basis of the number of employees who live in his district.

The Republic Hospital building, which is used as the health center, is now under the control of Republic Township. The Township and the school district provide certain funds for the maintenance of the building so that they may have some type of health service in the community.

A registered nurse, a married person, lives in the hospital building in the portion which has been turned over for living quarters. This nurse is on call in case of emergencies.

c. SUSPENSE FUNDS

The annual report for the year 1918 carries a complete statement of the payments made from the Suspense Funds from February 1, 1912, at which time the Michigan Compensation Law went into effect. Reference to these funds is made in the annual report each year so that it may always be convenient to determine where to look for the final report on the Suspense Funds.

WELFARE DEPT. ANNUAL REPORT YEAR 1947

23.

d. VISITING NURSES

Our visiting nurses continued their usual services throughout the year 1947. These services, particularly since we have had fewer doctors, have been especially necessary to the employees and their families. Each nurse presents a monthly report showing activities during the month. The type of service which our industrial nurses render is a very fine example of social medical service extended to employees and helps develop good public relations. We are fortunate in having industrial nurses who have been with us a long time. They are experienced and tactful people. Their work during the past year was especially heavy, as indicated by their reports. We wish to express our appreciation for the fine work which has been conducted throughout the years by our industrial nursing staff.

The work of the visiting nurses was started in Ishpeming on May 1, 1908 and in Negaunee on September 8, 1912. These services were also available in Gwinn from September 1, 1910 until October 1, 1927 when the Gwinn mines were closed.

During 1947 the following nurses were employed:

Ishpeming - Miss Myrtle V. Welander
Negaunee - Miss Ina E. Atkin
Iron River - Miss Laura N. Fisk (part time)

WELFARE DEPT. ANNUAL REPORT YEAR 1947.

23.

d. VISITING NURSES:

Following is the report of the Ishpeming visiting nurse for the year 1947:

Total number of patients cared for during year	772
Total number of new cases cared for during year	449
Total number of visits to patients	3952
Number of families visited for the first time	49
Number of social calls	53
Number died,	8

Classification of new cases for the year:

Number of adults	182	Male	26	Female	156
Number of children	267	Male	133	Female	134

Nationalities of new cases for the year:

American	278	Italian	49
English	29	Norwegian	9
Finnish	57	Swedish	16
French	11		

Diseases and number of new cases:

Anemia	3	Jaundice	2
Appendicitis	4	Kidney Trouble	2
Arthritis	3	Leukemia	1
Baby Welfare	7	Migraine	2
Bowel Trouble	18	Miscarriage	1
Bronchitis	6	Mumps	5
Burns	6	Obstetrical	41
Carcinoma	3	Paralysis	1
Cerebral Hem.	2	Phlebitis	1
Chicken Pox	3	Pneumonia	6
Cold	63	Post-Operative	20
Colic	9	Pre-natal	12
Croup	2	Rash	3
Diabetes	2	Rheumatism	5
Dysentery	3	Rupture	1
Ear Trouble	2	Sore eyes	1
Food Poison	2	Stomach Trouble	22
Fracture	1	Thrush	1
Gangrene	1	Tonsillitis	35
Heart trouble	10	Unclassified	9
Hives	1	Undiagnosed	15
Infants, newborn	39	Urticaria	3
Infections	19	Var. Ulcer	1
Influenza	24	Whooping Cough	10
Injury	16		

Visiting Nurse: Miss Myrtle V. Welander.

WELFARE DEPT. ANNUAL REPORT YEAR 1947.

23.

d. VISITING NURSES: (Continued)

Following is the report of the Negaunee visiting nurse for the year 1947:

Total number of patients cared for during year	1329
Number of new cases cared for during year	653
Total number of visits to patients	4849
Number of families visited for the first time	24
Number of social calls	519
Number died	2

Classification of new cases for the year:

Number of adults	265	Male	90	Female	175
Number of children	388	Male	182	Female	206

Nationalities of new cases for the year:

American	320	Italian	52
Finnish	270	Swedish	7
French	3	Greek	1

Diseases and number of new cases:

Adenitis	3	Lumbago	3
Anemia	3	Mal-nutrition	47
Appendicitis	8	Mastoditis	7
Arthritis	4	Measles	6
Asthma	4	Migraine	1
Bowel Trouble	5	Mumps	25
Bronchitis	18	Nephritis	7
Burns	2	Obstetrical	7
Carcinoma	2	Otitis Media	1
Chicken pox	13	Paralysis	3
Cholystitis	2	Pertussis	47
Cold	21	Pleurisy	8
Croup	4	Pneumonia	4
Diabetes	9	Pregnancy	21
Dermatitis	1	Post-Operative	52
Eczema	4	Rheumatism	4
Epileptic	1	Scarlet Fever	14
Epetaxis	1	Sore eyes	2
Gastritis	8	Sprains	2
Heart Trouble	11	Stomach trouble	10
Hives	2	Tonsilitis	23
Hypertension	4	Unlassified	11
Infants, newborn	7	Undiagnosed	2
Infections	40	Var. Ulcer	2
Influenza	64	Whooping Cough	26
Injury	79		

Visiting Nurse: Miss Ina E. Atkin.

WELFARE DEPT. ANNUAL REPORT YEAR 1947.

23.

d. VISITING NURSES: (CONTINUED)

NUMBER OF PATIENTS ATTENDED AND CALLS MADE.

	<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	772	449	26	156	133	134
Negaunee	1329	653	90	175	182	206
	<u>2101</u>	<u>1102</u>	<u>116</u>	<u>331</u>	<u>315</u>	<u>340</u>

	<u>Total No. Visits</u>	<u>Number died</u>	<u>Social Calls</u>	<u>Families visited for the First Time.</u>
Ishpeming	3952	8	53	49
Negaunee	4849	2	519	24
	<u>8801</u>	<u>10</u>	<u>572</u>	<u>73</u>

NATIONALITIES OF NEW CASES.

	<u>American</u>	<u>English</u>	<u>Finnish</u>	<u>French</u>
Ishpeming	278	29	57	11
Negaunee	320		270	3
	<u>598</u>	<u>29</u>	<u>327</u>	<u>14</u>

	<u>Greek</u>	<u>Italian</u>	<u>Norwegian</u>	<u>Swedish</u>
Ishpeming		49	9	16
Negaunee	1	52		7
	<u>1</u>	<u>101</u>	<u>9</u>	<u>23</u>

WELFARE DEPT. ANNUAL REPORT YEAR 1947

23.

f. NORTH LAKE CLUB

Each year we have included a report on the clubhouse at the North Lake Location. This clubhouse was maintained with the cooperation of the Inland Steel Company. It served the community for all kinds of community activities until June 30, 1946, at which time it was deemed advisable to close the building.

A group of young men in the North Lake district, known as the Tri-F Club, have been permitted to use a portion of the building for a clubroom. They provide their own light and heat and carry on a program to suit their own needs. As far as we know, there is no thought of re-opening the clubhouse as a community center.

g. GWINN ASSOCIATION

On July 15, 1946 the Gwinn Association was transferred to the Board of Education at Gwinn. The clubhouse continues to serve the community in the usual public educational, recreational and social services.

23.

h. ISHPEMING Y.M.C.A. BUILDING

For the past few years we have continued to mention the Ishpeming Y.M.C.A. building in our annual reports. Very little in addition to what has been reported in previous years can be added. The Ishpeming Industrial Association has been interested in re-opening the building as a sort of community center.

The need for the re-opening of the Y.M.C.A. is still somewhat doubtful. Certainly there should be some type of program definitely organized on a community needs basis before the building is re-opened. In other words, if the right kind of program can be organized in the community, undoubtedly the Y.M.C.A. building can be used to advantage. It seems unnecessary to open the building merely for the sake of having a community building. The re-opening should depend entirely upon a well-organized and planned program.

WELFARE DEPT. ANNUAL REPORT YEAR 1947

23.

i. SAFETY WORK

Under the direction of Mr. A. J. Stromquist, Safety Director, the Central Safety Committee held monthly meetings during 1947. Mr. Stromquist submits brief reviews of all accidents previous to the meetings and a general discussion is had at the meetings and a study is made of the possibility of preventing like accidents in the future. Each accident is then classified. Meetings were held on the following dates in 1947:

January 9	July 7
February 10	August 7
March 6	September 8
April 10	October 13
May 8	November 10
June 5	December 8

The safety meetings are held on the third floor of the main building. The meetings generally last two or three hours and every effort is made to get a clear picture of the accident. The discussion is recorded and minutes are prepared and sent out to the members of the committee.

The following are members of the Central Safety Committee:

Mr. H. O. Moulton, Chairman
 C. J. Stakel
 C. W. Allen
 Carl Brewer
 Walter F. Gries
 A. J. Stromquist
 W. E. Johnson
 H. F. Rogers
 J. D. Preston
 L. C. Moore
 E. D. Cory
 Grover Holt
 F. J. Haller
 Onnie Marjama
 S. W. Sundeen
 Folke Johnson
 W. R. Atkins
 John Trosvig
 J. S. Westwater
 Curtis Sundeen
 H. W. Sundberg
 Dr. George McL. Waldie
 Captain Richard Cattran
 Richard Schaal

23.

j. HOSPITALS AND MEDICAL SERVICE

The Superintendent of the Welfare Department serves in the capacity of Administrator of the Ishpeming Hospital and maintains almost daily contact with the hospital and the Negaunee Dispensary. He also serves on the Board of Trustees of the General Hospital of the Iron River District and contacts are made with that hospital at regular intervals. Throughout the year the Ishpeming Hospital Advisory Administrative Committee has continued to meet on the second Tuesday of each month and the following men make up the committee: Mr. C. W. Allen, Manager; Mr. E. E. Riedinger, Chief Clerk; Mr. Walter F. Gries, Superintendent, Welfare Department; Mr. Ray Satterley, Superintendent, Inland Steel Company; Mr. Joseph Cameron, Manager, Hercules Powder Company; Mr. Harry Peterson, Superintendent, Inter-State Iron Company. The meetings are also attended by Dr. A. W. Erickson, Chief of Staff, and Mrs. Miriam Thomas, R.N., Superintendent of the Hospital.

Our visits to the Gwinn District are less frequent since the closing of the Princeton Mine. Occasionally, however, we contact some of our employees in the district who may have special problems. We also keep in contact with Dr. S. J. Green who takes care of the medical needs of our employees in the Gwinn area.

For the purpose of the record we note here that in June of 1946 the monthly medical fee for employees who subscribe to our medical plan was raised from \$1.50 per month to \$2.00 per month. The \$2.00 per month rate is still in force.

Dr. R. A. Burke of Negaunee remains a member of our medical staff and he has the special assignment of taking care of the employees of the Cambria-Jackson Mine. However, many of the Cambria-Jackson employees prefer to go to Dr. Mudge or Dr. Paine for medical attention and the need for Dr. Burke's services is not as great as it was formerly. In fact, it has been suggested that we consider the possibility of dispensing with Dr. Burke's services if and when a re-organization of our present plan is undertaken.

ISHPEMING HOSPITAL

A review of the reports will indicate that the Ishpeming Hospital had the most active year in its existence. We have served more people in 1947 than ever before and without doubt our facilities are now inadequate. The hospital continues to maintain its high standard and has again been granted membership in the American Hospital Association and in the American College of Surgeons. Most of the time the full capacity of the hospital is in use.

Our staff of nurses, while fewer in number than in the pre-war years, continues to be a well-balanced staff and we are fortunate that many of the local married nurses continue to work full time at the hospital.

Each year it has been mentioned in this report that the people of this community and the surrounding communities do not fully appreciate the real service which is rendered by the Ishpeming Hospital. The hospital is without

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j. HOSPITALS AND MEDICAL SERVICE (Continued)

doubt the greatest asset from a community standpoint in the whole area. The hospital, while owned, operated and maintained entirely by the Cleveland-Cliffs Iron Company with the assistance of the cooperating and coordinating companies in the district, is being called upon more each year because of the fact that people are becoming more hospital conscious year by year. The community does not in any way contribute to the hospital. That is, there are no special funds coming from any groups or any individuals in the support of the hospital. The lack of appreciation of the hospital on the part of people in this area is not a conscious thought at all but over the years the people of the community have come to think of the Cleveland-Cliffs Iron Company as providing hospital facilities somewhat in the nature of a contribution to the general welfare and health of the entire community. There is no question but the hospital does bring much good will to the company although this good will is not very often expressed by local people who take the hospital too much for granted.

During the year there was discussion again of the possibility of a re-organization of the administration of the hospital. Various plans have been studied and some definite conclusions have been reached. The Superintendent of the Welfare Department, as Administrator of the hospital, feels very definitely that control of the hospital should be kept by the company. It has often been pointed out that the services which are rendered in connection with compensation and injury cases are of such importance to the company that it should always be in position to guide and control these particular important phases of the company's work. The hospital could be re-organized as a non-profit institution which would dissolve the necessity for paying the Michigan State Sales Tax. The medical staff should be completely disengaged from the company payroll and they should no longer be in any way direct employees of the company. The program which has been established on the Mesaba Range would undoubtedly work very well in this district. It is interesting to note that several months ago the company-owned hospital at Wakefield, Michigan was turned over to a Sisterhood and the companies have completely withdrawn from the administration and operation of a hospital. Presently the Board of Trustees of the General Hospital Company of the Iron River District is considering the possibility of disposing of their hospital to a Catholic Sisterhood.

It is felt that the monthly meetings of the Ishpeming Hospital Advisory Administrative Committee has served a good purpose since several of the executives of our company and coordinating companies have come to know something of the problems which arise in the operating of a hospital business. This committee has been interested and very loyal to the needs of the hospital. We express here our sincere appreciation for their continued loyalty and support in the problems which we meet in operating a hospital. The hospital has really become a big business.

23. j. HOSPITALS AND MEDICAL SERVICE (Continued)

The staff of the Ishpeming Hospital during the year 1947 was made up of the following:

Dr. A. W. Erickson, Chief of Staff
 Dr. P. P. Hartt (now on leave of absence)
 Dr. R. G. Williams

(Dr. Robert G. Jaedecke is to become a member of the staff in January, 1948).

The staff at the Negaunee Dispensary is made up of the following:

Dr. W. A. Mudge
 Dr. R. L. Paine

In the Gwinn District Dr. S. J. Green continues to serve.

Dr. R. A. Burke who conducts his own hospital in Negaunee serves our Cambria-Jackson employees by agreement. Dr. Burke is paid \$1.50 per man per month for each of the Cambria-Jackson employees for medical and we also supplement this with \$1.00 per man per month to assist Dr. Burke in caring for accidents and injuries and in the maintenance of his own hospital.

We feel that our first obligation is to our own people at the hospital and we provide for the care of our employees by reserving two beds at all times for accidents and injuries regardless of what other conditions may be. At present we list our hospital as having a capacity of 52 beds and 24 bassinets. We have, of course, a closed medical staff, a complete nursing staff and we engage only graduate nurses. We also have a trained and experienced anesthetist, a surgical nurse with special training, two laboratory technicians and one x-ray technician as well as a well-organized business staff. The business staff has been increased due to the fact that so many people now carry group hospitalization and since we have a group hospitalization program now for our own employees this phase alone requires almost the full time services of one clerk.

The hospital is very well equipped for a hospital of its size. I think it can be safely said that the equipment at the Ishpeming Hospital, including such equipment as x-ray apparatus, laboratory facilities, surgical equipment, operating room equipment, laundry and dietitian department equipment, compares very favorably with any hospital of our size. We are, however, not properly equipped in our maternity wards and obstetrical department. We lack space and proper equipment and some attention should be given to this immediately.

The emergency room on the first floor probably has greater use than any other department of the hospital. Here most of the minor injuries, slight injuries and treatments are cared for. It is estimated that at least 35 to 40 people are taken care of in this department every day.

WELFARE DEPT. ANNUAL REPORT YEAR 1947

23. j. HOSPITALS AND MEDICAL SERVICE (Continued)

The Welfare Department, as a department of the company, and the Administrator of the hospital wish to record here their appreciation to the participating companies in the district, to the Hospital Advisory Committee, and to the employees at the hospital for their continued loyalty and cooperation.

A special report is attached to this general report, giving considerable information regarding the operation of the Ishpeming Hospital for the year 1947.

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j. HOSPITALS AND MEDICAL SERVICE (Continued)GOVERNING BOARD

E. B. Greene, President
 C. J. Stakel, General Manager
 C. W. Allen, Manager

ADVISORY COMMITTEE

C. W. Allen
 E. E. Riedinger
 W. F. Gries, Secretary and Chairman
 J. C. Cameron
 R. D. Satterley

ACTIVE MEDICAL STAFF

A. W. Erickson, M.D., President	George McL. Waldie, M.D.
P. P. Hartt, M.D.	R. G. Williams, M.D.
W. A. Mudge, M.D.	S. J. Green, M.D.
	R. L. Paine, M.D.

COURTESY STAFF

F. Van Riper, M.D.
 I. Sicotte, M.D.
 F. O. Paull, M.D.

CONSULTING STAFF

A. W. Erickson, M.D.

DEPARTMENTS

Laboratory and Roentgenology
 A. W. Erickson, M.D.

Gwinn Dispensary
 S. J. Green, M.D.

Negaunee Dispensary
 W. A. Mudge, M.D.
 R. L. Paine, M.D.

Anesthesia
 P. P. Hartt, M.D.

Histories
 A. W. Erickson, M.D.

Industrial Hygiene
 George McL. Waldie, M.D.

Walter F. Gries, Administrator

WELFARE DEPT. ANNUAL REPORT YEAR 1947

23.

j. HOSPITALS AND MEDICAL SERVICE (Continued)

ISHPEMING HOSPITAL
STATISTICAL REPORT FOR THE YEAR 1947

Number of patients remaining in the hospital at the beginning of year		35
Number of adult patients admitted	1271	
Number of child patients admitted	154	
Number of births	395	
Total new patients for year		<u>1820</u>
Total of all patients during year		<u>1855</u>
Number of deaths	66	
Number discharged during year	<u>1741</u>	
Total number leaving hospital		<u>1807</u>
Number of patients remaining in the hospital at the end of year		48
Classification of new cases:		
Newborn (2 births outside)	397	
Surgical	601	
Medical	392	
Obstetrical	<u>430</u>	
Total		1820
Number of operations:		
Major	228	
Minor	417	
Circumcisions	<u>189</u>	
Total		834
Emergency Room Operations		507
Number of patient days:		
Newborn	2983	
Other	<u>17478</u>	
Total		20461
Average number of patients per day		56.002
Number of meals for patients		54138
Number of meals for nurses, superintendent and dietitian		9717
Number of meals for physicians and guests		239
Number of meals for help		<u>15078</u>
Total Meals		79172
Average stay per patient		11.03

WELFARE DEPT. ANNUAL REPORT YEAR 1947

23.

j. HOSPITALS AND MEDICAL SERVICE (Continued)DEATHS FOR 1947 CLASSIFIED BY DISEASE

Arteriosclerosis.....	1
Cardiac Dilitation.....	2
Cardiac Failure.....	2
Cardiac Malformation.....	1
Cardiorenal Disease.....	1
Cardiorespiratory Failure.....	1
Cardiovascular Failure.....	2
Carcinoma.....	2
Carcinoma, Colon.....	1
Carcinoma, Gastric.....	1
Carcinoma, Mouth.....	1
Carcinoma, Lung.....	2
Carcinoma, Sigmoid.....	1
Carcinoma, Stomach.....	2
Cerebral Hemorrhage.....	6
Cerebral-vascular Accident.....	2
Coronary Occlusion.....	3
Cirrhosis of the Liver.....	1
Craniomeningocele.....	1
Embolism.....	4
Hemorrhage, Gastric.....	1
Hemorrhage, Internal.....	1
Hernia, Strangulated.....	1
Hypertension.....	1
Icterus Neonatorum.....	1
Incompatibility of plasma and recipient's blood cells.....	1
Laryngitis, Obstructive.....	1
Leukemia.....	1
Lymphosarcoma.....	1
Myocarditis.....	1
Pelvic Fracture.....	1
Pleurisy with Effusion.....	1
Pneumonia.....	1
Premature Birth.....	4
Skull Fracture.....	3
Stillborn.....	7
Senility.....	1
Stroke, Heat.....	1
Total	66

WELFARE DEPT. ANNUAL REPORT YEAR 1947

23.

j. HOSPITALS AND MEDICAL SERVICE (Continued)DEATHS DURING THE YEAR 1947

Surgical.....	2
Medical.....	41
Gynecological.....	2
Traumatic Injuries.....	6
Newborn.....	8
Stillborn.....	<u>7</u>

Total	66
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Deaths under 48 hours.....	22
Deaths over 48 hours.....	37
Stillborn.....	<u>7</u>

Total	66
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TRAUMATIC DEATHS

<u>Case No.</u>	<u>Patient</u>	<u>Age</u>	<u>Diagnosis</u>
28419	Mrs. Jennie Morin	71	Embolism. Fracture of right hip.
28571	Roy Wendt	39	Internal Hemorrhage. Extreme Shock.
28896	William Racine	31	Compound Fracture, Base of Skull.
29522	Armnag Haroian	57	Basal Skull Fracture. Shock
29411	Walter Teppola	34	Multiple comminuted fracture of pelvis. Laceration of urinary bladder. Contusion and laceration of kidney.
29920	Robert Edwards, Jr.	2	Compound skull fracture. Brain laceration.

WELFARE DEPT. ANNUAL REPORT YEAR 1947

23.

j. HOSPITALS AND MEDICAL SERVICE (Continued)LABORATORY REPORT FOR 1947

Blood Chemistry.....	801
Blood Type or Match.....	427
Bleeding Time.....	247
Cultures.....	43
Coagulation Time.....	250
Differential Count.....	3115
Feces.....	60
Gastric Analysis.....	8
Glucose Tolerance.....	10
Hemoglobin.....	3678
Icteric Index.....	97
Miscellaneous.....	708
Pathological Specimen.....	403
Red Cell Count.....	3624
Sedimentation.....	335
Smears.....	273
Special Blood Exams.....	34
Spinal Fluid.....	14
Sputum.....	95
Urinalysis.....	5748
Vena Punctures.....	2659
White Blood Count.....	3859
Prothrombin Time.....	2
Galactose Tolerance.....	9
RH Factor.....	275
Pregnancy Test.....	2
Gastric Analysis.....	2
P. S. P.....	6
Bromsulfalein Test.....	6
Transfusions.....	<u>28</u>

26954

FRACTURE CASES DURING 1947

Cleveland-Cliffs Iron Company....	53
Inland Steel Company.....	5
Outside Patients.....	<u>155</u>

213

WELFARE DEPT. ANNUAL REPORT YEAR 1947

23.

j. HOSPITALS AND MEDICAL SERVICE (Continued)X-RAY REPORT FOR 1947

Extremities.....	1065
Shoulders.....	108
Spine.....	152
Ribs.....	66
Skull.....	39
I. V. Pyelogram.....	13
Kidney.....	25
Pelvis.....	64
Stomach Series.....	99
Fluoroscope.....	5
Foreign Body.....	32
Colon.....	36
Abdomen.....	21
Chest and Heart.....	386
Jaw.....	6
Sinuses.....	1
E. K. G.....	166
Fetus.....	103
Esophagus.....	1
Gall Bladder.....	93
Nasal Bones.....	6
Sternum.....	2
Sella Tursica.....	1
Pet. Pyelogram.....	1
Hip Fik.....	1
Lip Inject.....	<u>1</u>
Total	2493

No. of Out Patients.....	1943
No. of In Patients.....	<u>550</u>
Total	2493

WELFARE DEPT. ANNUAL REPORT YEAR 1947

23.

j. HOSPITALS AND MEDICAL SERVICE (Continued)

DIETARY REPORT--ISHPEMING HOSPITAL--YEAR 1947

Patient Meals.....	54138
Doctors, Nurses, Employees, Visitors.....	25034
Total Meals for the Year.....	79172
Formulas.....	397

Special Diet--Patient Days:

Diabetic.....	398
Selective.....	359
Low Fat.....	369
Fat Free.....	105
Modified Sippy.....	59
High Caloric.....	180
Cardiac.....	19
Infections Hepatitis.....	31
1200 Calorie.....	89
Salt Free.....	339
Low Fat, High Calorie.....	37
Neutral.....	7
Low Residue.....	6
High Protein, High Caloric.....	120
Ulcer.....	33
High Protein.....	226
Post-operative Gastric.....	3
Allergy.....	19
Low Salt Bland.....	4
Dry.....	17
High Protein, High Carbohydrate.....	57
Reduction.....	19
Bland.....	32
Salt Free Nephritic.....	2
Sippy.....	19
Initial Ulcer.....	112
Low Fiber.....	9
Special Soft.....	23
High Carbohydrate, Low Fat.....	8
1500 Calorie.....	25
Dry Low Salt.....	3
Hypertension.....	25
Gall Bladder.....	2
Bland, Low Residue.....	3
High Carbohydrate, High Calorie..	9

Total Special Diet Patient Days.....	2768
Total Special Diet Meals.....	8304

23. j. HOSPITALS AND MEDICAL SERVICE (Continued)

SURGERY--1947
Classified by Operation

Adenoidectomy.....	2	Oophorectomy.....	14
Adhesions, freeing.....	3	Orehidectomy.....	3
Amputation.....	10	Packing, Cervix.....	1
Amputation of cervix.....	2	Packing, removed.....	1
Appendectomy.....	96	Paracentesis.....	5
Biopsy.....	17	Perineorrhaphy.....	7
Blood transfusion.....	5	Plastic.....	5
Cast.....	13	Proctoscopic Examination.....	10
Cauterization.....	2	Proctocystoplasty.....	4
Cauterization, cervix.....	12	Prostatectomy.....	1
Cesarean Section.....	15	Rectocele, Repair.....	9
Cholecystectomy.....	12	Removal, foreign body.....	5
Cholecystotomy.....	4	Repair, muscle.....	4
Circumcision.....	189	Repair, Anal fissure.....	6
Closed reduction.....	6	Repair, perforation.....	1
Conization, Cervix.....	3	Resection, bowel.....	2
Curettment.....	1	Re-suturing.....	1
Cyst, punctured.....	3	Salpingectomy.....	8
Cystoscopic examination.....	4	Saphenous Ligation.....	11
Cystotomy.....	1	Shortening, broad ligaments.....	2
Debridement, skull fracture.....	2	Skin Graft.....	3
Dilatation.....	3	Spinal Tap.....	4
Dilatation and curettage.....	77	Sutured Lacerations.....	9
Dressing.....	1	Tendon, repair.....	2
Examination under anesthesia.....	2	Thyroidectomy.....	10
Excision, moles, lipomas, etc.....	72	Tonsillectomy.....	38
Excision, abdominal fistula.....	4	Tonsillectomy and adenoidectomy.....	84
Excision, cervical polyp.....	2	Tooth Extraction.....	8
Excision, ganglion.....	4	Trachelorrhaphy.....	1
Excision, ingrown toenail.....	10	Uterine Suspension.....	5
Excision, pilonidal cyst.....	7		
Exploratory laparotomy.....	7		
Fallopian tubes ligated.....	4		
Gastroenterostomy.....	1		
Hemorrhoidectomy.....	15		
Herniorrhaphy.....	34		
Hysterectomy.....	14		
Hydrocele, repair.....	4		
Incision and Drainage.....	14		
Injection.....	1		
Insertion, Kirschner Wire.....	7		
Mastectomy, Simple.....	1		
Obstruction, Intestinal.....	2		
Open Reduction.....	7		
		Total	959

WELFARE DEPT. ANNUAL REPORT YEAR 1947

23. j. HOSPITALS AND MEDICAL SERVICE (Continued)

EMERGENCY ROOM REPORT

	<u>Company Cases</u>	<u>Outside Cases</u>	<u>Total Cases</u>
January	235	175	410
February	215	152	362
March	133	79	212
April	208	139	347
May	127	79	206
June	189	160	349
July	136	92	228
August	246	181	427
September	231	186	417
October	243	155	398
November	238	168	406
December	<u>236</u>	<u>162</u>	<u>398</u>
Total	2437	1728	4165

	<u>Company Visits</u>	<u>Outside Visits</u>	<u>Total Visits</u>	<u>Operations</u>
January	633	377	1010	42
February	507	323	830	32
March	471	324	795	51
April	458	302	760	44
May	368	193	561	36
June	465	559	1024	38
July	590	203	793	42
August	655	427	1082	74
September	490	416	906	49
October	545	360	905	48
November	552	368	920	20
December	<u>497</u>	<u>376</u>	<u>873</u>	<u>31</u>
Total	6241	4228	10469	507

WELFARE DEPT. ANNUAL REPORT YEAR 1947

23. j. HOSPITALS AND MEDICAL SERVICE (Continued)

TREATMENTS FOR THE YEAR 1947

Basal Metabolism.....	123
Ultra-violet Ray.....	366
Infra-red.....	250
Diathermy.....	1881
Dressings.....	51
Cautery.....	69
Massage and Manipulation.....	351
Intramuscular Injections.....	<u>406</u>
Total	3497

DEPARTMENT OF INDUSTRIAL HYGIENE

January, 1947 to December, 1947

Blood Chemistry.....	28
Differential Count.....	21
Feces.....	4
Glucose Tolerance.....	6
Hemoglobin.....	2242
Miscellaneous.....	3
Red Cell Count.....	96
Sedimentation.....	2242
Urinalysis.....	2243
Vena Punctures.....	2238
White Blood Count.....	2239
Glucose Tolerance.....	<u>6</u>

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1. HOSPITALS AND MEDICAL SERVICE (Continued)

WELFARE DEPT. ANNUAL REPORT YEAR 1947

	<u>JAN.</u>	<u>FEB.</u>	<u>MAR.</u>	<u>APR.</u>	<u>MAY</u>	<u>JUNE</u>	<u>JULY</u>	<u>AUG.</u>	<u>SEPT.</u>	<u>OCT.</u>	<u>NOV.</u>	<u>DEC.</u>	<u>TOTAL</u>
Patients Admitted	148	113	140	166	140	145	179	176	147	185	134	147	1820
Patients Discharged	129	113	153	142	153	137	182	180	150	176	139	153	1807
Number of Adults	104	81	100	116	96	102	113	126	107	124	97	105	1271
Number of Children	12	3	4	13	10	6	27	16	15	24	12	12	154
Newborn	32	29	36	37	34	37	39	34	25	37	25	30	395
Classified as:													
Newborn	32	29	36	37	34	37	39	36*	25	37	25	30	397
Obstetrical	32	29	42	44	33	42	44	44	23	49	24	35	441
Medical	30	22	21	31	31	24	43	28	33	38	41	39	381
Surgical	54	33	41	54	42	42	53	68	66	61	44	43	601
Daily Average	53.61	60.96	57.51	58.10	57.90	60.70	54.20	56.41	52.83	56.54	55.76	48.51	56.05
Newborn Days	253	199	267	274	275	293	283	285	184	260	197	213	2983
Patient Days	1409	1508	1516	1469	1522	1530	1399	1464	1401	1493	1476	1291	17478
Total Days	1662	1707	1783	1743	1797	1823	1682	1749	1585	1753	1673	1504	20461
Operations:													
Emergency Room	42	32	51	44	36	38	42	74	49	48	20	31	507
Major	12	13	18	21	15	18	16	20	30	30	16	19	228
Minor	36	18	24	49	36	35	33	48	44	41	26	27	417
Circumcisions	13	13	20	13	16	21	20	23	11	20	10	9	189

* Two births outside the hospital; brought in later.

66 deaths included in discharges.

WELFARE DEPT. ANNUAL REPORT YEAR 194723. j. HOSPITALS AND MEDICAL SERVICE (Continued)CLASSIFICATION OF PATIENTS ON ADMISSION

Medical.....	390
Surgical.....	256
Obstetrical.....	430
Newborn.....	395
Gynecological.....	106
E. E. N. T.....	101
Traumatic.....	<u>142</u>
Total	1820

CLASSIFICATION OF PATIENTS ON DISCHARGE

Medical.....	318
Surgical.....	274
Obstetrical (Delivered).....	390
Obstetrical (Not Delivered).....	33
Newborn.....	378
Gynecological.....	112
E. E. N. T.....	100
Traumatic.....	<u>136</u>
Total	1741

WELFARE DEPT. ANNUAL REPORT YEAR 194723. j. HOSPITALS AND MEDICAL SERVICE (Continued)SURGERY FOR 1947

	<u>Major</u>	<u>Minor</u>	<u>Circumcisions</u>
January	12	36	13
February	13	18	13
March	18	24	20
April	21	49	13
May	15	36	16
June	18	35	21
July	16	33	20
August	20	48	23
September	30	44	11
October	30	41	20
November	16	26	10
December	<u>19</u>	<u>27</u>	<u>9</u>
Total	228	417	189

	<u>Female</u>	<u>Male</u>
Adults	320	189
Children	58	79
Infant Circumcisions	—	<u>188</u>
	378	456

Total Patients for Year 834

Total Operations for Year 959

23.

j. HOSPITALS AND MEDICAL SERVICE (Continued)NEGAUNEE DISPENSARY

The building formerly known as the Negaunee Hospital and in recent years known as the Negaunee Dispensary continues to serve as the medical center for our employees in Negaunee and environs. Dr. W. A. Mudge and Dr. R. L. Paine maintain their offices in the Negaunee Dispensary, as does Miss Atkin, the industrial nurse for the Negaunee District. There are over 1300 employees in the Negaunee area and most of them have their medical needs taken care of through the Negaunee Dispensary. We have maintained through the year a regular registered nurse as part of the staff at the Negaunee Dispensary and a nurses' aide who has had over a year's training as a nurse. During the year we have also added a pharmacist to the Negaunee Dispensary staff. Mr. George Landry, a registered pharmacist, is now on duty at the Negaunee Dispensary pharmacy and our employees and their families in the Negaunee District now have the services of a full-time registered pharmacist.

Dr. R. A. Burke, who owns and operates the Twin City Hospital at Negaunee, is a member of our staff in that he serves the medical needs of our men at the Cambria-Jackson Mine. I believe if some kind of an arrangement is to be continued with Dr. Burke we should make him a regular member of our staff and pay him a salary instead of the \$2.00 per man per month for the men at the Cambria-Jackson. Many of the Cambria-Jackson men prefer to go to the Negaunee Dispensary and to call on Drs. Mudge and Paine.

The Negaunee Dispensary serves as an emergency hospital or clinic in the Negaunee District. Many of the emergency cases, particularly injuries, are not brought to the hospital in Ishpeming but are taken care of at the Negaunee Dispensary. We do not hospitalize anyone, however, in the Negaunee Dispensary.

The living quarters in the Negaunee Dispensary are occupied by Mr. and Mrs. John Roberts. Mr. Roberts is the custodian and janitor of the building. He keeps the building in good shape, takes care of the fires, unpacks the supplies and materials and takes care of the doctors' and nurses' cars, as well as any other type of work that normally falls within the sphere of a custodian of a building. Mr. Roberts will soon be 68 years of age and if we continue our present arrangement much longer I believe that he should be retired and a younger man placed on the job.

GWINN DISTRICT

Dr. S. J. Green continues to serve our employees in the Gwinn area. He occupies the home which the doctor has always had and in which he has his office and a small dispensary. We do not maintain an industrial nurse in the Gwinn District.

WELFARE DEPT. ANNUAL REPORT YEAR 1947

23.

j. HOSPITALS AND MEDICAL SERVICE (Continued)REPUBLIC HOSPITAL

Each year we include a paragraph in our annual report on the building which was formerly known as the Republic Hospital. This building is now under the supervision of the Republic Township Board. Dr. Van Riper of Champion, who cares for our medical needs in the area, uses the Republic Hospital daily as an office and as sort of a health center. The maintenance of medical service at the old Republic Hospital is a great convenience to the people of Republic and the surrounding area.

The Republic Township Board engages a registered nurse, a married person, who, as part of her remuneration, is granted the use of an apartment in the hospital building. The nurse is on duty to assist Dr. Van Riper and to give attention to emergency cases. The arrangement appears to be a very good one.

IRON RIVER HOSPITAL

During the year several calls were made at the General Hospital of the Iron River District at Stambaugh. The Superintendent of the Welfare Department attended several of their meetings, as well as the annual meeting. The General Hospital of the Iron River District provided for the medical and hospital needs of our employees at the Spies-Virgil Mine at Iron River. This hospital is managed by a board of trustees representing the different stockholding mining companies and it is administered and operated in a very business-like manner.

Dr. L. E. Irvine continues to provide the necessary medical attention for our Spies-Virgil employees. He also gives the physical examinations, both pre-employment and periodical. Dr. Addison at Crystal Falls, who is associated with the hospital there, provides medical care for a small group of our employees who particularly request his services.

PAYMENTS TO PHYSICIANS

For reference purposes the following statement is made in each annual report:

On August 1, 1927 the rate of payment for the Cleveland-Cliffs Iron Company went into effect. The employees paid \$1.25 for medical services for themselves and the dependent members of their families and the Company paid 50¢ per man per month to cover medical and hospital services for cases coming under the Compensation Act.

23.

j. HOSPITALS AND MEDICAL SERVICE (Continued)

From time to time the rates for membership in the Company's medical plan have been changed. On January 1, 1944 the monthly rate was raised from \$1.25 to \$1.50. The Company increased its contribution at that time from 50¢ to 75¢ per man per month. In June of 1946 the employees' rate was increased from \$1.50 per man to \$2.00 per man per month.

PHYSICAL EXAMINATION OF EMPLOYEES

The Industrial Hygiene Department, under the direction of Dr. George McL. Waldie, continues to give the physical examinations to employees and to counsel with them regarding physical deficiencies. The regular physical examination schedules are now made by the Employment Department. It has been the policy, and this policy is being continued as far as possible, to examine twelve men each working day. Copies of the physical examination schedule are filed with the Welfare Department and the results of the physical examinations are also reported to the Welfare Department and a record is kept in the file of each employee. Almost daily discussions are held by the Superintendent of the Welfare Department with Dr. Waldie, Director of the Industrial Hygiene Department, regarding employees who may have developed some physical deficiencies and whose cases require consideration and study.

The contract which the company formerly carried with the Trudeau Foundation of Saranac Lake, New York was not renewed in the fall of 1945. We are convinced that our own Industrial Hygiene Department can carry on the program very well.

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23. j. HOSPITALS AND MEDICAL SERVICE (Continued)

INDUSTRIAL HYGIENE DEPARTMENT

Our Industrial Hygiene Department was organized on April 1, 1939. Dr. George McL. Waldie continues to have charge of this department. The department continues the usual physical examination program, as well as the follow-up program in cases where employees have been found to have some deficiency. Considerable valuable information has been gathered by this department during the past several years and we feel that we have excellent records on all employees from the standpoint of their physical condition.

The work of the Department of Industrial Hygiene has increased since we did not renew our Saranac contract in the fall of 1945. All films which formerly were sent to Saranac for reading and interpretation are being read and interpreted locally by Dr. Waldie. This work covers also the Inland Steel Company and the North Range Mining Company's employees on the Marquette and Menominee Ranges, as well as the employees of the Hercules Powder Company. Dr. Waldie submits monthly reports, as well as periodical reports, covering the work of his department.

In cases where it seems necessary for an employee to have medical attention of some kind, Dr. Waldie refers him to a regular member of our medical staff. The department makes an effort to correct any defect which may be found and in cases where employees are found to have some defect or some type of illness, a follow-up program is instituted and a check-up is made from time to time to determine what the employee's condition is.

The following number of examinations have been conducted through December 31, 1947:

The Cleveland-Cliffs Iron Company	22,676
Inland Steel Company	3,770
Republic Steel Corporation	1,653
North Range Mining Company	1,237
Oliver Iron Mining Company	725
Pickands Mather & Company	149
M. A. Hanna Company	199
Hercules Powder Company	274
Calumet & Hecla Company	29
Marquette County Road Commission	<u>10</u>
Total	30,722

23.

k. COMMUNITY HEALTH

Each year we include in this report a statement concerning the general health conditions in Marquette County. It is pleasing to again report that the general health conditions in the county were good during 1947. There were no epidemics and no great loss of time at the mines because of illness.

There continues to be an increase in the use of the Ishpeming Hospital. Very often the hospital has to arrange a schedule for admittances of people due to the fact that there is a great demand for hospitalization. During 1947 1852 individual cases were actually hospitalized at the Ishpeming Hospital. Presently there is a waiting list in the community of persons who are waiting to be hospitalized.

The three cities in Marquette County each have a health officer and a full-time school nurse. The City of Marquette also employs a full-time nurse whose services are made available, for the most part, to the township districts. The townships also have health officers.

The city health officers in Marquette County are:

Ishpeming	-	Dr. W. A. Corcoran
Marquette	-	Dr. C. P. Drury
Negaunee	-	Dr. G. A. Knudson

The Northern Michigan Children's Clinic at Marquette, operated in connection with St. Luke's Hospital and supported largely by funds from the Michigan Children's Fund, has continued to serve children throughout the entire Northern Peninsula. The counties of the Northern Peninsula are very fortunate in having available such a fine clinic.

The Bay Cliff Health Camp at Big Bay was in session again during the summer of 1947, completing thirteen years of service. About 150 children from the counties in the Northern Peninsula were enrolled. These children are cared for for about six or seven weeks and special services are rendered for various groups, such as services for poliomyelitis convalescent children, cardiac cases, rheumatic hearts, speech and hearing defects, diabetics and under-nourished children. The Superintendent of the Welfare Department has continued to serve as Chairman of the Board of Directors of Bay Cliff Health Camp.

WELFARE DEPT. ANNUAL REPORT YEAR 1947.

23.

1. RED CROSS

Report of the Marquette County Chapter nurse for the year 1947:

Home Calls;

Children needing eye examinations	22
Children with frequent sore throats	3
Children with defective hearing	30
Children with defective speech	13
Deaf Children	4
Mentally retarded children	7
Crippled children	9
Rheumatic heart cases	53
School home calls	93
Communicable disease calls	55
Infant calls	79
Pre-School	20
Adult	64
Pre-Natal	8
Post-Natal	9

Other Calls;

School calls	123
School Board members	15
Holy Family Orphans Home	1
County Supervisors	2
Social Eelfare Office	60
Hospitals	13
Northern Michigan Children's Clinic	29
Physicians	42
Nurses	14
Nurses Aids	2
Nursing Consultants	4
Special Education Consultants	3
Social Agencies	29
Marquette City Health Department	5
Bay Cliff Health Camp	6

Teacher Consultations	27
Inspections of school children	357
Glasses issued through Children's Fund	5
Children examined at Cardiac Clinic	58
Children given cardiac screening by Dr. M. Cooperstock	940
Children admitted to St. Luke's Hospital	2
Children examined at U. P. Children's Center	8
Children examined at Northern Michigan Children's Clinic	69
Children who attended Speech and Hearing Clinic	24

Marquette County children who attended Bay Cliff Health Camp:

Cardiacs	7
Orthopedic	1
Defective hearing	2
Defective speech	6

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23.

1. Red Cross (Continued)

Immunization Clinics:

Smallpox vaccinations	250
First Diphtheria Toxoid	279
Second Diphtheria Toxoid	273
Booster Toxoid	113
Complete Whooping Cough	10

General:

Made 16 trips to Ann Arbor; transported 9 men, 7 women, to U. Of M. Hospital. Made one ambulance trip with 14-yr old boy. Brought back from U of M Hospital 3 men, 4 women, 1 child.

Transported two boys to and from Michigan School for the deaf.

Brought a boy and a girl from Bay Cliff Health Camp to and from the Speech and hearing clinic in Ann Arbor where they were fitted for hearing aids.

Made a trip with 3 children to the Michigan Children's Aid in Detroit.

Made a trip with a man from Morgan Heights to Cook County Hospital in Chicago.

Brought a 91-yr old woman from Ishpeming to Convalescent Home in Menominee.

Brought a woman from North Lake to and from Cancer Clinic in Marquette.

Brought a woman from North Lake to and from Dr. A. K. Bennett's office.

Brought a child from North Lake to and from U. P. Children's Center.

Made 2 trips with 3 children from Turin to N. Michigan Children's Clinic.

Brought a boy from Turin to and from Dr. Erickson for teeth extractions.

Brought a woman from Duke's to and from Dr. A. K. Bennett's office.

Brought a child from Duke's to and from N. M. C. Clinic.

Brought a child from Skandia to and from N. M. C. Clinic.

Brought J.A.C. Club members from Marquette to and from West Branch schools.

Spent 2 days in field with Miss Annette Fox of Mich. Dept. of Health.

Assisted Dr. Burke in throat examinations of Palmer school children.

Brought a woman from Turin to and from Dr. A. K. Bennett's office.

Meetings:

Crippled Children's Commission meeting at Northern Michigan Children's Clinic.

U. P. Crippled Children's Conference in Marquette.

Health Education meeting at Northern Michigan Children's Clinic.

Public Health Lecture at Northern Michigan College of Education.

School Health Meeting at Northern Michigan Children's Clinic.

Social Welfare and Mental Hygiene Conference in Escanaba.

State Nurses meeting in Detroit.

Five District nurses meetings.

Four meetings of the Council of Social Agencies.

Office hours: 148

Mileage: 29,743

(Miss) Emma C. Anderson, R.N.
County Health Nurse.

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23.

m. RELIEF WORK

During 1947 we carried on our usual program of extending assistance to certain special cases. Early in the year it was decided to discontinue almost entirely the giving of relief orders and in all cases where no special supervision was required cash relief was granted, the recipients being transferred to our monthly Donation Roll.

The following is a statement of assistance, not including cash assistance, rendered in 1947:

	<u>Ishpeming</u>	<u>Negaunee</u>	<u>Republic</u>	<u>Gwinn</u>	<u>Marquette</u>	<u>Total</u>
January	\$ 26.16	120.00	8.00	20.00	20.00	194.16
February	56.16	24.34		111.80	10.00	202.30
March	9.52	48.26		61.80		119.58
April	40.54					40.54
May	30.00	4.20				34.20
June	10.54	4.34				14.88
July	10.20	4.50				14.70
August	91.14	23.05				114.19
September	40.54	4.65				45.19
October	10.80	4.50		82.40		97.70
November	26.16	4.96				31.12
December	<u>10.80</u>	<u>24.64</u>	<u> </u>	<u> </u>	<u> </u>	<u>35.44</u>
	\$362.56	267.44	8.00	276.00	30.00	944.00

n. EMPLOYMENT

The Welfare Department keeps in almost daily touch with the Employment Office, in charge of Mr. H. W. Sundberg. In cases where there may be some question regarding the employment of a certain individual the case is reviewed. Every effort is made to protect the best interests of the Company in connection with the employment of people.

WELFARE DEPT. ANNUAL REPORT YEAR 1947

23.

o. INCAPACITATED EMPLOYEES

During the year payments have continued to certain men and certain families who originally did not have sufficient service to bring them within the provisions of the pension system. Donations were granted to these people. Some of these men had suffered some disability through accidents or through injuries at the mines, and there are some with large families who have become incapacitated.

During the year certain individuals were transferred to the Mining Department Donation payroll from the direct relief list. These individuals are marked on the list below with an asterisk (*). This makes the Company's grant to these people in the form of cash rather than a grocery order drawn on one specific establishment. As a result the value of the grant is increased because it enlarges the individual's shopping field. It has also resulted in a slight cutback in record keeping and paper work.

The Mining Department Donation payroll included twenty-three people on December 31, 1946, and on December 31, 1947 there were thirty-six payees. The total amount expended over this roll was \$10,492.10. Following are the additions and deletions from the roll:

Edwin C. Dawe	Added effective	1/1/1947	
Andrew Erickson *		2/1/1947	
Ernest Swanson *		"	
Johanna Forstrom *		"	
William Forslund *		"	
Andrew Invenes *		"	
Philip DePetro *		"	
William Sealey *		"	
Mrs. Charles Hill *		"	
Hilma Maunula *		"	
James Filizetti *		"	
John Meni *		"	
Louis Oien		3/1/1947	
Kuisti Mantela		7/1/1947	
Andrew Nocenti		9/1/1947	
John H. Korpela		10/1/1947	
Andrew Elgland		11/1/1947	
Gust Wernholm		12/1/1947	
John Aho	Dropped as of	4/30/1947	Died 4/20/1947
Charles Vincent		3/31/1947	Died 4/11/1947
Gust Oja		7/31/1947	Transferred to Retirement Roll
William Saari		7/31/1947	Transferred to Retirement Roll
William Forslund *		10/31/1947	Relief grant discontinued

Mr. John Meni (*) was employed from June through November and did not appear on the payroll for those months.

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23. o. INCAPACITATED EMPLOYEES (Cont'd)

The Holmes Mine Donation Payroll remained identical with the 1946 roll, there being four recipients under this department for a total expenditure of \$923.88.

The Furnace Department donations, after being granted, were paid originally by the Furnace Department itself and later by the Cliffs-Dow Chemical Company. By directions from Cleveland on September 1, 1937 the donations have been paid from this office. There were two people on the roll during the entire year for a total expenditure of \$540.00.

The Mesaba-Cliffs Mining Company Donation payroll included only the name of Chester Adams on January 1, 1947. His name was dropped as of March 31, 1947 because of his death on March 27, 1947. There was no payroll from April through November. On December 1, 1947 the name of Eli Rantala was added to the roll at a monthly allowance of \$30.00. Total expenditure over this roll for the year was \$120.00.

It might be added that, excluding those widows who were transferred to the rolls from the relief list, two widows are included on the Mining Department Donation payroll. They are Mrs. J. H. Tregoning and Mrs. Fiina Kampinen. Each was paid \$300.00 during the year. The statistics on the Mining Department payroll include both widows.

Amount of Mining Department Donations (including widows)	\$ 10,492.10
Amount of Holmes Mine Donations	923.88
Amount of Furnace Department Donations	540.00
Amount of Mesaba-Cliffs Mining Company Donations	<u>120.00</u>
	\$ 12,075.98

WELFARE DEPT. ANNUAL REPORT YEAR 1947

23. o. INCAPACITATED EMPLOYEES (Cont'd)

Retirement Payrolls

Thirty-six new names were added to the Mining Department Retirement payroll during 1947. Each case is carefully studied with the Superintendent of the mine and is finally referred to the Manager, and if the case is approved the name is added to the payroll. The purpose of the plan is to provide retirement under Social Security benefits to men in our employ who are 65 years of age or over. The Company continues to supplement the Social Security benefits by paying \$10.00 monthly to each retired employee. Retired employees are given the opportunity to continue to carry the medical plan and one-half of the principal amount of their original group insurance policy, and this is generally appreciated and done.

Nine names were dropped from the Mining Department Retirement Payroll during the year.

John Bess	Added as of	1/1/1947
Joseph Conte	"	"
Charles Duquette	"	"
Hans Jarvi	"	"
Leon Lafreniere	"	"
Emil Lemay	"	"
John Tynnismaa	"	"
Carl E. Anderson	"	"
John M. Johnson	"	"
Louis Benvignu		2/1/1947
Henry Seppi	"	"
David Smolander	"	"
Escott Harris		3/1/1947
Thomas Chenhall (Monthly allowance - \$30.00)		4/1/1947
Samuel Haines		5/1/1947
Elias Maki		6/1/1947
August Norell		7/1/1947
James H. Eade	"	"
Jacob Hautala	"	"
John Hoiem	"	"
Thomas Richards	"	"
Edward F. Heij (Monthly allowance - \$25.00)		8/1/1947
Gust Oja	"	"
William Saari	"	"
Jacob Pantti, Sr.	"	"
Abel Wainio	"	"
Jalmer Hegstrom	"	"
Charles L. Olson	"	"
Frank Luca	"	"
Steve Festa		9/1/1947
William Perry	"	"
Henry Harjumpaa	"	"
Fabian Page	"	"
Ray Barney, Sr.	"	"
Jacob J. Kivisto (Monthly allowance - \$25.00)		10/1/1947
Sydney Haines		11/1/1947

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23.

o. INCAPACITATED EMPLOYEES (Cont'd)Retirement Payrolls (Cont'd)

Albin Lyman	Dropped as of 2/28/1947	Died 3/9/1947
Joseph Villeneuve	7/31/1947	8/13/1947
Charles Stevens	10/31/1947	11/11/1947
Matt Mattson	9/30/1947	10/4/1947
John Chirio	5/31/1947	6/9/1947
Otto Schadt	7/31/1947	7/27/1947
Thomas Welsh	1/31/1947	1/19/1947
William J. Pascoe	4/30/1947	4/17/1947
John H. Van Brocklin	9/30/1947	10/8/1947

Minnesota Retirements

This office continued to handle payments to retired employees of our Minnesota properties during the year 1947. As in 1946 two payrolls were prepared, one for the Canisteo Mine retired employees and the other for the retired employees of the Mesaba-Cliffs Mining Company.

There was one change in the Canisteo Mine Retirement payroll during the year, the name of John Salo being deleted as of 7/31/1947 when word was received of his death during the month of August 1947.

The Mesaba-Cliffs Mining Company Retirement payroll underwent the following changes during the year:

Matt Arminen	Added as of 1/1/1947	
Fred G. Hamm	"	
Herbert B. Oliver	"	
Malkolm Olson	"	
Frank Cook	2/1/1947	
Axel Hendrickson	3/1/1947	
Wilfred F. LeClair	12/1/1947	
Mike Skorich	Dropped as of 5/31/1947	Died 5/20/1947
Henry J. Stephens	5/31/1947	5/16/1947

WELFARE DEPT. ANNUAL REPORT YEAR 1947

23. o. INCAPACITATED EMPLOYEES (Cont'd)

Retirement Payrolls (Cont'd)

A resume of the 1947 Retirement Payrolls follows:

Number of Mining Department Retired Employees 12/31/1946	175	
Number of Mining Department Retired Employees 12/31/1947	202	
Total Expenditure to above employees for year 1947		29,347.68
Number of Canisteo Mine Retired Employees 12/31/1946	7	
Number of Canisteo Mine Retired Employees 12/31/1947	6	
Total Expenditure to above employees for year 1947		790.00
Number of Mesaba-Cliffs Retired Employees 12/31/1946	15	
Number of Mesaba-Cliffs Retired Employees 12/31/1947	20	
Total Expenditure to above employees during year 1947		2,350.30
Total Number of Retired Employees 12/31/1946	197	
Total Number of Retired Employees 12/31/1947	228	
Total Expenditure to Retired Employees for year 1947		32,487.98

23.

p. COST OF LIVING

Each year we make a brief statement in our annual report regarding living costs as they come to our attention during the year. During the year we have had less opportunity to make any checks on local prices for the purposes of comparison because of the fact that there were considerable changes in price ranges throughout the year. We have used the Federal Department of Agriculture and the State Department of Social Welfare charts and indices in determining what the present living rates in the district are compared with previous years. There has been some change during the year 1947. During this year the local price index rose from 139.4 in December, 1946 to 153.2 in December, 1947 for a percentage increase of approximately 10%. We find that the greatest increase during the year has been in fuels with a percentage change of about 24. There has been very little change, however, in the cost of electricity and gas. House furnishings have increased nearly 12%, food nearly 12%, clothing 10%, and services and miscellaneous commodities such as personal services, transportation, insurance, and amusements, have increased about 8%.

Local merchants have stated that business conditions throughout the year were very good. They seem to think that people desire the better quality products and are willing to pay the prices while they are making the high wages.

The largest new business in the community is the Robbins Flooring Mill which presently employs about 130 people. There are a few other new businesses but not as many new enterprises were established as in the year 1946.

Housing

As far as we have been able to determine there is no change in the housing situation. A number of new homes were built during the year but it seems that the demand is as great at the moment as it has been at any time in the past several years. We know that there is considerable planning for new construction and that the lack of lots has kept down the building of homes.

Relief Situation

The public relief situation in Marquette County remains in a favorable position. The average for the year will again be under 100 cases per month. Without question this low case load is due to the fact that there is very little unemployment and also the added fact that better wages are being earned than ever before in the district. The people who do receive public relief are either old folks who are not employable or persons who because of some personality problem present a definite risk as far as employment is concerned.

The number of older persons in Marquette County who receive Old Age Assistance from the State Social Welfare Commission increased approximately 50 cases during 1947. The average Old Age Assistance grant during 1947

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23.

p. COST OF LIVING (Continued)

increased so that the average is approximately \$36.00 per case. About twenty cases were added to the Aid to Dependent Children group during the year 1947. The average grant in this classification has also mounted so that it now approximates \$72.00. Twelve blind persons were given aid in Marquette County during 1947, compared with eleven the previous year. The average allowance is approximately \$38.00 per month.

q. IMPROVEMENT WORK

Mr. Julien Payen, the company's landscape gardener, continues to have charge of all the improvement work for all the grounds in the whole district. This work has been carried on for a good many years and it appears to have a very good effect upon the general morale of the community. We feel also that the keeping of the Company's grounds in presentable condition is an incentive to our employees.

r. GARDENS AND WELL KEPT PREMISES

The Best Kept Premises and Vegetable Gardens contest was not conducted during 1947. It is felt that this contest should be re-established since it gives opportunity to make contacts with certain employees who go along year after year without any particular problems of relief and welfare and many of them are regarded as the company's most loyal employees.

s. COMMUNITY SERVICE WORK

The American Legion building in Ishpeming has served for many years as the center for all Legion activities and for various other types of activities in the district. The Ishpeming Post of the American Legion leases this building from our company and the Oliver Iron Mining Company, maintains it and takes care of the upkeep. It is now proposed to turn the building over to the Legion Post and this is awaiting final decision from the Cleveland office.

The American Legion building in Negaunee is also leased from our Company and there is considerable activity at all times being carried on there. There has been an increase in membership of the John H. Mitchell Post at Negaunee due to the fact that the men of World War II are returning and becoming members of the Legion. This building has always been kept in good condition and a recent inspection indicates the interest of the Legion Post in taking over the building as their own property in the near future.

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23.

s. COMMUNITY SERVICE WORK (Continued)

The number of fraternal organizations in the district is rather large for a community of this size. Many of the fraternal orders maintain their own club rooms and considerable of the social life of the community centers around these organizations.

t. SATURDAY NOON LUNCHEON CLUB

The Saturday Noon Luncheon Club, made up of superintendents and heads of departments, approximately thirty in number, has not had many meetings during 1947. Mr. Stakel, General Manager, has called these meetings when he wished to discuss some particular program or problem with the entire group.

u. OUTDOOR ACTIVITIES

The interest in outdoor activities in the community has increased considerably in recent years. The Winter Sports Club, which maintains a clubhouse north of the city, is a very popular organization and there is greater activity there each winter. This area is also made available during the summer months for various types of outdoor meetings.

The Ishpeming Ski Club, has been working for several months, preparing for the National Ski Tournament on February 22, 1948.

The Mather Inn

The Mather Inn continues to be the most popular hotel in the Northern Peninsula. It is serving the public in a very fine manner. Many meetings of civic and community nature are held here.

w. VARIOUS DEPARTMENTS AND ACTIVITIES

Each year a statement is included in the annual report covering special activities of this department throughout the year. In 1947 the Superintendent of the Welfare Department completed his eighth year as a member of the State Social Welfare Commission. He served as the Chairman of this Commission for three years. This Commission is the state agency which meets once a month and establishes the program and policies in all matters dealing with Old Age

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23.

w. VARIOUS DEPARTMENTS AND ACTIVITIES (Continued)

Assistance, Aid to Dependent Children, Aid to the Blind, Child Welfare Services, direct relief, problems concerning adoption and the licensing of boarding homes, maternity hospitals, foster day care homes, homes and camps for transients and matters dealing with delinquency of juveniles. The 1947 session of the Michigan Legislature gave the State Social Welfare Commission three new assignments, as follows: (1) Board of Governors of the Boys' Vocational School; (2) Board of Governors of the Girls' Training School; and (3) Board of Governors, the Michigan Children's Institute at Ann Arbor.

Other activities during the year were the following: I have continued to serve as Chairman of the Board of Directors of Bay Cliff Health Camp at Big Bay. I was elected first Vice President of the Michigan Society for Crippled Children and Adults during the year. I serve on the Board of Trustees of the Marquette County Chapter of the American Red Cross, as a Director of the Marquette County Branch of the Michigan Tuberculosis Association, as a Director of the Michigan Welfare League, District Chairman in the Northern Peninsula for the American Cancer Society, and as a member of the Advisory Consultant Staff to the State Department of Public Instruction on community planning and programming.

x. POLICE DEPARTMENT

The Police Department is under the supervision of the Superintendent of the Welfare Department and is in direct charge of Mr. R. J. Veale, Chief. Almost daily conferences are held with Mr. Veale, dealing with police work and plant protection. Mr. Veale submits a monthly report.

Our police have been uniformed for several years and we have felt that we get excellent service from them. New men for the department are selected with care and we no longer follow the old policy of using older men in their declining years as members of our police force.

y. THE CLEVELAND-CLIFFS ORBIT

During 1947 we changed the name of the Miners' Bulletin, which was issued periodically, to the "Cleveland-Cliffs Orbit". It is planned to issue the "Orbit" about six times a year. We are assisted in this work by the Safety Department and by Mr. William Newett of the Iron Ore as consultant editor. We feel that there is considerable interest in the new publication but that it does not yet meet the needs or does it present the company in the best light. It is our opinion that the company might well establish a magazine such as the Jones & Laughlin Company has established and now known as "Men and Steel".

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23. w. VARIOUS DEPARTMENTS

LAND DEPARTMENT

COMPARATIVE STATEMENT OF GENERAL WELFARE EXPENSES

YEARS 1944 - 1947, INCLUSIVE.

<u>General Welfare Acct. No. 11.</u>	<u>1944</u>	<u>1945</u>	<u>1946</u>	<u>1947</u>
A-2 Prop. charged by Treas.	300.00	300.00	300.00	300.00
11-F Miscellaneous Expenses	240.00	240.00	240.00	240.00
	<u>540.00</u>	<u>540.00</u>	<u>540.00</u>	<u>540.00</u>
 <u>Donations:</u>				
U. P. Development Bureau	500.00	500.00	500.00	500.00
Red Cross- Neganee & Munising	825.00	905.00	465.00	232.50
Munising Fire Dept.		20.00	10.00	15.00
Munising Community Chest			100.00	
Alger Co. War Fund		100.00		
Construction of Honor Roll monument - Munising	13.22			
Munising Hospital				5000.00
Munising Softball Club				7.80
Munising Baseball Club				15.93
Boy Scouts- Munising				100.00
Sney Tnsp.-a/c Manistique Hospital				<u>500.00</u>
	\$ 1338.22	1525.00	1075.00	6371.23
 <u>Compensation:</u>				
Monthly payments to Ishpeming Hospital	328.13	489.29	471.51	651.08
 <u>Compensation: Personal Injury:</u>				
Medical and Hospital	176.56	8.00	39.00	95.91
Compensation payments	3480.00	3122.12	2135.12	2294.62
Percentage of payroll Compensation	3.5	2.9	1.6	1.5
Physical examinations - Company employees			45.00	58.00

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23. w. VARIOUS DEPARTMENTS (Continued)

LAKE SUPERIOR & ISHPEMING RAILROAD COMPANY

COMPARATIVE STATEMENT OF GENERAL WELFARE EXPENSES

YEARS 1944 - 1947, INCLUSIVE.

<u>Donations;</u>	1944	1945	1946	1947
Fire Departments	15.00	35.00	32.50	335.00
American Red Cross	350.00	350.00	250.00	150.00
Munising War Fund	30.00	30.00		
Marquette Honor Roll		100.00		
Alger County Community Chest			24.00	
Community Chest Fund- Marquette, Negaunee, and Ishpeming,	387.50	437.50	300.00	300.00
Tuberculosis Association		10.00	10.00	10.00
Munising Hospital Association			2000.00	
	\$ 782.50	962.50	2616.50	195.00
 <u>Pensions:</u>	 \$ 5760.00	 5040.00	 5004.16	 5966.10
 <u>Compensation:</u>				
Compensation Paid	712.16	1158.18	1475.40	1323.00
Medical Expense	768.07	2811.58	1371.45	1849.51
Percentage of payroll	.0007	.0012	.0013	.0010

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23.

z. APPRECIATION

It is a privilege to again record in this report my appreciation for the cooperation, the guidance and the understanding which have always been given this department by Mr. C. J. Stakel, General Manager, and by Mr. C. W. Allen, Manager. I wish also to express my appreciation for the cooperation which has always been received from Mr. A. J. Stromquist, Safety Director, and from Captain H. F. Rogers, his assistant. We shall strive to coordinate and cooperate with the work of this department at all times. It should also be mentioned here that the Superintendent of the Welfare Department, who acts as Administrator of the Ishpeming Hospital, appreciates the splendid cooperation and help of Mr. C. W. Allen, Manager, Mr. E. E. Riedinger, Chief Clerk, Mr. Joseph Cameron, Superintendent of the Hercules Powder Company, Mr. Ray Satterley, Superintendent of the Inland Steel Company, and Mr. Harry Peterson, Superintendent of the Inter-State Iron Company, who have been serving as members of the Ishpeming Hospital Advisory Administrative Committee.

I wish to conclude my annual report by expressing appreciation for the splendid help and assistance of Mr. W. E. Johnson, Compensation Agent, and for the fine service rendered by Mr. L. C. Holmgren and Miss Shirley Holmgren, assistants to Mr. Johnson. We record again that we are very pleased to express appreciation for the fine services rendered by Mrs. Emily Nicholas Kivisto, Secretary to the Superintendent of the Welfare Department, and Miss Mary Ryan, who acts as Office Receptionist and File Clerk.

ELECTRICAL DEPARTMENT
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ATHENS MINE:

Few changes or installations worthy of note have occurred at the Athens Mine during the year. The regular routine of maintenance and repair has been carried on. For the last several years the rope speed of the skip hoist has been changed several times on account of the condition of the shaft, this speed was set at 1475 feet per minute, on January 4, 1947 and continued without further adjustment. Delays in hoisting have not been of a serious nature, one occurred January 23 while repairs were made to a field rheostat, 12 P.M. to 3 A.M. The failure of a disconnecting switch occurred on June 7 causing a shutdown of the entire mine from 10:30 A.M. to 12 Noon. The interruption on August 12 was of a short duration and was caused by lightning blowing a fuse and burning off a transformer lead on the cage hoist panel. The large bearings on the skip hoist M. G. set overheated on August 30 and interrupted ore hoisting for 2 hours, this difficulty was attributed to low water circulation in the cooling coils of the oil tank. Arrangements were made for increasing water circulation to keep the oil temperature down.

The armature of the G. E. D.C. generator for excitation of the rotor field of the synchronous motor of the Ingersoll - Rand compressor failed October 12. A spare armature was taken from the electric shop to replace the burned out equipment and the necessary material ordered for a complete rewind of the armature.

After some difficulty with lighting and power transformers for the engine house, several changes were made, and two larger transformers from the Maas, Park street surface well set-up were taken to the engine house to replace the 5 and 7 ½ KVA size. One of the smaller transformers were then taken to the Lloyd mine winze sinking job and the other to Mather B for engine house lighting and 220 Volt power for compressor water circulating pump.

CAMBRIA JACKSON:

A fire occurred at the hoist grids and cables on January 8. Hot grids set fire to wooden cable supports on top of the grid bank, which burned a portion of the wood and the insulation on the secondary cables. In order to prevent a recurrence of this difficulty the cables have been clamped a greater distance from the grids. After some difficulty in operating with breaks to ground in the grid circuit, several sections were repaired which restored normal operations.

Several changes were made in surface wiring and distributions transformers in line with power requirements and changes necessary for the new shops. Two 37 ½ KVA, 2300 - 220/110 volt transformers located in the engine house basement to supply power for the pump in No. 1 shaft were put on a platform back of the dry house. From this point these transformers will supply light and power to the dry house, office and new shops through underground cables. The two 10 K.V.A. and one 7 ½ K.V.A. Transformer formerly used for the dry house and office lights and power were set up in the engine house basement to replace the larger bank for power supply to the No. 1 shaft pump and top tram lighting.

The machinery was moved from the old shop building into the new building and all cables and connections completed for individual motor drive.

ELECTRICAL DEPARTMENT
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CAMBRIA JACKSON: (Continued)

In line with changes in the shaft house and trestle tracks for two car operation, the change from overhead rail to 4/0 trolley has also been made.

The installation of the electrical equipment bought from the Holmes mine with the 150 H.P. motor and Prescott pump has been completed in the 7th level pump station.

Some changes have also been made in the D.C. Haulage equipment including the panels in the engine house for parallel operation of the two 150 KW. generators and the removal of two D.C. circuit breakers and the installation of a larger breaker bought from the G. E. Co. which is now operating with an overload protective setting of 1600 amperes.

CLIFFS SHAFT:

Our report on the hoisting equipment for A and B shaft is not encouraging, the rotor and band-wires of these 750 HP. motors have had careful inspection for the past year with the hope that we might operate without expensive delays. These motors were taken apart for minor repairs on April 13 and April 20, after which good results were obtained until June 27 when a failure of rotor connections occurred in A shaft motor with a delay of 4 ½ hours.

An attempt was made to correct the band wire troubles on A shaft motor November 2 when a double band 3 ½" wide of #12 steel wire was put on under the supervision of Mr. Sillman of the Westinghouse Electric Mfg. Co. The first layer of the band was put on with a 350 lb. strain and the top layer about 180 lbs. This band was cut off when the insulation failed on the coils of the rotor after about 8 weeks of operation. The motor is now running with a patch insulation on 2 coils and 2 coils cut out of the rotor circuit with 2 coils cut out of the stator.

Haulage locomotive No. 6 - 110 - 087 was rebuilt in the general shops during the year.

Pumping equipment, compressors, tram motors, etc. have had routine repairs during the year.

LLOYD MINE:

The outstanding job at the Lloyd mine during the year was the sinking of the winze from the 8 to the 9 level. Installation of 2000 ft of #2 - 3 conductor 2500 volt cable for power supply from the 5 level to the location of the hoist at the 8 level was made in July. Cable fittings and a subway box were taken from the Princeton Mine, the switch panel primary and secondary control panels, controller and control transformer formerly used with the Maas mine 5 level hoist were taken to the Lloyd Mine winze hoist. The 200 H.P. 435 E.P.M. 2200 volt slip ring motor from the Princeton Mine skip hoist was installed with the hoist. This is G.E. Motor serial No. 547569, the object No. is C-1-117-372.

The failure of the 50 H.P. motor and starting compensator for the water supply pump for the North Lake location occurred during a lightning storm. This pump is located in the basement of the Morris Mine engine house and is connected to the 2300 volt bus which also feeds their skip hoist. It was therefore necessary to cut the line and provide disconnecting fuse blocks for compensator repairs. A spare motor is now used while the regular motor is being rewound.

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MAAS MINE:

Only minor repairs have been made to motors and controls of the hoisting equipment during the year.

The Synchronons motor of #2 compressor is still operating with seven coils cut out of the stator winding. This motor winding is in bad condition and will require a complete rewind with an extended shut down when the break occurs. The spare exciter armature was put into the generator for No. 2 compressor after the failure of the commutator insulation. This armature is in the shops for repairs.

The haulage equipment is in need of some extensive changes, especially in the shaft cable layout. The D.C. load is increasing and the distance is greater since the development of the 6th level. One of the 500 ampere D.C. circuit breakers on the haulage distribution panel burned and was scrapped, to replace this equipment a 1200 amper breaker was taken from the Negaunee Mine Westinghouse haulage set.

Several changes in lines and cables were made near east side of the engine house to make way for the fill or ramp to the entrance. In order to get away from overhead 2300 Volt lines to the surface pump and top tram, an underground installation of 3 conductor #6 cables was made. The surface lighting lines were raised for clearance, several 3" conduits were also placed in the fill for proposed cable changes.

The 2500 Volt 3 conductor cable for power supply at the Maas crusher plant failed during a lightning storm. The cable was disconnected to permit operation of the surface pumps and later replaced with a new #4 - 3 conductor cable.

Splicing and repairing of the #1 2300 Volt shaft cable was completed in January, Connections were again made for its operation in parallel with No's. 2 & 3 cables. This is the oldest 2300 Volt cable at the mine and has four patches. It was purchased in Germany in 1912.

Several changes were made in the pumping equipment during the year. The 250 H.P. Goulds centrifugal pump recently taken out of the main pump station at Cliff Shaft Mine and shipped to Spies, was taken to the Maas Mine 5th level with the 250 H.P. Westinghouse motor and line starting equipment for pumping from the 5th level to the 3rd level.

The 50 H.P. 2300 Volt Cutler-Hammer contactor formerly used with the south top tram was sent to the 6th level to be used as a contactor for float switch operation of the plunger pump installed near the winze for pumping to the 5th level. The 50 H.P. motor NO. C-2-117-374 from the Princeton Mine with a K-20 oil switch were also taken to the 6th level for this job.

Several coil connections on the rotor of the 400 H.P. Allis-Chalmers centrifugal pump motor failed and tied up this pump for almost one month during October.

MATHER A MINE:

After the difficulty with top trams cars at the Mather Mine one of the Princeton Mine 6 Ton locomotives was rebuilt in the general shop for 42" gauge for emergency use on the top tram. The object No. of this locomotive is C-1-110-063. Another Princeton locomotive bearing object No. F-4-110-001 was rebuilt in the shops and taken underground at the Mather Mine.

ELECTRICAL DEPARTMENT
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MATHER A MINE: (Continued)

When the water difficulty occurred a number of changes were made requiring the movement of motors and starters for pump. A 75 H.P. Allis-Chalmers motor with a G.E. starting compensator was taken from the Cambria-Jackson Mine with a 600 G.P.M. centrifugal pump No. 13-8-138-268. Pump No. C-4-138-192, 500 G.P.M. and 185 ft. head with 30 H.P. motor No. C-4-117-389, was taken from Gwinn district storage. Pump No. C-138-266 with 100 H.P. motor No. C-7-037-572 with a 60 ampere K20 oil switch from the Gwinn district. Motor No. B-1-117-144 formerly used with the 5th level centrifugal pump at the Maas Mine was sent to the Mather Mine for use in case the above 100 H.P. motor No. C-7-117-377 failed.

The Mather Mine Bucyrus-Erie 120-B shovel was moved from Negaunee Mine to the Mather Mine with 1000 ft. #4 - 3 conductor tirex cable before the loading season.

The 100 K.W. rotary converter from the Princeton Mine with its transformers and other equipment was installed in the engine house basement for emergency use after some difficulty with the rotor of the synchronous motor of the Westinghouse M.G. set for the surface supply of 250 Volt D.C. power.

Some delay in hoisting occurred on account of burning of oil and collection of carbon in the risers of one of the armatures of the skip hoist M.G. set. After a thorough cleaning for several hours it was learned that little damage was done to the insulation and operations went on as usual. A spare armature of this type to be interchangeable with all skip and cage hoist D.C. motors and generators has been ordered from the G.E. Co. with delivery in about 20 months. This order was placed in the month of May 1947.

MATHER B MINE:

Most of the electrical equipment for the shaft sinking job was picked up at the other mines. The 400 H.P. slip ring motor, control panels, master controller, grids, and oil circuit breaker for use with the main hoist were taken from the Princeton Mine cage hoist.

The electrical equipment for the 325 H.P. Nordberg compressor recently moved to this job from the Princeton was also taken with the compressor, including the D.C. generator (exciter), starting compensator switches, panels and meters.

Circulating water pump for cooling water were also brought from the Princeton Mine with their 10 K.V.A. 2300 to 440/220 Volt transformers for low voltage power in engine house and surface.

Electrical equipment consisting of one K20 oil circuit breaker and a set of control grids from the Princeton Mine, a 35 H.P. wound rotor motor from the Lloyd Mine 7th level hoist and a controller from the Lake Mine storage was taken to the Mather B for installation on the small hoist in the engine house to be used on the vent pipe job for the main shaft.

NEGAUNEE MINE:

No important changes were made in the hoisting equipment during the year. The speed of the skip hoist was checked in the month of August at 52 R.P.M. A rope speed of 1300 F.P.M. and continues to operate at that speed. The commutators of the skip and cage hoists generators were turned and the motor generator sets given their routine cleaning and painting.

ELECTRICAL DEPARTMENT
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NEGAUNEE MINE: (Continued)

Air compressor difficulties at this mine during the year have been largely confined to the synchronous motor of the Ingersoll Rand compressor. After the first failure in the stator winding which required cutting out two coils, several failures have occurred resulting in seven coils being cut out. A complete rewinding is necessary and arrangements are now being made to tie the Athens air lines to the Negaunee Mine in an attempt to supply air to both mines with three compressors while repairs are made.

The maintenance and repair of the D.C. haulage equipment has been routine other than the 150 KW Westinghouse generator of the old M.G. set which failed in July. The coils of the armature spread out of the slots and the equalizer connections are in bad condition. Due to the age and general condition of the machine, the cost of reconditioning would be extremely high. It was therefore decided to scrap the set and run the Negaunee Mine haulage with the 250 K.W. M.G. set. Since the power requirements are much lower with the present operations, this does however leave the Negaunee Mine without a spare haulage MG set.

SPIES MINE:

No extensive changes or repairs have been made to the electrical equipment of hoists or compressors at this mine during the year.

In order to increase the carrying capacity and improve the D.C. voltage capacity of the underground haulage system, a 4/0 cable from the Princeton Mine has been installed in the shaft from surface to the 4th level. As soon as the necessary cable is available, the extension will be completed to the engine house providing two 4/0 cables in parallel from the engine house to the 4th level.

The G.E. L.M.-2T6-1L locomotive taken from the Lloyd Mine and repaired in the general shop, was sent to the Spies Mine to be used on their bottom level.

The 3-50 KVA transformer for the air shaft are now connected and supplying 440 Volt power for the 25 H.P. blower at the collar of the shaft and one 40 H.P. pump at the bottom.

