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A  
SOCIOLOGICAL SURVEY  
of the  
BISBEE WARREN DISTRICT  
by  
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ARIZONA STATE BUREAU OF MINES

Tucson, Arizona.

Dec. 31, 1917

Recreation---Sociability---Amusement.

Recreation and social activities in the Bisbee-Warren district consist of:

Baseball

Dances

Golf

Tennis

Automobiles

Football

Library

Motion shows

Road shows

Amusement, recreation  
and loafing places

Picnics

Dramatics

Musical Clubs:

1. band

2. orchestra

3. quartette

4. chorus

Parks

Playgrounds

Rifle ranges

Shooting traps

Clubs

**BASEBALL:**

Under normal conditions the district supports three baseball teams, which play two games a week--one Saturday and one Sunday. Two of the local copper companies designate a man to head their baseball teams and with an appropriation from the companies they proceed to organize a team. Material such as bats, balls, suits, etc., are purchased from the appropriation. Places on the team are open to competition and applications for places number 75. Each team carries thirteen players. Admission to games is twenty-five cents to men--ladies free. Game expenses are taken out of the gate receipts and the remainder is split--60% going to the winners and 40% to the losers. An average attendance at the games is 300--35% of these being Americans.

The Copper Queen and the Calumet and Arizona allow concessions to their players as follows:

Continuous day shift,

Three afternoons a week off to practice, and

Picked positions at the mine.

The ball park at Warren is 440 feet square and will accommodate 1500 people(seated).

**DANCES:**

Dances are held in the following places:

Eagles Theatre	Highland Park
High School Gym	Vista Park
Brophy Hall	Elks Home
Y.W.C.A.	Masonic Home
Union Hall	

When conditions are normal, the Calumet and Arizona and the Queen band hold a dance every Saturday and Wednesday night at Vista Park. These dances are open to the public. Admission to dance is fifty cents. As many as 2000 people--40% dancers--attend with an average attendance of 500. Dance expenses are taken out of the money received and the balance is distributed among the band men. The Queen band holds dances one week and the Calumet and Arizona band the next. On days such as Labor Day, Eight Hour day, etc., the evening dance is usually given by the Warren Volunteer Fire Department. During the winter months the dances, which are preceded by a band concert, are held in a local hall. Dances are not held regularly through the winter.

High school, Y.W.C.A., Elks, Masons and other organizations give dances occasionally, but, of course, these are invitational dances.

A dance is held every Sunday night at Highland Park.

**GOLF:**

A golf course is maintained by the Country Club and gives recreation to about 100 of the club's members during the winter.

**TENNIS:**

The Country Club maintains four courts and the Y.M.C.A. one. Members of these two associations are the only people to take

advantage of this excellent recreation.

**AUTOMOBILES:**

The district contains a good number of automobiles and on sundays and holidays people meter out and enjoy a day of recreation. Due to the unusual situation of Bisbee the auto, as a means of transportation, is very useful.

**FOOTBALL:**

The High School and the Calumet and Arizona each have a team. The latter play from about October first to Christmas. It is a volunteer organization and plays outside teams. From 18 to 20 men turn out for practice but due to the fact that opposition is scarce and that it is necessary to secure Sunday games, the game attracts very little attention. Money received from games is divided among the players.

**LIBRARY:**

This is a three story building--built for the people by the Copper Queen at a cost of \$85,000, exclusive of books, periodicals magazines, etc., The Post Office occupies the first floor, the reading room the second and the library, the third. The company buys all the books and pays all running expenses. The library serves all nationalities and ages.

Volumes-English	7,885
Volumes-Spanish	500
Daily papers-including German French, Servian, Italian, Spanish	26
Current Magazines	94
Circulation 1916	28,795
Average daily circulation 336 days	85.72
Total registration	9,963
Average daily attendance	320
Estimated reading room attendance	109,455

Percentage attendance:

Americans	66 2/3
Foreigners	33 1/3

Percentage attendance in library

Men	33 1/3
Women	33 1/3
Children	33 1/3

In reading room:

Men	90%
Women	5%
Children	5%

Books worn out by usage are usually sent to ranches--at present they are being sent soldier camps.

The building also contains:

A game and smoking room and a room for Red Cross meetings.

Games played are chess and checkers.

The reading room is open from 9 A.M. to 10 P.M. and the library from 10 A.M. to 12-noon--2 P.M. to 5 P.M. and 6 P.M. to 9 P.M.

The library is run by a librarian and one assistant.

MOTION SHOWS:

The district contains seven picture shows. An average daily attendance at four shows is 2500--admission charges vary from five cents to twenty cents. The shows are open from 1 P.M. to 11 P.M. Good pictures are shown, a few educational pictures and occasionally a travelogue.

ROAD SHOWS:

A road show will play to the district about once every three weeks during the coming year. A heavy diversion charge, peer connections and small play houses have a tendency to decrease the number of plays.

AMUSEMENT, RECREATION AND LOAFING PLACES:

Poolhalls	12
Ice Cream Parlors or Drinking places	6
Drug stores with fountains	3
Loafing places	6
Smoke shops	2

PICNICS:

Lewis Springs and Berner's Resort are the only two places available for picnickers outside of Bisbee. By auto they are 20 and 34 miles respectively from the district. Lewis Springs is 36 miles by railroad and the fare is \$1.40. To get to Berner's Resort it is necessary to take the train to Hereford a distance of 18 miles--fare one dollar--from Hereford to the Resort, which is in the Huachuca Mountains, travel is made by wagon or auto.

Berner's Resort has:

- Running water
- Dance platform
- Picnic grounds
- Box Canon
- Fruit
- Home cooking
- Pine Trees

This is an ideal place to hold a picnic.

Lewis Springs is not as desirable due to the lack of shade, trees, mountains, etc., although it is closer to the district.

DRAMATICS:

About eight amateur plays are given during the year. They serve all classes and always play to a crowded house and usually play two nights in Bisbee and one in Douglas.

The Elks stage two, Y.M.C.A. two, Y.W.C.A. one, Moose one and the High School two. The district contains sufficient talent to

to give a play at least once a month.

#### MUSICAL CLUBS:

##### Bands:

Under normal conditions the district supports two bands, one known as the Calumet and Arizona and the other as the Queen.

The Calumet and Arizona Band is an independent organization of approximately 35 members who are all American citizens. The company officials have arranged the work of the men so that they are on continuous day shift with good positions and have provided a room for practice.

For a stipulated amount paid by the Calumet and Arizona this band plays a series of concerts during the summer months. When outdoor dancing is possible the band gives dances at Warren Park and these take place Wednesday and Saturday of every other week. Money taken in at the dances, less 10%, goes into the band fund from which they buy music, uniforms, and pay carfare. The band has a \$3000 music library. The men buy their own instruments.

The Copper Queen band of approximately 28 members--25 Americans and three foreigners--was organized under similar conditions and follows the same program as the Calumet and Arizona. The Phelps Dodge Corporation contributes \$75.00 a month toward the upkeep of the band and have, in the past, sent the band to Phoenix to play at the state Fair, as does the Calumet and Arizona. The companies pay expenses both ways and wages while the men are gone.

Positions held by the men are as follows:

Painters and helpers

Carpenters and helpers

Shaft timbermen

Machine runners

Miners

Timbermen

Boss electrician

Trackmen

Boss powderman

Repair men

Air and Waterline men.

The Y.M.C.A. has a quartette, a chorus of 25 members and an orchestra of seven.

**PARKS:**

**Vista Park:**

This park, situated in Warren, has an area of 109 feet at the south end, 162 feet at the north end and is 2547 feet long. One end contains a band stand surrounded by a concrete dancing floor-- thirty feet wide with an inner circumference of 190 feet. Seats have been placed around the outer edge of the concrete. Walks, shaded by pergolas lead from the floor in four directions. Seats are placed along the sides of the park for the convenience of visitors and dancers. Trees have been planted along the width 300 feet from one end. The street cars pass the southeast end making the park accessible to Bisbee and Lowell people.

Family picnics, dances, concerts and holiday celebrations are held in the Park.

**Highland Park:**

This park is situated in the upper end of Tombstone Canon, one half mile from the end of the carline. It contains a wooden dance floor approximately 150 feet square, three swings, few benches, one house and a soda stand. Although called a park the area is a natural formation, with the exception of the above.

Dancers frequent the place on Sunday night and during the day it is used for family picnics.

**Midway Park:**

This is a small area 100 X 40 feet situated between Bisbee and Lowell. Formally it was a beer garden but stands idle at present.

**City Park:**

The city of Bisbee with the aid of warrants and subscriptions amounting to approximately \$25,000, built this park in the center of the district. It is about 105 feet long by 180 feet wide and contains a stage, small lawn, few trees, benches, two drinking fountains and no shade.

**Playgrounds:**

Each school supports a small playground.

**Rifle Range:**

The Country Club maintains the only range and has, also, a trap shooting ground.

**CLUBS:**

The Country Club is an organization of business, professional, salaried and operating men. It is a corporation--shares costing \$50 which take the place of an initiation fee. Dues are \$2.50 per month. People desiring membership are investigated and voted on. There are 75 active members--all Americans.

Social activities consist of dances and smokers--serving about 100 people.

Recreation can be had in the form of golf, tennis, pool, billiards and cards. All members take advantage of the tennis courts and golf links.

The club rooms are rented to other organizations for dances, etc., and the Phelps Dodge Corporation holds its Women's dinners and banquets there. A chef is in attendance at all times.

**Rest rooms:**

The Phelps-Dodge Mercantile Company maintains club rooms

for their women employes. It is known as a rest room and used by the women mostly during lunch hour.

The building contains an electrically equipped kitchenette, a piano and victrola, 75 volume library, the necessary furniture and a lavatory. The women use the rooms in the evenings for socials and entertainments.

#### Suggestions

There has been no stage in the growth of the world that has not brought to mankind its problems. At this time there is probably no more vital problem than the one of adjustment between the industrial and social worlds. The solution of the difficulties presented by the two factors--man as a social, human being, and man as a part of the great industrial machine, has to be solved by the employer. This problem is fast becoming the key-note of prosperity, or non-prosperity, throughout the civilized nations.

The unusual location of the Bisbee-Warren District presents a problem which is hard to solve, especially in the way of recreation. With the district a quarter of a mile wide, and five miles long, Personnel Work must be distributed, i.e., in attempting to solve the problem, it will be necessary to duplicate the work.

If the industry to which the laborer belongs is located where he has access to good schools, public libraries, clean recreation places, etc., the corporation's responsibility is lessened; but it is seldom that large industrial plants are so located that the workmen can have these advantages. Therefore it would seem that the responsibility of providing something above the bare necessities of life is up to the corporation. For, in the end, it is from the laborer and to the laborer to whom our great industries have to look for their existence and their prosperity.

Any corporation providing Personnel Work for its employes should bear in mind that the work, although it is for the better-

ment of the community, should take care of the employes first, and then the employes of the City.

By conversation with groups of men and with individuals it was found that the majority of the men in the Bisbee district desired amusement. They appreciate the baseball which is supported in their behalf and their only objection is the distance of the ball park.

The men are very desirous of having baseball and it is necessary to furnish them with good baseball. Amateur teams, picked from the rank and file of the workman, would create rivalry among the different towns and would, no doubt, furnish the necessary amusement if it were possible for the men to organize such teams. But, the majority of the men would rather be amused than furnish amusement and besides, a man who has put in a good days work desires recreation in the form of amusement rather than in participation of recreation for amusement.

Amusement, in the form of baseball can be had by organizing a league composed of a team from each of the following:

Phelps Dodge Corporation, Calumet and Arizona and Shattuck-Arizona and the Copper Queen and the Calumet and Arizona Smelter. A competent man should be placed at the head of the league and his duties should consist of:

1. Arranging a schedule
2. Discipline of men and teams
3. Up-keep of the grounds
4. Admission charges
5. Disbursement of money received:
  - a. For league expense
  - b. To players
6. Responsibility for the conduct of men, i.e. toward the companies. If the men are hired to play ball

they should be put under contract so as to protect the companies.

If it is the desire to amuse it will be necessary to hire ball players and not workmen; to allow them the privileges of ball players and to pay them accordingly.

Dancing is an excellent recreation as well as a means of sociability and the district is well supplied with this particular form. It seems that the City Park should be available for dances as is the Warren Park. Dances in Highland Park should be under the management of a censor.

Tennis is a game which is classed by the majority as a game for the younger generation and especially as a game for women. This impression is due to a lack of knowledge of the activity and alertness required to play the game successfully. Due to the fact that tennis is a game which can be played on a small area and that a court can be made at small cost, enthusiasm should be stimulated along this line. In the Bisbee-Warren district there are numerous areas which could be utilized as tennis courts.

An area on Quality Hill is one of the numerous ones. By grading an area of approximately 90 feet by 108 feet an area of approximately 255 feet by 108 feet would be available for tennis courts.

The people of the Bisbee-Warren district own a great number of automobiles and with these they are able to create their own recreation. An automobile is a thief of time and in some unknown manner a desire to own an automobile should be created in the minds of the men.

The library, if the writer was informed correctly, was the first attempt of the Phelps-Dodge Corporation to create a recreation for their workmen and it was built with the idea that it would be a drawing card from the saloons. The library has done more good for the community than all other attempts at personnel work.

The district has a population of over 16,000 and the library had a circulation of only 28,795 during 1916. What is the cause of the small circulation? The library was built for the workmen and their families and not as a library for a university, consequently college/<sup>library</sup>rules have no place in such a library and the hours of opening and closing such a library should not conform with those of a college library. Promptness in issuing books, familiarity with books and authors, etc., by competent assistants assures a steady and growing circulation.

Circulation may be increased by having a traveling library and other than increasing circulation, it might be a means of education to the miner and his family and also have a tendency to keep the men home and cause them to forget their troubles.

Highland Park should be taken over by the City and made into a public picnic ground. It is a natural location and by expending \$1500 it could be made into a recreation ground which would be appreciated by many.

Berner's Resort is the most attractive picnic ground on account of its box canoes, running water, etc., added attractions could be had in the form of:

1. Stocking the stream with fish
2. Swimming pool
3. Band from Fort Huachuca

It is good policy for an employer to concern himself with this problem.

Good music provides one of the most delightful forms of recreation in that it puts the mind in a proper attitude for restful sleep and relieves the tension of the mind that the day's work has made. Music should be encouraged instead of discouraged. The present form of management of bands is desirable but appreciation of their services should be shown in some manner.

If the men in a band are willing to give up three evenings a week in the preparation of a musical program to be rendered on the streets of Bisbee for the amusement of the public and especially for the workmen, important committee meetings, which are being held or are held in nearby buildings, ought to be postponed. Lack of appreciation is shown by asking the band to play in some other part of the city other than on the steps of the Queen store so as not to disturb the committee must be discouraged.

The same band offered their services to the City and asked permission to play in the City Park. Permission was granted, but, "Of course," remarked a city official, "we will expect you to pay for the lights."

More trees should be planted in Vista Park and it should contain more benches. A play ground for the children and recreation ground for the grown-ups could be built on the south side of the Park.

Highland Park, due to its location and natural formation, can be made into a very attractive picnic ground or park.

Swings, hammocks, a short foot-race course, extending the car line, construction of trails, and placing of benches would add to its attractiveness and would prove to be a source of pleasure to a great number of people in the vicinity.

Midway Park would make an excellent playground for children.

The City Park is very unattractive. It contains too much cement. More trees, more lawn in place of cement, vines over the pergola and the forgetting of small town differences would make the place suitable for a recreation and sociability point. Band concerts would add to its attractiveness. The Park would be a good location for an animal zoo or a children's playground, especially the latter.

After completion of the operation on Sacramento Hill there will, no doubt, be an area of considerable size, which could be utilized as a Welfare center.

This location is in a most ideal place--it is centrally located--and by turning it into such a center a long felt need could be filled.

A baseball diamond, a football field, a  $\frac{1}{4}$  mile track, a children's playground, tennis courts, a dancing floor, shooting tunnels and a matatorium are a few of the amusements and recreations which could be incorporated into such a center.

It is very desirable to have a place where men can go and amuse themselves or be amused by the performances of others.

### The Industrial Young Men's Christian Association

The association occupies two buildings—a five story building and a two story boys' building costing \$110,000. The first floor of the boys' building with a separate street entrance, contains a lobby and social room, general office, numerous games, pocket billiard table, shuffle board, correspondence tables, drinking fountain, piano and music box. The boys' club room is used for committee conferences, club meetings, Bible study, educational classes and other purposes. The locker room contains 250 lockers for the younger members and will accommodate 12 boys at one time.

The men's showers, with accommodations for 30 persons at once, locker room, lavatories, etc., are also on this floor.

Going out of the bath room the members come to the swimming pool, the only one in the district, the greatest attraction for young and old alike. About 1500 of the total membership use the pool. The building contains 750 lockers which are rented to members for \$1.00 per year. The hot water plant is excavated in 18 feet of solid rock. Here water for plunge and showers is heated, the equipment consisting of two heaters and one boiler.

In back of the lobby of the main building are the bowling alleys, four in number, moderately equipped and with plenty of room for spectators.

The main lobby on the second floor is the social center for the men of the Warren District, and it is literally packed day and evening. Its frontage is the full length of the building and it extends back to the gymnasium. With outside light and ventilation, new furniture, easy chairs and lounges, talking machine, piano, cigar and confectionary stand, correspondence tables, pocket billiard and billiard tables, and a hundred other attractive features, it is little wonder that the lobby is so popular with the members and their friends.

Directly opposite the main entrance is the administration office and the office of the secretaries. Back of this is the directors' room and the private office of the general secretary.

The gymnasium adjoins the lobby, with a floor space of 40 X 60 feet and a gallery, both excellently equipped with all modern physical culture apparatus. This room is also used for social purposes, lyceum features, lectures, moving pictures, etc.,

From the lobby a stair case approach leads to the third floor, where committee rooms, education and Bible classes, banquet room, kitchen, ladies rest room and the lounge room for men are located. Exit from the lounge room is made to the big outdoor sun perch. The dormitory room, on the fourth floor, is appropriately furnished with "all the comforts of home" accommodations for twenty-five men, a charge of \$15 is made for one person and \$20 for two. On the same floor is a camera room, equipped with all necessary appliances, enlarging camera, lockers, etc.,

The band room, used by the Copper Queen band, is located on the fifth floor. This room is also used for daily practice work by the Safety First and First Aid team of the Copper Queen Mines.

Membership fees are as follows:

Men	\$10.00 per year
Boys 14 to 18	5.00 per year
Boys 10 to 14	3.00 per year.

The buildings are open from 6 A.M. to 11 P.M. and have an average daily attendance of 1200.

The object of the association is the development and upbuilding of men and boys mentally, morally and physically.

It has a membership as follows:

Class	Age	Nationality	No.	Occupation
Mine	22 to 45	Americans	888	
		Greeks		
		Slavs		

Class	Age	Nationality	No.	Occupation
		Servians		Miners
		Jews		
		German		
		French		
		Mexican		
		English		
		Scotch		
		Italian		
City	18 to 60		499	Employees of stores, etc.,
Boys	10 to 18		218	Students
Sustaining	18 to 60		20	Mining Officials Professional Business
Total			1655	

Recreational and social activities:

Gym contains trapeze, travel rings, swining rings, horse, horizontal bars, pulley weights, abdominal messiuur, handball, basketball, indoor baseball, running track and gallery. These appeal to the men and approximately 500 to 600 take part. Eighty members play indoor baseball.

For outdoor games the association has the use of a small field near the Czar shaft, the Warren baseball park and the Central School grounds.

About 100 members take part in fencing, wrestling and boxing. The fifth floor of the building, which originally was a dermitory is now used for this purpose.

Two hundred of the boys make regular hikes and annually take a trip to the mountains. Boys of the Douglas and Bisbee Y.M.C.A.'s have an annual 25 mile relay race from Bisbee to Douglas or Douglas

to Bisbee. One hundred boys take part and each boy runs  $1/4$  of a mile. A push-mobile race from the divide north of the city to the post-office is an annual feature of the boys' department. About 200 boys take part.

Occasionally the association has a field meet--150 men participating.

Tournaments on the four alley bowling course are held between teams of this and other Y.M.C.A.'s. About 300 men use them regularly.

Five hundred members take part in socials, such as smokers, plays, etc., which are held regularly three times a month. Occasionally the members have a mixed social--entertainment by singing, motion pictures, etc.,--the attendance varying from 1000 to 1500. Special social functions such as a lyceum course attract 1500.

Closer fellowship, better understanding among each other and elevation in a moral way are the benefits derived from such gatherings.

#### Education:

Language, American English, German, French, Spanish, Better Government, Mathematics, elementary algebra, science and mining in all its phases are taught through the association officers.

The number of members registered for these subjects is so large that the classes have to be subdivided. It is impossible to accommodate in the present class rooms the number who are interested.

Classes begin at 11 A.M. and continue up to 10 P.M.

Other educational subjects are

Motion shows

Stereoptics

Lyceum--two courses-- one free to members--bimonthly

Current topics

Musical Clubs

quartette

orchestra--7 members

chorus--25 members

Five hundred members are enrolled in the educational department and it is under the direction of an employed educational director.

The association subscribes for 94 magazines, 24 daily newspapers and has a 200 volume reference library on general mining and religion.

On Sunday, with an attendance of approximately 500, the following program takes place:

9 to 10 A.M.--religious phonograph recital

2:30 to 3 P.M.--Religious Phonograph recital

3 to 4 P. M.--Orchestra

4 to 4:30--social sing

5 to 5:30--public address

5:30 to 6:30--semi-social religious club

9 to 10--Song service--popular songs

The above takes place seven months during the year.

All the money obtained from membership fees, etc., goes back into the fund and the association operates on a \$32,000 budget. The buildings are owned by the Phelps Dodge Corporation and are managed by a Board of Directors consisting of 18 business and professional men, mining officials, salaried men, mining engineers and a miner. The executive staff or operating factor is composed of eight salaried men. Approximately 300 men act on committees.

The Industrial Young Men's Christian Association Building is too small. At the present time a great number of the members are taking advantage of the education offered by the management and in order to serve those desiring education it is necessary to subdivide

the classes. The enlargement of the educational department is causing the association to become very popular.

Eight hundred eighty-eight of the total membership, which is 1655, are miners and 499 are men from the city. Comparing the number of men employed, the city has the greatest membership. This should be discouraged from the point of view that the association was formed for the benefit of the miner and because of the fact that a miner desires association with his own class.

The word "Christian" in the name, the religious part of the weekly program and the time of closing are the only objections to the Y.M.C.A. These two former objections are made by a minority and need not be considered.

It has been suggested that the association be reorganized and then teach men "How to live".

It is obvious that any education of the workmen improves his efficiency and benefits his employer unless the education is too badly directed as to make him discontented with his work and to want to get into a "white collar" job. When, as now, a bricklayer can earn more money than a college graduate, it is curious that his desire for "white collar" jobs should exist but it does, and it needs to be reckoned with while in directing educational work. Results of education in many places are somewhat disappointing when compared to the amount of attention given to it, and this is due, no doubt to the use of volunteer teachers who are not sufficiently skilled in the art of teaching.

Numerous people of the district expressed a desire for:

Educational motion pictures

Open air musical concerts

Free lectures on all subjects

It may be possible that these could be incorporated into the offerings of the Association.

### The Young Women's Christian Association

This organization was effected in 1905 in answer to an appeal for a better home for the homeless young women of the Bisbee-Warren District. For about 11 years previous to December 1916 the Association met in the home of Walter Douglas. In December 1914 the Phelps Dodge Corporation announced that they would build a new building to be known as the Grace Dodge Memorial Home. Miss Dodge was a Queen stockholder and at the time of her death, was President of the National Board of the Y.W.C.A. In November 1916 the new building was dedicated.

The Association proved, during its early existence, that it was a worthy institution and doing wonderful work and as a reward for this work it received the new \$35,000 building.

The object of the Association is the Spiritual, Social, Physical and general Education of its members. The total membership, composed mostly of Americans, is approximately 425--300 of these are over 16 years old. One dollar a year is the cost of membership.

Social activities consist of parties and receptions. Attendance at these functions vary from 50 to 150. About once a year a carnival is held with about 500 people participating. The money is used for the care and upkeep of the girls' camp or for some special purpose.

About 200 take part in the Association's recreational activities which consist of tennis, basket ball, wolley ball, indian club exercises and folk dancing.

The library contains three hundred books, and subscribes for 20 magazines and two daily papers.

In the basement of the building is the only cafeteria in the district, conducted by the Association. It is open to the public

and serves daily an average of 350 people. The average cost of meals is 35¢.

On the first floor are located the office, parlor, living room and library, kitchenette and the big recreation room(fitted up with a removable stage) which is frequently used by the girls for parties, entertainments, lectures, etc.,

The Association Building is "home" to about 30 girls, all employed in the district, and every care is given them. Rooms are rented for \$12.00 per month to a single person and \$20.00 double. The rooms are steam heated and close to a bath. The girls also have the use of a parlor.

Among the various classes and meetings held under the supervision of the association are: First Aid classes with an attendance of 60, Monday Current Events class, Twentieth Century Club, Monday Music Club, Ukelele Club, Chautauqua Circle and English Classes. The attendance of all these meetings is fair.

Recently another young woman has been added to the staff and she will work among the Mexican girls, teaching them home duties, English, etc.,

The Camp Fire Girls are under the management of the Y.W.C.A. This club has membership of 125 and is divided into two classes. Some do First Aid work, others household activities, knitting, etc., They take occasional hikes.

Through the kindness of friends of the association a camp has been established in the Huachuca Mountains, with accommodations for 20 girls at one time. Last year 78 girls enjoyed a ten-day vacation here at a nominal expense.

The Association maintains an employment Bureau. Most of the employment work is carried on in the district although it cooperates with other towns to a certain extent.

A Board of Directors--18 in number--control the affairs of the Association. This Board is composed of prominent women of the community. It has also a members' council of 15--composed of girls from all phases of work and which represent all activities of the young women.

The building is always open.

The Association should concern itself more with the women members of miners' families. Entertainment for the younger generation of the district is very scarce and consequently it is sought at the dances at the different parks or dance halls. Safe-guarded entertainment furnished by the Y.W.C.A. for girls and boys between the ages of 12 to 18 would satisfy a big desire on their part and would be a very commendable work.

The Disbee-Warren District supports the following

Home Owners	Members	Age	Nationality	Social Activities	Benefits	Cost	Meetings	Men at Meetings	Possible Number
Royal and Select Masters	52	All	All	meets at elections installations	Getting together	\$10 per year	One a month	15	30
Loyal Orange Institution of American	100	18 to 50	American	dances and dances 2-3 months - 20 attending	Good fellowship	\$10 and \$12.00	Two per month	23	50
Knights of Pythias	160			meals	Friendship - Charity Assured members Patriotism				
Redman	150			meals	Patriotic - Friendship Charity - Loyalty				
Order of Eastern Star	200		Universal Mediterranean	meals - 50 present times a year	Friendship	\$5 and \$3	Two per month		
A.F. and O.M. Royal Arch Masons High Templars Elks Ladies of Elkdom Brotherhood of American Yeomen Fraternal Brotherhood Eagles I.O.O.F. (3) Junior Order United Mechanics Knights and Ladies of Security Ladies of Maccabees Moose M.W.A. W.O.W. (2) Women of Woodcraft Serbian Society Fingish Royal and Exalted Degree of the Amaranth Knights of Columbus					Elks lodge, the largest lodge in the district has six hundred members. Information as to what they do and what they offer was refused. The lodge with all its excellent home and family probably does a great deal for the community.				

-Warren District supports the following

Home Owners	Members	Age	Nationality	Social Activities	Benefits	Cost	Meetings	Men at Meetings	Possible Number
Elect Masters	52	All	All	Socials at elections & installations	Getting together	\$10 per year	One a month	15	30
Institution of American	100	18 to 50	American	Walkers and dances a month - 20 attending stability	Good fellowship	\$10 and \$100	Two per month	23	50
Philias	160			socials	Friendship - Charity Induces members Patriotism				
Bern Star	150			socials	Patriotic - Friendship Charity - Loyalty				
sons	700		Universal Medistation	socials - 50 present times a year	Friendship	\$15 and \$3	Two per month		
Wdom American Yeomen erhard									
United Mechanics adies of Security ccabees									
odcraft ty									
1 Degree of the Columbus									

Cost does not keep anyone from joining No. recreation.

Same as above

Object - To maintain a high moral standard. Welfare work big factor.

Welfare Work

Meet in evening Promotes co-fairness.

Elks lodge, the largest lodge in the district has over 500 members. Information as to what they do and what they offer was refused. The lodge with an excellent home and faces probably does a great deal for the community.

1 Degree of the  
Columbus  
Yes

The Bisbee-Warren District supports sufficient lodges for the size of the City, but, from available data, it is surmised that the membership is small in comparison to the population. Of course, this is a matter which is entirely up to the lodges. In a district like this, where sociability is at a premium, the different orders should desire to share their friendship, loyalty and sociability with men of quality, personality and high ideals. It is a duty which they owe to the individual and to the people. Their principal goal should be to serve the people, to upbuild the city and to promote community betterment.

**CHURCHES:**

Baptist

Christian

Christian Science

Lutheran

Mormon(?)

Presbyterian

Roman Catholic

Episcopal

Methodist Episcopal

**Episcopal Church:**

This church supports the following :

Young People's Society--meets occasionally for wholesome recreation,

Women's Guild--meets once a week for the support of the church,

Bible class--discusses social problems.

**Methodist Episcopal Church:**

Social activities

Epworth League

Boy scouts

Sunday School classes

Recreation:

Moonlight hikes

Breakfast on Tank Hill

The Ladies' Aid Society, which has 50 members, meets twice a month for social activities, and renders financial aid to the church.

The Epworth league maintains a regular Sunday evening devotional meeting, frequent social gatherings and once a month has an early morning breakfast followed by a devotional service on Tank Hill.

First Presbyterian Church:

Social, recreation and amusement is derived from the following:

Sunday School classes

Christian endeavor

Woman's league

WOMEN'S CLUB:

This club was organized in 1900, its object being intellectual and social advancement.

The club is composed of four departments, namely:

Literature

Education

Current Events

Social betterment

The following are subjects studied and things reported done by the club:

Life and work of different authors

Current issues, foreign people and places

Clean up day

Give \$500 to kindergarten of school

Art exhibits--money made from these is used to purchase works of art to decorate the walls of the schools.

Brought concerts and entertainments from the outside  
Helps the associated charities by raising money and gathering clothing.

Membership fees are \$5 for initiation and \$4.50 per year and the number of members is limited to 35--it now being an exclusive club. Total membership at the present time is 32. Originally the club was formed for the women of Bisbee and the new club rooms were for the same purpose.

The club meets every other Friday afternoon at 2:30 P.M. The entire membership attend the meetings. Evening activities consist of card parties, socials and dances to which the men are invited.

Members are all Americans and of high social standing.

The club is affiliated with the Arizona Federation of Women's Clubs.

The club could be improved by extending its membership, by studying present day problems and by opening the club rooms for the benefit of other clubs.

The Twentieth Century Club.

This club was organized in September 1915, its object being the general improvement of its members in social and literary ways. It is non-sectarian and non-partisan, any respectable woman desiring to avail herself of the privileges afforded by the club is entitled to membership. The membership fee is \$1.00 per year. The club has 70 members and is composed of five departments, home economics literary, education, social and civics--which meet twice a month in the afternoon in the Y.M.C.A. banquet hall.

The Home Economics department with 15 members is studying millinery and cooking. The course as issued by the University of Arizona will be followed the coming year.

The Civics department has 15 members, the Literary and Education has 20 and the social 70. English is their chief study. The club holds a social once a month and they serve limited refreshments.

The club is affiliated with the General and State Federation.

Accomplishments last year were:

Annual clean-up day

Baby week

Placed speed signs on Naco Road

Built a bridge across Chicago Avenue in the Johnson Addition

One-half rate on the street railway for children

About fifteen per cent of the membership are wives of miners, the rest are wives of lawyers, dentists, doctors, and clerks.

The club was formed as a beneficial club to the community and they are working along the proper lines. A club building is desired and it would then be possible to extend its membership and studies.

The Anona Club.

Anona is strictly a social club but wish to co-operate with the Twentieth Club. It has 27 members, mostly school teachers.

Boy Scouts.

The Boy Scouts of America have an organization in the district. The membership totals 50 and is divided into two troops.

Activities of the scouts are:

Ten day trip to Lewis Springs--27 boys and their

Scout masters participating

Frequent hikes

Collected 1000 pair of old shoes for the poor in France

Further activities could be had in the following ways:

1. Organizing safety patrols
2. Studying and applying first aid
3. Sanitation committees.

**Warren District Relief Association.**

Organized in 1909. It has a board of directors of 15 who meet annually and elect officers for the ensuing year. It consists of business men and the heads of the churches who are closely affiliated with the board. Maintained by voluntary contributions and its object is to help those who need it, in the way of clothing, shelter, food, etc., No deserving person goes without something to eat. For the year ending September 1, 1917: \$2000 was expended for families with the mother as sole support, and need of help was caused in 14 cases by desertion; distributed 1000 articles of clothing--more help is done in the clothing line than in any other due to the fact that the clothing is donated; attended 55 cases of illness in families. Three hundred families were helped after the drive--50 at the present time. Largest expense caused in giving aid is by groceries, clothing, rent, fuel, bedding, medicine, nursing, meals, lodging and repairing shoes. Transportation is a large item due to the fact that men are attracted to Bisbee on account of the high wages and after arriving find out that they are not suited to the work or else not physically fit.

**Warren District Business Men's Association.**

This association has about 60 active members and its principal object is to determine local credits and collection of accounts. The organization finds out the ratings of people who charge their purchases and keep records of same. It has been organized for eight years.

**The Citizens' Protective League:**

The Citizens' Protective League is an organization composed of residents and taxpayers of the Warren district, its main purpose being to promote civic welfare, better roads and better city and county government. The principles of the organization are to promote better city and county government, to preserve order and enforce law, to reduce taxes, and to foster and protect the best interests of the District without discrimination against any man because of his membership or non-membership of any organization or society.

**Loyalty League:**

The Loyalty League is an organization perfected to "Loyally stand for our country in the pending world crisis; to promote patriotic militant spirit among our people; to exterminate I.W.W.; to curb the treacherous alien; to fight disloyalty, anarchy and treason; to preserve order; to protect life, liberty and property and to see to it that every law abiding inhabitant of the community is unmolested by threat, epithet, taunt or espionage, in the enjoyment of his right to pursue his own lawful course; to uphold conservation of food and to try to abate the high cost of living."

**The Commercial Club.**

The Secretary gives the following information regarding the Chamber of Commerce:

The Chamber of Commerce is the accredited spokesman of all the people, and is recognized as standing for the entire community and is so representative that no one, either stranger or citizen, can doubt for an instant that it is the spokesman with a voice for the entire municipality. In its membership is represented every industrial and civic organization of the city, for each and every one has a vital interest in its true welfare.

The purpose of the Chamber of Commerce is to foster existing industries within the industrial district, to satisfy them with their surroundings and facilities, and to aid in every way to their growth. It reaches out and obtains as many and as diversified new industrial capabilities of its community in such a manner as to make the city the most complete distributing power.

It does not indulge in self-interest, special privilege or class distinction, political aspirations, or any form of activity which might be the germ of misunderstanding.

It is the clearing house of the activities of the city and the council of all the organizations of the municipality. It is city deep and city wide, ready to consider all problems for the common good. It fosters all those activities which develop the young men and young women of the city into wholesome, healthy, progressive citizenship, equipped to carry on in the future the work already begun.

It is active in the Americanization of all the foreign born, and it fosters all that is highest and best in every one, to encourage constructive and discourage destructive criticism. It is bigger than anything else in the community, so big and broad and so human that only that which is right can continue.

Accomplishment of the Commercial Club are:

A booklet on Cochise County

A booklet on the Bisbee-Warren District

Building of State Highway over the divide from Tombstone to Bisbee

Assisted in getting out the borderland map

Supported all civic improvements

Collected rifles and ammunition for defense during Mexican crisis

Rendered effective aid in securing a U.S. Bureau of Mines

Experiment station at Tucson

Reduction Fire Insurance rates.

The Commercial Club of the Warren District offers little opportunity for the residents of the district to interest themselves in the worthy objects towards which the efforts of that Club are directed. The people are not made to feel that they are a part of the organization--no meetings are held other than those of the Board of Directors.

While the Commercial Club is ordinarily the leading business organization of a community, this does not seem to be true of the Warren district, and it is believed that a great deal of additional good would be done by the expansion of the work of the Commercial Club to reach more people and give them the opportunity for activity.

The present secretary of the Club seems to be the necessary live wire for promoting such activity, but he will need the assistance of the men of the community.

STREET CAR SERVICE.

Owned by the Warren Company.

It is good administration for an employer to concern himself with this problem.

Bisbee to Warren- $\frac{1}{2}$  hour service--5 A.M. to 12:30 P.M.

Bisbee to Lowell-15min. service--10:30 A.M. to 8:45 P.M.

Four cars to Country Club on week days--seven on Sunday

Owl Car every hour 12:30 A.M. to 8:00 A.M.

On special days all equipment out--capable of handling 30,000

Double header Bisbee to Lowell 3:30 P.M.

Double header Bisbee to Lowell 4:15 A.M. to 9:30 A.M.

Lowell is known as the junction point. A five cent fare is charged from there to end of Tombstone Canon or to the Country Club.

Miners can buy tickets in quantity and get the regular ten cent fare for 3  $\frac{1}{8}$  ¢.

No welfare work.

Operating department:

Conductors and motor men	25
Gar barn employees	14
Section men	20

Conductors and brakemen are paid according to the number of passengers carried. Regular pay varies from 42¢ and 43¢ to 46¢ and 47¢ per hour. Difference in the rate is due to seniority.

The wages are as follows:

- Master mechanic \$175.00 plus bonus based on price of copper
- Despatcher \$150.00 plus bonus based on price of copper
- Superintendents' wages based on price of copper varying from \$4.50 to \$5.50
- Mexican labor in barn based on the price of copper and wage

varies from \$2.25 to \$2.75

Mexican labor on section based on number of passengers carried and wage varies from \$1.70 to \$2.10

Electricians and blacksmiths wages are based on the price of copper varying from \$<sup>4</sup>.50 to \$5.50

#### FIRE DEPARTMENTS:

The Bisbee fire department consists of two houses with the necessary equipment. House No. 1 contains toilets, showers, lockers and a 100 volume library and two daily papers. At House No. 2 the firemen have purchased a phonograph and a pool table.

Warren has a volunteer fire fighting organization of 25 men. Members are fined for not attending meetings. Ten per cent of the money taken in at the dances at Warren Park goes to keep up the department.

#### WARREN COMPANY BUILDING ASSOCIATION:

Lots are priced at double value and sold for cash at half price providing the purchaser agrees to build a house in six months. Purchaser buys from  $1\frac{1}{2}$  to 2 lots. The company will loan interested people \$2000 at 8% which is to be paid back in not less than sixty months. There is no city tax on property in Warren.

#### Building restrictions:

\$100 to \$150 lot	\$400 house
\$300 lot	\$800 house
\$350 to \$425 lot	\$2000 house

Etc.,

#### CITY SANITATION:

City ordinances require every house to have flush toilets and to pay 50¢ per month for the removal of garbage. The city also supports an annual clean-up day and requires the people to keep their yards and alleys clean. It has its own water system and at present is considering the furnishing of water to Bisbeeites.

VEGETABLE AND FLOWER GARDENS:

There are very few in Bisbee due to the location, lack of ground and to the price of water. Of course, the gardens do not pay because the price of water--vegetables, etc., can be purchased cheaper. There are very few flowers, three or four small orchards, of peaches, pears, apples and grapes and these are up near the end of Tombstone Canon. Nearly all of the houses in Bisbee and Warren have a few vines, trees or something green but in most cases it is something which does not require much water. A few fruit trees are scattered all over the district. Warren has the most lawns, trees and flowers because a well-to-do class of people live in that vicinity and can better afford to pay for the water. Yards are very scarce but nearly all the homes have sufficient yardage to grow radishes, lettuce and the smaller vegetables.

If the people could get a flat cheap rate on their water nearly all would attempt to have a garden or lawn, flowers, etc., The price charged for water is very high.

The co-operative gardening schemes now in full swing throughout the country are an excellent method of enabling the employees to keep down the cost<sup>of</sup> food, and a man who is busy in his garden has no time to loiter around saloons and other gathering places of discontent. The psychological effect of such work is not the least part of its value. The man who is willing to vote some of his spare time to labor that is not immediately profitable but is expected to yield returns in the future is likely to exhibit the same spirit in the work that he does for his employer.

THE PHELPS DODGE CORPORATION:

Length of service of men employed is as follows:

Employed one month or less	15%
Employed one month to one year	20%
Employed more than one year	65%

An employment Officer hires all men for underground work. For surface work in the mechanical or surface roustabout departments, men are recommended for employment by the Master Mechanic or Surface Foreman. As regards underground men the employment officer has entire charge and responsibility for employment but avails himself of advice of underground foremen or bosses in case the applicant is known to them. If the applicant is considered favorably, he is passed to the examining physician who reports on his physical condition and whether he is to be recommended for underground employment or not. If passed by the physician, he reports to the foreman.

All men leaving the employment of the Company report to the Employment Officer for clearance before being paid off. This is to ascertain why the man is quitting or why he was discharged. It is important to know the reason why he finds it desirable or necessary to leave the company. If a man is discharged the matter is taken up by the Employment Officer with his shift boss or foreman, the reason investigated, and if the offense is not flagrant, he is asked if he would like another opportunity and, if so, is transferred to another division and sent to work again. In this way it is hoped to avoid the loss of men who might be useful under other bosses or in different circumstances and also protect men from discharge for personal reasons. Men discharged simply for failure to do sufficient work are usually given two or more chances unless they seem to be hopeless.

In making a physical examination rejection is made for Tuberculosis, Heart Disease, Epilepsy, Kidney Trouble in certain stages, loss of one eye or such lack of vision as may make employment underground dangerous, Venereal Disease, Hernia, etc., or such physical condition as would make employment underground dangerous or injurious to the health of the employee.

There has been serious difficulty in handling the question of Hernia. The same difficulty has been encountered in the State of Washington, where the State administers compensation payments, and California where payments for Hernia are rare as indicated in State Reports. Unfortunately the Constitution of Arizona does not provide any method by which employee may release the Company from damages resulting from his physical condition existing prior to employment.

A system of daily wage is in general use. While its difficulties are recognized, the work of this mine is not easily susceptible of measurements on performance on which piece work can be based. This wage is based on a sliding scale proportional to the price of copper as shown on the following tabulation. See Page 39.

Investigation of methods of drifting and raising have been carried on for about two years and experiments have been begun leading to the payment of bonuses for work above a fixed standard. It was necessary at first to classify the ground in respect to these conditions which control progress, so as to put different drifts on an equality so far as bonus is concerned. After considerable investigation, a rate of advance per shift employed was decided upon for each class of ground and payments made for progress per shift above the required figure. The standard set was based on average work and has been exceeded consistently by men who have been working on bonus for any length of time.

The system has not been universal, principally for the lack of having sufficient time to educate miners into proper methods of work. In the past few months 32% of the drifting has been driven on bonus, and the men on bonus have received an average of 45¢ per day, beyond their wages. A small percentage of the men have failed to earn bonuses, usually for lack of knowing how to work in the most effective manner, and instruction is given to those who fail to reach the standard. Aside from mucking, the principal advantage has been through developing and practicing a better method of work.

Wages of employees, September 1, 1917:

Miners	\$5.35	Drymen	\$4.05
Helpers	5.10	Cagers	5.60
Shaftmen	5.60-5.85	Skip tenders	6.10
Muckers	5.10	Top loaders	5.10
Timbermen	6.10	Car oilers	5.10
Helpers	5.85	Pipemen U.G.	5.60
Frammers	5.10	Pipemen Surface	5.35
Mule Drivers	5.10	Quarry Boss	Salary
Motormen	5.60	Teamster	4.60
Helpers	5.10	Gardner	Salary
Mule Sheer	5.85	Surface Boss	Salary
Trackmen	5.60	Laborers	3.30-2.15
Helpers	5.35	Powdermen	5.35
Hippers	5.10	Watchmen U.G.	5.35
Watchmen Surface	4.05		

From September to January 1, 1918, wages will be based on 25¢ copper.

Base rate of miner is \$4.00 and 15¢ copper.

**SCHEDULE OF WAGES FOR MINERS AND MUCKERS:**

Price of copper	15¢	16¢	17¢	18¢	20¢	22¢	24¢	26¢	28¢	30¢	32¢
Muckers	3.75	3.85	4.00	4.10	4.35	4.60	4.85	5.10	5.35	5.60	5.85
Miners	4.00	4.10	4.25	4.35	4.60	4.85	5.10	5.35	5.60	5.85	6.10

The company supports a library and reading room containing approximately 8500 volumes, and subscribes to 94 magazines and 26 newspapers. The library is free to all residents of the district. It also contributes heavily toward the support of the Y.M.C.A. and the Y.W.C.A. It has also, until recently, contributed to a company band, composed of its employees.

A benefit association for health and accident insurance and a pension system are supported by the company.

The object of the benefit association is to provide its members with a certain income when sick, or when killed or disabled, by accident off duty, or when disabled for less than two weeks by accident suffered on duty, and to pay to their families certain definite sums in case of natural deaths; to create and maintain a fund which shall belong to the employees to be used in payments of benefits to them, and to cost them the least money possible, considering the benefits received.

**Contribution:** The rate is  $1\frac{1}{2}$  percent of the daily wages computed for the total number of calendar days in each month to a maximum of \$125.00

**Benefits:** 1. Death from accident sustained while off duty--one year's wages, not exceeding \$1500.00.

2. Death from sickness--one year's wages, not exceeding \$1500.00

3. Time lost from accident while off duty-- half wages during disability, not to exceed \$62.50 per month for one year.

4. Time lost from accident while on duty--half wages for 14 days when disability does not exceed over that period, not exceeding a benefit at rate of \$62.50 per month.

5. Time lost from sickness--half wages during disability, not exceeding a benefit of \$62.50 for one year. (The first five days of disability deducted from all sickness claims.)

6. Loss of hand or foot or both hands or feet, above the wrist or ankle, sustained while off duty--one year's wages not exceeding \$1500.00.

7. Loss of one eye sustained by accident while off duty--one half year's wages, not exceeding \$750.00.

8. Loss of both eyes, sustained while off duty--one year's wages, not exceeding \$1500.00.

#### SYSTEM OF PENSIONS:

The benefits of this system shall apply only to employees who have been 15 years or longer in the service of the company, and who shall be divided into the following two classes, viz.

A. All employees who in the opinion of the company, have become physically or mentally disqualified, may be retired at the option of the company and become eligible to the benefits of this system.

B. All employees who shall have attained the age of 70 years and who must be retired from active service.

The benefits of this system shall not apply to any employee who, in accordance with any State Working Man's Compensation or Insurance Act, is receiving such compensation or insurance for injuries received while in the employ of this company.

The amount of the annual pension to be allowed any retired employee who shall have served fifteen years or more shall be at the rate of two(2) percent of his average annual salary or wages for the three years of active service immediately preceding his retirement, multiplied by the number of years of his service

in the company, but the maximum annual amount paid to the pensioner shall in no case exceed 60% of such average annual wages or salary, nor shall the annual pension in any case exceed the sum of One Thousand Dollars(\$1000.00)

#### Safety Organization of the Phelps-Dodge Corporation

##### Copper Queen Branch

Realizing a duty which every company owes to its employees, the Copper Queen Consolidated Mining Company, during the summer of 1913, started a movement among its workmen for the prevention of accidents, and laid the foundation of what has since been known as the Safety First Organization.

##### ORGANIZATION

During the early summer a committee was appointed by the General Manager to draw up a plan of organization and form a book of rules. This committee was composed of three officials and six workmen. The members were selected from the different mining divisions and departments, so that all of the Company's operators were represented. After the completion of the committee's work it was continued as the General Safety Committee. The organization as perfected consists of the Central Committee, four workmen's committees, and a Safety Department in charge of a Safety Inspector.

##### Central Committee

The Central Committee is composed of the Superintendent of the Mine Department, who is chairman, the Superintendent of Mines, the Master Mechanic, a hoisting engineer, and the Safety Inspector, who is also the secretary. The committee meets once a month, but special meetings may be called at the direction of the chairman.

The committee acts as a legislative body on all safety and welfare suggestions that have been recommended by the workmen's committees, or the Inspector. All matters which cannot be handled

by the members of the workmen's committees, or the Inspector, are referred to the Central Committee for decision. Most questions that come before the committee are decided by them, but if it is one requiring a heavy expenditure, or a radical change in methods, it is referred to the General Manager, generally with the recommendation of the committee; if it meets with his approval it must be enforced. If a recommendation is considered of sufficient importance to justify a special rule that shall have general application at all mines, it is accepted as such and is accordingly classified under the heading of new rules.

#### WORKMEN'S COMMITTEES

These consist of employees from the mining divisions and departments, three committees from the mines and one from the shops, power plant, yards, etc. These committees have from four to six members each.

The duties of the members are to investigate all accidents of a fatal or serious nature occurring within their jurisdiction and to make a report upon the same at the meeting of their committee. If they have any suggestions to make, regarding an accident, such as changes in methods, use of safeguards etc., these are also made, and if they meet with the approval of the majority of the committee they are recommended to the Central Committee. These committees pass upon all suggestions sent in by employees, and if they are thought to be of value they are recommended to the Central Committee; if not, they are turned down by the committee and the employee notified to that effect.

The committeemen, bosses, and the Inspector, work together as much as possible, and if safety precautions can be taken, or changes made, that will prevent accidents, these are done without being brought before the committee. This makes a saving in time and labor.

The members are appointed by the Inspector and are supposed to serve six months. New members are appointed from one to two months apart, so as to keep men on the committees who are acquainted with the duties of the committee. By changing the membership at fixed intervals it gives more employees an opportunity to become trained in the safety work. The chairmen of the workmen's committees are appointed by the chairman of the Central Committee and serve in that capacity as long as he may see fit.

Each month the members of one of the mine committees make an inspection of the mining divisions other than their own, accompanied by the Inspector, as secretary, and make a report upon the condition of the mine, as regards safety, to the Central Committee. The committees make these inspections by turns, and during every three months each mine is inspected by them.

#### SAFETY SUGGESTIONS

Suggestion cards and letterheads are placed at all mines and departments and may be used by an employee who may wish to send in a safety suggestion. The suggestions may be dropped in a box provided for that purpose, or may be mailed to the safety Inspector. When dropped in the box, the suggestions are collected once a month, just before the meeting of the committees. After a suggestion has been received and accepted by his committee the sender is kept informed as to its progress, by means of personal letters until the suggestion has either been accepted and put in force, or turned down. Some suggestions are of such a character that it is several months before they can be carried out, and the above method keeps the sender in touch with the situation.

To date, over one hundred and fifty suggestions have been received from employees, and more than one hundred of these have been accepted by the Central Committee. Many of the suggestions have proved to be of considerable value to the company.

The receiving of suggestions from workmen is to be commended as it allows everyone to take a part in the work, if they so desire. Oftimes a workman will have an idea for a safeguard, or a plan whereby a dangerous practice may be changed for a safe one; if he has one, it is wanted. A prize of \$25.00 is awarded twice a year for the best safety suggestion made by an employee.

#### SAFETY INSPECTOR

The Safety Department is in charge of the Safety Inspector, who reports to the General Manager, to whom he is responsible for a conscientious performance of his duties.

Whenever a fatal or a serious accident occurs the Inspector must be notified at once and a report is made by him of the accident. If the nature of the accident is such that a photograph will be of value, these are taken and filed with the report. Whenever a lesson may be learned from the manner in which an accident occurs the Inspector publishes a bulletin concerning it, calling attention to where the blame should be fixed, and how the accident might have been prevented. Great care is used to secure all possible information and to fix the blame where it belongs, neither Company, officials, nor workmen being spared. The bulletins are concise, made as short as the subject will allow, and straight to the point. At the start a number of the bosses and men had their feelings hurt, because they were named in the bulletins and their work criticised, but as soon as they found that this was being done for the good of the service, the complaints ceased.

After a man has had a nice little write-up that has gotten below the skin, you will not catch him again. These write-ups are placed on the bulletin boards around the Company's works and are read and commented upon by the men.

The Inspector is secretary of all safety committees. He has charge of the first aid and mine rescue operations and of all equipment used in this work, and must see that the same is ready for an emergency.

He has as assistants a stenographer, and a miner who gives the rescue and first aid training. This man is an old employee, is thoroughly acquainted with the local mining conditions, and has taken the training in rescue and first aid as given upon the Bureau of Mines cars.

The Inspector also has charge of the Safety, First-Aid, and Welfare work at the Company's reduction works, at Douglas, Arizona.

#### RULES & REGULATIONS

As one means of securing a safe working condition, and for the purpose of assisting its employees to exercise safety precautions, the Company has published a book of rules and regulations. This book is issued in two forms, one for the foremen and bosses, and the other for the workmen; both forms are printed in English, as it is the policy for the Company to employ none but English speaking men in the mine department. The few Mexicans employed on the surface are mostly at work in the yards where there is comparatively very little danger, and few rules have been made covering their work. Every employee received a book, and a signed receipt is taken for the same. He is supposed to have the book with him when at work and to be acquainted with all the rules.

For the first violation of a rule an employee may be suspended for five days or more, and a second is usually followed by a dismissal from the Company's service.

In addition to these rules special ones have been made, governing the use of explosives, and are posted at all powder magazines and fuse and cap lockers. Bell signals are placed at all shaft stations and rules posted regarding the signalling system.

#### RESCUE STATION

The Company has a Rescue Station, in which also, is the office of the Safety Department. This station is centrally located, as regards the Company's workings, and in the station are kept five

Draeger Oxygen Helmets, with the necessary supplies, pump, etc. Three Pulmotors are also kept there, and one at the hospital. This station is fully supplied with everything needed in the safety, first-aid, and rescue work.

The Company also has a smoke chamber at a nearby shaft, where a drift has been arranged for this work, and all helmet men are required to take the training in smoke and gas. Formaldehyde and permanganate of potash are used to make the gas, and a fire is built in the breast of the drift where old clothes, fuses etc., are burned to make heat and smoke.

Great care is taken to see that the helmet men thoroughly understand the working of the apparatus, and that they test it carefully before and after using. Leaky cartridges are placed in the apparatus and everything done to make the man understand the danger of having the equipment in poor working condition.

#### FIRST AID TO THE INJURED

The Company has had first-aid work for about two years. During this time the work has been handled by the hospital department, lectures being given by one of the surgeons, and a text book prepared. Only bosses and time-keepers were given the training, and not at fixed times, the lectures being given whenever the doctors and mine officials could make arrangements. This was not satisfactory, and when the Safety Department was organized, the first-aid work was placed in the hands of the Safety Inspector, who immediately started corresponding with other mining companies in the Southwest, with a view of standardizing the first-aid work so that if the man received the training while in the employ of another company, his services could be used by the company then employing him. All companies having agreed to use Red Cross text books and methods, these were made the standard, all men being trained along these lines.

Five men comprise a first-aid crew, and one crew is located on each shift at each shaft. There being six mining divisions, this makes a total of sixty men taking this training. As fast as the men become proficient new men take their places, the older men being given a button which they are requested to wear, so that the other employees may know them. In addition to these crews a surface corps has been formed, some of whom are Mexican laborers. Also a first-aid class has been formed among the bosses, this class meeting in the Y.M.C.A. each Saturday afternoon, and any of the employees of the company may attend.

As the air in the mines is warm and moist and would quickly spoil any first-aid supplies, an airtight, moisture proof can was designed for such supplies. These cans are round, ten inches in diameter, and twenty inches high, painted white with a red cross on the side, and lettered: "FIRST AID BOX-FOR ACCIDENTS ONLY" These were made in the Company's shops at a cost of \$4.00 each, and have proven very efficient. Seventy five of these cans are distributed around the workings. Not being locked, anyone may help himself to the contents. At first considerable supplies were ruined out of curiosity to see what was in the package, and after being opened they would be thrown away, or left in the cabinet.

This practice has about stopped. The supplies consist of triangular and roller bandages, antiseptic gauze, cotton and wire splints. No wounds are to be washed, but all lacerations to be painted with tincture of iodine, unless in case of severe hemorrhage. All first-aid supplies are kept in the rescue station and are issued from there upon orders from the mine foremen.

The training for miners is given underground and the members are taught to handle injuries under working conditions. So far, this has proven very satisfactory, although some of the mine bosses object to the men being taken from their work, and think they

should be given the training while off duty.

The number of accidents occurring to men under the direction of each shift boss is tabulated and the ten shift bosses making the best records for a period of three months, each receive \$10.00 per month in addition to their regular salary for the following three months.

#### BULLETIN BOARDS

Bulletin boards are placed around the different workings and wherever the men spend their leisure time, such as the public library and reading room, and the Y.M.C.A., also at the dispensary and outside the Rescue Station and Employment office. On these are posted monthly accident reports, with the bulletins commenting upon the same, accident bulletins and photographs of the place where the accident occurred; photographs of dangerous practices, falls of ground with men posed as if caught, and the wrong and right way of doing certain work. Under or near the photograph is placed descriptive matter showing how the accident might have been avoided. The photograph seems to secure the interest of the men, and during the day the men may be seen looking at them and commenting upon them.

Safety nettes, printed upon large cards, have been placed throughout the mine workings, especially where the men are apt to congregate, and also around the different surface plants.

#### SAFETY SMOKERS AND RALLIES

Safety smokers are given, at which the men are furnished with "Safety First" cigars. Lantern slides are shown of scenes in the mines, with talks upon the same by the inspector. A short talk on accident prevention is made by one of the officials, and the balance of the evening is given to entertainment, consisting of moving pictures, illustrated songs, etc. The safety department has one of the latest moving picture machines, which is used in

the gym of the Y.M.C.A.

Safety rallies are also given, to which all the employees and their families are invited. The lantern slides of underground scenes have proven of great interest to the ladies. At one of the rallies the ladies were presented with a special box of candy, upon the cover of which was printed a safety note, and a card inside asked them for their support in helping to reduce the number of accidents. Great interest was taken in the talks delivered and in the pictures shown of the Company's rescue crew at work in the El Cumbre Tunnel, in Mexico, where fifty-one passengers were burned alive by a Mexican bandit.

These rallies and smokers seem to have aroused more interest among the employees and their families than any other thing that has been done, the men remembering the pictures thrown on the screen and taking pleasure in talking about them for days after. While these entertainments have been held at considerable expense, they have done a great deal of good, and men are constantly inquiring when the next meeting is to be held, as they wish to bring their friends. Many visitors from outside districts have attended these rallies and smokers, and have gone away well pleased with the safety work.

#### CONCLUSION

While the Copper Queen Company has been doing safety work for a number of years, without calling it such, there is not a question but that the prevention of accidents, first-aid, rescue and welfare of employees can best be handled through an organization which shall include all component parts of the Company's operations, and through its efforts secure the cooperation of every man on the job.

During the time that the safety work has been carried on,

there has been a remarkable reduction in fatal and serious accidents; a conservative estimate would be at least 40%. A certain per cent of this is due to the use of safeguards, danger signals, etc., or the work done by the Company, but the greatest reduction has been made by the men themselves, through greater care in their work, the stopping of taking unnecessary chances and the elimination of dangerous practices.

There is no question but that work done in Safety, Mine Rescue, First-Aid and Welfare of employees is good business for the Company, the Employee, and the Community.

Inexperienced men are given instruction in the principles of mining by certain shift bosses. The instruction is in process of being systematized and will be developed further.

Change rooms where clothes may be dried, and bath rooms with hot and cold water are provided to comply with the provisions of the State Laws, although they have been in use for many years.

Underground sanitary toilet cars are provided which are taken to the surface and dumped whenever necessary.

A system of forced ventilation is also in use.

City water is piped to all shafts and to a great number of central points underground. In other parts of the mine it is taken to the working places in tank cars.

#### REGULATIONS OF THE HOSPITAL DEPARTMENT AT BISBEE

##### ARIZONA

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##### Contributions

Deductions for the Maintenance of the Hospital Department will be made on the following basis:

Married Men	Single Men
2 days or less-----\$ .25	2 days or less-----\$ .25

Married Men		Single Men	
3 to 5 days-----	\$.50	3 to 5 days-----	\$.50
6 to 10 "	1.00	6 to 10 "	.75
11 to 15 "	1.50	11 to 15 "	1.00
16 to 20 "	1.75	16 days and over	1.25
21 days and over	2.00		

The following benefits will be given employees:

- (a) Hospital treatment, when in the judgment of the surgeon it is necessary.
- (b) Medical and surgical treatment outside of Hospital.
- (c) Confinement cases treated at home.
- (d) Members of families of married employees will be received in private floors of Hospital at the rate of \$3.00 per day.

THE FAMILIES OF MARRIED MEN WHO PAY SINGLE MEN'S FEES WILL RECEIVE NO TREATMENT. ALL SERVICE TO THEM WILL BE CHARGED FOR AT RATES OF PRIVATE PRACTICE.

In case of mistake in fee charged, the Paymaster must be notified at once.

All officers and employees of the Company and their families will receive benefits mentioned above, except as follows:

(a) Benefits will not be given for ailments due to venereal diseases, intemperance, vicious habits, injuries received in fights, or unlawful acts, nor for chronic diseases acquired before entering the employ of the Company, nor for elective surgery. By "elective surgery" is meant such operative work as is optional or that which may prove beneficial if performed, but which is not imperative nor immediately essential to the patient's health.

(b) The Department cannot give benefits to employees afflicted with such diseases as smallpox, yellow fever, or any

contagious or infectious diseases subject to Federal, State County or Municipal Quarantine. Pulmonary tuberculosis and all contagious diseases like measles, scarlet fever and diphtheria are excluded from Hospital treatment, owing to the danger of these diseases spreading to other sick and injured employees in the Hospital, but resident treatment and medicines will be given in such cases. In case of diphtheria, Antitoxin is furnished free of charge, but where this is used to immunize or prevent the disease, the Antitoxin will be charged for.

Employees and their families living beyond South Bisbee, or beyond the bottom of the Divide up Tombstone Canyon, are excluded from resident treatment because of remoteness from transportation facilities, but will be given treatment either at the Hospital or Dispensary.

A hospital committee makes visits of inspection at intervals. Seven doctors are employed at the property in Bisbee at this time.

Men are paid by check at semi-monthly intervals.

#### DAILY WAGES

	Average
1915	\$4.11
1916	5.325
1917	5.43

#### Production

	Dry Tons	# Cu	# Pb	Oz Ag	Oz Ag
1915	830,777	88,551,180	9,388,418	943,368	18,974
1916	915,978	102,685,722	9,421,562	1096,136	24,050
1917 Jan-Aug		60,143,816	5,590,757	584,882	13,092
May, 1917		7,786,182	592,350	65,247	1,750
Sep, 1917		6,105,368	196,263	39,186	1,067

MIN

	Underground	Surface	Salaried
1915	1400	380	
1916	1600	440	
1917	1300	650	115

PHELPS DODGE CORPORATION, COPPER QUEEN BRANCH  
 NATIONALITY REPORT---AUGUST 1, 1917.

FOREMEN

Classification	MINE		BOSSSES		SHOPS		SURFACE GANGS		OFFICE ETC.		SAC. HILL		TOTAL	
	No. Men	Citi- soms	No. Men	Citi- soms	No. Men	Citi- soms	No. Men	Citi- soms	No. Men	Citi- soms	No. Men	Citi- soms	No. Men	Citi- soms
American	747	747	43	43	143	143	20	20	142	142	62	62	1157	1157
Albanians	2	1					1						2	1
Austrians	25	14											26	15
Australians	3	3											3	3
Belgian	3	1											3	1
Bohemian	1												1	
Canadian	30	6	5	3	10	8			6	1	1	1	52	18
Chilean													1	
Cretean	1												1	
Cuban	1												1	
Dane	5												1	
English	185	75	17	16	17	11	6	5	14	7	4	1	245	111
Finn	6	3											6	3
French	6	3							1				8	4
German	33	25							1	1	1	1	40	31
Greek	17	5											17	5
Hungarian	4												4	
Irish	30	22	1		3	3	2	2	3	2			39	29
Italian	17	9											17	9
Japanese									1				1	
Lithuanian	3	1											3	1
Mexican	44	3			15		114	17			179		369	3
Montenegrin	1						1						2	
Norwegian	7	4			2	1							10	6
Polish	2	1											2	1
Russian	13	2			1	1							14	3
Scotch	14	7			3	2	1	1	4	1			25	14
Serbian	7	3											8	4
Spanish	1												2	
Swede	20	13	1	1	2	1							24	15
Swiss	7	2											8	3
Turkish	2	2											2	2
Welsh	5	1	1	1	1								6	2
TOTAL	1242	952	72	68	202	175	147	29	190	155	251	65	2104	1444
% Citizens	76.6%		94.5%		86.7%		19.7%		81.6%		25.9%		68.0%	

**SHATTUCK-ARIZONA:**

September 1, 1917

**Nationality**

Americans	218
Alien	72
First Papers	7
Average age	33.2
Single	156
Married	141

**Occupation**

Miners	103
Muckers	111
Mechanical	42
Bosses	10
Engineers and assayers	12
Office	11
Miscellaneous	8
	<hr/>
	297

For wage schedule, employment and discharging system see  
Phelps-Dodge Corporation.

Bonuses are paid as follows:

1. On development of work - so much per foot over a fixed standard.
2. Most footage with the least powder.

OUTLINE OF PLAN TO COMPENSATE

WAGE EARNERS FOR SERVICE AND TO PROTECT SERVICE MEN.

#1 Compensation to Wage Earners for Service:

<u>Term of Service</u>	<u>*Principal sum of Policy</u>	<u>Payment for Loss of Time by Accident</u>	<u>Payment for Loss of Time by Sickness</u>
6 months to 1 yr.	\$500.00	At rate of \$50 per Mo From first Day Until Discharged	
1 yr. to 2 yrs.	\$1000.00	Ditto	At rate of \$50 per Mo From 1st Day until Discharged
2 years or More	Ditto	Ditto	

PROTECTION OF SERVICE MEN

#2 From Loss of Men by present Discharge System:

All men who have worked for the company for more than six months to be considered as Service Men, and not to be subject to immediate discharge, except for refusal or failure to do their work, or upon the third breach of rules, or third minor offense in ninety days. Each breach of rules to be reported to the Employment Agent.

#3 From Loss of Men through Midjudgement, Unfairness, or Unfitness of Shifters or Foremen

Any discharged employee having worked for the company six months or more, who believes he has been unfairly discharged to have the right to present his written complaint to the General Manager. Upon all the facts being presented to the Manager by the Employment Agent, the Manager shall decide whether or not the discharged employee shall be reinstated. However, if the discharged employee still believes he has had unfair treatment, he shall have the right to take his case personally to the Manager.

\*Principal sum of policy increases at rate of 1% per month for 5 yrs.

Everyone in the employ of the company is a committee of one on safety. No special safety man is employed. First Aid material, as required by law, is kept at the head of the shaft. Two Draeger Mine Rescues Apparatus, one pump, extra parts for same, and an ambulance are in readiness in case of emergency. A few men are given partial training in mine rescue and first aid, and two mine rescue men, who have been trained elsewhere, are always in the employ of the company.

Men are given instruction in the use of rock-drills by an experienced man-- this instruction is given from the standpoint of efficiency.

An up-to-date wash and change house is maintained for the use of the employees. Underground sanitary toilet cars are provided for the use of the men. Water tanks containing drinking water are placed at each station and water is piped to different parts for the surface men.

Before being employed all men undergo a physical examination. Married employees pay \$2.00 and single men \$1.50 per month to the hospital department for which they receive medical and dispensary treatment.

Men are paid by check semi-monthly.

	Production				
	Dry tons	# Cu	# Pb	Oz Ag	Oz Au
1915	102,392	11,154,211	2,345,342	201,869	3,151
1916	168,643	18,161,763	3,413,455	314,918	4,221
1917	98,033	9,010,647	1,799,433	120,847	1,213
May-17	15,927	1,385,669	233,119	23,141	156
Sep-17	7,147	711,924	41,362	3,631	84

	Men		
	Underground	Surface	Salaried
1915	247	58	
1916	410 Total		

Men

	Underground	Surface	Salaried
1917	214	50	35

WAGE SCHEDULE FOR YEAR 1917

Showing Increase Above Normal

Month	MINER'S WAGES		Salaries Percent
	Amount	Percent	
January	6.00	50.00	40.00
February	5.60	40.00	32.50
March	6.00	50.00	40.00
April	6.00	50.00	40.00
May	5.50	37.50	30.00
June	5.60	40.00	32.50
July	5.75	43.75	35.00
August	5.35	33.75	27.50
September	5.35	33.75	27.50
October	5.35	33.75	27.50
November	5.35	33.75	27.50
December	5.35	33.75	27.50
AVERAGES 5.60		40.00%	32.30%

**CALUMET AND ARIZONA:**

The employment and discharge system is the same as the one used by the Phelps Dodge Corporation.

For the past two years the wages paid have been based on the average monthly market price of copper. Each one cent advance in copper over 17¢ means 12 1/2 cents per day increase in wages.

The only prizes given are to shift bosses who have the best accident records and to any employee for the best safety suggestion each month.

A bonus is paid to miners only for extra footage in drifts and raises.

The company partly supports from one to three baseball teams, one football team, and a band of about thirty five pieces.

Welfare work consists of Safety Welfare work.

Men are educated in safety work by first educating the shift bosses. The lay-off system is in effect to eliminate careless habits that might cause accidents, thus educating the men in safety work. Each employee is furnished with a book of safety rules.

At each shaft there is a modern wash and change house. Each employee has a locker for his clothes. "Digging" clothes are thoroughly dried before the next shift, by means of steam pipes at the back of the lockers. There is a hot and cold shower bath for about every 15 lockers.

New sanitary toilet cars have been put in all mines and a strong disinfectant used.

Before each shift, tank cars filled with fresh water (ice is furnished during hot weather) are taken to central points throughout the mines.

A nominal fee is deducted from the wages of each man every month, which entitles the man and their families to free medical

treatment in the dispensary and hospital.

The company has no special means of housing the men. A great number of the men own their own homes. Good boarding and rooming houses can be found within reasonable distance of the mines.

Salaried men who have been in the employ of the company over one year are allowed one month's vacation.

The company carries no insurance. Disabilities from mine accidents are covered by the Compulsory Compensation Act.

The cost of hiring and firing a man is about thirty dollars.

The cost of breaking in a new man is about thirty dollars.

#### CALUMNET AND ARIZONA SAFETY DEPARTMENT

The Calumet & Arizona Safety Department was organized the early part of 1915 with a Safety Inspector and a General Safety Committee. Each Mine Foreman, Shift Boss, and Shop Foreman was made a Safety Committee, as well as the Heads of all Departments. Each month a meeting is held at which the Safety Committeemen gather and discuss the accidents that have happened during the month. Methods are discussed to prevent their recurrence. Subjects pertaining to Safety Work that may come up are thoroughly discussed at these meetings.

At the beginning of the Safety Work and for some time after, the biggest trouble was in training the new men and most of the old ones, to protect themselves against accidents. Several methods were tried without any apparent success. The "Lay-Off" System was finally put into effect and got such good results that it was made a permanent rule by the Mining Department.

Since the organization of the Safety Department there has been quite a substantial decrease in accidents.

Bulletin boards and Safety Suggestion Boxes are placed at each shaft. A small prize is given each month for the best Safety Suggestion. Prizes are also given to the shift bosses who go 2500 shifts without a man laying off on account of an accident.

Bulletins of the National Safety Council and the Arizona State Bureau of Mines are placed on the bulletin boards.

Many new safety devices have been installed and all dangerous places are repaired at once. A ventilating system has been installed and has proven very satisfactory. New up-to-date and sanitary toilet cars have been placed throughout the mines. Fresh water (ice during hot weather) is supplied each shift.

As a foreword to their Mine Rescue and First Aid work the following might be of interest: in 1915 they won the State Contest in Mine Rescue Work and competed in the National Contest at San Francisco, winning honors there. In 1916 the smelter team won first place in First Aid work at the State Contest, and the Rescue team won second place.

While the company does not maintain any regular Mine Rescue or First Aid team they have about thirty men who have had training in Mine Rescue and First Aid. Nearly all the Shift Bosses and Cagers, and in fact the majority of the miners, have had more or less training in First Aid, either from the Bureau of Mines, or from company doctors. The training is compulsory with the Shift Bosses.

At present they have five Draeger helmets and two pulmeters. An order has been placed for seven new helmets and when they arrive two will be kept at each pump station for use by the pumpmen. The remaining six will be kept on the surface.

Air chambers are being installed on each pump station, so that in case of a shaft fire pumpman can go to these air chambers and prepare their helmets for use in keeping the pumps running during any fire trouble.

Year	Wages	Average for miners
1915	\$4.11	" " "
1916	<del>\$5.57</del>	" " "
1917	5.43 5.31	" " "

Production

Year	Dry tons	#Copper	#Lead	Oz. Gold	Oz Sil
1915	690,881				
1916	843,813				
1917	476,779				
May-17					
Sep-17					

Underground	Men		
	Surface	Salaried	
1915	1231	111	
1916	1613	135	
1917-9/1	1331	134	
1917-10/1	1318	130	

NATIONALITY REPORT

	Number		Citizens		Married	
	Number	% Total	Number	% Total	Number	% Total
Americans	854	70.4	845	79.5	478	70.3
English	77	6.5	50	5.6	55	8.1
Irish	15	1.2	11	1.0	12	1.8
Canadians	14	1.2	12	1.1	11	1.6
Scotch	5	.4	5	.4	3	.4
Finns	17	1.4	14	1.3	9	1.3
Swedes	37	3.1	28	2.6	19	2.8
Belgians	1	.1	1	.1	1	.1
Germans	24	2.1	19	1.8	17	2.5
Norwegians	2	.2	2	.2	2	.3
French	5	.4	3	.3	4	.6
Swiss	5	.4	4	.4	2	.3
Austrians	45	3.7	28	2.6	23	3.4
Italians	10	.8	6	.6	5	.7
Croatians	2	.2	2	.2	1	.1
Poles	4	.3	3	.3	4	.6
Servians	17	1.4	"	"	"	"

	Number	% Total	Number	% Total	Number	% Total
Montenegrins	7	.6	2	.2	4	.6
Bulgarians	1	.1	0	.0	0	.0
Russians	22	1.8	5	.4	9	1.3
Albanians	21	1.7	0	.0	0	.0
Turks	9	.7	0	.0	7	1.0
Spaniards	3	.2	1	.1	3	.4
Greeks	9	.7	2	.2	0	.0
Czechs	2	.2	2	.2	0	.0
Hungarians	1	.1	1	.1	0	.0
Roumanian	1	.1	1	.1	0	.0

Total 1201 100.0 1064 100.0 681 100.0

Citizens 88.7%

Married 66.8%

Office Men ,all Americans 77

Mexicans 117 - 2 citizens - 74 married

**BISHER HIGH SCHOOL:**

**Number of pupils before the strike September, 1916**

Boys	85
Ages 10 to 15, 12 15 and up, 73	
Girls	208
Ages 10 to 15, 30 15 and up, 78	
<b>Total</b>	<b>293</b>

**Number of pupils after the strike**

Boys	87
Ages 10 to 15, 25 15 and up 72	
Girls	134
Ages 10 to 15, 40 15 and up 94	
<b>Total</b>	<b>221</b>

**Nationality:**

	American	English	Swedish	Finnish	Jewish	Scottish	Irish	Italian	Dutch	Norwegian	Mexican	Bohemian	French	Total
Girls 10 to 15	56	2	1										1	40-90% Am
Girls 15 & up	78	6	2	3	1	2	1					1		94-92.97% "
Boys 10 to 15	14		1											15-95.50% "
Boys 15 & up	55	2	5	1	3	1	1	1	1	1	1	1	1	72-75.59% "
<b>Total</b>	<b>183</b>	<b>10</b>	<b>9</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>221-82.51% "</b>

**Amusements:**

Lectures, School plays, entertainments--about ten take place during the year with 200 people participating.

**Social Activities:**

Glee Clubs, Orchestra, School Parties and Dances, class picnics, Moonlight hikes.

Number participating 20.

**Athletics:**

Boys--Football, basketball, track, baseball--inter and inter-scholastic

Girls--Basketball and indoor baseball.

**Recreation:**

Athletics, parties, etc., as above

**Night education:**

Total enrollment 200

Business education

Elementary and advanced stenography

Bookkeeping and accounting

Arithmetic

Typewriting

Spelling

Business English

Shop Practice

Mechanical Drawing

Shop mathematics

Spanish

English for Foreigners

An analysis of the figures available show that 75.59% of the employees of the three companies are citizens and 24.51% are aliens. An analysis of the students in the high school show that 82.61% are Americans. It is evident from this that children of high school age and of foreign parentage are not taking advantage of the education offered. The public school system is undoubtedly intended to prepare the children of the nation for life and usefulness, yet less than one child in seventeen in the cities of the United States every completes the full public school course.

Why are the boys and girls of this District not attending school? Is it because the school fails to hold the interest and attention of the average child, particularly of the average boy, due to the fact that the school training has so little relation

to the world in which the average man and woman are called upon to live and work, or is it because the children have to or desire to go to work?

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If it is the former there is something wrong with the school system and, if it is the latter, it ought to be discouraged.

Seven eighths of the school children of the United States never enter high school. Why? Is it because the programs are overloaded and the teachers overtaxed; do they fail to hold, to educate and to satisfy the children because of the uniform curriculum through which every child, no matter what his capacities or aspirations, is pushed, pulled or hammered, until he rebels and leaves the school, or else submits and becomes a uniform product of a uniform educational system?

The school system presents a world of monotony and uniformity, the industrial system a world of choice.

The proper authorities should make a school survey of the district and endeavor to determine the true cause of non-attendance. The system should then be made to conform with the desires or should be made attractive enough so that the children will attend long enough to get sufficient training which would make them eager for opportunity and incite them to the utmost effort to do just as well as they can, whatever may open to them.

It is to the advantage of the workman that his children attend school and receive free education because his children's education is his education.

Those who were not fortunate enough to be able to attend school whose children are probably the people who are taking advantage of the Bibbee night school but it is evident that there is a reason for the small enrollment. (200)

Unless a man is very ambitious he is not going to attend school every night nor is he going to attend two or three classes in the same evening. It is too strenuous for a man, who has worked all day, to attend school every evening, or to attend a class which is naturally dull to him. Sufficient time should elapse between one class period and the next to allow the student to prepare his lesson and the lessons assigned should not require more than three hours time in preparation. It is evident that if a student finds it necessary to attend a class every night and to spend from two to three hours besides in preparation for the next night, he is going to become discouraged. In case he knows the facts in advance he will probably not enroll. Therefore, the courses should not be offered more than three times a week and the time necessary to prepare a lesson should not consume more than  $2\frac{1}{2}$  hours .

Course, as offered by the Y.M.C.A. should not be duplicated in the high school.

**These results of Prohibition:**

1. Bank deposits doubled--see statement
2. More miners own their own homes
3. More miners own automobiles
4. Decreased accidents
5. Families are better dressed, housed and fed
6. Increase in school population
7. No drunken men on the streets
8. Fewer arrests
9. Continuous work at the mines
10. More business

Increased deposits are due, in part at least to prohibition. They also may be due to the large increase of wages over the cost of living.

Statements of Bisbees' two largest banks, the Miners and Marchant and the Bank of Bisbee

Resources	Dec. 31, 1914		Dec. 31, 1916		June 20, 1917		Sept. 4, 1919		
	M and M	Bisbee	M and M	Bisbee	M and M	Bisbee	M and M	Bisbee	
Loans and discounts, less duo from directors	79,535.57	93,049.87	87,478.05	118,764.78	168,432.58	134,157.44	131,610.26	176,982.61	257,557.53
Overdrafts	2,439.34	5,407.7	11,146.3	4,704.24	4,152.89	1,420.60	783.212	1,187.84	
United States Bonds	20,000.00	50,000.00	20,000.00	20,000.00	50,000.00	140,000.00	83,179.00	71,781.00	80,000.00
State, County and Municipal Bonds	135,000.00	32,318.12	135,000.00	176,000.00	106,119.57	165,000.00	103,200.76	165,000.00	156,107.65
Other bonds, stocks, securities, etc.	79,828.36	87,440.60	196,482.00	199,987.44	131,272.65	179,522.00	259,879.3	223,233.63	246,822.83
Banking house furniture & fixtures	1.00	35,286.03	1.00	1.00	35,306.03	1.00	35,306.03	1.00	35,306.03
Real Estate	105,200.00	57,904.2	850,300.00	4.00	57,272.29	3.00	57,286.9	3.00	57,286.9
Current expenses and loans	63,255.85	5,697.23	571,646.10	1,133.88	1,133.20	43,448	83,948.65	86,448.85	40,456.60
Specie	63,705.85	57,999.08	2,748.09	65,759.09	85,948.00	16,750.00	19,285.804	18,005.00	6,149.60
Legal tender and National Bank Notes	1,938,748	7,080.18	7,205.27	2,535,159	7,248.66	27,503.2	140,000.00	204,203	45,816.00
Exchanges for clearing	10,654.48	7,480.14	7,205.27	8,273	9,086.7	6,413	2,032.00	2,403.03	17,194.3
Other cash items	46,911.07	393,864.20	949,357.49	7,248.66	7,248.66	7,248.66	15,107.52	19,443,025.1	99,008,182
Due from State and National Banks	53,211	48,087.66	49,222	58.61	129,157.14	8,463	5,055,144.4	11,166	3,980,899
Mexican Money (gold values)									
Safe deposit boxes									
Total	2,564,602.1	2,461,909	2,489,432.2	2,460,896.2	2,461,909	2,460,896.2	2,461,909	2,461,909	2,461,909
Liabilities									
Capital stock paid in									
Surplus									
Undivided profits									
Individual deposits subject to check									
Time deposits									
Certificates of deposit									
Certified checks									
Cashiers outstanding									
Due State and National Banks									
Reserve for Interest									
Dividends unpaid									
Reserve tax fund									
Demand certificates of Deposit									
Total	2,564,602.1	2,461,909	2,489,432.2	2,460,896.2	2,461,909	2,460,896.2	2,461,909	2,461,909	2,461,909

Food, etc., prices - Bisbee, Arizona. September 1, 1915, 1916, 1917 Los Angeles July 1, 1917

Item No.	Quantity	1915			1916			1917			Los Angeles Total
		Unit Price	Total	Unit Price	Total	Unit Price	Total				
1 Flour - 2-48 sacks - Best patent	96 <del>##</del>	for	4.35	for	3.80	for	6.75	610			
2 Sugar	3 <del>##</del>	0.7 1/2	2.16	0.9 1/4	2.75	1.0	3.00	340			
3 Med. Lard - Meadow Gold	1 <del>##</del>	70	1.40	95	1.90	1.25	3.50	2.14			
4 Butter - Meadow Gold	1 <del>##</del>	35	4.35	40	5.70	50	6.50	5.20			
5 Carnation Milk - tall	7 doz	1.05	7.35	1.20	8.40	1.80	12.60	3.88			
6 Potatoes	50 <del>##</del>	0.29	14.50	0.37	18.50	0.4	20.00	1.50			
7 Coffee - 2 <del>##</del> blend	2 <del>##</del>	2.2 1/3	7.0	2.8 1/3	8.50	3.3 1/3	10.00	70			
8 Tea - hipsters	2 <del>##</del>	65	13.00	75	15.00	90	18.00	1.38			
9 Eggs - fresh ranch	1 doz	35	3.50	40	4.00	60	6.00	4.00			
10 Pork and beans	6 cans	0.6 1/4	4.00	1.2 1/2	7.50	1.5	9.00	75			
11 Canned Peas	3 "	1.2 1/2	4.00	1.3 1/2	4.00	1.5	4.50	4.2			
12 Tomatoes	3 "	1.2 1/2	4.00	1.2 1/2	4.00	1.5	4.50	4.5			
13 Corn	3 "	1.2 1/2	4.00	1.2 1/2	4.00	1.5	4.50	4.2			
14 Salmon - tall can	3 "	1.2 1/2	4.00	1.2 1/2	4.00	1.5	4.50	4.8			
15 Sardines	6 "	20	6.00	25	7.50	25	7.50	4.2			
16 Corned beef	1 can	0.8 1/3	3.50	0.8 1/3	3.50	0.8 1/3	3.50	4.2			
17 Table fruit ass'd	5 cans	1.6 1/2	8.30	1.6 1/2	8.30	1.5	7.50	2.5			
18 Pink beans	3 <del>##</del>	0.8 1/2	2.55	1.0	3.00	1.5	4.50	2.6			
19 Navy "	2 <del>##</del>	1.0	2.00	1.2 1/2	2.50	2.0	4.00	3.4			
20 Cheese	2 <del>##</del>	2.5	5.00	2.5	5.00	3.5	7.00	3.2			
21 Soda Crackers	5 pkgs	1.0	5.00	1.0	5.00	1.5	7.50	3.0			
22 Fresh fruit - ass'd	15 <del>##</del>	0.63	9.45	0.71	10.65	0.8 1/2	12.75	2.5			
23 Oranges	5 doz	30	15.00	30	15.00	35	17.50	1.50			
24 Apples	15 <del>##</del>	6.8	102.00	6.8	102.00	6.8	102.00	7.5			
25 Flavoring ext - 2oz	1 bottle	30	3.00	30	3.00	35	3.50	3.5			
26 Yeast - foam	1 pkg	0.5	0.50	0.5	0.50	0.5	0.50	0.4			
27 Pickles - qt. bottle	1 bottle	30	3.00	30	3.00	45	4.50	2.7			
28 Currants	1 pkg	1.7	1.70	1.7	1.70	2.0	2.00	1.8			
29 Raisins	2 pkgs	1.2 1/2	2.50	1.2 1/2	2.50	1.2 1/2	2.50	1.1			
30 Laundry Soap	8 bars	0.4 1/2	3.60	0.4 1/2	3.60	0.6 1/4	5.10	4.0			
31 Fairy "	3 "	0.5	1.50	0.5	1.50	0.8 1/3	2.50	1.4			
32 Hog Cabin Syrup	1/2 gal	for	65	for	70	90	90	8.3			
Subtotal:			33.4		49.65		36.93				



Clothing, etc., Bisbee, Arizona. Septemb. 1, 1915, 1916, 1917.

	Quantity	Unit Price	Total	Unit Price	Total	Unit Price	Total
<b>Dry Goods</b>							
Overalls L.S.	1 pr	for	100	for	100	for	100
Work shirt blue chambray	1	"	50	"	50	"	50
" " heavy "	1	"	100	"	100	"	100
Cotton sock	2 pr	8 1/2	17	12 1/2	25	12 1/2	25
Dress "	2	25	50	25	50	25	50
Canvas gloves	1	10	10	10	10	10	10
Heavy ribbed cotton under wear	1 suit	for	100	for	125	for	150
Gingham	5 yds	15	75	17	85	20	100
Muslin-bleached	5 "	10	50	13	65	15	75
Turkish bath towels	3	25	75	30	90	33 1/3	100
Calico	6 yds	10	60	10	60	12 1/2	75
L. Hose	3 prs	35	105	35	105	45	135
Cotton Poplin	2 yds	35	70	35	70	40	80
Muslin-unbleached	6 "	10	60	10	60	15 1/2	93
<b>Total</b>			932		1045		1245
Shoes	Increase 1917 over	1916, 1916%	1917 over 1915, 35.03%	1916 over 1915, 13.24%			
Men's work shoes	1 pr	for	250	for	300	for	350
Women's house "	1 "	"	200	"	250	"	300
<b>Total</b>			450		550		650
Increase 1917 over 1916, 18.12%			1917 over 1915, 44.44%	1916 over 1915, 22.22%			
<b>Hardware</b>							
Enamel stew pan	1	for	30	for	30	for	40
" coffee pot	1	"	55	"	55	"	55
" dish pan #30	1	"	55	"	55	"	70
" wash "	1	"	25	"	25	"	35
Drip pan 9x12	1	"	15	"	15	"	20
Sale leather	1/2 #	"	50	"	60	"	75
Cups and saucers	1/2 doz	"	80	"	80	"	125
<b>Total</b>			305		370		470
Increase 1917 over 1916, 31.75%			1917 over 1915, 37.70%	1916 over 1915, 4.91%			
<b>Drugs</b>							
Cold Cream 4oz.	1	for	20	for	20	for	25
La Sanadera 1/3 oz.	1	"	25	"	25	"	25
Volcanic oil 3oz.	1	"	25	"	25	"	25
Scott's emulsion 6 1/4 oz.	1	"	50	"	50	"	75
Melba face powder	1	"	50	"	50	"	50
Writing paper	1	"	10	"	10	"	10
<b>Total</b>			180		180		210
Increase 1917 over 1916, 16.66%			1917 over 1915, 16.66%	1916 over 1915, 0.00%			

It is true that owing to the war the cost of the necessities of life have gone up but has it called for such unprecedented prices as are being charged for staple commodities?

The above bill of goods as shown in the 1917 column was made up to show what it costs to feed a family of five for one month and the 1915 and 1916 columns were added with the object of comparing the change of prices from September 1, 1915 to September 1, 1917. The items under clothing, etc., were taken to show the change in prices only. It will be seen from the above that groceries, meat, vegetables and fruit have advanced 47.69% since 1915; dry goods 35.03%; shoes 44.44%; hardware 37.70%; drugs 16.66% a few articles have not changed in price but it will be found that such articles have decreased in weight or are of an inferior grade. The last column shows the prices of the same articles in Los Angeles July 1, 1917. From July 1, 1917 to September 1, 1917, there was a slight increase in the price of the above articles but this has been taken care of by adding the freight to the prices as quoted in Los Angeles.

WAGES: WARREN DISTRICT-

Phelps Dodge Corporation:

		Miners
1915	average	\$4.11 per day
1916	average	5.325 per day
1917	average	5.43 per day

Calumet and Arizona:

1915	average	4.11 per day
1916	average	5.31 per day
1917	average	5.43 per day

Shattuck-Arizona

1915	average	4.15 per day
1916	average	5.35 per day
1917	average	5.60 per day

Average daily pay for miners in District:

1915	4.121/3 per day
1916	5.324/5 per day
1917	5.482/3 per day

Comparisons:

		Wages	Food	Dry Goods	Shoes	Hdware	Drugs
Increase 1916 over 1915-	29.17%	-14.47-	13.34	-22.22-	4.91	-none	
1917	1916-	2.96	-32.23-	19.14	-18.11-	31.25	-16.66
1917	1915-	33.05	-47.69-	35.03	-44.44-	37.70	-16.66

Coal--September 1, 1917.

	Price ton	Fre. Bsh.	Fre. Tcn.	Fre. Elp.	Retail B.	Tsn.	Elp.
Gallup	\$4.50	\$4.45	\$4.65	\$3.40	16.00	13.50	8.50
Dawson	4.50	5.63	5.45	3.40	17.00	13.50	8.50
Colorado	4.50	5.98	6.00	3.40	18.00	14.00	9.00

Cost of coal to dealer--coal delivered to consumer

Sacking	Company A	B	C
Hauling to Yd & Del.	.50	.50	.50
Sacks 20@ 12 1/4	2.50		2.00
Hauling to yard	2.40	2.40	2.40
Delivering		1.00	
Diversien	.05	.05	.05
Freight	5.98	5.98	5.98
Coal	<u>4.50</u>	<u>4.50</u>	<u>4.50</u>
Cost	15.93	16.93	15.43
Rebate on Sacks	.50	.50	.50

Companies A, B and C sell the above coal for \$18.00 per ton.

Company B will sell it for \$17.00 cash.

Price--coal 1915-1916 \$14.00, 15.00 and 16.00 respectively.

Average yearly consumption	Coal	Wood
	3 tons	2 cords

Ice--September 1, 1917.

Bibee--300# book	\$2.35-residence	1915-1916
500# book	3.75-residence	Same
100# book	.50-commercial	

Tucson--500# \$3.00 Residence  
 1000# 5.00 Residence

Wood

Bisbee--per cord \$13.50  
 Tucson--per cord 8.00

Milk

Year	Quart	% age increase	Percentage	Percentage
		1916 over 1915	1917 over 1916	1917 over 1915
1915	10			
1916	12½	25%	40%	75%
1917	17½			

Potatoes

Clouderoft,	100#	Freight	Stacking	Total	Retail
New Mexico.	\$1.00	.65	.05	1.68	\$5.00

Coal has increased \$2.00 per ton or 12.50%. At the present writing coal is selling in Bisbee for \$20.00 per ton, while the price laid down in Bisbee is as follows:

Coal	\$4.95	Trinidad, Colorado
Diversion	.05	
Freight	5.98	
	<u>10.98</u>	

The retail price is, therefore, 82.15% above wholesale.

The following is the latest scale of costs as submitted by Bisbee dealers:

Colorado Coal

Coal, including freight f.o.b. Bisbee----	\$11.20
War tax, per ton.....	.14
Middleman's profit per ton.....	.15
Sacks, per ton.....	3.00
Labour sacking, per ton.....	.50
Overhead expense per ton.....	1.00
Delivering to consumers, ten.....	2.00
Retail dealers' gross profit, ten.....	<u>1.76</u>
Total	20.00

It will be noted in the scale that \$1.00 has been allowed for overhead expense, \$1.76 for retail dealer's gross profit, and \$5 for sacks. Sacks are quoted as costing 15¢ each and the same price is added to each ton of coal when, as a matter of fact, all the sacks in the district are bought at the rate of 2½¢ per sack. Therefore, the profit of the dealer is at least \$5.26 per ton or 26.5%.

Ice has not increased in price. Milk has advanced 75% over the price in 1915. Potatoes, according to available statistics, are selling for 197.68% above wholesale.

Rent:

Residences	No. of Families	Average	No. of People	Rent per head
\$45 and up	76	\$45.	343.52	\$9.96
35 to 45	141	40	637.32	8.885
25 to 35	462	30	2086.24	6.638
15 to 25	840	20	3796.80	4.424
10 to 15	521	10	2554.92	2.23
Less than 10	629	10	2845.08	2.212
Total	2669		12063.88	
Duplex				
\$35 and up	6	35	27.12	7.743
25 and 35	95	30	429.40	6.638
Less than 25	787	25	3557.24	5.532
Total	888		4013.76	
Lodgings				
Good	25	113		
Medium	56	253.12		
Poor	77	348.04		
Total	158	714.16		
Grand Total	3715	16,791.80		
People per family	4.52			

Rooms

Single	average	\$15.00 per month	
Double	average	20.00 per month	
Beard	1915	1916	1917
Average	\$30.00	\$32.50	\$37.50

The analysis of the above statistics show that the average rent per person is \$5.92 per month. Statistics gathered from individuals show that the average rate per room per month is \$5.95.

It will be seen from the above figures that 2452 families live in houses renting from less than \$10.00 up to \$35.00 per month. The houses which these families occupy probably cost from \$200.00 to \$1500.00 with a very few at the latter figure. The average rental of such places is approximately \$5.95 per room per month.

Rent on a \$1500.00 house should be based as follows:

Six per cent of \$1500.00	\$90.00
Taxes	22.50
Insurance	1.50
	<u>\$113.00</u>

or \$9.42 per month. Other houses should be rented accordingly.

The greatest and probably the only dissatisfaction in Bisbee is due to the abnormally high cost of food, fuel, clothing and houses, and this is a matter that ought to be considered seriously by the mining companies.

Bisbee

Water Service	Domestic and Commercial Use.		
		Consumers	
September, 1915-1916-1917		Mar. 1917	July 1917
476 Gal. or less quantity per mo. Min. bill \$1.00		531	832
500 " " " " 1.05		222	204
500-6000(inc) " " per M. Gal 2.10		1628	1432
6000-15000 " " " " " 2.00		60	41

Water Service

Domestic and Commercial Use.

September, 1915-1916-1917.

Consumers  
Mar. 1917 July 1917

Usage Range	per month	per M Gal.	Rate	Mar. 1917	July 1917
15000-25000	"	"	\$1.75	12	6
25000-35000	"	"	1.50	6	5
35000-250000	"	"	1.25		1
250000-500000	"	"	1.00		3
500000-750000	"	"	.75	1	1
750000-and over	"	"	.50	5	4

Minimum bill \$1.00

Private fireplugs one inch and under in Diameter \$.50 per month.

Others increase directly with area.

House charge for one family, or less, including one faucet in kitchen per month \$1.50.

All bills shall be rendered at ten cents per M Gallons above the rates herein fixed, which will allow approximately 5% discount thereon and thereby cause the net charge to be the rates herein. Such discount will be allowed if the bill rendered is paid within 15 days after the statement is rendered. 8% per annum is paid on deposited money.

Warren

1st. 1000 gal.	\$1.50
2nd. 1000 gal.	1.00
3rd. 1000 gal.	.75
4th. 1000 gal.	.75
5th. 1000 gal.	.75
Succeeding 1000 gal.	.65

Minimum charge is \$1.50

All bills due on fifteenth of the month.

If bill is not paid before the last day of month, water will be turned off without notice.

It will be noted from the above figures that during July, 1917 832 people used 476 gallons or less of water; 204--500 gallons and 1432 between 501 and 6000 gallons.

Abundant experience shows that a supply of 50 gallons per capita

per day is plenty for all the needs and luxuries of any particular person. A family of five will consume 7500 gallons. Considerable water is always wasted by allowing it to run in order to cool it off; allowing it to run to prevent freezing; leaky pipes; etc.,. Allowing for this waste it will bring the consumption down to 30 gallons , making the consumption for a family of five 4500 gallons. As noted above 1026 families (not people) use less than 501 gallons per month. There is only one reason why the use is so little and that is the cost of the water. Each person, from the standpoint of sanitation ought to use 900 gallons per month.

In order to encourage the liberal use of water, while discouraging its waste, and thus avoid undue economy (tending to uncleanliness) each consumer should be charged a minimum periodical rate, sufficient to cover amply all the water he can possibly use and enjoy.

LIGHTING SERVICE	SEPT. 1, 1917	BISBEE, ARIZ.
First 10 K.W. hours	.14 per K.W.H.	
Next 30 " " "	.13 " " " "	
" 35 " " "	.12 " " " "	
" 125 " " "	.11 " " " "	
" 300 " " "	.105 " " " "	
" 1000 " " "	.095 " " " "	
" K.W.H. and more	.075	

Sept. 1, 1916 - and 1915

First 10	.16
Next 30	.15

Etc.

Minimum charge \$1.00

Average lighting service per family - \$1.985 per month

Warren

Lighting service 15¢ per K.W.

Minimum charge

45¢

Gas Service: Sept. 1, 1916 and 1915 Bisbee  
Same as in 1917

Sept. 1, 1917

First	2000	cu.ft.	190	per	1000
Next	2000	" "	180	"	1000
"	3000	" "	170	"	1000
"	3000	" "	160	"	1000
"	3000	" "	150	"	1000
"	3000	" "	145	"	1000
"	4000	" "	140	"	1000
Over	20000	" "	130	"	1000

On bills amounting to \$15.00 or less - 10¢ per 1000 cu. ft. discount. More than \$15.00 - 20¢ per 1000 cu.ft. if payment is made within 15 days.

Average gas service per family - \$4.06½

Electricity and gas come under the heading of abnormally high rates. Electricity can be made and sold for 8¢ per K.W.H. with considerable margin.--- Gas is in the same class. One dollar and ninety cents per 1000 for the first 2000--- \$1.20 is a fair price.

#### STORE CO-OPERATION

In the fall of 1914 the wages of the employees of the Phelps-Dodge Corporation were reduced and as a means of compromising the Store offered a 10% discount on all goods bought at the Store. The majority of the people did not take to this offer, and it was discontinued after four months.

The store, at the present time, is on a strictly competitive basis and it is claimed that goods are being sold at cost, plus 10%.

It is unfortunate that the "Company Store" has been brought into such discredit, for it is an institution which had many possibilities for good.

A store run on the co-operative basis may be a solution to the largest part of the dissatisfaction, occurring in the District.

TELEPHONE

Rental Class	No. of Users		No. of Lines-Stat.	1-Party		2-Party		4-Party		Vacant
	Families	No.		Main	Ext.	M	E	M	E	
\$45 & up	76	64	60	55	15	1				
35 to 45	141	82	69	54	4	9		19		5
25 to 35	462	152	127	103	2	16		33		12
15 to 25	840	84	72	59		3		22		3
10 to 15	521	11	8	6	2	2		3		15
Less than 10	620									35
Total	2669	393	356	277	23	31		85		

Rental Class	No. of Users		No. of Lines-Stat.	1-Party		2-Party		4-Party		Vacant
	Families	No.		Main	Ext.	M	E	M	E	
\$55 & up	6	3	3	3						3
25 to 35	95	20	17	13	1	1		6		3
Less 25	787	30	22	17	3	6		10		9
Total	888	53	42	33	1	4		16		15

No Apartments

Quality	No. of Apartments	No. of Lines-Stat.	No. of 1-Party	No. of 2-Party	No. of 4-Party
Good	25	13	11	2	2
Medium	56	12	10	0	3
Poor	77	15	11	2	4
Total	158	40	32	4	9
Grand Total	3713	486	342	26	110
Films	266	113	143	34	7
Downtown	236	156	172	46	12
Business	504	271	315	82	

Category	Rate
Business	\$4.00 per month
Extension	1.00 "
Residence (private)	3.00 "
2-Party	2.50 "
4-Party	2.00 "

### Scientific Management

Since labor is the largest cost factor in nearly all kinds of production, it is obviously absurd to permit labor to be wasted in unproductive operations through faulty management. If there is a science of management, certain principals must underlie and support it. The principals of scientific management are:

1. The development of a true science.
2. The scientific selection of the workman.
3. Their scientific education and development.
4. The intimate, friendly cooperation between the management and the men.

For each given pull or push on his arms, it is impossible for the workman to be under load for only a definite percentage of the day. It was found under this law that 43% represented the time that the workman should be under load; if more or less than this, a decreased efficiency resulted. The ratio of time under load to time free from load varies, of course, with the weight of the load to be carried.

The above is an example of scientific management --- it is a working scheme which its originator and others who have followed him believe can be applied successfully to almost all avenues of human endeavor.

In case scientific management becomes a part of the organization, and at such a time when an employee attains a point where he is giving 100% efficiency, his labor should be rewarded by a cash bonus. Full efficiency increases production and this increase will take care of money expended as a bonus.

### Accident Prevention

Accidents are a source of loss in industry for four reasons:

1. The injured man and his fellows who come to his assistance lose time from their work and production is interfered with due to

the shut down of machinery.

2. Medical aid must be given to the injured man, and if the injury causes more than a brief loss of working time, wage compensation must be paid as well.

3. Decreased efficiency -- caused by hiring a new man to fill the injured man's place. Increased accident hazard and labor turnover are caused for the same reason.

4. Employment is less desirable in a plant which has a number of accidents, and guarding against accidents while on duty decreases efficiency.

Accidents are wholly against the interest of the employer and employes, since both lose by them and no one ever gains anything. Any progress that can be made in their prevention is a gain.

There are two general methods of prevention:

1. Removal of the hazard or safeguarding and
2. Education

The latter can be divided into two classes:

1. Posters, bulletin boards, safety meetings, safety committees etc.
2. Rewards of prizes or money to the foreman and (or) the men, preferably the latter.

Volumes have been written on the above subjects and it is not my intention to go into detail but I wish to state that from reliable statistics it has been shown that the latter method, without the use of safeguards, has done more to prevent accidents than the former with the use of safeguards.

Considerable has been done and is being done in accident prevention, but an important point-- illness prevention-- is being neglected. Statistics-- covering a period of two years-- show that the average time lost per accident is 2.53 days, against

7.51 days for illness. The above statistics were taken from a company with good medical supervision. As in the case of accidents, it is a source of considerable loss to the company as well as to the man himself.

Medical supervision should take care of a man before an injury as well as after an injury, and in the latter case the supervision should cover the entire period of off-duty due to the accident. In no case should the man be sent to the family physician, because in so doing, he will invariably apply home treatment, which results in a protracted absence from work.

A corporation is justified in doing anything that is legal and tends to the improvement of its business, and it must be seen, that the preventing of illness among its workers does tend toward the improvement of its business. The men should receive as careful attention as is given to the machinery to insure that they are in good condition and operating efficiently.

Health Insurance will give employers a powerful impetus toward better sanitation, shorter hours, and more consideration toward their laborers, just as workmen's compensation laws stimulated employers to install safety devices in their own self-protection; and the direct results of this, in addition to lessening the death loss by preventable disease and accidents, will be to help reduce poverty and promote better relations between employers and employees. Either of these considerations should impel the prompt installation of health insurance. The burden will be great on nobody. The employer should charge it up to the cost of doing business. The charge upon the public could easily be borne in the form of taxes. The cost to the worker would be small compared with the benefits, and would take only a small toll out of the pay envelope.

If it is wise and just to insure the toiler against industrial accidents, it is surely not silly to insure him against disease.

The introduction of medical and physical examination of new employees is one of the greatest steps taken in years, toward placing a premium on health. Take, for instance, a college boy preparing for engineering work, and let him know that his whole future career depends upon his living a clean life, and it would do more toward raising the standard of college morality than many reforms which would otherwise be instituted. The Army and Navy require it, so why should'nt employers, especially when a large share of the liability for accidents occurring as a result of personal weakness, rests, at the present time, on the employer.

Re-examination should be conducted at least once a year and employees should be enlightened of any illness in order that they receive proper care. Such an examination enables the management to place employees at the kind of work for which they are fitted. Beside this, it ought to serve to educate employees in the fundamental principles of health preservation and hygiene.

All employees who become sick or who are injured while at work should be sent to the doctor's office or dispensary for a pass before going home, and before returning to work they should be compelled to secure a permit from the physician.

If all companies institute physical examination what is going to happen to defective laboring men? It means simply two things: if the employee becomes defective while engaged, his employer will devise some way of bringing him back to normal if possible. This will be necessary, as good health has considerable bearing on accident prevention. The second thought concerns the defective who seeks mechanical employment but who is unable to secure it because of his physical condition. It simply means that such men will be employed either thru some undeveloped system in which they will carry their own risk, or it will be necessary for them to engage in other occupations where the danger from

accidents is small and which are not included in workmen's compensation systems.

**Tuberculosis:** this disease is particularly hard to locate among employees. When it is found, the patient should be treated in the proper manner or at least be educated along the lines of prevention and treatment at home. Particular stress should be laid on the fact that sputum and promiscuous spitting is the most common way of infection, and they should be told what to do in such a case.

**Hernia:** the question of handling hernia cases is one which is affording considerable concern to industry at the present day.

Medical statistics show that it is impossible for a rupture to occur to an individual who is not born with a small puncture in the peritoneum, irrespective of how severe the work may be. A strain may result, not a rupture. The strain may aggravate a rupture, but it will not cause it. When a tendency to hernia exists, the weakness reveals itself under physical examination.

Hernia is not an accident, though often so regarded by the patient. A sac may exist for years and yet remain empty. When bowel or omentum enters it from some strain or effort, the parts were long prepared to receive the extruded mass. This extrusion may occur gradually; it may occur suddenly. If it occurs suddenly the sufferer believes that his hernia was formed then and there, but as a matter of fact, the extrusion of bowel or omentum and its entrance into the sac are but the last of a long series of antecedent and preparatory changes. Finally, a hernia appears, and usually does so during an effort.

Medical science teaches, and has taught for the last twenty years, that which is now accepted as a medical and scientific fact, being corroborated as such by the foremost surgeons of the world, i.e., that hernia (or so called rupture) is a disease

which ordinarily develops gradually, being very rarely the result of an accident.

To prevent hernia it is good policy to teach the men how to lift when their work requires lifting.

I have examined the medical examiner's certificates and I might suggest that you incorporate the following: age; wearing glasses; mouth, including tongue and throat; teeth collectively, good or bad; scars from operations; nervous temperament; general condition, scars or evidence of syphilis.

For complete health supervision I suggest the following:

1. Sanitary supervision
2. Industrial hygienic supervision
3. Purely medical supervision
4. General hygienic supervision
5. Health insurance

The first should be considered in the construction of plant, the light, ventilation, care, and comfort of employees.

The second embraces various processes involving dust, gases, fumes and poisons; and processes which have, perhaps, certain infectious diseases in their train, in general, industrial supervision of processes tends to promote the health of the workers.

The third is purely medical, that is, first, the physical examination of workers as they come into the plant or before coming into the plant; second, the periodical examination of workers while they work; third, a first aid to the injured and emergency treatment of those injured, and fourth, treatment of acute and chronic diseases of the workers while in the plant.

The fourth, in order for medical supervision to be complete must include not only the worker, but his family, his general surroundings, his addiction to alcohol or other abuses.

Fifth, health or social insurance; there should be some sys-

tem by which the worker who is more or less disabled is taken care of while disabled. The worker should be given some work which is up to his strength.

A very important part in health is health education. I believe no good can be done in teaching a man how to live, than how to make a living.

Between the place of injury and the hospital there should be at least one expert First Aid man; this man should have an excellent knowledge of First Aid.

Other things which should come under the examination are dentistry, a detailed examination of the eyes, and another point not to be overlooked is that injured men, no matter how slightly, must report to the physician for treatment.

Will money spent on sanitary improvements reduce accidents? We all know that money spent on sanitation reduces the sickness of a district. We know that towns having a complete sewer system enjoy better health than one which has filthy privies; that towns supplied with good milk and pure food cause better health; that a city with good drainage system, pure water, fine houses, clean alleys and yards, etc., has less sickness than one which has the reverse. Good health reduces accidents, but many fail to realize this. Also, there is a very close relationship between occupational diseases and compensation laws.

Some compensation laws state that the employer is liable to pay compensation for every injury or death caused by accidents or diseases or infection naturally resulting and arising out of and in the course of employment.

The dust from a machine drill may predispose one to tuberculosis; his home conditions, such as poor food, impure water, an overcrowded bedroom, or booze might do the same thing, but it is difficult to prove the cause. The suspicion can be removed from all plants by making working conditions hygienic. In localities

where there has been outbreaks of infectious diseases the cause has been traced to the home.

An accident is the result of circumstances. There is one principal cause--the human factor-- and several contributory factors. Safeguarding, rules and regulations, etc., may eliminate about twenty five percent of the accidents, but you have to take into account human weaknesses. Because a miner is careless or ignorant of the way to do a thing, and does it wrong, will not be accepted as a reason for not paying compensation. An investigation into why he did a certain act may prove to you that the man is unfit, due to the lack of sleep caused by an overcrowded bedroom, polluted water, etc. His stupidity may also be due to sickness at home, or by such every day ills, as a cold, a headache, cramps, or dysentery, and all these have an effect upon the mental and physical alertness of a miner, making him more susceptible to accidents.

Conditions such as these can be changed, and probably the simplest way would be to employ a trained or visiting nurse to spend her time visiting the home. She could administer to the sick, teach how to take care of the children, how to prepare food, give education in hygiene and sanitation, and in this way prevent much of the absolutely unnecessary suffering.

Good health has a tendency to prevent accidents and it is well known that a sound healthy body will recover from an accident more readily and completely than an anemic or sickly one. Speedy recovery from an accident reduces compensation costs; good health means a speedy recovery; sanitation means good health; consequently sanitation reduces compensation costs.

Other factors, such as wash and change houses, bubbling fountains on the surface and underground, sanitary closets, etc., will improve health and reduce infections.

Prohibition is another big safety factor in mining. Since prohibition went into effect in Arizona accidents have been reduced-- showing that the men no longer go to work in a dissipated condition. We all know that a man with a steady hand, a clear eye, and an alert brain is better fitted to do his work than one suffering from a "hang-over." Why did the men go to the saloon? Because of a desire for sociability.

Social improvements include measures which tend to make the life of the miner happier, better, and fuller. There is a great necessity for such work in mining communities. Social improvements deal more with the comforts and pleasures than the health and safety of the miner. They have to do with his leisure, rather than his working hours; they also embrace the interests of the miners' families. What to do with the other eight hours is a problem, but it is being solved by some corporations. Social activities include such features as baseball parks, bands, club-houses, motion picture shows, entertainments, education, athletic grounds, tennis courts, football grounds, etc. Such activities furnish a substitute for the saloons; they compete with the saloon in that they provide healthful and educational means for the men to spend the other eight hours. The benefits derived from a decrease in working hours are wasted unless means are provided for the men to spend their leisure hours to advantage.

The solution of this problem is in the hands of the mining community, especially the mining companies. The change cannot be abrupt but it can be brought on gradually.

The conservation of human life is a factor in mining which has the attention of all operators. Statistics show that there are fewer accidents with steady workmen than with a floating element. An investigation into the cause of "ten-day" miners, may prove that living conditions, and not working conditions, are the

causes of dissatisfaction. Of course working conditions are often responsible and the workman knowing that something is wrong, may use them as the underlying cause of discontent, when, in fact, the real cause is due to home conditions. Social conditions do help to make labor permanent, and there will be less accidents than in a transient one.

Good living conditions attract men with families--such people are conservative and careful because of greater responsibilities-- they will not take the chances that a single man will take. Such men as those who travel continually, paying no carfare, are not the safest kind to have in the mines.

If good health, education in sanitation and hygiene, prohibition, good living and working conditions, social and recreation activities will reduce accidents, decrease leisure hours and compensation, would'nt a little money spent on Welfare Work prove to be a valuable expenditure?

#### Labor Turnover

The labor turnover in Bisbee-Warren District is very highly due, probably, to conditions which can be practically eliminated. A step in the right direction has been taken by installing an employment officer.

Reports of a certain company show that through the use of an employment department it decreased its labor turnover 48%, decreased the hours worked 9%, along with a 10% increase in output, introduced a bonus system for regular work that cut down its lost time, remedied unsatisfactory conditions that had previously been undetected in a number of departments, and has done away with strikes and wage disputes.

Sources of the cost of hiring men are:

1. The cost of hiring the man, interviewing him, making a medical examination, placing him on the payroll, sending him to

his foreman, and putting him to work.

2. Efficiency of the man-- the ratio between actual results and a standard requirement.

3. Spoiled material.

4. Extra supervision that is required by a green man.

5. Interference with the work of fellow-workmen.

6. Accidents caused by the green man.

The total amount of these costs have been computed by various concerns and the results range from \$25.00 to \$100.00 as the cost to the company of bringing a green man up to the stage of a productive workman. To this must be added the cost of those men who work only for a short time and then leave. The ratio between the number of men hired (as shown by carefully kept records) during 1916 and the actual increase in the working force ranges from 4 to 1 to 15 to 1. In most cases the number of men who must be hired in order to keep a working force at normal strength varies from 100 to 200 per cent. It is evident, therefore, that the costs involved are enormous, and no phase of personnel work will repay study better than this.

Labor turnover may be reduced in the following ways:

1. The creation of an employment department under a capable manager.
2. Welfare work.

The employment manager should rank as an assistant superintendent if he is to perform his work efficiently.

#### Welfare Work

The primary purpose of such work is to bring about conditions that will induce men to remain in the employ of the company, and thus cut down labor turnover, -- or it is an effort of the company to provide for the men as a whole, comforts and conveniences that they could not individually provide for themselves except at a prohibitive cost, and thus reduce the labor turnover.

It could also be brought about by paying an abnormally high rate of wage, but this is not desirable.

It is good administration for a company to offer a man in return for his labor a combination wage, as is done in the Army.

Recently it has become the fashion in starting large new enterprises to build new industrial towns. This is an excellent move, because it permits the organization to choose the conditions under which it will operate, instead of attempting to adjust itself to conditions already existing. Houses, water supply, roads and pavements, sewers, electric light, telephones, schools, kindergartens, club houses, libraries, banks, etc., are needed at once; to wait for private initiative to provide them would involve expensive delay, while to depend upon municipal endeavor is impractical.

It has been recognized that the provision of such forms of labor compensation is not only a necessity, but is also good business. The statistics of those companies that keep adequate records show that the chief element in labor turnover is furnished by men without families, that is, men who board. In a town where good homes are available at a reasonable rent, well-kept streets, good schools, adequate stores that sell supplies at reasonable prices, and where the environment is good, steady workmen with families will be glad to make their permanent homes.

#### Housing Conditions

The largest single item in the expenditure of a man of moderate means is house rent. In building a new town, a standard type of house is designed, usually by an architect who is unfamiliar with the needs and desires of a workingman's family, and the houses of this type are built in long rows, like the trees in an orchard. The cost of such houses is figured in the following manner:

Cost of construction, land, streets, sewers, etc., divided

by the number of houses,--this gives the cost on which the rent is based. If the company sells lots, the same procedure is followed, and consequently rents become high, a condition usually existing before the town was built. This method makes the company defeat its own ends, which are to provide good homes for its employees at a minimum price.

It is the desire of most men to own their own house, and this not now difficult for a man who is regularly employed, since there are numerous firms who will sell building material to the owner of a lot and will usually loan him enough money to pay the largest part of the cost of construction. On this basis it would be profitable for a company that owns sufficient land, to give to a steady employee a deed to a lot, with the understanding that he must build upon it, a house to cost over a fixed minimum sum, within a reasonable length of time. No additional capital investment is thus required of the company, and its return on the original capital invested in the land, comes back to it in a decrease in taxable valuation of the town. If all the houses in an industrial town have to be built by the company, the amount of capital thus tied up is enormous, returns on the capital are slow, and there is a possibility of an enormous shrinkage of values, if for any reason the venture is not a success. Such a plan would do away with the undesirable uniformity of industrial towns, where a man can secure any number of houses renting at \$10 to \$15, all alike, but cannot find any houses renting from \$20 to \$30 a month. The amount of money tied up in houses of the latter type is so much greater that supplying them in any large number is undesirable; and it is also more undesirable from the tenant's standpoint, to have them all alike.

Suggestion:

1. Company to build the town.

2. Rent to be based as follows:
  - a. Interest on investment at 6%
  - b. Up keep 1 $\frac{1}{2}$ %
  - c. Principle to be wiped out in 10 years.
3. No rent after 10 years
4. Company to pay up keep after 10 years.

#### The Social Secretary or Stimulation

In the changed industrial and economic conditions of today the greatest concentration of capital and the massing of thousands of the employed have brought about new problems. In the old times master and man lived together; there was a daily point of contact, a continuous personal touch. Today all is changed. The employer in many cases is as much an absentee as are the landlords of some of the worst tenements in slumdom today.

It is an industrial condition that naturally followed the organization of great capital into syndicates and trusts. With an industrial army of thousands of employees, it became necessary for the best administration and efficiency, that they be grouped into sub-divisions, in charge of responsible leaders, in order that this working machine should respond to the working control of the commander-in-chief; in other words, the day has passed when the employer is able to individualize those who work for him; not knowing them by name, or even by sight, the personal touch, the point of contact has been lost.

With the growing intelligence on the part of the workers, evidencing itself in a dissatisfaction with their social and economic surroundings, they are slowly learning how to crystallize their incoherent wants and their smothered discontents into definite propositions for an improvement of their conditions.

As is clearly recognized, the personal touch between employer and employee has been largely lost, and it is not desirable, even if it were possible, to return to the earlier days. But for suc-

cessful conduct of the business-man today, a point of contact must be established in some way. From a wide observation in this and other countries, it has been found that the business man strives for the highest efficiency in the making, selling, and advertising part of his business, factory, mill, or store; no detail is too trifling, nor can too great care be exercised; but all the while, the labor end of his business, the human part of it, is taking care of itself, or left to the provisional caretaker, who is not in the employ of the firm, nor is he always "in business for himself." However, our American industrialists are beginning to realize that an intelligent regard, and a tactful care for the labor part of the business is not only right, but a large factor in industrial peace and contentment.

The social economist foresaw this tendency, and knew that the industrialist must establish a connection between himself, his immediate staff, and the rank and file of his industrial army, if commercial peace and prosperity were to characterize his establishment. Every man of affairs earnestly desired this, but did not know how to obtain it.

The idea of the Social Secretary was brought to the United States in 1900, and the new profession is to be recommended in all industries. The problem which confronts the social secretary is how to improve the conditions of life and labor for the individual, not only in the factory, mine, and workshop, where he spends the greater part of his working day, but in his home and all other relations in which he meets his fellows.

The first requisites are sympathy, infinite tact, and patience. Not only is the social secretary to promote whatever will improve the conditions of the laborer, but he is there to check whatever is detrimental to the business through carelessness or indifference on the part of the workers.

In a few words the duty of such a person is to advise, to uplift, to inspire with courage and ambition, to censure judiciously, and to try to point out the best course in each individual case.

The Social Secretary does not treat the laborers in a mass meeting, but maintains his individuality, so that the employee feels that he is part of the directing intelligence, and not a mere cog in the wheels.

The Social Secretary is to act as the representative of the employees, and, as such, to bring to the firm, or the heads of the departments, any grievances that affect the employees individually or collectively.

In industries where the social secretaries are men, they could most advantageously engage all the men, except the skilled workers and the clerks; they have the receipt of suggestions and adoption of improvements in various departments, responsible headship of the recreative, social, and educational work; they visit the sick and promote good fellowship; they arrange transfers from a department where the work is slack, to another where there is too much, and they also make promotions, in consultation with the heads of the departments.

Dealing with human beings at every step of his way, the social secretary must inform himself of the various social phenomena while referring each manifestation to the underlying principle, thus acquiring a store of practical experience which will enable him to meet the emergency.

Prohibition removed the saloon and the bright lights and very little attempt has been made to replace them. The social secretary or stimulator should take care of this by "starting something"-- that is, he should organize, and keep going such movements as:

Dramatics - amateur

Athletics - indoor and out door

Musical clubs

Picnics, etc.

Boxing tournaments

Public lectures

Personal touch or the point of contact between employer and employees may be attained by appointing a Workman's Committee, made up of service men, men who have been in the employ of the company one year or over.

The "hebe" element should be utterly ignored in any dealings with a corporation or company, and the same should be applied to a foreigner. Men who work less than six months should be placed in the "hebe" class, and men who have been in the United States for a period longer than the time required by law to apply for First Papers should be classed as foreigners.

Hospital committees, or any other committee, should be composed of service men only, and only service men should be allowed the right of a conference with the manager or head of a department in case of a difference.

#### First Aid and Mine Rescue

First aid treatment to the injured, if correctly administered, does much toward saving lives and minimizing suffering. Few realize how great a service a workman, educated and trained in first aid methods, can render to an injured fellow-workman. He may save his life, and at least he will do a great deal toward making possible a quick recovery. The only way in which workmen can receive adequate first aid instruction is through the organization of a first aid society. Classes of workmen from each department, including foremen, should be given this instruction by a competent first aid instructor, and not a physician. The latter oversteps the true sphere of first aid. A sufficient number of men should be trained for this work, so that there will always be

several men in each department who have a good knowledge of first aid methods. These classes should meet every week until they have received thorough instruction, and should then continue to attend ~~the classes in~~ in first aid, the men usually remember one third of the instructor's teachings, and consequently it is very desirable that the men practice continually.

The purpose of a first aid organization should be to instruct and train employees to assist those who may be injured or rendered helpless, to promote good fellowship among its members and the other workmen, and to enlist individual and public interest in the social betterment, and public health of all.

In case there is no society, and if first aid instruction is given as it is in Bisbee, it should be the duty of the instructor to notify interested men of the time and place of the meeting, and to be at such place, at said time.

Nine rescue men should be between the ages of 22 and 45, in good physical condition, temperate, calm, and deliberate. A thorough course of instruction and training should be given to each man, and in order to keep in proper condition of efficiency each man should wear an apparatus under oxygen, at least two hours every week. Winning a contest is no indication that a mine rescue team is fit to fight a mine fire.

In purchasing apparatus for emergencies, no less than five machines should be bought, and no less than a team of five men should ever attempt to enter a mine, after an explosion or fire.