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Standardized card of accounts for the iron mining industry

Iron Ore Mining Accountants Association

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**Standardized Card of
Accounts**
for the
Iron Mining Industry



**The Lake Superior Iron Ore Association
CLEVELAND**

**Standardized Card of
Accounts
for the
Iron Mining Industry**

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MEMORANDA

I

For some years it has been apparent to all corporations engaged in mining iron ore, that a general adoption of a standardized uniform card of accounts would result in very material advantages to all concerned. The federal and certain of the state governments require the filing of cost schedules and other data for a variety of purposes, among them ad valorem taxation, income taxation and some regulatory measures. In many cases the data are used comparatively and important conclusions are based on statistical averages. The compilation of averages from heterogeneous sets of accounts is not only difficult but the end figures are bound to be, in considerable degree, untrustworthy. Therefore, it is in the interest of the miners of iron ore as well as the public authorities that uniformity of accounting be introduced to an extent which will enable the submission of cost schedules on a strictly comparable basis.

Accounting for the purposes of government may become more expensive and burdensome than it now is unless it is systematized and simplified. The prevailing situation was brought forcibly to the attention of all miners of iron ore in the fall of 1917, when the War Industries Board demanded cost data for the purpose of determining a fair price for iron ore. The attempt to secure such data on short notice was almost frustrated by the lack of uniformity of method of cost accounting.

The first step in the direction of uniform cost accounting was taken in 1918 when a committee of representative accountants in the iron ore business was appointed to devise a uniform card of accounts for use in compiling cost data for the War Industries Board and the Federal Trade Commission. The work of this committee was intended to be neither final nor complete; nevertheless it was valuable not only in successfully meeting a war emergency but also in convincing iron ore miners generally of the greater advantages to flow from a perfection of the system on the broad lines laid down by the Committee. In

the fall of 1919 it was determined to proceed with the further development of a standardized uniform system of accounting and accordingly representatives of the following companies met in Cleveland on October 29th and October 30th.

E. N. Breitung & Co.,	Cleveland, Ohio
Cleveland Cliffs Iron Co.,	Cleveland, Ohio
M. A. Hanna & Co.,	Cleveland, Ohio
Jones & Laughlin Steel Co.,	Pittsburgh, Pa.
Mace Iron Mining Co.,	Minneapolis, Minn.
McKinney Steel Co.,	Cleveland, Ohio
Midvale Steel & Ordnance Co.,	Philadelphia, Pa.
Oglebay Norton & Co.,	Cleveland, Ohio
Oliver Iron Mining Co.,	Duluth, Minn.
Pickands, Mather & Co.,	Cleveland, Ohio
Republic Iron & Steel Co.,	Youngstown, Ohio
Shenango Furnace Co.,	Pittsburgh, Pa.
Steel & Tube Co. of America,	Milwaukee, Wis.
The Tod-Stambaugh Co.,	Cleveland, Ohio
Wisconsin Steel Co.,	Chicago, Illinois
Witherbee, Sherman & Co.,	Port Henry, N. Y.

At this meeting the fundamental principles of the proposed system were developed and the following working committee was appointed to formulate them:

S. E. Bool,	Pickands, Mather & Co.
W. J. O'Connor,	Oliver Iron Mining Co.
V. P. Geffine,	Cleveland Cliffs Iron Co.
Chas. H. Brook,	Steel & Tube Co. of America
B. C. Anderson,	Shenango Furnace Co.
C. M. Green,	Pickands, Mather & Co.

The working committee met in Duluth, Minnesota, on November 7-17, 1919. They had the advice of representative mining, mechanical and electrical engineers on certain technical phases of the subject, particularly in devising formulae for the distribution of power accounts. The report of the working committee was considered by the committee of the whole in Cleveland on December 1-2, 1919, at which meeting there were present representatives of the following companies:

E. N. Breitung & Co.,
 Cleveland-Cliffs Iron Co.
 M. A. Hanna & Co.
 Jones & Laughlin Steel Co.
 Midvale Steel & Ordnance Co.
 Oglebay, Norton & Co.
 Oliver Iron Mining Co.
 Pickands, Mather & Co.,
 Shenango Furnace Co.
 The Tod-Stambaugh Co.
 Witherbee, Sherman & Co.

At this meeting the standardized card of accounts, which is exhibited on the following pages, was adopted.

In presenting this card of accounts the committee desires to state that it represents not the conclusions of any one or several of the interests concerned, but the consensus of the best judgment of all of them. It desires to state further that perhaps no uniform system of accounting could be applicable in all its details to each and every mining operation; therefore, in constructing the system here presented there has been introduced considerable elasticity to meet the varying conditions of iron mining operations. Although in its details this system is not applicable to all operations, yet in its broad outlines it is applicable everywhere.

The main purpose of the committee was to devise a standard card of accounts which would control the general or face cost sheet of all iron mining operations in order that each general cost sheet may be strictly comparable in all of the items appearing on it with each and every other general cost sheet. Whatever may be the departure from the details of the system here presented, it is desired that the items on the general cost sheet shall conform to those on the general or face cost sheet presented in the classification. If this is done, the difficulties of summarizing the various items of cost will be removed and, of more importance, summarized cost statements for the industry or any integral part of it may be compiled with entire confidence in the correctness of the end results.

THE COMMITTEE.

Cleveland, Ohio, Jan. 2, 1920.

II

Those who participated or assisted in the formulation of this standardized card of accounts concluded that it would be mutually advantageous to form a permanent organization of accountants which should meet at least once each year for the consideration of costs or other accounting problems affecting the iron mining industry. Therefore, prior to adjournment on December 2d, 1919, such an organization was formed; it was named "Iron Ore Mining Accountants' Association," and a President, Secretary and permanent Cost Committee were elected as follows:

President,	
S. E. Bool,	Pickands, Mather & Co., Cleveland, Ohio.
Secretary,	
C. M. Green,	Pickands, Mather & Co., Cleveland, Ohio.
Cost Committee,	
W. J. O'Connor,	Oliver Iron Mining Co., Duluth, Minn.
V. P. Geffine,	Cleveland-Cliffs Iron Co., Cleveland, Ohio.
A. E. Hodgkins,	Witherbee, Sherman & Co., Port Henry, N. Y.
H. L. Pierce,	M. A. Hanna & Co., Cleveland, Ohio.
C. M. Green,	Pickands, Mather & Co., Cleveland, Ohio.

An invitation is extended to operators who were not represented at either of the meetings previously mentioned to name one or more persons in their organization for membership in the association. The names and addresses of such persons should be forwarded to the Secretary.

Questions concerning this classification, as well as suggestions having to do with cost accounting will upon communication addressed to the Secretary, gladly be given attention by the cost committee.

IRON ORE MINING ACCOUNTANTS ASSOCIATION.
Cleveland, Ohio, Jan. 2, 1920.

D I S T R I B U T I V E A C C O U N T S

COMMENT

One of the basic principles which came in for a great deal of consideration was the method of handling such items of cost as are applicable to two or more distinct operations.

The most important of such items are recognized to be power costs, namely steam and electricity.

In order to determine the proper method of handling these accounts, opinions of engineers were obtained bearing on the feasibility of distributing steam and electricity to consuming operations and on the advisability of showing power as a separate cost account.

The engineers agreed that in studying their steam and electric practice, they first arrive at the total cost of producing steam or electricity and then allocate that cost to the various uses to which the power is put. For instance, if the consumption of coal for any month was abnormal, they would, in the study of this problem, resolve the cost into factors, Hoisting, Pumping, Trimming, etc., and thus allot the excess consumption of coal to the respective purposes for which it was used. Therefore, it being the practice of the engineers in studying cost of steam and electricity, to divide the total cost among these operating accounts, it follows that an approximate division of steam and electric power into the various operating accounts can be made, and while engineers study power costs primarily on the basis of total production costs, yet they agreed that in making such a study they would allocate any increase or decrease to certain classes of work in order to correct the practice at that point, and could advise the accounting department of any errors in previous distributions so that the accounting department could adjust their distribution of power to the correct basis. In view of the foregoing it is recommended that after first determining the total cost of power production, from which the engineers obtain data for studying power costs, such total cost should be divided among the various consuming accounts on the basis of the engineer's findings, such division to be checked monthly if deemed advisable, and revised as often as the mechanical engineers think necessary.

The engineers proposed the following formulae for the distribution of power which were adopted, and form a part of this classification.

DISTRIBUTIVE ACCOUNTS—COMMENT (Continued)

STEAM OPERATED MINES

TOTAL STEAM PRODUCTION COST divided by the product of tons of coal \times 2,000 \times evaporation factor = cost per pound of steam.

Note:—Evaporation factor to be determined by Mechanical Department and used until changed by same.

STEAM OPERATED PLANTS

HOISTING:

Ore Hoisting:

Total tons hoisted \times constant "O" \times cost per lb. steam = steam cost for this operation.

Man Hoisting:

Total trips \times constant "M" \times cost per lb. steam = steam cost.

AIR COMPRESSOR:

Revolutions of air compressor \times constant "C" \times cost per lb. steam = cost of this operation.

PUMPS:

Revolutions \times constant "P" \times cost per lb. of steam = cost of pumping.

Note:—Constant P_1 , P_2 , P_3 , etc., to be made for each pump.

HAULAGE GENERATOR:

With Meter:

Total KW Hours \times constant " E_1 " \times cost per lb. of steam = haulage power cost.

Without Meter:

Total hours operated \times constant " E_2 " \times cost per lb. of steam = haulage power cost.

HEATING:

Number of square feet of radiation \times constant "H" \times cost per lb. of steam = cost of steam for heating. Constant "H" will be different for different months.

OTHER STEAM DRIVEN MACHINES:

Not listed above will be given constant on notifying Mechanical Department.

METHOD OF DISTRIBUTING BALANCE:

Any difference between the total cost of Steam produced and the costs as distributed by the above formulae not directly accountable to irregularities or additional machines consuming steam, shall be distributed to the several accounts pro rata. If

DISTRIBUTIVE ACCOUNTS—COMMENT (Continued)

any large variations occur the account shall be referred to the Mechanical Engineer.

Note:—The various constants referred to should be calculated by the Mechanical Department and submitted to the Accounting Department from time to time should any variations in the operation be noted by Mechanical or Accounting Departments.

ELECTRICALLY OPERATED MINES

There should be one totalizing KWH meter.

KWHs used by each machine, or machines, \times net cost per KWH = electric cost for this operation.

There being no fairly accurate means of determining the KWHs used by each machine, or machines, on any one operation without the use of KWH meters, it is recommended that each operation be equipped with a meter.

METHOD OF DISTRIBUTING BALANCE:

Any difference between the total cost of electricity and the costs as distributed by the formulae, not accounted for, shall be distributed to the several accounts pro rata. If any large variations occur, the account shall be referred to the Electrical Engineer.

COMBINED STEAM AND ELECTRICALLY OPERATED MINES

STEAM COSTS:

To be arrived at as per steam production exhibit.

DISTRIBUTION OF STEAM:

To each machine to be made as for steam operated mine.

ELECTRIC POWER COSTS:

Cost of generated current to be determined by multiplying steam rate of engine or turbine, including its accompanying auxiliaries, by the cost of steam per pound.

DISTRIBUTION OF CURRENT:

To be arrived at as for electrically operated mines; except as provided in second sentence of subdivision 6 of distributive account "(B) Electricity."

DISTRIBUTIVE ACCOUNTS

These accounts are not Cost Sheet Accounts but provide for accumulating from various sources items making up the aggregate of each of these general sub-divisions, which aggregate will be wholly distributed monthly to the various Cost Sheet Accounts on basis outlined under each of these Distributive Accounts.

DISTRIBUTIVE ACCOUNTS

"A" STEAM: (Revised April 25, 1923)

Each battery or group of boilers (as may be most expedient) will be considered and treated as a separate steam-producing unit and made the subject of a separate exhibit. The total of each steam-producing account shall be apportioned each month against Hoisting, Pumping, Trimming, etc., and appear under that caption on the respective cost sheets.

Charge to this account the cost of fuel used in producing steam, labor used in unloading and handling fuel, repairs per classification below, wages of firemen, water tenders, ash handlers and water purifying attendants, tools, lubricants, and all other supplies or labor in connection with the production of steam and the delivery of same up to the wall of the Boiler House. It may be desirable to include in this account the Cost of delivering steam to points of consumption in which case the subdivisions A-1 to A-10, which follow, should be altered so as to include the cost of maintaining pipe lines, etc., located outside of the Boiler House. The cost of purchased or generated steam shall first be charged to the distributive account "Steam" and when the aggregate charges to this account are obtained each month a distribution to the various consuming accounts shall be made in accordance with formulae determined by the Mechanical Engineering Department (See page 12). The basis of this distribution is to be checked monthly or as often as deemed advisable by the Mechanical Engineering and Accounting Departments and revised as often as found necessary.

A steam exhibit shall be made each month subdivided as follows:

A-1 Fuel.

(This account to be charged with all fuel used for the production of steam.)

A-2 Water Expense.

Includes all water purchased from outside sources for use at boiler houses in making steam, quenching ashes, **washing and blowing** down boilers, or for other miscellaneous purposes.

A-3 Producing Labor.

(a) Superintendence.

(b) Unloading fuel for immediate use, not including cost of unloading coal into stockpiles, which shall be charged into Inventory Account "Fuel".

(c) Delivery of fuel from general stockyard to boiler plant.

(d) Crushing and pulverizing coal.

(e) Firemen.

(f) Ash wheelers and conveyor tenders.

DISTRIBUTIVE ACCOUNTS—(Continued)

- (g) Water and feed pump tenders.
- (h) Boiler washers and cleaners.
- (i) Attendants water purifying plant.
- (j) All other producing labor.

A-4 Lubricants.

Charge to this account all oils, greases and other lubricating substances and compounds used for feed water pumps, small engines in boiler houses, coal handling and crushing machinery, conveyors, stokers, etc.

A-5 Tools and Miscellaneous Supplies.

- (a) Waste and packing.
- (b) Wheelbarrows, tools for boilers, engines and pumps, shovels, forks, etc., including labor making repairing and maintaining tools.
- (c) Torches and oil therefor, hose, pails, gauges and gauge glasses, fuel for salamanders and all other miscellaneous supplies. Includes miscellaneous fuel (other than coal) used for starting fires.
- (d) Boiler compounds or re-agents for water purifying plant, including feed water analysis.

A-6 Disposing of ashes from yard piles.

A-7 Yard Switching.

(Switching coal from general storage yard to boiler plants to be included herein).

A-8 Electric Light and Power.

Includes electric lighting supplies.

A-9 Boiler Insurance, Inspection and Tests.

A-10 Repairs and Maintenance (Labor and Material).

- (a) Boiler plant buildings.
- (b) Stacks, fans, breeching and connecting flues.
- (c) Economizers.
- (d) Coal bins, trestles and tracks.
- (e) Coal handling and crushing machinery and bins.
- (f) Ash handling machinery.
- (g) Stokers, grates, burners and their attachments.
- (h) Boilers, superheaters and fittings.
- (i) Boiler settings.
- (j) Main steam lines and pipe covering in boiler house.
- (k) Feed water heaters, pumps and water lines and meters.
- (l) All other machinery, instruments and appliances.

DISTRIBUTIVE ACCOUNTS—(Continued)

"B" ELECTRICITY: (Revised April 25, 1923)

Charge to this account the cost of purchased or generated current and delivering same, which cost shall include the repair and maintenance of lines, switches, conductors, poles, transformers, sub-stations, etc., up to the main distributing switchboard bus. It may be desirable to include in this account the cost of delivering electricity to points of consumption in which case the subdivisions B-1 to B-6, which follow, should be altered so as to include the cost of maintaining lines, etc., connecting the main distributing switchboard bus with the consuming units.

The cost of producing electric current shall first be charged to the distributive account "Electricity" and when the aggregate charges to this account are obtained each month a distribution to the various consuming accounts shall be made on a basis of meter readings or in accordance with formulae determined by the Mechanical or Electrical Engineering Department (See page 13) and revised as often as found necessary.

An Electricity exhibit shall be made each month, subdivided as follows:

B-1 Steam.

B-2 Water purchased from outside sources.

B-3 Producing Labor.

(a) Superintendence.

(b) Engineers, oilers and wipers, dynamo and switchboard attendants and all other producing labor at electric power station; includes meter reader where a special man is hired for that purpose, even though his work may be largely away from the electric power station proper.

B-4 Tools, Lubricants and Miscellaneous Supplies.

(a) Lubricants.

(b) Waste and packing.

(c) Tools and minor auxiliary equipment.

(d) General miscellaneous supplies, including lamps, light fixtures, etc., for lighting of electric power station.

B-5 Electric Current Purchased.

Charge to this account only the cost of current purchased which is delivered into the general distributive system of the plant, and may therefore be averaged with the cost of current produced locally. When such current is purchased for a specific use or department

DISTRIBUTIVE ACCOUNTS—(Continued)

and is not connected up to the general distributive system of the plant, the same is to be charged direct to the account benefited, and not to this account.

B-6 Repairs and Maintenance (Labor and Material).

- (a) Buildings, including electric power stations, sanitary facilities, fire protection, etc.
- (b) Steam engines, turbines, auxiliaries and connections.
- (c) Generators, exciters, motor generators and rotaries supplying the distributing switchboard bus.
- (d) Switchboards, wiring and all other electrical machinery and apparatus in electric power station not otherwise provided for.
- (e) Cranes and miscellaneous machinery not otherwise provided for.

(C) COMPRESSOR AND AIR DRILLS:

Charge to this account labor and supplies, including engineer's time or proportion of same occupied in running compressor; also charge pipe covering, oil, waste, packing, etc., repairs to machinery, buildings, cooling towers and spray ponds, etc., pipe lines and fittings in connection therewith and repairs thereto, up to and including the receiver, but where there is no receiver, to the walls of the compressor house only; also proportion of steam consumed or other power used.

When the aggregate cost of this account for the month is determined, it shall be apportioned against the various consuming accounts for which air power is used, such as Development in Rock or in Ore, or Stopping, on the basis of drill hours operated in Development in either ore or in rock and stopping, and where used for pumping or for other purposes, in accordance with formulae to be determined by the Mechanical Engineering Department.

(D) SHOP ACCOUNTS:

- (1) Machine Shop.
- (2) Blacksmith Shop.
- (3) Carpenter Shop.
- (4) Foundry.

Shop accounts are provided to take care of the cost of manufactured articles made up of direct labor applying to the particular articles themselves as well as the incidental costs not

DISTRIBUTIVE ACCOUNTS—(Continued)

specifically ascertainable until the accounts are closed for the month, such as Heat, Light and Power, as well as supplies consumed in and repairs to the shop itself, but shall not include the materials used in articles manufactured which would be distributed direct to the cost or other account consuming the article manufactured.

There shall also be charged to this account the wages of direct supervision, excluding, however, the salary of the Master Mechanic, which is chargeable to General Mine Expense. When the total amount chargeable to Shop Expense has been determined, it shall be apportioned to the several operating, or other accounts, on the basis of the distribution of shop labor charged direct to operating or other accounts.

If work performed in shops is charged to specific shop order numbers, the expenses incidental to an uncompleted job should be carried against the shop order number and appear in the Controlling Account "Uncompleted Shop Orders".

(E) TRUCKING EXPENSE:

- (1) Motor Trucks and Tractors.
- (2) Teams.

Charge to these accounts wages of chauffeurs, drivers and other attendants, also the cost of fuel, lubricants, hay and feed, harness, and miscellaneous garage and stable expenses, including all labor and repairs in the upkeep of same. This expense is not to cover the original cost of teams, trucks or tractors.

When the aggregate cost of this account is obtained at the close of the month, it shall be pro-rated to the various accounts benefited, on the basis of hours of labor performed for each as shown by daily team, truck or tractor reports. The supplies used in the operation of the teams, trucks or tractors shall be pro-rated to the various accounts benefited, on the same basis as the labor.

(F) STORES EXPENSE:

Charge to this account all labor of storehousemen and clerks, as well as other expenses of operating the storehouse, including repairs and maintenance, and heat and power. There may be charged to this account small miscellaneous transportation charges limited to small items of freight, express, drayage and crating charges paid on an invoice covering a large number of items where there is no definite basis

DISTRIBUTIVE ACCOUNTS—(Continued)

of distribution. No items of this nature shall be charged to this account covering specific items where they can be allocated to an item of supplies.

This account shall not take any shrinkage in value or loss or gain in inventory.

When the aggregate of this account for the month is determined, it shall be distributed to the various accounts benefited, on the basis of value of supplies charged to such accounts through the storehouse during the month, distributed between Labor and Supplies.

(G) LABORATORY EXPENSE:

Charge to this account labor of samplers, chemists, crushers, etc., equipment and supplies used in sampling and assaying, repairs and maintenance of buildings and equipment, cost of delivery of samples to laboratory; traveling expenses of employes whose labor is chargeable to this account; its proportion of steam and electricity; telephone, telegraph and stationery charges where same are specific to this department.

When the aggregate charges to this account are obtained at the close of the month, same shall be distributed to Assaying (cost sheet expense account), Accounts Receivable, Exploration, Steam (coal analyses), General Administrative Expense, or other accounts in accordance with the purpose for which the analyses were made, which distribution shall be made on the basis of the number of determinations for the month divided into the aggregate cost of the laboratory determinations, including check determinations, distributed between Labor and Supplies.

(H) MISCELLANEOUS DISTRIBUTIVE ACCOUNTS:

- 1 Pipemen.
- 2 Locomotive Cranes.

Charge to each of these accounts all labor and supplies used in connection with the operation of each; also all labor and supplies used in the repairs of each. This expense is not to include the salary of the Master Mechanic (which is chargeable to General Mine Expense), but shall include the wages of direct supervision. It shall also include its proportion of steam, air or electric power. As soon as the aggregate labor of each for the month is determined, it

DISTRIBUTIVE ACCOUNTS—(Continued)

shall be pro-rated to the various accounts benefited on the basis of labor performed for each as shown by the records. The supplies consumed by each in its operation shall be distributed to the various accounts benefited on the same basis as the labor.

UNDERGROUND MINE COST ACCOUNTS

These accounts are divided into three general sections:

- (a) Underground Accounts.
- (b) Surface Accounts.
- (c) General Accounts.

For accounts under each general section, see attached form.

UNDERGROUND COSTS

Statement Showing Cost of Producing Ore, Month and Season Ending Mine

19 .

ACCOUNTS	MONTH						SEASON					
	PRODUCTION						PRODUCTION					
	LABOR	COST PER TON	SUPPLIES	COST PER TON	TOTAL	TOTAL COST PER TON	LABOR	COST PER TON	SUPPLIES	COST PER TON	TOTAL	TOTAL COST PER TON
UNDERGROUND ACCOUNTS												
Exploration												
Development in Rock												
Development in Ore												
Stoping												
Timbering { Specific												
Development in Rock.....%												
Development in Ore.....%												
Stoping.....%												
Tramming { Specific												
Development in Rock.....%												
Development in Ore.....%												
Stoping.....%												
Pumping												
Back Filling												
Steam Shovel (Stoping in Pits)												
Underground Superintendence												
General Underground Expense												
TOTAL UNDERGROUND ACCOUNTS												
SURFACE ACCOUNTS												
Hoisting												
Stocking Ore												
Loading from Pockets												
Breaking and Crushing												
Grading Highways												
General Surface Expense												
Stockpile Loading												
TOTAL SURFACE ACCOUNTS												
GENERAL ACCOUNTS												
General Mine Expense												
Engineering												
Assaying												
Personal Injury Expense												
TOTAL GENERAL ACCOUNTS												
TOTAL PRODUCING COST												

UNDERGROUND MINE COST ACCOUNTS

EXPLORATION:

Charge to this account labor, supplies and repairs in Drilling and Drifting outside of known ore body looking for new ore.

DEVELOPMENT IN ROCK:

Charge to this account labor and supplies (except timber) expended in drifting, cross-cutting, sinking and raising in rock on main levels only including cost of air drills and repairs, drill steel, picks, etc., sharpening of same and expense of loading tram cars by hand or mechanical loaders. Movement of material from working places is chargeable to "Tramming" under proper subdivision (see Tramming). Labor on timbering is chargeable to "Timbering" under proper subdivision (See Timbering).

This account shall be charged with a proportion of steam, electricity or air consumed in this operation. It is understood that the expense applicable hereto of installing, extending and changing temporary underground air lines shall be charged to this account.

This account shall not include cost of sinking or raising shafts, which will be charged to "Sinking Shafts".

Note:—Cost of original installation of drills in new properties is chargeable to Construction.

DEVELOPMENT IN ORE:

Charge to this account labor and supplies (except timber) expended in drifting, cross-cutting, sinking and raising in ore on main levels only, development of shore and boundary lines in ore, including cost of air drills and repairs, drills steel, picks, etc., sharpening of same and expense of loading tram cars by hand or mechanical loaders. Movement of material from working places is chargeable to "Tramming" under proper subdivision (See Tramming). Labor on timbering is chargeable to "Timbering" under proper subdivision (See Timbering).

This account shall be charged with a proportion of steam, electricity or air consumed in this operation. It is understood that the expense applicable hereto of installing, extending and changing temporary underground air lines shall be charged to this account.

UNDERGROUND MINE COST ACCOUNTS— (Continued)

This account shall not include cost of sinking or raising shafts, which will be charged to "Sinking Shafts".

Note:—Cost of original installation of drills in new properties is chargeable to Construction.

STOPPING:

Charge to this account labor and supplies (except timber) used in underground mining, drilling, blasting, slicing, stoping, caving and all other methods of breaking down from the ore body (except where these items are chargeable to development in ore), including cost of air drills and repairs, drill steel, picks, etc., sharpening of same, the delivery of ore by miners or mechanical loaders into cars and main level chutes, and cost of steam, electricity or air consumed in this operation.

Any tramping of ore on main levels is chargeable to "Tramming" (See Tramming). Timbering by miners on all levels is chargeable to "Timbering" (See Timbering).

It is understood that the expense applicable hereto of installing, extending and changing temporary underground air lines and ventilating equipment underground shall be charged to this account.

Note:—Stoping shall include all mining and movement of ore on sub-levels. Main raises and winzes from main levels are chargeable to Development in Ore or Rock as the case may be.

TIMBERING:

Timbering in a mine shall be divided into four sections, as follows:

(a) Timbering—Specific:

Charge to this account labor and supplies, including the cost of all timber, planks, boards, etc., used in timbering main openings, cross-cuts, raises and stopes, including the original cost of timbering in the mines as well as re-timbering. This account is intended to receive the full cost of timber delivered to the usual distributing points including the labor of the regular timbering gang.

(b) Timbering—Development in Rock:

Charge to this account a fair proportion of labor only of miners doing their own timbering while engaged in Development in Rock. The cost sheet shall

UNDERGROUND MINE COST ACCOUNTS— (Continued)

show the percentage of total labor taken from Development in Rock and charged to this account.

(c) **Timbering—Development in Ore:**

Charge to this account a fair proportion of **labor only** of miners doing their own timbering while engaged in Development in Ore. The cost sheet shall show the percentage of total labor taken from Development in Ore and charged to this account.

(d) **Timbering—Stoping:**

Charge to this account a fair proportion of **labor only** of miners doing their own timbering while engaged in Stoping. The cost sheet shall show the percentage of total labor taken from Stoping and charged to this account.

Note:—It was the opinion of the meeting that a Mine Cost Sheet should aggregate in one or more Timbering accounts the total cost of timbering in a mine and in order to segregate the more or less arbitrary charges which would occur through a division of time of men employed on Development in Rock, Development in Ore and Stoping, the separate accounts are provided. This arbitrary subdivision of time must be ascertained as closely as possible by periodical tests made of time employed on such work in order that the amount may be as nearly correct as possible.

Re-timbering of a shaft or the lining of a shaft with concrete is not chargeable to Timbering, but to New Shafts which will be amortized on future ore.

The ordinary repairs to shafts shall be charged to Hoisting or to such other accounts for whose benefit the shaft is used.

TRAMMING:

Tramming in a mine shall be subdivided into four sections as follows:

(a) **Tramming—Specific:**

Charge to this account labor and supplies used in moving ore either from chutes or stopes on main level openings to shafts, or on such sub-levels as cannot be reached by main level open-

UNDERGROUND MINE COST ACCOUNTS— (Continued)

ings or on main levels from which no hoisting is done, to chutes connecting with lower levels from which ore is hoisted. This account shall include the cost of tram cars and repairs to same, cost of rails and fastenings as used, cost of laying, extending and changing underground tracks, installation of steam, electric or air lines for tramping purposes (but not the cost of installation of cars, tracks or power lines in new mines), wages of chutemen, trammers, trammer-bosses, motormen, brakemen, dumpmen, ditchmen and tally boys, together with the proportion of cost of power consumed in this operation.

(b) Tramping—Development in Rock:

Charge to this account a fair proportion of **labor only** of miners doing their own tramping while engaged in Development in Rock. The cost sheet shall show the percentage of total labor taken from Development in Rock and charged to this account.

(c) Tramping—Development in Ore:

Charge to this account a fair proportion of **labor only** of miners doing their own tramping while engaged in Development in Ore. The cost sheet shall show the percentage of total labor taken from Development in Ore and charged to this account.

(d) Tramping—Stoping:

Charge to this account a fair proportion of **labor only** of miners doing their own tramping while engaged in Stoping. The cost sheet shall show the percentage of total labor taken from Stoping and charged to this account.

Note:—It was the opinion of the meeting that a Mine Cost Sheet should aggregate in one or more Tramping accounts the total cost of tramping in a mine and in order to segregate the more or less arbitrary charges which would occur through a division of time of men employed in Development in Rock, Development in Ore and Stoping, the separate accounts are provided. This arbitrary subdivision of time must be

UNDERGROUND MINE COST ACCOUNTS— (Continued)

ascertained as closely as possible by periodical tests made of time employed on such work in order that the amount may be as nearly correct as possible.

COMMENT:

It is recommended as a matter of policy that there be charged into "Tramming" Account the cost (after the original installation) of cars, rails and electric line equipment. The Committee realizes it is difficult to draw a dividing line between underground mining tools and underground mining equipment and has recommended including in Tramming Costs tram cars, underground tracks, and underground electric lines, for the same reason that power drills, etc., are charged direct to Mining Operations, that is, to avoid the carrying of these items into Property Account to be taken care of by depreciation, because of the difficulty of keeping a record of the individual units of underground equipment and of deciding, when new equipment is purchased, whether or not it represents a Depreciation and Replacement charge. It is realized that items of this class technically should be considered property charges but, as stated above, considering the constantly changing nature of this equipment, and to make the handling of these items practical, it is recommended that they be treated as direct charges to Costs, except for the equipment of new properties. If, in any case, the charging of such items to Costs would materially affect the operations for that month or year, it is thought to be proper to defer to the succeeding month or year, in a deferred charge account, such portion as is properly attributable to future years' ore.

PUMPING:

Charge to this account labor, supplies and repairs used for pumping, handling and disposing of water, pipe lines for conducting mine water to sumps, labor transferring pumping equipment, laying and extending underground water lines (original installation of shaft lines to be charged to Construction) cleaning pump sumps, etc.; also the portion of steam, electricity or air used in this operation. Income from sale of water shall be credited to this account, except in cases where the sale develops a determinable profit, in which cases the profit realized shall be credited to Income Account.

UNDERGROUND MINE COST ACCOUNTS— (Continued)

BACK FILLING:

Charge to this account labor and material used in re-filling worked-out stopes, drifts, etc., with waste material. This expense shall not include any picking or storing rock in the normal operations, unless additional expense is incurred on account of placing same in stopes or drifts to be back-filled.

STEAM SHOVELS (Stoping in Pits):

Charge to this account labor and supplies and repairs to equipment loading ore in pits into cars, and the transfer of same to raises or shafts for movement to surface by underground hoisting method. If ore is deposited in raises or chutes and is then moved underground to the shaft, such movement shall be charged to "Tramming".

UNDERGROUND SUPERINTENDENCE:

Charge to this account the cost of underground supervision, including salaries and wages of mine captains, shift bosses and foremen; traveling or other expenses incident to their duties and supplies furnished for their use.

GENERAL UNDERGROUND EXPENSE:

Charge to this account wages of powdermen, water boys, general underground labor not specifically chargeable to other accounts, and material and supplies used by such labor.

HOISTING:

Charge to this account wages of hoisting engineers, oilers, cage and skip-tenders, signalmen, brakemen and helpers, supplies used in operating hoisting apparatus, repairs to hoisting equipment, including buildings and a proportion of the cost of steam, electricity or air properly chargeable to this operation, including heating of shafts and buildings.

STOCKING ORE:

Charge to this account labor and supplies used in placing ore, rock and lean material in stockpile; including cost of constructing and repairing stockpile trestles, cars and repairs to same, operating stockpile tramways, installing, extending and changing trolley lines and tracks on stockpiles and trestles; wages of stockpile landers, motormen, dumpmen, rock pickers, snow shovelers, etc., cost of preparing stockpile site, and cost of steam and

UNDERGROUND MINE COST ACCOUNTS— (Continued)

electricity consumed in this operation as well as the cost of disposing of rock and lean material hoisted during stocking season.

Note:—Original cost of Cars, Rails, Stockpile Site, Trestles, etc., may be charged to Property Account.

LOADING FROM POCKETS:

Charge to this account labor, supplies and repairs in loading ore from pockets into railroad cars, including pocketmen and other labor used in connection with this work; wages of locomotive engineers, firemen and brakemen employed in spotting cars at pocket; fuel and all tools and supplies used in this operation as well as the cost of disposing of rock and lean material hoisted during shipping season.

BREAKING AND CRUSHING:

Charge to this account the cost of breaking or crushing ore including all labor, material, repairs and supplies used in this operation, together with cost of steam or electricity properly chargeable to this account.

Note:—This account shall not include cost of crushing ore at a central crushing plant.

MAINTAINING HIGHWAYS AND R.R. TRACKS:

Charge to this account labor and supplies used in maintaining roads impaired by Mining Operations. This account is intended to cover the expense in cases where it is compulsory on the company to keep highways open, and where mining operations may be continually impairing such highways.

This account must not be used for any ordinary expense of surfacing and grading mine roads, which is chargeable to "General Surface Expense". Expenditures for location streets may be charged to either "Tenement Income" or "Property Account" as authorized in each case.

GENERAL SURFACE EXPENSE:

Charge to this account labor and supplies not otherwise provided for, including cost of laying, extending and moving tracks (other than stockpile tracks), removing snow and ice (other than as provided under "Stocking Ore"), all surface clean-up expense of a general nature; wages of watchmen, flagmen and dry-house attendants. The wages of surface foreman shall be charged to this ac-

UNDERGROUND MINE COST ACCOUNTS— (Continued)

count except as he may be engaged specifically on other work, in which event the proper portion of his time shall be charged to such accounts.

This account shall include up-keep of mine roads and principal roads to Mine Locations, repairs, maintenance, heating and lighting of surface buildings not otherwise provided for in specific accounts.

STOCKPILE LOADING:

Charge to this account labor and supplies used in loading ore from stockpiles, including cost of laying, moving and taking up stockpile tracks, removing temporary trestles, wages of steam shovel and locomotive engineers, firemen, cranemen, brakemen, pitmen, watchmen, trackmen, drillers, blasters and miscellaneous stockpile labor, including loading from stockpile by hand; fuel explosives, air and water lines, tools and miscellaneous supplies and rental of equipment used for loading stockpile. Repairs to locomotives, steam shovels and other equipment used in this operation shall be charged to this account.

GENERAL MINE EXPENSE:

Charge to this account salaries and expenses of Local Superintendents, Grading Department and Mine Office. An exhibit analyzing this account shall be made in the following form, using such of the subdivisions as are applicable to this account.

1. Salaries and Compensation:

To include Local Superintendents, Master Mechanics, Chief Clerk, Cashiers and Pay Masters, Book-keepers, Clerks, Stenographers, Time-keepers, Ore Graders and helpers.

Note:—The following subdivisions will include charges of the nature specified, incurred by officers and employes whose salaries are included above.

2. Printing and Stationery.

3. Postage.

4. Office Furniture and Fixtures:

(a) Furniture.

(b) Apparatus (Typewriters, calculating and adding machines, etc).

(c) Fixtures.

5. Office Expenses:

(a) Office expenses and supplies.

UNDERGROUND MINE COST ACCOUNTS— (Continued)

- (b) Hotel Expense and Lunches (except while traveling).
- (c) Library Expenses.
- (d) Office Buildings (includes repairs and maintenance).
- (e) Dues paid to Trade and other Associations.
- (f) Commissions (Credits for Garnishment, Notary and Other Fees Collected).
- (g) Payments to banks for cashing checks.
- 6. Telephone and Telegraph.
- 7. Legal Expenses.
- 8. Rentals:
 - (a) Offices.
 - (b) Other (Real Estate, Right of Way, Warehouse, etc.).
- 9. Traveling Expenses.
- 10. Advertising.
- 11. Experimental Expenses.
- 12. Insurance and Premiums on Protection Bonds:
 - (a) Burglary Insurance Premiums.
 - (b) Fidelity Bond Premiums.
 - (c) Guaranty Bond Premiums.
- 13. General Corporate Expense:
 - (a) Directors' fees.
 - (b) Fees and services of Trustees, Transfer Agents, etc., including Fees paid to comply with statutory requirements, etc.
 - (c) Printing stock and bond Certificates, mortgages, etc., and recording same.
 - (d) State and License Fees for Capital Issues, filing reports, certificates, etc.
 - (e) Publication of Corporate notices.
 - (f) Other Corporate expenses, including Abstracts, Registration of Deeds, Leases, etc.

ENGINEERING:

Charge to this account wages of mining engineers, helpers and draftsmen; supplies and equipment used and expenses incurred by them, except while engaged on construction or other work not directly chargeable to Cost Sheet Accounts.

It may be desirable in certain cases to treat Engineering as a distributive account, in which cases the charge to this account shall come directly from the distributive account.

UNDERGROUND MINE COST ACCOUNTS— (Continued)

ASSAYING:

Charge to this account such portion of the laboratory expense (distributive account) as may be determined by that distribution; direct charges for assaying by independent chemists or other laboratories; including test sampling in connection with Underground Mines; labor and material being distributed separately.

It is understood that any profit on laboratory service sold to other mines or individuals shall not be a credit to this account, but shall be a credit to General Income Account.

PERSONAL INJURY EXPENSE:

Charge to this account monthly and concurrently credit to a fund account an amount which it is found necessary to provide for payments on account of premiums due to Underwriters or on account of personal injuries, including payments under workmen's compensation laws, and Accident and Hospital expenses, safety expenditures (including safety inspectors), etc.

Note:—In case the Company does not create a fund, then this account shall be charged with actual payments for premiums paid Underwriters, medical and hospital expenses, safety inspectors, ambulance service, medicines, personal injury settlements, attorney fees and other payments under Workmen's Compensation Laws.

OPEN PIT MINE COST ACCOUNTS

These accounts are divided into two general sections:

- (A) Pit Operations.
- (B) General Accounts.

For accounts under each general section, see attached form.

OPEN PIT MINE COST SHEET

.....Mine

Statement Showing Cost of **Producing**
Handling

Tons Ore
Tons All Material { **During Month, and** }

Tons Ore
Tons All Material { **During Season Ending**19.....

ACCOUNTS	MONTH								SEASON													
	LABOR	COST PER TON		SUPPLIES	COST PER TON		TOTAL	TOTAL COST PER TON		LABOR	COST PER TON		SUPPLIES	COST PER TON		TOTAL	TOTAL COST PER TON					
		ORE	TOTAL MATL.		ORE	TOTAL MATL.		ORE	TOTAL MATL.		ORE	TOTAL MATL.		ORE	TOTAL MATL.		ORE	TOTAL MATL.	ORE	TOTAL MATL.	ORE	TOTAL MATL.
PIT OPERATING ACCOUNTS																						
Drilling and Blasting																						
Steam Shovels—																						
Operating																						
Repairs & Maintenance																						
Locomotives & Cars—																						
Operating																						
Repairs & Maintenance																						
Track Expense																						
Pumping and Drainage																						
Water Supply																						
Screening and Crushing																						
Scramming																						
General Open Pit Expense																						
Open Pit Superintendence																						
Stocking Merchantable Ore																						
Stocking Lean Material																						
Waste Pile Expense																						
Stockpile Loading																						
TOTAL OPERATING ACCOUNTS																						
GENERAL ACCOUNTS																						
General Mine Expense																						
Engineering																						
Assaying																						
Personal Injury Expense																						
TOTAL GENERAL ACCOUNTS																						
TOTAL PRODUCING COST																						
Average Number of Men																						
Average Wages per Day																						
Tons per Man per Day																						
Shipments																						

OPEN PIT MINE COST ACCOUNTS

WINTER EXPENSE (Revised April 25, 1923)

All expenses in connection with open pit operations beginning with December 1st each year up to the date at which pit operations begin, shall be charged to Winter Expense. Expenses incurred after the beginning of the operating season up to December 1st each year shall be charged directly to operations. Winter expense shall be amortized by a monthly charge to Operations during the succeeding operating season at a rate per ton based on the estimated production for the season, or at a rate per month based on the number of months during the operating season, the amount taken up monthly being sufficient to absorb all such expense during the current year's operations. This feature should receive careful attention and if any material change be made in the estimate of production or length of operating season a corresponding change should be made in the rate at which the winter expense is being absorbed, in order that there may be no balance in this account at the close of the operating season.

The expense accruing during the closed season being separated into the various cost accounts enables its distribution to the individual cost sheet accounts (showing labor and supplies separately) during the season as it is absorbed.

(See foot note at close of text of this account.)

The above refers only to mining expenses during the closed season. Stripping and development charges shall be handled in the usual manner, by charging the expenditures monthly to Stripping or Development, except in cases where stripping operations cease during winter months, in which case the expenses during the idle months shall be charged to winter expense, but a separation of all charges shall be kept, divided in accordance with the cost accounts of the Stripping Cost Sheet, and this expense shall be absorbed in the various accounts in the Stripping Cost Sheet in like manner as Winter Expense on mining operations is absorbed in the cost accounts of the Mine Ore Cost Sheet; provided that no part of such winter expense on account of stripping shall be charged to Profit and Loss but shall be carried forward as a deferred charge to future operations.

If it is possible to obtain the winter expense to December 31st, and distribute same into the current year's costs and make the necessary adjustments in Inventories and Profits on Sales this may be done, but usually these expenses cannot accurately be determined until a date which will not permit of this distribution being made before the closing of the cost accounts for the year, in which case the expense to

OPEN PIT MINE COST ACCOUNTS—(Continued)

December 31 may be funded by a direct charge to Profit and Loss in December, which fund shall be cancelled during the succeeding year concurrently as this winter expense is absorbed directly into costs during that succeeding year.

It is understood that "Winter Expense" herein referred to covers all expenses which would ordinarily be charged into the Open Pit Mine Cost Sheet. This account shall not include any general charges such as depreciation, taxes, administrative expense, etc. These latter are general cost sheet items and shall be charged into the cost sheet during the succeeding operating season, no provision for same being taken up during the idle months.

Note: It may be desirable to amortize the winter expense incurred by a direct charge to an account called "Winter Expense" on the cost sheet, rather than to distribute the expenditures made to individual cost accounts. If this is done it would seem advisable that a subsidiary record be kept of the distribution of this account according to the standard card of accounts so that if reports are required from various mining interests or by Government or State Departments it will be possible for all interested to make a uniform report.

DRILLING AND BLASTING:

Charge to this account labor, supplies and repairs for this purpose, including wages of drill foremen, hand drillers, machine drillers, gopher hole men and blasters, cost of ordinary power drills, drill steel, blasting batteries, and powder heaters, cost of operating powder thawing houses; explosives, magazine tenders, tools, miscellaneous supplies and the cost of power when such cost is obtainable. There will be operations where it will be impractical to separate power between operating steam shovels or locomotives and power drills.

SHOVELS—OPERATING (Revised April 25, 1923)

- (a) Loading Ore.
- (b) Loading Lean Material.
- (c) Loading Waste Material.
- (d) Loading Merchantable Ore Stocked.

Charge to this account wages of steam shovel engineers, firemen, cranemen, pitmen, laborers, car trimmers, bankmen, watchmen, fuel, tools, lubricants and miscellaneous supplies used in the operation of this equipment.

This account shall include the cost of lighting on and about the shovel operations.

The total cost of operating shovels shall be distributed to the above subdivisions upon the basis of

OPEN PIT MINE COST ACCOUNTS—(Continued)

shovel hours service rendered for each or upon any other proper basis if the shovel hour basis is not equitable.

SHOVELS—REPAIRS AND MAINTENANCE: (Revised April 25, 1923)

- (a) Loading Ore.
- (b) Loading Lean Material.
- (c) Loading Waste Material.
- (d) Loading Merchantable Ore Stocked.

Charge to this account all labor and supplies consumed in repairing and maintaining shovels. The total cost of repairs shall be distributed to the above subdivisions on the same basis as "Operating" expenses are distributed.

LOCOMOTIVES—OPERATING: (Revised April 25, 1923)

- (a) Loading Ore.
- (b) Loading Lean Material.
- (c) Loading Waste Material.
- (d) Loading Merchantable Ore Stocked.

Charge to this account wages of engineers, firemen, brakemen, switch and switch light tenders, flagmen, coal dock and sandmen, fuel, tools, lubricants, sand and other miscellaneous supplies used in the operation of this equipment.

The total cost of operating locomotives shall be distributed to the above subdivisions upon the basis of locomotive hours service rendered for each, or upon any other proper basis if the locomotive hour basis is not equitable.

LOCOMOTIVES AND CARS—REPAIRS AND MAINTENANCE: (Revised April 25, 1923)

- 1. Locomotives:
 - (a) Loading Ore.
 - (b) Loading Lean Material.
 - (c) Loading Waste Material.
 - (d) Loading Merchantable Ore Stocked.
- 2. Cars:
 - (a)
 - (b) Loading Lean Material.
 - (c) Loading Waste Material.
 - (d) Loading Merchantable Ore Stocked.

Charge to this account all labor and supplies consumed in repairing and maintaining locomotives and cars.

The total cost of Repairs and Maintenance of locomotives shall be distributed to the above subdivisions upon the basis of locomotive hour service rendered for each, or upon any other proper basis if the locomotive hour basis is not equitable.

OPEN PIT MINE COST ACCOUNTS—(Continued)

The total cost of Repairs and Maintenance of cars shall be distributed to subdivisions "B" "C" and "D" on the basis of the number of cars of material handled or other proper and equitable basis.

TRACK EXPENSE:

Charge to this account labor and supplies used in laying, extending and changing tracks in open pits and approaches, including wages of trackmen, track foremen, cost of ties, cost of and repairs to steel rails, fastenings, switches; or any other track material for extensions in ore pits except permanent track in new mines, which shall be charged to Property Account.

Comment:—In recommending that there be charged into Track Expense account the cost (after the original installation) of steel rails, it is done to make the handling of this account practical. It is realized that extensions of pit tracks technically should be considered a property charge, but, considering the constantly changing nature of this equipment and the difficulty which will be encountered in drawing the line between replacements and extensions, it is feared that if we attempt to draw a line, after a mine is first equipped with rails, between construction of new tracks, and replacements of old tracks, we will be unable to make a satisfactory division of this expense.

PUMPING AND DRAINAGE:

Charge to this account labor, supplies and repairs for pumping, handling and disposing of water from open pits; pipe lines for conducting mine water to pumping sumps or drainage shafts, labor transferring pumping equipment, wages of pumpmen, laying and extending water lines, including discharge lines to surface, and ditches and other conduits for conducting the water from the property, making drainage ditches in pits, sinking pumping shafts, cleaning sumps, etc., including the portion of steam, electricity or air used in this operation. For extraordinary expenses due to accidents and floods see "Contingent Expenses".

It is understood that by "shafts" is meant the small shafts which are ordinarily put down for pumping purposes only, and is not intended to cover large expensive shafts which may serve other purposes than pumping.

WATER SUPPLY: (Revised April 25, 1923)

This account is intended to cover the cost of furnishing water for locomotives, steam shovels and cranes in the open pits.

OPEN PIT MINE COST ACCOUNTS—(Continued)

Charge to this account labor, material and repairs including cost of pumping, laying, extending and changing pipe lines in connection with the above service.

SCREENING AND CRUSHING:

Charge to this account labor, supplies and repairs in operating screening and crushing plants.

SCRAMMING:

Charge to this account labor, supplies and repairs including wheelers, shovelers and miners; teaming and other expense in connection with mining from pockets of ore in walls of pit or from places which the ordinary mining machinery will not reach.

GENERAL OPEN PIT EXPENSE:

Charge to this account labor and supplies used in the operation of mine not specifically covered elsewhere, such as cribbing on banks, cleaning up in the mine, water boys, car checkers, billers, etc.

This account includes lighting costs not specific to any other account.

OPEN PIT SUPERINTENDENCE:

Charge to this account the cost of open pit supervision including salaries or wages of General Foremen and Pit Foremen; traveling and other expenses incident to their duties, and supplies furnished for their use.

STOCKING MERCHANTABLE ORE: (Revised April 25, 1923)

Charge to this account labor, supplies and repairs for stocking open pit ore on surface, including cost of preparing stockpile site, building and repairing stockpile trestles and retaining walls, operating tramways, installing, extending, changing and repairing stockpile or dump tracks and trolley wires; wages of dumpmen, rock pickers, trackmen, laborers shoveling snow, etc.

The cost of mining and hauling this ore to stockpile together with the cost of repairing and maintaining the equipment used may be charged to cost of operating and maintaining Shovels, Locomotives and Cars or if considered desirable it may be charged to this account.

STOCKING LEAN MATERIAL: (Revised April 25, 1923)

Charge to this account labor, supplies and repairs for stocking lean material on surface, including cost

OPEN PIT MINE COST ACCOUNTS—(Continued)

of preparing stockpile site, building and repairing stockpile trestles and retaining walls, operating tramways, installing, extending, changing and repairing stockpile or dump tracks and trolley wires; wages of dumpmen, trackmen, laborers shoveling snow, etc.

The cost of mining and hauling this material to stockpile together with the cost of repairing and maintaining the equipment used may be charged to cost of operating and maintaining Shovels, Locomotives and Cars or if considered desirable it may be charged to this account.

WASTE PILE EXPENSE: (Revised April 25, 1923)

Charge to this account labor, supplies and repairs used in disposing of waste material (other than regular stripping overburden) including cost of preparing site, building and repairing trestles and retaining walls, operating spreaders, installing, extending, changing and repairing dump tracks, wages of dumpmen, trackmen, laborers shoveling snow, etc.

The cost of mining and hauling this material to stockpile together with the cost of repairing and maintaining the equipment used may be charged to cost of operating and maintaining Shovels, Locomotives and Cars or if considered desirable it may be charged to this account.

STOCKPILE LOADING:

Charge to this account labor, supplies and repairs loading ore stocked on Surface from open pit mines, including cost of laying, moving and taking up stockpile tracks, removing temporary trestles, including wages of steam shovel and locomotive engineers, firemen, cranemen, brakemen, pitmen, watchmen, trackmen, drillers, blasters and miscellaneous stockpile labor, including loading of stockpile by hand; fuel, explosives, air and water lines, tools and miscellaneous supplies; and rental of equipment used. Repairs to locomotives, steam shovels and other equipment used in this operation shall be charged to this account.

GENERAL MINE EXPENSE:

Charge to this account salaries and expenses of Local Superintendents, Grading Department and Mine Office. An exhibit analyzing this account shall be made in the following form, using such of the subdivisions as are applicable to this account.

1. Salaries and Compensation:

OPEN PIT MINE COST ACCOUNTS—(Continued)

To include Local Superintendence, Master Mechanics, Chief Clerk, Cashiers and Pay Masters, Bookkeepers, Clerks, Stenographers, Time-keepers, Ore Graders and Helpers.

Note:—The following sub-divisions will include charges of the nature specified, incurred by officers and employes whose salaries are included above.

2. Printing and stationery.
3. Postage.
4. Office Furniture and Fixtures:
 - (a) Furniture.
 - (b) Apparatus (Typewriters, Calculating and Adding Machines, etc.).
 - (c) Fixtures.
5. Office Expenses:
 - (a) Office expenses and supplies.
 - (b) Hotel Expenses and Lunches (except while traveling).
 - (c) Library Expenses.
 - (d) Office Building (including repairs and maintenance).
 - (e) Dues paid to Trade and other Associations.
 - (f) Commissions (credits for garnishment, notary and other fees collected).
 - (g) Payments to banks for cashing checks.
6. Telephone and Telegraph.
7. Legal Expenses.
8. Rentals.
 - (a) Offices.
 - (b) Other (Real Estate, Right of Way, Warehouse, etc.).
9. Traveling Expenses.
10. Advertising.
11. Experimental Expenses.
12. Insurance and Premiums on Protection Bonds:
 - (a) Burglary Insurance Premiums.
 - (b) Fidelity Bond Premiums.
 - (c) Guaranty Bond Premiums.
13. General Corporation Expense:
 - (a) Directors' fees.
 - (b) Fees and services of Trustees, Transfer Agents, etc., including Fees paid to comply with statutory requirements, etc.
 - (c) Printing stock and bond certificates, mortgages, etc., and recording same.
 - (d) State and License Fees for Capital issues, filing reports, certificates, etc.
 - (e) Publication of Corporate Notices.
 - (f) Other Corporate expenses, including Abstracts, Registration of Deeds, Leases, etc.

OPEN PIT MINE COST ACCOUNTS—(Continued)

ENGINEERING:

Charge to this account wages of mining engineers, helpers and draftsmen; supplies and equipment used and expenses incurred by them except while engaged on construction or other work, not directly chargeable to cost sheet accounts.

It may be desirable in certain cases to treat Engineering as a distributive account, in which cases the charge to this account will come direct from the distributive account.

ASSAYING:

Charge to this account such portion of the laboratory expense (distributive account) as may be determined by that distribution; direct charges for assaying by independent chemists or other laboratories, including test pitting, churn and diamond drilling for sampling ore at open pit mines; labor and material being distributed separately.

It is understood that any profit on laboratory service sold to other mines or individuals shall not be a credit to this account but shall be a credit to General Income Account.

PERSONAL INJURY EXPENSE:

Charge to this account monthly and concurrently credit to a fund account an amount which it is found necessary to provide for payments on account of premiums due to Underwriters or on account of personal injuries, including payments under workmen's compensation laws and Accident and Hospital expenses, safety expenditures (including safety inspectors), etc.

Note:—In case the company does not create a fund, then this account shall be charged with actual payments for premiums paid Underwriters, medical and hospital expenses, safety inspectors, ambulance service, medicines, personal injury settlements, attorneys' fees and other payments under workmen's compensation laws.

The Committee recommends that the following General Cost Sheet accounts be the basis of any Price Fixing Cost Sheet, providing, however, additional accounts to take up Additional Appraised Value, Shrinkage, and items which may have been treated direct in Income Account but which by their nature for Price Fixing Purposes should be treated in Cost of Ore.

GENERAL COST SHEET

.....Mine

Statement of Cost of Producing and Shipping Ore for Month and Season Ending

19

	FOR SEASON ENDING 19..		FOR MONTH OF 19..		FOR SEASON ENDING 19..	
	TONS		TONS		TONS	
PRODUCTION						
SHIPMENTS						
Sales F.O.B. Mine R. R. Wts.						
Sales F.O.B. Cars, Upper Ports R. R. Wts.						
Sales F.O.B. Dock, Upper Ports R. R. Wts.						
Shipments L.P. via Upper Ports R. R. Wts.						
Total from Mines R. R. Wts.						
Shipments Lower Ports Vessel Wts.						
Jettisoned Ore Vessel Wts.						
ACCOUNTS	AMOUNT	PER TON	AMOUNT	PER TON	AMOUNT	PER TON
Labor: Operating						
Repairs and Maintenance						
General Mine Expense						
Total						
Supplies: Operating						
Repairs and Maintenance						
General Mine Expense						
Total						
TOTAL MINE COST SHEET						
General Superintendence						
Contingent Expenses						
Cost Adjustment						
Concentrating						
Crushing Ore						
Insurance (Fire)						
Deferred Charges, New Shafts						
Stripping						
Development						
Advance Charges						
TOTAL COST "ORE AT MINES"						
General Expense						
Taxes						
Royalty						
Rail Freight						
Depletion						
Depreciation (Plant)						
TOTAL COST "ORE AT UPPER PORTS"						
Lake Freight						
Marine Insurance						
Cargo Analyses						
TOTAL COST "ORE AT LOWER PORTS"						

NOTE: BASIS FOR CALCULATIONS PER TON COST

 "Total from Mines" for General Expense, Taxes, Royalty, Depletion and Depreciation on Plant

 "F.O.B. Cars, Upper Ports"

 "F.O.B. Dock, Upper Ports"

 "Shipments to Lower Ports via Upper Ports"

} For Rail Freight

 "Shipments to Lower Ports" for Lake Freight, Marine Insurance and Cargo Analyses (including Jettisoned Ore on Insurance)

 "Production" for All Other Accounts.

GENERAL COST ACCOUNTS

GENERAL MINE EXPENSE (GENERAL OFFICE):

Charge to this account salaries and expenses of General or District Superintendents having supervision of a district or group of mines. An exhibit analyzing this account shall be made in the following form, using such of the subdivisions as are applicable to this account.

1. Salaries and Compensation:

To include General Superintendents or Superintendents having charge of a group of mines or districts.

Note:—The following subdivisions will include charges of the nature specified, incurred by the officers and employes whose salaries are included above.

2. Printing and Stationery.
3. Postage.
4. Office Furniture and Fixtures:
 - (a) Furniture.
 - (b) Apparatus (Typewriters, calculating and adding machines, etc.).
 - (c) Fixtures.
5. Office Expenses:
 - (a) Office expenses and supplies.
 - (b) Hotel Expenses and Lunches (except while traveling).
 - (c) Library Expenses.
 - (d) Office Building (includes repairs and maintenance).
 - (e) Dues paid to Trade and other Associations.
 - (f) Commissions (Credits for Garnishment, Notary and Other Fees Collected).
 - (g) Payments to banks for cashing checks.
6. Telephone and Telegraph.
7. Legal Expenses.
8. Rentals:
 - (a) Offices.
 - (b) Other (Real Estate, Right of Way, Warehouse, etc.).
9. Traveling Expenses.
10. Advertising.
11. Experimental Expenses.
12. Insurance and Premiums on Protection Bonds:
 - (a) Burglary Insurance Premiums.
 - (b) Fidelity Bond Premiums.
 - (c) Guaranty Bond Premiums.

GENERAL COST ACCOUNTS—(Continued)

GENERAL MINE EXPENSE—(Continued)

13. General Corporate Expense:

- (a) Directors' Fees.
- (b) Fees and services of Trustees, Transfer Agents, etc., including fees paid to comply with statutory requirements, etc.
- (c) Printing stock and bond certificates, mortgages, etc., and recording same.
- (d) State and License Fees for Capital issues, filing reports, certificates, etc.
- (e) Publication of Corporate notices.
- (f) Other Corporate expenses, including Abstracts, Registration of Deeds, Leases, etc.

CONTINGENT EXPENSES OR FUND (Charged Ores at Mines, General Office Cost Sheet):

Charge to this account strike expenses, special investigations and experiments, patent expenses, uncollectible accounts; storm, flood or unusual disaster expenses; pensions, sanitation and welfare, including visiting nurses and cost of operating club houses and educational centers, garden prizes, etc.; special and general expenses.

Charges to this account shall be included in Cost of Ores at Mines, either through a fund provision or by direct charges.

This account shall not include charges to Personal Injury Expense, such as General Safety Department expenses, rescue apparatus, etc., dispensary equipment, traveling and other expenses of employes attending safety meetings or practice sessions.

COST ADJUSTMENT:

Charge to this account expense of idle mines pro-rated to active mines. Credit to this account sales of miscellaneous scrap.

It is the intention that this account take up charges or credits not directly applicable to any one mine, expense of idle mines, receipts from sale of scrap, cost of preparing and gathering scrap, etc.

CONCENTRATING:

Charge to this account the total of labor and supplies used in the operation of washing, concentrating or drying ore as shown by Concentrating Plant General Cost Sheet.

GENERAL COST ACCOUNTS—(Continued)

CRUSHING ORE:

Charge to this account total labor and supplies, crushing and screening ore when done by crushers not operated in connection with direct mine operation, including Depreciation, Insurance, General Superintendence, and transportation and switching, not including main line haul.

INSURANCE (Fire):

Charge to this account each month during operating season a proportionate amount of prepaid fire insurance premium, including fire insurance on rental buildings. This account shall not include Boiler Insurance (which shall be charged to "Steam Shovels-Operating", and "Locomotives and Cars-Operating"), Liability Insurance (which shall be charged to "Personal Injury Expense"), or Use and Occupancy Insurance and Strike Insurance (which shall be charged to "Contingent Expenses").

DEFERRED CHARGES:

- (a) New Shafts.
- (b) Stripping.
- (c) Development.
- (d) Advance Charges.

Charge to these respective divisions of Deferred Charges monthly on the basis of tonnage mined, an amount which will amortize the account, as follows:

- (a) New Shafts; at a rate determined by tonnage of ore tributary to that shaft.
- (b) Stripping; at a rate determined by tonnage made available by such stripping for either open pit or milling operation.
- (c) and (d) Development and Advance Charges; at rates which policy may dictate, considering the nature of these charges.

GENERAL ADMINISTRATIVE EXPENSE:

Charge to this account salaries and expenses of General Officials and their staffs. An exhibit analyzing this account shall be made in the following form, using such of the subdivisions as are applicable to this account.

1. Salaries and Compensation:

To include President, Vice President, Secretary, Treasurer, General Manager, Assistant General Manager, Auditor, etc., and their forces, General Mechanical and Mining Engineering Departments and Chief Safety Inspector.

GENERAL COST ACCOUNTS—(Continued)

Note:—The following subdivisions will include charges of the nature specified, incurred by the officers and employes whose salaries are included above.

2. Printing and Stationery:
3. Postage.
4. Office Furniture and Fixtures.
 - (a) Furniture.
 - (b) Apparatus (Typewriters, calculating and adding machines, etc.).
 - (c) Fixtures.
5. Office Expenses.
 - (a) Office expenses and supplies.
 - (b) Hotel Expenses and Lunches (except while traveling).
 - (c) Library Expenses.
 - (d) Office Building (includes repairs and maintenance).
 - (e) Dues paid to Trade and other Associations.
 - (f) Commissions (Credits for Garnishment, Notary and Other Fees Collected).
 - (g) Payments to banks for cashing checks.
6. Telephone and Telegraph.
7. Legal Expenses.
8. Rentals.
 - (a) Offices.
 - (b) Other (Real Estate, Right of Way, Warehouse, etc.).
9. Traveling Expenses.
10. Advertising.
11. Experimental Expenses.
12. Insurance and Premiums on Protection Bonds:
 - (a) Burglary Insurance Premiums.
 - (b) Fidelity Bond Premiums.
 - (c) Guaranty Bond Premiums.
13. General Corporate Expense:
 - (a) Directors' Fees.
 - (b) Fees and services of Trustees, Transfer Agents, etc., including fees paid to comply with statutory requirements, etc.
 - (c) Printing stock and bond certificates, mortgages, etc., and recording same.
 - (d) State and License Fees for Capital issues, filing reports, certificates, etc.
 - (e) Publication of Corporate notices.
 - (f) Other Corporate expenses, including Abstracts, Registration of Deeds, Leases, etc.

GENERAL COST ACCOUNTS—(Continued)

TAXES:

Charge to this account during each year taxes assessed against all mining property, including taxes on rental buildings. It will then show the total cost of taxes for each property.

(See "Comment" under "Income from Rental Buildings".)

ROYALTY:

Charge to this account royalty as it becomes a liability to the company. This is usually as ore is shipped from mines.

RAIL FREIGHT:

Charge to this account rail freight on tonnage of ore moved from mines to docks or furnaces each month, except f.o.b. mine ore.

DEPLETION:

Charge to this account each month and concurrently credit to Reserve for Depletion an amount based on a rate per ton of ore shipped from property, which will amortize the value within the exhaustion period.

DEPRECIATION (Plant):

Charge to this account each month and concurrently credit to Reserve for Depreciation an amount based on a rate per ton of ore shipped from property which will amortize the Invested Value within the life of the plant or equipment.

LAKE FREIGHT:

Charge to this account each month lake freight on ore moved from upper ports to lower ports, except f.o.b. upper port ore or jettisoned ore.

MARINE INSURANCE:

Charge to this account each month marine insurance premiums paid or a rate per ton to provide a fund for same.

CARGO ANALYSES:

Charge to this account each month proportion of cost of sampling and analyzing ore at lower lake ports.

STRIPPING MINE COST ACCOUNTS

These accounts are divided into three general sections:

- (a) Pit Operations.
- (b) General Accounts.
- (c) Contract Stripping.

For accounts under each section, see attached form.

STRIPPING COSTS

.....MINE

Statement Showing } Yards Company Acct. During and Yards from to
 Cost of Stripping } Yards Contract Acct. During and Yards from to
 Yards Total During and Yards from to

ACCOUNTS	MONTH							SEASON						
	LABOR	COST PER YARD	SUPPLIES	COST PER YARD	TOTAL	TOTAL COST PER YARD	LABOR	COST PER YARD	SUPPLIES	COST PER YARD	TOTAL	TOTAL COST PER YARD		
PIT OPERATIONS														
Drilling and Blasting														
Steam Shovels { Operating														
{ Repairs and Maintenance														
Locomotives { Operating														
and Cars { Repairs and Maintenance														
Track Expense														
Pumping and Drainage														
Water Supply														
Stripping by Hand or Team														
General Stripping Expense														
Open Pit Superintendence														
Waste Pile Expense														
TOTAL PIT OPERATIONS														
GENERAL ACCOUNTS														
General Mine Expense														
Engineering														
Personal Injury Expense														
TOTAL GENERAL ACCOUNTS														
TOTAL OPERATING COST														
Contract Stripping														
TOTAL COST ALL STRIPPING														
Average Number Men														
Average Wages per Day														
Yards per Man per Day														

STRIPPING MINE COST ACCOUNTS

DRILLING AND BLASTING:

Charge to this account labor, supplies and repairs for this purpose, including wages of drill foremen, hand drillers, machine drillers, gopher hole men and blasters; cost of ordinary power drills, drill steel, blasting batteries and powder heaters, cost of operating powder thawing houses; explosives, magazine tenders, tools, miscellaneous supplies and the cost of power when such cost is obtainable. There will be operations where it will be impractical to separate power between operating steam shovels or locomotives and power drills.

SHOVELS—OPERATING:

Charge to this account wages of steam shovel engineers, firemen, cranemen, pitmen, laborers, car trimmers, bankmen, watchmen, fuel, tools, lubricants and miscellaneous supplies used in the operation of this equipment.

This account shall include the cost of lighting on and about the shovel operations.

SHOVELS—REPAIRS AND MAINTENANCE:

Charge to this account all labor and supplies consumed in repairing and maintaining steam shovels.

LOCOMOTIVES—OPERATING:

(Revised April 25, 1923)

Charge to this account wages of engineers, firemen, brakemen, switch and switchlight tenders, flagmen, coal dock and sandmen, fuel, tools, lubricants, sand and other miscellaneous supplies used in the operation of Locomotives.

LOCOMOTIVES AND CARS—REPAIRS AND MAINTENANCE: (Revised April 25, 1923)

A Locomotives.

B Cars.

Charge to this account all labor and supplies consumed in repairing and maintaining locomotives and cars.

TRACK EXPENSE:

Charge to this account labor and supplies used in laying, extending and changing tracks in open pits and approaches, including wages of trackmen, track foremen, cost of ties, cost of and repairs to steel rails, fastenings, switches or any other track material for extensions in ore pits except permanent track in new mines, which shall be charged to Property Account.

STRIPPING MINE COST ACCOUNTS— (Continued)

Comment:

In recommending that there be charged into Track Expense Account the cost (after the original installation) of steel rails, it is done to make the handling of this account practical. It is realized that extensions of pit tracks technically should be considered a property charge, but, considering the constantly changing nature of this equipment and the difficulty which will be encountered in drawing the line between replacements and extensions, it is feared that if we attempt to draw a line after a mine is first equipped with rails, between construction of new tracks and replacement of old tracks, we will be unable to make a satisfactory division of this expense.

PUMPING AND DRAINAGE:

Charge to this account labor, supplies and repairs used for pumping, handling and disposing of water from open pits, pipe lines for conducting mine water to pumping sumps or drainage shafts, labor transferring pumping equipment, wages of pumpmen, laying and extending water lines including discharge lines to surface, and ditches for conducting the water from the property, or making drainage ditches in pit, sinking pumping shafts, cleaning sumps, etc., including the portion of steam, electricity or air used in this operation.

For extraordinary expenses due to accidents and floods see "Contingent Expenses".

It is understood that by "shafts" is meant the small shafts which are ordinarily put down for pumping purposes only, and is not intended to cover large expensive shafts which may serve other purposes than pumping.

WATER SUPPLY:

Charge to this account labor, material and repairs in furnishing water to steam shovels, locomotives and cranes, including cost of pumping, laying, extending and changing pipe lines.

STRIPPING BY HAND OR TEAM:

Charge to this account labor, supplies and repairs in cleaning up surface preparatory to mining after the regular stripping operations have been completed. This expense shall cover the cost of team or hand labor removing material from the surface of the ore body, which could not be reached by the regular stripping equipment.

STRIPPING MINE COST ACCOUNTS— (Continued)

GENERAL STRIPPING EXPENSE:

Charge to this account labor and supplies used in the operation of mine not specifically covered elsewhere, such as cribbing up banks, cleaning up in the mine, water boys, car checkers, etc.

This account includes lighting costs not specific to any other account.

OPEN PIT SUPERINTENDENCE:

Charge to this account the cost of open pit supervision, including salaries or wages of general foremen and pit foremen, traveling and other expenses incident to their duties, and supplies furnished for their use.

WASTE PILE EXPENSE:

Charge to this account labor, supplies and repairs in connection with disposal of waste material, including cost of preparing site, building and repairing temporary trestles and retaining walls, operating spreaders, installing, extending, changing and repairing dump tracks, wages of dumpmen, trackmen, laborers shoveling snow, etc. The cost of mining and hauling this material to waste pile by locomotives shall not be charged to this account but shall be charged to "Steam Shovels—Operating", "Locomotives and Cars—Operating", etc.

Note:—Repairs to Steam Shovels, Locomotives and Cars shall not be charged to this account.

GENERAL MINE EXPENSE:

Charge to this account salaries and expenses of Local Superintendents, Grading Department and Mine Office. An exhibit analyzing this account shall be made in the following form, using such of the subdivisions as are applicable to this account.

1. Salaries and Compensation:

To include Local Superintendents, Master Mechanics, Chief Clerk, Cashiers and Pay Masters, Book-keepers, Clerks, Stenographers, Time-keepers, Ore Graders and helpers.

Note: The following subdivisions will include charges of the nature specified, incurred by officers and employes whose salaries are included above.

2. Printing and Stationery.

3. Postage.

**STRIPPING MINE COST ACCOUNTS—
(Continued)**

4. Office Furniture and Fixtures:
 - (a) Furniture.
 - (b) Apparatus (Typewriters, calculating and adding machines, etc.).
 - (c) Fixtures.
5. Office Expenses:
 - (a) Office Expenses and Supplies.
 - (b) Hotel Expenses and Lunches (except while traveling).
 - (c) Library Expenses.
 - (d) Office Building (includes repairs and maintenance).
 - (e) Dues paid to Trade and other Associations.
 - (f) Commissions (Credits for Garnishment, Notary and Other Fees Collected).
 - (g) Payments to banks for cashing checks.
6. Telephone and Telegraph.
7. Legal Expenses.
8. Rentals:
 - (a) Offices.
 - (b) Other (Real Estate, Right of Way, Warehouse, etc.).
9. Traveling Expenses.
10. Advertising.
11. Experimental Expenses.
12. Insurance and Premiums on Protection Bonds:
 - (a) Burglary Insurance Premiums.
 - (b) Fidelity Bond Premiums.
 - (c) Guaranty Bond Premiums.
13. General Corporate Expense:
 - (a) Directors' Fees.
 - (b) Fees and services of Trustees, Transfer Agents, etc., including fees paid to comply with statutory requirements, etc.
 - (c) Printing stock and bond certificates, mortgages, etc., and recording same.
 - (d) State and License Fees for Capital issues, filing reports, certificates, etc.
 - (e) Publication of Corporate notices.
 - (f) Other Corporate expenses, including Abstracts, Registration of Deeds, Leases, etc.

ENGINEERING:

Charge to this account wages of mining engineers, helpers and draftsmen, supplies and equipment used and expenses incurred by them except

STRIPPING MINE COST ACCOUNTS— (Continued)

while engaged on construction or other work, not directly chargeable to Cost Sheet Accounts.

It may be desirable in certain cases to treat Engineering as a distributive account, in which cases the charge to this account shall come directly from the distributive account.

PERSONAL INJURY EXPENSE:

Charge to this account monthly and concurrently credit to a fund account an amount which it is found necessary to provide for payments on account of premiums due to Underwriters or on account of personal injuries, including payments under workmen's compensation laws and Accident and Hospital expenses, safety expenditures (including safety inspectors), etc.

Note:—In case the company does not create a fund, then this account shall be charged with actual payments for premiums paid Underwriters, medical and hospital expenses, safety inspectors, ambulance service, medicines, personal injury settlements, attorneys' fees and other payments under workmen's compensation laws.

CONTRACT STRIPPING:

Charge to this account payments to outside contractors for removing stripping.

WASHING PLANT OPERATIONS

The Washing Plant Operations and Cost Sheets are divided into four general sub-divisions, namely:

- (a) Power.
- (b) Mill Operations.
- (c) Disposition of Product.
- (d) General Accounts.

The additional expenditures incident to the completion of the total washing cost are items over which the operating Superintendent has no control, and will be made accounts on the Washing Plant General Cost Sheet and include Transportation from Mine to Top of Receiving Bins, Depreciation, etc.

WASHING PLANT

Statement Showing Cost of } Concentrating { Tons Crude Ore } During Month, and { Concentrating { Tons Crude Ore } During Season Ending19..
{ Producing { Tons Concentrated Ore } } Producing } Tons Concentrated Ore }

ACCOUNTS	MONTH							SEASON										
	LABOR	COST PER TON		SUPPLIES	COST PER TON		TOTAL	TOTAL COST PER TON		LABOR	COST PER TON		SUPPLIES	COST PER TON		TOTAL	TOTAL COST PER TON	
		CRUDE	CON		CRUDE	CON		CRUDE	CON		CRUDE	CON		CRUDE	CON		CRUDE	CON
POWER																		
(a) Pumping																		
(b) Other Mill Power																		
TOTAL																		
MILL OPERATIONS:																		
Dumping																		
Elevating																		
Sluicing																		
Rockpicking																		
Crushing																		
Operating Turbos																		
Operating Tables and Classifiers																		
Waste Pile Expense																		
A—Rock																		
B—Sludge																		
Lighting																		
Oiling																		
General Mill Expense																		
TOTAL																		
DISPOSITION OF PRODUCT:																		
Loading and Shipping																		
Stocking Concentrates																		
Concentrates, Stockpile Loading																		
TOTAL																		
GENERAL ACCOUNTS:																		
General Mill Expense																		
Assaying																		
Personal Injury Expense																		
Miscellaneous																		
TOTAL																		
TOTAL COST																		
Average Number Men																		
Average Wages per Day																		
Per Cent Ore Recovered (by wt.)																		
Per Cent Mineral Recovered																		

WASHING PLANT OPERATIONS

POWER:

This account will include only power furnished for mill operations and shall be subdivided for cost sheet purposes into:

- (a) Pumping.
- (b) Other Mill Power.

Pumping:

Charge to this account portion of steam furnished from the central power station as determined in the distributive account; portion of electricity generated in the central plant as determined by that distributive account, or purchased power and water for "Pumping". It should also be charged with labor of pump attendants and supplies used by them, cost of repairs to pumps in power plant located outside of mill and water lines, between pumping plant and mill.

Other Mill Power:

Charge to this account portion of steam as determined by the "Steam" distributive account; portion of electricity as determined by "Electricity" distributive account, or electricity purchased. It should also be charged with the cost of repairs to electric lines from power station or point at which it is purchased to point of general distribution at Mill.

MILL OPERATIONS:

Expenditures in connection with mill operations (excluding Power), including repairs to mill buildings and machinery, shall be charged to the following accounts:

Dumping:

Charge to this account labor and supplies unloading crude ore from cars into receiving bins, including repairs to bins.

Elevating:

Charge to this account labor, supplies and repairs conveying and elevating crude ore from outside receiving bins to top of mill.

Sluicing:

Charge to this account labor, supplies and repairs running the crude ore from bins into revolving screens.

Rock Picking:

Charge to this account labor, supplies and repairs picking rock from picking belts and grizzlies.

WASHING PLANT OPERATIONS—(Continued)

Crushing:

Charge to this account labor, supplies and repairs in connection with operating crushers.

Screening:

Charge to this account labor and supplies repairing screens.

Operating Turbos:

Charge to this account labor, supplies and repairs in connection with operating turbos.

Operating Tables and Classifiers:

Charge to this account labor, supplies and repairs in connection with operating tables, classifiers and sand pumps.

Waste Pile Expense:

(a) Rock.

(b) Sludge.

Charge to this account labor and supplies removing rock from mill to waste pile, including waste pile expense such as cost of moving or shifting tracks and trolley lines, operating and repairing locomotives, etc., and expense of disposal of sludge, including repairs to flumes and work on sludge basins other than in connection with pumping water back into mill.

Lighting:

Charge to this account labor, supplies, repairs and other expense lighting the washing plant building and adjoining trestles, including purchased lighting current.

Oiling:

Charge to this account labor, supplies, repairs and other necessary expense oiling machinery in the mill but not oiling ore cars nor oiling in power plant.

Building and Machinery Repairs:

Charge to this account labor and supplies used in repairs to mill buildings, launders in building, mill motors, permanent trestles and adjoining buildings. Repairs shall not include packing, gaskets, rubber valves, waste, etc., which are chargeable directly into mill operating accounts.

General Mill Expense:

Charge to this account expense of dry and change houses; labor and supplies of a miscellaneous nature, not otherwise provided for, in connection with washing ore. This account

WASHING PLANT OPERATIONS—(Continued)

shall be limited strictly to cover items which it is impossible justly to distribute to the other cost accounts.

DISPOSITION OF PRODUCT:

Expenditures in connection with loading and shipping mill product, including tagging and billing cars, cleaning loading tracks, etc., shall be charged to the following accounts:

Loading and Shipping:

Charge to this account labor, supplies and repairs loading concentrates from mill into cars and expense incident to trimming cars, tagging, billing, cleaning loading tracks, etc.

Stocking Concentrates:

Charge to this account labor, supplies and repairs preparing stock pile grounds, building temporary stockpile trestles, installing, extending and changing tracks, hauling, dumping, etc.

Concentrates—Stockpile Loading:

Charge to this account labor, supplies and repairs in re-loading concentrates from stockpile into cars, installing, extending and changing tracks, removing trestles, including wages of locomotive and steam shovel men, rental of equipment, etc.

EXPENSE—GENERAL:

Expenditures in connection with the superintendency of the mill (except payments from the General Office), including Mill Superintendent, foreman, assaying, personal injury expenses, timekeepers, warehouse men, office expenses, etc., shall be charged to the following accounts:

General Mill Expense:

Charge to this account salaries and expenses of Mill Superintendent, etc., and cost of operating mill office. An exhibit analyzing this account shall be made in the following form, using such subdivisions as are applicable to this account:

1. Salaries and Compensation:

To include Mill Superintendent, Foremen in charge of general work about the mill, Office help, timekeeper and storekeeper.

Note:—Further subdivisions of this account shall be made as more fully shown

WASHING PLANT OPERATIONS—(Continued)

in text of "General Mine Expense" account in the Underground Section of this classification.

Assaying:

Charge to this account such portion of Laboratory Expense (Distributive Account) as may be determined by that distribution; direct charges for assaying by independent chemists or other laboratories, including sampling of product, labor and material being distributed separately.

Personal Injury Expense:

Charge to this account monthly and concurrently credit to a fund account an amount which it is found necessary to provide for payment on account of premiums due Underwriters or on account of personal injuries, including payments under workmen's compensation laws and accident and hospital expenses, safety expenditures (including safety inspectors), etc.

Note:—In case the company does not create a fund, then this account shall be charged with actual payments for premiums paid underwriters, medical and hospital expenses, safety inspectors, ambulance service, medicines, personal injury settlements, attorneys' fees, and other payments under workmen's compensation laws.

Miscellaneous:

Charge to this account labor and supplies of a miscellaneous nature outside of the plant, such as grading roads, ditching, etc.

WASHING PLANT

Statement of Washing Costs for Month and Season Ending

TONNAGE	SEASON ENDING		MONTH OF		SEASON ENDING	
 19.....	 19.....	 19.....	
Crude						
Total						
Concentrates						
Total						

ACCOUNTS	AMOUNT	PER TON		AMOUNT	PER TON		AMOUNT	PER TON	
		CRUDE	CON		CRUDE	CON		CRUDE	CON
Labor									
Supplies									
General Mill Expense									
Total Operating Cost Sheet									
General Superintendence									
Depreciation									
Insurance (Fire)									
Transportation									
Total Cost (Prorated)									

WASHING PLANT—GENERAL

GENERAL SUPERINTENDENCE:

Charge to this account salary and expenses of General Superintendent of washing plant operations, who is paid from the General Office.

DEPRECIATION:

Charge to this account each month and concurrently credit to Reserve for Depreciation an amount based on a rate per ton of concentrates, which will amortize the Invested Value within the life of the plant or equipment.

INSURANCE (Fire):

Charge to this account each month during the operating season a proportionate amount of pre-paid fire insurance premiums. This account shall not include Boiler Insurance (which shall be charged to "Power"), Liability Insurance (which shall be charged to "Personal Injury Expense"), or Use and Occupancy Insurance and Strike Insurance, which shall be charged to "Contingent Expenses".

TRANSPORTATION:

Charge to this account switching or transportation charges from mine yard to top of receiving bins, this to be divided as follows:

- (a) Transportation Operations: To include cost of operating locomotives and cars, and installation, extension, changing and repairs to tracks, etc.
- (b) Repairs and Maintenance: To include repairs and maintenance of locomotives and cars, permanent trestles and bridges on concentrator tracks, etc.

DRYING PLANT OPERATIONS

The Drying Plant Operations and Cost Sheet are divided into four subdivisions, namely:—

- (a) Power.
- (b) Mill Operations.
- (c) Disposition of Product.
- (d) General Accounts.

DRYING PLANT

Statement showing cost of { Drying
Producing

Tons Crude Ore }
Tons Dried Ore } During Month, and {

Tons Crude Ore }
Tons Dried Ore } During Season Ending.....19....

ACCOUNTS	MONTH										SEASON									
	LABOR	COST PER TON		SUPPLIES	COST PER TON		TOTAL	TOTAL COST PER TON		LABOR	COST PER TON		SUPPLIES	COST PER TON		TOTAL	TOTAL COST PER TON			
		CRUDE	DRY		CRUDE	DRY		CRUDE	DRY		CRUDE	DRY		CRUDE	DRY		CRUDE	DRY	CRUDE	DRY
POWER																				
Drying Plant Power																				
Repairs and Maintenance																				
TOTAL																				
MILL OPERATIONS																				
Weighing																				
Dumping and Crushing																				
Elevating																				
Furnace and Forced Draft Fans																				
Dryer																				
Oiling																				
Building and Machinery Repairs																				
General Mill Expense																				
TOTAL																				
DISPOSITION OF PRODUCT																				
Loading and Shipping																				
Stocking Dried Ore																				
Dried Ore, Stockpile Loading																				
TOTAL																				
GENERAL ACCOUNTS																				
General Plant Expense																				
Assaying																				
Personal Injury Expense																				
Miscellaneous																				
TOTAL																				
TOTAL COST																				

DRYING PLANT OPERATIONS

POWER:

Charge to this account portion of electricity as determined by "Electricity" distributive account, or electricity purchased (including lighting current) and labor and material used in repairs to electric lines from power station or point at which power is purchased to point of general distribution at drying plant.

MILL OPERATIONS:

Expenditures in connection with mill operations (excluding power), including repairs to mill buildings and machinery, shall be charged to the following accounts:

Weighing:

Charge to this account labor weighing crude ore, including repairs to scales.

Dumping and Crushing:

Charge to this account labor, supplies and repairs in connection with dumping crude ore cars over grizzlies into receiving bins, running coarse material through crushers, and conveying the crushed product into receiving bins.

Elevating:

Charge to this account labor, supplies and repairs in connection with operating apron feeders at receiving bins, crude ore conveyor belt between apron feeder and dryer, and dried ore conveyor belt between dryer and dried ore loading bin.

Furnace and Forced Draft Fans:

Charge to this account labor, supplies and repairs in connection with firing of furnaces, disposal of ashes, and operation of forced draft fans.

Dryer:

Charge to this account labor, supplies and repairs in operating dryer.

Oiling:

Charge to this account labor, supplies and other necessary expense oiling drying plant machinery, but not oiling of ore cars nor outside power plant.

Building and Machinery Repairs:

Charge to this account labor and supplies used in repairs to drying plant building, mill motors, permanent trestles and adjoining buildings necessary to the mill operation, but not to outside power plant.

DRYING PLANT OPERATIONS—(Continued)

General Mill Expense:

Charge to this account labor and supplies of a miscellaneous nature not otherwise provided for, in connection with drying ore. This account should be limited strictly to cover items which it is impossible justly to distribute to the other cost accounts.

DISPOSITION OF PRODUCT:

Expenditures in connection with loading and shipping drying plant product, including tagging and billing cars, cleaning loading tracks, etc., shall be charged to the following accounts:

Loading and Shipping:

Charge to this account labor, supplies and repairs loading dried ore from plant into cars and expense incident to trimming cars, tagging, billing, cleaning loading tracks, etc.

Stocking Dried Ore:

Charge to this account labor, supplies and repairs preparing stockpile grounds, buildings temporary stockpile trestles, installing, extending and changing tracks, hauling, dumping, etc.

Dried Ore, Stockpile Loading:

Charge to this account labor, supplies and repairs in re-loading dried ore from stockpile into cars, including installing, extending and changing tracks, removing trestles, including wages of locomotive and steam shovel men, rental of equipment, etc.

EXPENSE—GENERAL:

Expenditures in connection with the superintendency of the drying plant including Mill Superintendent, foremen, assaying, personal injury expense, time-keepers, warehousemen, office expenses, etc., shall be charged to the following accounts:

General Plant Expense:

Charge to this account salaries and expenses of Mill Superintendent, etc., and cost of operating Mill Office. An exhibit analyzing this account shall be made in the following form, using such subdivisions as are applicable to this account.

1. Salaries and Compensation:

To include Mill Superintendent, Foremen in charge of general work about the

DRYING PLANT OPERATIONS—(Continued)

Mill, Office help, timekeeper and store-keeper.

Note:—Further subdivisions of this account shall be made as more fully shown in text of "General Mine Expense" account in the Underground section of this classification.

Assaying:

Charge to this account such portion of Laboratory Expense (distributive account) as may be determined by that distribution; direct charges for assaying by independent chemists or other laboratories, including sampling of product; labor and material being distributed separately.

Personal Injury Expense:

Charge to this account monthly and concurrently credit to a fund account an amount which is found necessary to provide for payments on account of premiums due Underwriters or on account of personal injuries, including payments under workmen's compensation laws and Accident and Hospital expenses, safety expenditures (including safety inspectors), etc.

Note:—In case the company does not create a fund, then this account shall be charged with actual payments for premiums paid Underwriters, medical and hospital expenses, safety inspectors, ambulance service, medicines, personal injury settlements, attorneys' fees and other payments under workmen's compensation laws.

Miscellaneous:

Charge to this account labor and supplies of a miscellaneous nature outside of the plant, such as grading roads, ditching, etc.

DRYING

Statement of Drying Costs

TONNAGE	SEASON ENDING 19		
Crude			
Total			
Dry			
Total			
ACCOUNTS	AMOUNT	PER TON	
		CRUDE	DRY
Labor			
Supplies			
General Plant Expense			
Total Operating Cost Sheet			
General Superintendence			
Depreciation			
Insurance (Fire)			
Transportation			
Total Cost			

PLANT

for Month and Season Ending

MONTH OF		19	SEASON ENDING		19
AMOUNT	PER TON		AMOUNT	PER TON	
	CRUDE	DRY		CRUDE	DRY

DRYING PLANT—GENERAL

GENERAL SUPERINTENDENCE:

Charge to this account salary and expenses of General Superintendent of drying plant operations, who is paid from the General Office.

DEPRECIATION:

Charge to this account each month and concurrently credit to Reserve for Depreciation an amount based on a rate per ton of dry product, which will amortize the Invested Value within the life of the plant or equipment.

INSURANCE (Fire):

Charge to this account each month during the operating season a proportionate amount of pre-paid fire insurance premiums. This account shall not include Boiler Insurance (which shall be charged to "Power"), Liability Insurance (which shall be charged to "Personal Injury Expense"), or Use and Occupancy Insurance and Strike Insurance (which shall be charged to "Contingent Expenses").

TRANSPORTATION:

Charge to this account switching or transportation charges from mine yard to top of receiving bins, this to be divided as follows:

- (a) Transportation Operations: To include cost of operating locomotives and cars, and installing, extending, changing and repairs to tracks, etc.
- (b) Repairs and Maintenance: To include repairs and maintenance of locomotives and cars, permanent trestles and bridges on drying plant tracks, etc.

REPAIRS AND MAINTENANCE EXHIBIT

This exhibit (as outlined on following pages) should analyze the total repairs at a mine, under the respective classes as shown below. Provision is made for showing in the first column the amount of repairs which have been charged into Ore Cost Sheet accounts and, in the second, the repairs and maintenance charged to other than cost sheet accounts; the aggregate of both columns being the total repairs at the mine. In preparing the Repairs and Maintenance exhibit care must be taken that repairs to a distributive account, such as "Shops", are not duplicated in the analysis. In securing the information for this exhibit it will be necessary to segregate the shop and other distributive account repairs into two parts:

- (1) The amount charged to cost sheet accounts.
- (2) The amount charged to **other than** cost sheet accounts.

Note:—Repairs and Maintenance shall not include such items as oils or other lubricants, packing, waste, rubber valves and items of like nature, which are merely operating supplies like fuel and cannot be considered as repairs and maintenance.

Separate exhibits shall be made for Stripping operations in the same manner as for Mining Operations.

REPAIRS AND

MINES

BUILDING AND STRUCTURES:

- Plant Buildings
- Rented Buildings
- Docks, Permanent Trestles and Pockets
- Head Frames

SHAFTS:

- Hoisting and other Permanent Shafts

STATIONARY MACHINERY:

- Engines
- Hoists
- Pumps
- Compressors
- Boilers and Accessories
- Generators and Motors
- Screening Plant
- Crushers
- Shop Machinery

STANDARD GAUGE EQUIPMENT:

- Locomotives
- Cars
- Steam Shovels
- Locomotive Cranes
- Track Shifters
- Spreaders

TRACKS:

- Yard
- Pit
- Dump

MISCELLANEOUS:

- Haulage Engines
- Transmission Lines
- Pipe Lines
- Hoisting Ropes
- Sheaves and Idler Lines
- Motor Trucks and Tractors
- Diamond Drills
- Loading Machines
- Skip and Skip Roads

MAINTENANCE EXHIBIT

CHARGED TO ORE COST SHEET ACCOUNTS		CHARGED TO OTHER THAN ORE COST SHEET ACCOUNTS		TOTAL	
LABOR	SUPPLIES	LABOR	SUPPLIES	LABOR	SUPPLIES

REPAIRS AND MAINTENANCE

WASHING PLANT

Buildings
Bins and Shipping Pockets
Conveyors
Crushers
Screens
Picking Belts
Logs
Turbos
Tables and Classifiers
Pumps
Pipe Lines and Launderers
Rock Chutes
Tracks
Transmission Lines
Haulage Motors
Other Motors

DRYING PLANT

Buildings
Bins and Shipping Pockets
Crushers
Conveyors
Furnace and Stacks
Dryers
Fans
Tracks
Transmission Lines
Motors

EXHIBIT, Cont'd

CHARGED TO ORE COST SHEET ACCOUNTS		CHARGED TO OTHER THAN ORE COST SHEET ACCOUNTS		TOTAL	
LABOR	SUPPLIES	LABOR	SUPPLIES	LABOR	SUPPLIES

INCOME FROM RENTAL OF EQUIPMENT:

Credit to this account rental received for use of steam shovels, locomotives, cars, boilers, pumps, air receivers, etc.

Charge to this account such repairs and expenses as are directly traceable to the rental operation.

INCOME FROM RENTAL OF BUILDINGS:

Credit to this account rental accrued or received for use of dwellings and other buildings.

Charge to this account repairs and maintenance of such buildings and when properly authorized the cost of repairs and maintenance of location streets, sidewalks and fences, sewers, water lines, etc.

Do not charge to this account any portion of Depreciation, Taxes or Insurance.

COMMENT:

The above recommendation is made for the reason that, viewing the rates of rentals which are charged employes by many of the mining companies, it is their belief that the rental rates are not intended to return in each instance the original investment but are fixed on a basis to return the up-keep of the buildings only, at least so far as employes' dwellings are concerned. If this is true, then the **depreciation** of these buildings is a proper charge to Mining Operations, and inasmuch as in a great many cases the **taxes** are not assessed separately on buildings and ore, it is impossible, except on an arbitrary basis, to arrive at the charges applicable to the rented building. Likewise, in a great many cases the **insurance** cannot be separated between dwellings and other mine buildings and in such cases it would therefore be necessary to arbitrarily charge an insurance premium applicable to those buildings.

Taking all of these factors into account, it is the opinion of the meeting that the practice which has heretofore been followed by many of the mining companies, as outlined in the text, is the method which should be used.