3640

# FORECAST

## NEVADA OPERATIONS

June 1, 1953

COMBINED METALS REDUCTION COMPANY

ORGANIZATION - NEVADA OPERATIONS

June 4, 1953

Mr. E. H. Snyder, General Manager

Mr. S. S. Arentz

Dear Mr. Snyder:

The Nevada Operations are being reorganized to meet the program set out in the forecast of June 1, 1953. Substantial headway has been made on adjusting both wage and salary payrolls to the changed program, although earned vacation and the completion of several jobs still are in progress, will delay final adjustment until July 1st. The changes in payroll are summarized in the following tabulation. Staff includes all supervisory, clerical, and technical employees whether on salary or daily wage payrolls.

| | February 1, 1953 | | | May 1, 1953 | | | June 1, 1953 | | | July 1, 1953 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Plant Department | Labor | Staff | Total | Labor | Staff | Total | Labor | Staff | Total | Labor | Staff | Total |
| Caselton Mine | 266 | 22 | 288 | 206 | 22 | 228 | 152 | 14 | 166 | 153 | 13 | 166 |
| Caselton Mill | 33 | 8 | 41 | 33 | 8 | 41 | 24 | 7 | 31 | 20 | 6 | 26 |
| Const. and Maint. | 72 | 10 | 82 | 76 | 10 | 86 | 53 | 7 | 60 | 53 | 6 | 59 |
| Panacalite | 5 | 2 | 7 | 6 | 2 | 8 | 6 | 1 | 7 | 6 | 1 | 7 |
| Comet - Black Metal | 12 | 3 | 15 | 23 | 3 | 26 | 19 | 2 | 21 | 16 | 2 | 18 |
| Assay Office | -- | 7 | 7 | -- | 9 | 9 | -- | 8 | 8 | -- | 8 | 8 |
| Office - Warehouse | -- | 11 | 11 | -- | 12 | 12 | --- | 10 | 10 | -- | 8 | 8 |
| Total Nevada | 388 | 63 | 451 | 344 | 66 | 410 | 254 | 49 | 303 | 248 | 44 | 292 |



The following staff changes were made on June 1st:

1. James Argentos, Chief Clerk -- resigned.
2. E. W. Walker, Shop Foreman -- resigned.
3. D. L. Gemmill, Office Engineer -- resigned.
4. A. L. Walker, Mechanical Foreman -- demoted to mechanic.
5. H. E. Quick, Panacalite Foreman -- transferred to mine shift boss.
6. D. T. Sullivan, Safety Inspector -- transferred to warehouse.
7. W. C. Stewart, Surface Foreman -- transferred to Caselton - Milbank.
8. F. L. Heidenreich, Assistant Foreman -- transferred to shift boss.
9. R. N. Werber, Mill Foreman -- transferred to shift boss.
10. Owen Craw Walker, Shift Boss -- transferred to flotation operator.
11. A. J. McKean, Metallurgist -- Layed off.
12. Edwin Rugg, Junior Engineer, Layed off.
13. R. R. Whitlock, Junior Engineer -- Layed off.
14. Six Assistant Shift Bosses transferred to miners.

Some of the above named men have earned vacations coming and will be carried on the payroll until the middle of June. Mr. L. A. West, Plant Engineer, has resigned effective July 1, 1953.

There will be a further reduction in the warehouse and accounting office on July 1st and the mechanical department will lay off welders and pumpmen as soon as the new pump installation is complete.

The proposed organization, effective July 1, 1953, is shown on the attached charts.

Very truly yours,

S. S. Arentz, Manager
Nevada Operations

SSA/bs

## NEVADA MINING DEPARTMENT

### Paul Gemmill, General Superintendent

**Engineering and Exploration**

R. H. Godbe -- Mining Engineer

Owen Walker -- Foreman

Kenneth Anderson -- Assistant Engineer

Melvin Winsor, Assistant Engineer

**Caselton Mine**

R. R. Durk, Mine Superintendent
John J. Russell, Foreman

Shift Bosses

| | |
|---|---|
| Hansen | Heidenreich |
| Stewart | Kelley |
| Quick | Reese |

| | |
|---|---|
| Miners | 102 |
| Maintenance Timber | 6 |
| Slushermen | 12 |
| Motor Crews | 20 |
| Raise Hoistmen | 4 |
| Shaft Cagers | 3 |
| Powdermen | 2 |
| Towmen | 2 |
| Sanitation | 1 |
| Janitor | 1 |

**Comet - Black Metal Mine**

E. S. McIntyre -- Superintendent
James Hulse -- Foreman

| | |
|---|---|
| Hoistman - Comet | 1 |
| Miners - Comet | 2 |
| Hoistmen - Black Metal | 2 |
| Trammers - Black Metal | 3 |
| Miners - Black Metal | 8 |

| | |
|---|---|
| Total Supervisory and Technical | 15 |
| Caselton Mine Labor | 153 |
| Comet Black Metal - Labor | 16 |
| Total Mining Department | 184 |

## NEVADA MILLING DEPARTMENT

W. G. Fidler — General Superintendent

### Assay Office

Lyle Stever . . . Chief Chemist
Chemist 1st Class . . . . . 3
Chemist 2nd Class . . . . . 2
Assayer . . . . . 1
Sample Bucker . . . . . 1

### Caselton Mill

C. H. Likins — Superintendent
R. N. Werber — Shift Boss
L. I. Peterson — Shift Boss
Walt Sloan — Shift Boss
Clarence Harding — Mill Clerk

Flotation Operators . . . . . 3
Sink-Float Operators . . . . . 3
Operators Helpers . . . . . 3
Filter Operators . . . . . 3
Crusher Operator . . . . . 1
Track Hopper . . . . . 1
Crusher Helper . . . . . 1
Mill Mechanic . . . . . 2
Reagent Man . . . . . 1
Mill Sampler . . . . . 1
Mill Cleanup . . . . . 1

### Panacalite Plant

Otto Jones — Foreman
Operator . . . . . 1
Operator Helper. . . . . 1
Slusher Operator . . . . . 1
Cleanup . . . . . 1
Carloader. . . . . 1
Bulkheader . . . . . 1

Total Supervisory, Clerical, Technical . . . . 15
Total Perlite Labor . . . . . 6
Total Mill Labor . . . . . 20

Total Milling Department . . . . . 41

## MECHANICAL AND CONSTRUCTION

### R. G. Lee, General Superintendent

| E. F. Stewart<br>Master Mechanic | Frank Ernst<br>Chief Electrician | Clyde Blackburn<br>Surface Foreman | Frank Dyson<br>Mine Mechanic<br>Foreman | Dale Carlson<br>Engineer |
|---|---|---|---|---|
| Mechanic Welders . . . 8 | Electricians . . . . 6 | Cat Skinners . . . . 3 | Hoistmen . . . . .6 | |
| Machinists . . . . . 2 | | Truck Drivers . . . 2 | Pumpmen . . . . .7 | |
| Machanic Helpers . . . 4 | | Timber Framers . . . 2 | Mechanics . . . .3 | |
| | | Carpenters . . . . . 4 | Drill Doctor . . .1 | |
| | | Bull-gang . . . . . 3 | Blacksmith . . .1 | |
| | | Watchman . . . . . 1 | | |

| | |
|---|---|
| Total Supervisory and Technical . . . . . | 6 |
| Total under Master Mechanic . . . . . | 14 |
| Total under Chief Electrician . . . . . | 6 |
| Total under Surface Foreman . . . . . | 15 |
| Total under Mine Mechanic Foreman . . . . | 18 |
| Total in the Department . . . . . | 59 |

## ACCOUNTING AND WAREHOUSE

**F. H. Anderson, Office Manager**

| | Accounting Office | Warehouse |
|---|---|---|
| Hospital<br>Commissary<br>Dormitory<br>Caselton-Milbank | Art Hardy -- Payroll Clerk<br>Zora Walker -- Secretary<br>Peggy Hartley -- Stenographer | James King -- Storeroom Clerk<br>D. T. Sullivan--Assistant Storeroom Clerk<br>Bob Horlacher -- Scaleman |

Total -- Supervisory, Technical and Clerical . . . 8

## GENERAL - NEVADA OPERATIONS

S. S. Arentz . . . . . Manager

L. G. Thomas . . . . . Assistant to General Manager

COMBINED METALS REDUCTION COMPANY

PIOCHE GENERAL EXPENSE

June 24, 1953

E. H. Snyder, General Manager

S. S. Arentz

Dear Mr. Snyder:

The following is an analysis of Pioche General Expense accounts and an estimate of charges to these accounts after July 1, based on the program outlined in the Forecast of Nevada Operations submitted to you on June 1, 1953.

The Pioche General Expense includes the following control accounts:

1. Autos and Trucks - Account #39-431

This account includes maintenance, operation, insurance and depreciation on company owned vehicles assigned to the Nevada Operations plus rental on non-company owned vehicles.



There are 14 company owned vehicles assigned to the Nevada Operations. These consist of 4 trucks, 3 passenger cars and 7 pickup trucks. They are used as follows:

#12 - 1937 International D-40 - Modified for use as a mobile crane for use on mechanical maintenance and construction.
#18 - 1946 Ford Stake Truck - In regular use servicing the Caselton mine hauling supplies, equipment, samples and refuse.
#25 - 1947 International KS-5 - Regularly used on yard service unloading reagents, supplies and timber and servicing outside properties including Black Metal, Comet and Minerva.
#39 - 1949 Ford Dump Truck - On intermittent service hauling concrete aggregates and plant products. Used primarily on construction and mill service.
#26 - 1947 Ford Sedan - Assigned to accounting department for use on company business with railroad, hospital, dormitory, boarding house, business houses, payroll, etc.
#43 - 1951 Ford Sedan - Assigned to Nevada Manager for use on company business.
#53 - 1952 Ford Ranch Wagon - Assigned to General Mine Superintendent for use on company business. Also used on geological examinations.
#19 - 1946 Ford Pickup - Assigned to exploration and churn drilling.
#38 - 1949 Ford Pickup - Assigned to Supt. Comet and Black Metals mines for servicing and supervision of these properties.

#46 - 1951 Ford Pickup - Owned by M. I. A. Joint Venture assigned to servicing and supervision of Minerva Mine.
#20 - 1947 Ford Pickup - Assigned to surface foreman for use on plant maintenance and construction.
#22 - 1947 Ford Pickup - Assigned to Chief Electrician for plant electrical maintenance.
#44 - 1951 Ford Pickup - Assigned to Master Mechanic for plant mechanical maintenance use.
#54 - 1947 Ford Pickup - Assigned to General Mill Superintendent for use in servicing and supervising milling and Panacalite operations.

Expenses charged to this account during 1952 averaged $1,483.00 per month. Over half the expense has been for wages paid truck drivers and under the proposed operations this cannot be materially reduced. Part of the balance is for such fixed charges as insurance and depreciation which cannot be reduced. The rest is for maintenance and operating supplies which are relatively constant as long as the equipment is in use.

2. Camp General - Account #39-433-100

This account includes maintenance and repairs to plant buildings, drainage and sewers, fences, fire protection, flood lights, roads, watchmen and general yard work. Some reduction can be made in this expense by watching expenditures closely and a substantial reduction has been effected by placing all work under Clyde Blackburn and transferring W. C. Stewart to Caselton - Milbank. A constant charge for the next eight months of $450.00 per month will clear work order #182, which covered the cost of changing some of our water mains. Watchmen and road maintenance are constant charges to this account.



3. Rented Property - Account #39-433-200

This account includes maintenance of company homes and camp dwelling area, and maintenance and operation of the dormitory. Rental received are credited to this account. When the dormitory is full this account shows a net credit. When the dormitory is only partially occuppied, the rental paid the government, plus cost of operating the dormitory, result in a net cost. Under the proposed program, the cost will be about the same as the average for 1952, or $300.00 a month.

4. Commissary - Account #39-434

This account includes maintenance, repair, fuel and power for the Caselton Boarding house, plus a subsidy to apply toward the operation of the boarding house. As the number of meals served decreases, the rate of the subsidy increases, which leaves a constant cost, as a consequence this account is estimated at the 1952 average $340.00 per month.

5. Engineering - Account #39-435

This account includes our geological and mechanical engineering salaries and supplies. The staff has consisted of L. A. West, D. L. Gemmill, Dale Carlson on Mechanical Engineering and R. H. Godbe, and O. F. Walker on Geological Engineering. Beginning in July, the staff salaries charged to this account will be reduced through resignations, lay-offs and transfers to R. G. Lee and Dale Carlson, Mechanical, and O. F. Walker, Geological. The total cost to the account will be reduced from the 1952 average of $3100.00 to an estimated $2000.00 per month.

6. General Supervision, Office and Warehouse - Account #39-436

This account includes salaries and wages paid to Nevada Manager, Office Manager, Chief Clerk and to accounting and warehouse personnel, plus power, postage, printing, stationery, office and office equipment maintenance, telephone and telegraph. Income from earnings on plant sales and from freight claims are credited to this account. In addition to salaries paid to Arentz, Anderson and Argentos, I find that R. G. Lee has also been charged to this account as have wages paid to payroll clerk, storeroom clerk, secretary, three stenographers and two storeroom assistants.



This account has been substantially reduced by the re-organization effected on June 1. Argentos has resigned, Lee's salary will be charged to engineering and the daily wage force has been reduced. The monthly average for 1952 was $4,605 and the forecast average is estimated at $4,200 per month.

7. Unclassified Accounts - Account #39-439

These accounts include accident prevention, contributions, legal expense, welfare, vacation pay, insurance and property taxes. Receipts from salvage and scrap sales are credited to these accounts. Welfare includes our preemployment physical examination costs, hospital-surgical insurance premiums on our employees, guest meals at the boarding house and the company's share of hospitalization costs on industrial injuries.

The major cost items are insurance, accident prevention, welfare and vacation pay. To a large extent the costs vary with the number of men employed. Our mine safety inspector, D. T. Sullivan, has been transferred to the warehouse and his safety duties assumed by the mine foreman and shift bosses. This, together with the reduction in force and a general effort to reduce costs should result in a substantial reduction in cost from the level of recent months.

A comparison of Pioche General Expense for the average month 1952, for May, 1953 and a forecast of the average beginning with July, 1953, is set out in the following rabulation.

| Account | Account Number | Average 1952 | May 1953 | Forecast July, 1953 |
|---|---|---|---|---|
| Autos and Trucks | 39-431 | $ 1,483 | $ 1,463 | $ 1,200 |
| Camp General | 39-433 | 2,171 | 2,602 | 2,000 |
| Rented Property | 39-433 | 290 | (465) | 300 |
| Commissary | 39-434 | 340 | 342 | 340 |
| Engineering | 39-435 | 3,071 | 3,188 | 2,000 |
| Office and Warehouse | 39-436 | 4,605 | 5,458 | 4,200 |
| Unclassified | 39-439 | 3,299 | 5,092 | 3,700 |
| Total Pioche General | | $15,259 | $17,680 | $13,740 |



The forecast monthly average of $13,740 is still a very substantial total by the end of the year. There are a great many items which cannot be reduced materially if we are to maintain operations, including truck service, vacations reserve, hospital and general maintenance. I believe that the engineering and office warehouse accounts are reduced as faras practical short of a reduction in individual pay rates.

We shall continue to study the accounts, however, with the idea of making further reductions.

Very truly yours,

S. S. Arentz, Manager
Nevada Operations

SSA:sp

COMBINED METALS REDUCTION COMPANY

FORECAST OF NEVADA OPERATIONS

June 1, 1953

Mr. E. H. Snyder, General Manager

Mr. S. S. Arentz -- Manager Nevada Operations

Dear Mr. Snyder:

We are completing a reorganization of Nevada operations along the lines discussed with you. The reorganization was necessary to meet the problems imposed by continued low metal prices and resulting operations losses. The revised program is based on limiting sulphide lead-zinc ore production to mine areas where ore would be lost if not mined now and to pushing manganese ore production from the better mine areas. The several operating units comprising the Nevada operations are discussed in the attached reports. It will require a month to clean up assessment work, complete the perlite crusher installation and to get all units operating on the basis forecast, but beginning In July the operations will return a modest profit, even on present metal prices.

Earnings, expense, and operating profit, as estimated in the attached reports, are summarized as follows:



| Operating Unit | Dry Tons | Earnings | Expense | Profit or (Loss) |
|---|---|---|---|---|
| Caselton Mine | 18,000 | $185,112 | $174,600 | $ 10,512 |
| Caselton Mill | 17,900 | 262,451 | 253,540 | 8,911 |
| Black Metal | 2,300 | 25,041 | 18,098 | 6,943 |
| Panacalite | 3,500 | 25,865 | 18,050 | 7,815 |
| Comet Mine | -- | -- | 1,000 | (1,000) |
| Total Nevada | | $498,469 | $465,288 | $ 33,181 |

The above estimated expense includes Caselton and Salt Lake office general expense charged to Nevada Operations. There is an ample provision for development, but no allowance for exploration except to continue the Comet Mine DMEA project on a reduced basis. The figures do not include capital expenditures. The projects requiring capital expenditures during the coming six-months are the completion of the mine pump installation, the perlite crusher, and the acquisition of the boarding house and dormitory buildings from the government. The pump expenditure will be a transfer of approximately $50,000 worth of equipment now in Pioche stores to mine equipment account and the crusher and buildings will require an estimated $5,000 and $1,600.00 respectively, out of pocket expense.

In addition to the operations included in this estimate there will be earnings on outside ore including Idamic, Salt Lake Pioche, Bristol Silver and Ely Valley. Depending upon the scale on which these outside properties operate, our mill profits on these custom ores will be between $3,000 and $6,000 per month.

The proposed tungsten program will include pushing the exploration project at the Minerva mine. We have already completed much of the preliminary work. Our share of completing the project will average approximately $3,000.00 per month. It appears that within six months the Minerva property can be placed in profitable production.

Our best hope for improved results lies in an increase in metal prices. On the basis of the production forecast, an increase in metal prices would increase monthly earnings and profits as follows:

| | | |
|---|---|---|
| 1¢ | per pound increase in price of lead | -- $3,500 per month |
| 1¢ | per pound increase in price of zinc | -- 8,000 per month |
| 10¢ | per unit increase in manganese | -- 10,800 per month |

In addition to the increased earnings indicated above a reasonable increase in metal prices such as that proposed under the provisions of the Simpson Bill (HR 4294), would permit expanded operations and substantially increased earnings.



It also appears probable that a market can be had for a high iron-manganese nodule such as can be obtained by Calcining Prince type ore. With excess kiln capacity under the present program it will be possible to process up to 4,000 tons per month of Prince ore and this tonnage of ore can be obtained on a continuing basis without much preporatory expense.

We believe that the proposed program will result in a shift from the heavy losses of recent months to a modest operating profit. Plant and organization will be kept on an operating basis and we will be able to pick up production when conditions warrant.

Very truly yours,

S. S. Arentz, Manager
Nevada Operations

SSA/bs

Forecast - Caselton Mine Operations

June 1, 1953

E. H. Snyder, General Manager

S. S. Arentz

Dear Mr. Snyder:

The following forecast of Caselton Mine Operations is based on limiting the production of sulphide lead-zinc ore to areas that must be mined to prevent loss of ore and to mining the better manganese ore areas. It includes mine development to replace ore mined and establishes an operation that can be maintained at the indicated level for an extended period. It does not include major exploration. Earnings are based on present prices of 13¢ lead, 11¢ zinc and on revised manganese schedules based on $225.00 per long ton of ferromanganese. Costs are estimated on the basis of the improved efficiency already evident from our reduced mine crew and on the reduction of overhead and transportation expense possible through limiting mine areas worked.

Estimated mine production, earnings and expense are summarized as follows:



Estimated Production and Earnings

| Class of Ore | Dry Tons | Estimated Assays Au | Ag | Pb | Zn | Mn | Value Per Ton | Value Per Month |
|---|---|---|---|---|---|---|---|---|
| Sulphide lead-zinc | 5,500 | .032 | 3.2 | 3.4 | 10.5 | -- | $ 9.52 | $ 52,360 |
| Class I Manganese | 8,400 | .018 | 1.5 | 1.5 | 2.2 | 10.7 | 10.45 6.92 | 87,780 |
| Class II Manganese | 4,000 | .015 | 1.5 | 1.3 | 1.8 | 15.0 | 10.45 | 41,800 |
| Oxide Lead-silver | 100 | .162 | 15.6 | 17.0 | -- | -- | 31.72 | 3,172 |
| Total Production | 18,000 | | | | | | $10.28 | $185,112 |
| Mine Waste | 3,000 | | | | | | | |
| Total | 21,000 | | | | | | | |

Estimated Mine Expense

| Account | Labor | Supplies | Other | Total | Per Ton |
|---|---|---|---|---|---|
| Stoping | $47,000 | $16,000 | $ -- | $63,000 | $ 3.50 |
| Development | 10,800 | 3,600 | -- | 14,400 | 0.80 |
| Supplies | -- | 3,240 | -- | 3,240 | 0.18 |
| Transportation | 19,000 | 2,000 | 600.00 | 21,600 | 1.20 |
| Equipment Maint. | 4,000 | 6,260 | -- | 10,260 | 0.57 |
| Mine Maint. | 10,300 | 5,000 | (900) | 14,400 | 0.80 |
| Power | 200 | 200 | 9,500 | 9,900 | 0.55 |
| Sundry | 15,000 | 2,500 | 500 | 18,000 | 1.00 |
| General | 13,800 | 3,000 | 3,000 | 19,800 | 1.10 |
| Total Operating Expense | $120,100 | $41,800 | $12,700 | $174,600 | $ 9.70 |
| Operating Profit | | | | 10,512 | 0.58 |

COMBINED METALS REDUCTION COMPANY

SHEET 2 DATE June 1, 1953 TO Mr. E. H. Snyder

The preceding estimated expense includes Pioche and Salt Lake general expense allocated to the mine. While the costs estimated are less than our average for the past year, we believe that even further reductions are possible on the basis of the operations proposed.

Very truly yours,

S. S. Arentz, Manager
Nevada Operations

SSA:sp

FORECAST — CASELTON MILL OPERATION

June 1, 1953

Mr. E. H. Snyder, General Manager

Mr. S. S. Arentz, Manager Nevada Operations

Dear Mr. Snyder:

The following forecast of Caselton mill operation is based on milling, the production set out in the preceding report covering Caselton mine operation. The actual tonnage milled will exceed the estimate for a few months until we clean-up the Class I ore and Class I zinc tailings now in the mill stockpile and storage ponds. The Black Metal and other outside tonnage will also be in addition to the tonnage forecast. The estimates are based on 13¢ lead, 11¢ zinc and on $225.00 per long ton of ferromanganese. Any changes in these prices will materially affect the financial outcome of the proposed operations.

Estimated mill production, mill earnings and mill expense are summarized as follows:



Mill Production

| Product | Percent Weight | Dry Tons | Grade of Concentrate | Value Per Ton Conc. | Total Value Per Month | Value Per Ton of Ore |
|---|---|---|---|---|---|---|
| Sulphide Lead Conc. | 5.86 | 322.4 | 40.0% | $ 92.65 | $ 29,870 | $ 5.43 |
| Sulphide zinc Conc. | 16.14 | 887.5 | 52.4 | 56.70 | 50,321 | 9.15 |
| Class I Lead Conc. | 2.55 | 214.2 | 40.0 | 102.21 | 21,893 | 2.61 |
| Class I zinc Conc. | 3.17 | 266.3 | 52.4 | 56.81 | 15,129 | 1.80 |
| Class I manganese | 34.05 | 2,860.2 | 22.0 | 30.22 | 86,435 | 10.29 |
| Class II manganese | 33.09 | 1,323.6 | 34.0 | 42.58 | 56,359 | 14.09 |
| Class II sulphide | 1.30 | 52.0 | 22.0 | 47.00 | 2,444 | 0.61 |
| Total Mill | | 5,926.2 | | $ 44.29 | $262,451 | $ 14.66 |

## Cost of Ore Milled

| Type of Ore | Dry Tons | Estimated Assays Au | Ag | Pb | Zn | Mn | Total Value Per Month | Value Per Ton |
|---|---|---|---|---|---|---|---|---|
| Sulphide lead-zinc | 5,500 | .32 | 3.2 | 3.4 | 10.5 | — | $52,360 | $ 9.52 |
| Class I manganese | 8,400 | .18 | 1.5 | 1.5 | 2.2 | 10.7 | 87,780 | 10.45 |
| Class II manganese | 4,000 | .15 | 1.5 | 1.3 | 1.8 | 15.0 | 41,800 | 10.45 |
| Total Ore Milled | 17,900 | | | | | | $181,940 | $10.16 |
| Operating Margin | 17,900 | | | | | | $ 80,511 | $ 4.50 |

## Mill Operating Expense

| Account | Labor | Supplies | Other | Total | Per Ton |
|---|---|---|---|---|---|
| Unloading - Crushing | $ 2,100 | $ 1,717 | $ 300 | $ 4,117 | $ 0.23 |
| Sink-Float Plant | 1,000 | 4,383 | 1,240 | 6,623 | 0.37 |
| Grinding - Flotation | 8,500 | 6,500 | 215 | 15,215 | 0.85 |
| Filtering | 1,600 | 727 | — | 2,327 | 0.13 |
| Power | 200 | 117 | 3,800 | 4,117 | 0.23 |
| Reagents | 1,500 | 18,548 | | 20,048 | 1.12 |
| Sundry | 8,800 | 1,098 | 1,200 | 11,098 | 0.62 |
| General | 5,500 | 1,055 | 1,500 | 8,055 | 0.45 |
| Total Operating | $29,200 | $34,145 | $8,255 | $71,600 | $ 4.00 |
| Estimated Profit | | | | $ 8,911 | $ 0.50 |



Additional income will be realized from treating Black Metal, Ely Valley and other outside ore. There is an excellent chance for reducing mill expense, particularly reagent cost, as the mill crew gains experience in treating manganese type ores. The cost of ore has been adjusted from current manganese ore purchase schedules to allow the mill 50¢ per ton operating profit on the basis of its revised schedule with Pioche Manganese based on $225.00 per long ton of ferromanganese.

Very truly yours,

S. S. Arents, Manager
Nevada Operations

SSA/bs

Forecast - Black Metal Operation

May 27, 1953

E. H. Snyder, General Manager

S. S. Arentz

Dear Mr. Snyder:-

The following forecast of Black Metal operations is based on a price of $10.00 per ton for ore assaying 15% manganese, high lime and low silica as per the agreement with Pioche Manganese Co. and on the Idamic Mines schedule for ore assaying 20% or better manganese. Proposed operations consist of company operation of the Black Metal property proper and of lease operation of the Gusset Patch, Black Jack and other surface showings.

Estimated production, mine earnings and expense are summarized as follows:

Mine Production

| | Dry Tons | Manganese Assay | Mine Value Per Ton | Total Mine Value |
|---|---|---|---|---|
| Black Metal Ore | 2,000 | 15% | $ 9.00 | $ 18,000 |
| Lease Ore | 300 | 25% | 23.47 | 7,041 |
| Total Production | 2,300 | 16.3% | 10.89 | 25,041 |

Mine Expense

| | | |
|---|---|---|
| Lease Expense | 1.84 | 4,224 |
| Company Expense | 6.00 | 12,000 |
| Royalty on Lease Ore | 0.31 | 704 |
| General Expense | 0.52 | 1,170 |
| Total estimated expense | $ 7.87 | $ 18,098 |
| Estimated operating profit | $ 3.02 | $ 6,943 |

Mine value of the ore is after allowing $1.00 per ton for trucking to Caselton. Lease payments are calculated on basis of 40% royalty to the Company.

While it is difficult to estimate ore reserves at the Black Metal mine, work to date has been encouraging. We shall have to provide additional compressor capacity to provide sufficient drilling air, but the equipment is available at Bauer or Pioche and the installation cost will be nominal.

Under our joint venture agreement only half the profits come to Combined Metals. However we can retain all the profits until we have liquidated the amount expended getting the property into operation and this will require over one year at the scale of operations proposed.

Very truly yours,

S. S. Arentz, Manager
Nevada Operations

Forecast - Panacalite Operation

May 27, 1953

E. H. Snyder, General Manager

S. S. Arentz

Dear Mr. Snyder:-

The following forecast of Panacalite mining and crushing operations is based on current operations under our new mining contract and with the Coarse crushing plant in operation. We are still handicapped by the comparatively large amount of material wasted in the fines and dust and if a market can be developed for this material the operating profit will be substantially increased.

Estimated production, earnings and expense are summarized as follows:

| Production | Dry Tons | Total Value | Value Per Ton |
|---|---|---|---|
| Bulk Perlite Shipped | 3,500 | $ 25,865 | $ 7.39 |
| Less Cost of Perlite to Mill | 3,500 | 5,600 | 1.60 |
| Less Dusting Loss | 1,000 | 1,600 | 1.60 |
| Operating Margin | 3,500 | 18,665 | 5.33 |
| **Estimated Expense** | | | |
| Crushing and Sizing | 3,500 | 4,900 | 1.40 |
| Loading and shipping | | 1,050 | 0.30 |
| Power | | 525 | 0.15 |
| Sundry | | 2,275 | 0.65 |
| General Expense | | 2,100 | 0.60 |
| Total Expense | $ 3,500 | $ 10,850 | $ 3.10 |
| Estimated Operating Profit | 3,500 | 7,815 | 2.23 |

The above estimated costs are in line with our experience of the past four months. Changes now going into effect offer some chance of further reducing costs but we are still faced with the problem of dust losses.

Very truly yours,

S. S. Arentz, Manager
Nevada Operations

Exhibit B

Forecast of Manganese Operations

May 30, 1953

E. H. Snyder, General Manager

S. S. Arentz

Dear Mr. Snyder:

On September 30, 1952, I submitted estimates on proposed manganese mining and milling operations designed to meet the estimated requirements of Pioche Manganese Company as set out in the report of Lottridge and Leonard dated June 22, 1952. These requirements were estimated as follows;

Class I - Carbonate Concentrates ---- 2,685 tons assaying 22% Mn
Class II Oxide Concentrates ------- 4,111 tons assaying 34% Mn

To produce this tonnage of manganese concentrates we estimated that we would have to mine and mill the following monthly ore tonnages;

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Class I Ore | 8,500 tons | .018 au | 1.27 ag | 1.86 pb | 2.86 zn | 10.0 mn |
| Class II Ore | 12,500 tons | .030 | 2.68 | 1.93 | 1.24 | 15.0 |
| Total Ore | 21,000 tons | | | | | |

We estimated that this production would result in the following earnings, expense and operating profit;

| | | |
|---|---|---|
| Manganese value per ton of ore ---------- | $ 6.72 | |
| Lead-zinc value per ton of ore ---------- | 3.80 | |
| Total estimated earnings per ton of ore - | | $ 10.52 |
| Estimated mining cost per ton of ore ---- | $ 7.15 | |
| Estimated milling cost per tons of ore -- | 2.53 | |
| Total estimated operating cost per ton -- | | $ 9.68 |
| Estimated operating profit per ton ---------- | | $ 0.84 |

The operating costs were estimated on the basis of continuing a substantial production of lead-zinc ore, which would carry most of the fixed cost and overhead, and of mining thick ore such as was indicated by mine development and drill holes. The continued drop in lead-zinc prices has forced a drastic curtailment of lead-zinc production, throwing most of the fixed costs and overhead on manganese ore productions, and continued mine development has shown large areas of the manganese ore reserves to be thin ore resulting in higher mining costs and in ore dilution which adds to mill costs. We have also had difficulty in recruiting the miners necessary to meet the expanded production scheduled.

During the first four months of this year the Caselton mine and mill produced an average of 20,000 tons of ore per month. A substantial part of this production was lead-zinc ore. Actual production and operating costs from our operating statements were as follows;

| | |
|---|---|
| Mine production costs per ton of ore | $ 10.54 |
| Mill operating costs per ton of ore | 4.17 |
| Total cost per ton, mine and mill | $ 14.71 |

The Caselton staff has worked on the problem of reducing costs and increasing production efficiency to maintain operations under present conditions. The operations have been reorganized to reduce overhead and about twenty five percent of the crew, including most of the less efficient workmen, have been layed off. On the revised basis, production is estimated as follows;

| | |
|---|---|
| Class I Ore - 8,400 tons .018 au 1.5 ag 1.5 pb 2.2 zn 10.7 mn | |
| Class II Ore - 4,000 tons .015 au 1.5 ag 1.3 pb 1.8 zn 15.0 mn | |
| Total Manganese Ore Production | 12,400 tons |

On the basis of the above estimated monthly tonnage of manganese ore and through the improved efficiency resulting from the recent changes in plant organization we believe that the following costs can be attained;

| | |
|---|---|
| Mine production cost per ton of ore | $ 9.70 |
| Mill operating cost per ton of ore | 4.00 |
| Total cost per ton of ore, mine and mill | $ 13,70 |

To maintain operations will require an ore valu e sufficient to offset the above estimated costs plus at least one dollar per ton for contingency and profit, making a total required ore value of $ 14.70 per ton.

On the attached sheets I haved detailed the calculations showing the products produced by the mill and the estimated value of each product as well as the manganese value required to meet the minimum required to maintain operations. These are summarized as follows;

Class I Ore — 8400 tons of ore will produce 2,860 tons of concentrate at 22% MN
The lead-zinc credit is estimated at $4.41 per ton of ore
leaving $10.29 per ton of ore equivalent to $30.22 per ton
of concentrate as the required value of the manganse product.

Class II Ore — 4000 tons of ore will produce 1,324 tons of concentrate at 34% Mn
The lead-zinc credit is estimated at $0.61 per ton of ore
leaving $14.09 per ton of ore equivalent to $42.58 per ton
of concentrate as the required value of the manganese product.

Very truly yours,

S. S. Arentz, Manger
Nevada Operations

# DATA FOR FORECAST PIOCHE OPERATIONS

MAY 30, 1953

BY SAM ARENTZ

## Class I Manganese Ore

| | Au. | Ag. | Pb. | Zn. | Mn. |
|---|---|---|---|---|---|
| 8400 Tons per Month | .018 | 1.5 | 1.5 | 2.2 | 10.7 |

## Lead Recovery and Value

68% recovery - 40% concentrate - $102.21 per ton concentrate

1.5% Pb. x 68% = $\frac{\text{1.02 units lead recovered}}{\text{40\% concentrate grade}}$ = 2.55% Weight

## Zinc Recovery and Value

78% recovery - 54.2% concentrate - $56.81 per ton concentrate

2.2% Zn x 78% = $\frac{\text{1.72 units zinc recovered}}{\text{54.2\% concentrate grade}}$ = 3.17% Weight

## Manganese Recovery

70% recovery - 22% concentrate

10.7 x 70% = $\frac{\text{7.49 units of manganese}}{\text{22\% concentrate}}$ = 34.05 % Weight

## Production Costs and Required Manganese Value

Mining Cost (Including General) - $9.70 per ton ore

Milling Costs (Including General) - 4.00

Contingency and Profit - 1.00

Total Earnings Required - - - - $14.70 per ton ore

Less Credit for Lead and Zinc - - 4.41

Required Value for Manganese --- $10.29 per ton ore

$\frac{\text{\$10.29 Required Manganese Value per ton of Ore}}{\text{34.05\% Weight of 22\% Concentrate}}$ = $30.22 per ton concentrate

$\frac{\text{\$30.22 per ton Concentrate}}{\text{22\%}}$ = $1.374 per short ton unit of manganese

Class II Manganese Ore

| | Au. | Ag. | Pb. | Zn. | Mn. |
|---|---|---|---|---|---|
| 4,000 Ton per Month | .015 | 1.5 | 1.3 | 1.8 | 15.0 |

Bulk Sulphide Recovery

| | Au. | Ag. | Pb. | Zn. |
|---|---|---|---|---|
| 10% lead recovery in concentrate assaying | 0.25 | 22.5 | 10.0 | 12.0 |

Value of concentrate on Tribune Schedule - $47.00 per ton

1.3% lead x 10% recovery = $\frac{\text{0.13 units recovered}}{\text{10\% concentrate}}$ = 1.3% Weight

1.3% Weight x $47.00 per ton Concentrate = $0.61 per ton Ore

Manganese Recovery

75% Recovery - 34.0% manganese concentrate

15.0% x 75% recovery = $\frac{\text{11.25 units recovered}}{\text{34\% concentrate}}$ = 33.09% Weight

Production Cost and Required Manganese Value

| | |
|---|---|
| Mining Cost (Including General Expense) - | $9.70 per ton of ore |
| Milling Cost " " " | 4.00 |
| Contingency and Profit | 1.00 |
| Total Earnings Required - - - - - - - - - - | $14.70 per ton of ore |
| Less Credit for Gold, Silver, Lead and Zinc - | 0.61 per ton of ore |
| Required Value for Manganese | $14.09 per ton of ore |

$\frac{\text{\$14.09 required manganese value per ton ore}}{\text{33.09\% Weight of 34\% Concentrate}}$ = $42.58 per ton Concentrate

$\frac{\text{\$42.58 per ton of 34\% Concentrate}}{\text{34\% Grade}}$ = $1.25 per short ton unit of manganese