**INTERNATIONAL SMELTING AND REFINING COMPANY**

**TOOELE PLANT - TOOELE, UTAH**

**REPORT ON AUDIT OF THE SULPHIDE CONCENTRATOR, THE LEAD PLANT AND THE SLAG TREATING PLANT OF THE INTERNATIONAL SMELTING AND REFINING COMPANY, TOOELE, UTAH FOR JANUARY, 1958**

**MONTH OF JANUARY 1958**

**TIME REQUIRED FOR AUDIT**

| | |
|---|---|
| R. E. Hathaway | March 18, to May 31, 1958, inclusive |
| D. O. DeLong | May 16, to 19, 1958, inclusive |
| D. R. Ramon | May 1, to 4, 1958, inclusive |

Audit of the Metallurgical records of the Tooele Plant of the International Smelting and Refining Company for January 1958 included the Sulphide Concentrator, Lead Plant, and Slag Plant.

The receipts in the Sulphide Concentrator were audited 100%. The weights, assays, contracts, settlements, and costs were audited in detail. The lead concentrates transferred to the Lead Plant were audited in detail. Iron concentrates to American Smelting and Refining Company were audited approximately 54%. The zinc concentrates settled for by The Anaconda Company were audited as to weights, assays preliminary and final settlement.

Four of the Lead Plant receipts were audited 100%. One of the receipts was audited approximately 34%. The weights, assays, lot sheets and settlements on the above receipts were audited in detail. The matte, speiss, and lead shipments were audited 100%.

Two of the Slag Plant receipts were audited 90%. One of the receipts was audited 100%. The weights, assays, and settlement on the above receipts were audited in detail. The deleaded zinc fume to National Zinc Company was audited 37%. The deleaded zinc fume to The Anaconda Company was audited 100%. The deleaded zinc fume returned to the American Zinc Company was audited 100%.

The inter-plant movements were audited in detail. The cadmium fume settled for by The Anaconda Company - Great Falls, Montana and cadmium fume at Great Falls belonging to International Smelting and Refining Company was not audited at this time.

The Auditor observed the taking of inventories on April 1 and May 1, 1958. The February 1st inventories were checked from physical and estimated reports on into the statements. The May 1st inventories were checked to inventory records.

January work sheets and statements were audited and followed through to the final cumulative statements.

R. E. Hathaway, Metallurgical Auditor

May 31, 1958

INTERNATIONAL SMELTING AND REFINING COMPANY

TOOELE PLANT - TOOELE, UTAH

AUDIT OF JANUARY 1958

I N D E X

INTERNATIONAL SMELTING AND REFINING COMPANY

TOOELE PLANT - TOOELE, UTAH

MONTH OF JANUARY 1958

SULPHIDE CONCENTRATOR

**RECEIPTS**

United Park City Mines Company - Grade Ore

Shipments from the United Park City Mines Company accounted for 100% of the Sulphide Concentrator receipts in January 1958.

Following are some pertinent provisions of the contract with the United Park City Mines:

| | |
|---|---|
| Gold | - 70% up to and including .05 oz. @ $32.816 per oz.<br>- 80% over .05 oz. @ $32.816 per oz. minimum deduction .01 oz. |
| Silver | - 15 ozs. or under, pay for 83% at Mint price.<br>- Over 15 ozs., pay for 90% of the excess over 15 ozs. at Mint price.<br>- Minimum deduction .5 oz. |
| Copper | - 70% at New York electrolytic price, less 6.8565¢ minimum deduction of 15 lbs. |
| Lead | - 83% less 2.9565¢ minimum deduction of 20 lbs. |
| Zinc | - 65% less 3.2975¢ when zinc is 5¢ per lb. or less. To this deduction of 3.2975¢ add .4¢ per pound for each 1¢ increase in price of zinc over 5¢ - minimum deduction of 60 lbs. Monthly average on minimum deduction. |
| Treatment | - $1.49 per dry ton - credit Utah Ore Sampling Company sampling 50¢ per dry ton, adjusted to ½ of actual Utah Ore Sampling Company sampling expense for the month. |
| Bullion Freight | - $29.63 and $20.45 (includes tax) |
| Splitting Limits | - Gold - 0.02 oz. per ton    Lead - 0.5%    Zinc - 0.5%<br>Silver - 0.5 oz. per ton    Copper - 0.3% |

Only section no. 2 portion of the Sulphide Concentrator was used during the month of January 1958. All weights, assays and value of receipts were audited in detail for January 1958.

Following is a schedule showing the details for fourteen lots, which were received from the United Park City Mines Company during the month of January 1958:

| | | |
|---|---|---|
| Percent moisture | | 2.83 % |
| Dry pounds | | 17,133,974 |
| Percent lead | | 6.074% |
| Contract pounds - lead | | 1,040,709 |
| Paid pounds - lead | | 858,510 |
| Amount - lead | | $111,604.88 |
| Price deduction - lead | | $ 25,381.79 |
| Percent copper | | 0.125% |
| Contract pounds - copper | | 21,418 |
| Percent zinc | | 8.845% |
| Contract pounds - zinc | | 1,515,557 |
| Paid pounds - zinc | 973,724 | |
| Zinc adjustment - January 1958 | 11,387 | 985,111 |
| Amount - zinc | $ 97,373.61 | |
| Zinc adjustment - January 1958 | 1,138.70 | $ 98,512.31 |
| Price deduction - zinc | $ 51,582.91 | |
| Zinc adjustment - January 1958 | 603.23 | $ 52,186.14 |
| Ounces per ton - silver | | 7.965 |
| Contract ounces - silver | | 68,235.29 |
| Paid ounces - silver | | 56,635.29 |
| Amount - silver | | $ 50,971.16 |
| Ounces per ton - gold | | 0.0253 |
| Contract ounces - gold | | 216.615 |
| Paid ounces - gold | | 130.996 |
| Amount - gold | | $ 4,283.87 |

## SULPHIDE CONCENTRATOR

RECEIPTS - Continued

United Park City Mines Company - Crude Ore - Continued

| | | |
|---|---|---|
| **Treatment** | | |
| Base amount | $ 12,764.79 | |
| Penalties amount | 4,283.49 | |
| Utah Ore Sampling Company - adjustment January 1958 | 668.12 | $ 7,813.18 |
| **Cost** | $178,787.52 | |
| Zinc adjustment | 535.47 | |
| Utah Ore Sampling Company - adjustment | 668.12 | $179,991.11 |
| **Miscellaneous** | | |
| Umpire Assay | $ 36.00 | |
| Utah Ore Sampling Company | 10,050.78 | $ 10,086.78 |
| **Freight** | | $ 11,115.26 |
| **Net proceeds** | $157,585.48 | |
| Zinc adjustment | 535.47 | |
| Utah Ore Sampling Company - adjustment January 1958 | 668.12 | $158,789.07 |

The Utah Ore Sampling Company sampled and weighed this ore. The International Smelting and Refining Company accepts and uses these weights and moistures but averages the assays of United Park City Mines Company with their own, and calls for Umpire assays when needed.

All January zinc contents were totaled and averaged and the shipper was paid for the balance of zinc in seven lots which had been given the 60 pound minimum deduction, because of low content zinc. This is allowed in the contract if the monthly average assay is high enough to receive the 65% payment. In January there were 11,387 pounds of zinc paid for at 4.7025¢ per pound.

The difference between the January sampling credit total (50¢ per dry ton), and half of the January sampling charge ($1.14 per wet ton) was paid to the shipper as allowed in the contract. The sampling rate was $1.00 per wet ton at time of last audit. This rate was increased to $1.10 per wet ton in October 1954 and $1.14 per wet ton on March 10, 1957.

## SHIPMENTS

Following is a statement of treatment, production and losses for the month of January 1958:

Lead Concentrates to Lead Plant

During the month of January 1958 ten cars, totaling approximately 640 wet tons, or 586 dry tons, were transferred to the Lead Plant for treatment.

STATEMENT OF TREATMENT - PRODUCTION AND LOSSES - VALUE OF PRODUCTION - PROFI

| Original Material Treated: | Dry Weight Pounds | Cost of Material | Concentrating Expenses | Cost Per Ton | Grand To |
|---|---|---|---|---|---|
| On Hand - 1-1-58 | | | | | |
| Custom Ore | | | | | |
| In Bins | 1,422,887 | $ 12,530.81 | $ 70.85 | $ - | $ |
| Received | | | | | |
| Custom Ore | 17,133,974 | 179,991.11 | 33,001.62 | | |
| Total | 18,556,861 | $ 192,521.92 | $ 33,072.47 | $ - | $ |
| On Hand - 1-31-58 | | | | | |
| Custom Ore | | | | | |
| In Bins | 429,440 | 3,778.61 | | | |
| Treated: | 18,127,421 | $ 188,743.31 | $ 33,072.47 | $ 3.6489 | $ 221,81 |
| Value of Production: | | | | | |
| Concentrates Sold | | | | | |
| Zinc Concentrates to Anaconda | 2,677,487 | | | | $ 84,113 |
| Lead Concentrates to Lead Plant | 1,172,527 | | | | 122,929 |
| Iron Concentrates returned from Lead Plant | 9,122,238 | | | | 9,122 |
| Sold A.S. & R. Co. | 9,122,238 | | | | 9,122 |
| Total | 3,850,014 | | | | $ 207,043 |
| On Hand Ending - 1-31-58 | | | | | |
| Lead Concentrates | 289,031 | | | | 23,767 |
| Zinc Concentrates | 533,969 | | | | 17,307 |
| Total on Hand Ending & Sales | 4,673,014 | | | | $ 248,118 |
| On Hand Beginning - 1-1-58 | | | | | |
| Zinc Concentrates | 770,278 | | | | 23,704 |
| Value of Production | | | | | |
| Zinc Concentrates | 2,441,178 | | | | 77,716 |
| Lead Concentrates | 1,461,558 | | | | 146,696 |
| Total Value of Production | 3,902,736 | | | | $ 224,413 |
| Metal Losses | | | | | |
| Ratio of Concentration 4.645 into 1 | | | | | |
| Percent Savings | | | | | |
| Profit before Silver Adjustment * | | | | | $ 2,597 |
| Silver Adjustment | | | | | 5,332 |
| Profit after Silver Adjustment | | | | | $ 7,930 |
| Depreciation | | | | | 1,025 |
| Profit after Depreciation | | | | | $ 6,904 |
| Division of Profit * | | | | | |
| Custom Material | | | | | $ 2,597 |

SULPHIDE CONCENTRATOR

SHIPMENTS - Continued

Lead Concentrates to Lead Plant

There were three cars, 159, wet tons, or 145 dry tons, of lead concentrates in inventory at January 31, 1958. The above three cars were transferred to stockpiles in February 1958. Usually the lead concentrates are transferred to the Lead Plant and all inventories are carried as Lead Plant inventories.

A schedule of payments and credits, similar to the Lead Plant open contract, is used for valuing these concentrates for transfer. The schedule, including latest changes in freight and labor rates, is as follows:

| | |
|---|---|
| Lead | - 1.5 units, balance 95% @ New York Electrolytic Price, less 2.3565¢ per pound. |
| Copper | - (minimum deduction - 10 lbs.), 90% @ New York Electrolytic Price, less 3.8565¢ per pound. |
| Zinc | - If 5%, 80% @ 22% of East St. Louis price. No penalty if under 5%. |
| Silver | - If 1 ounce per ton - 97½% @ Mint Price |
| Gold | - If .02 ounces per ton - 91% @ $35.00 per ounce. |
| Iron | - Credit - 6¢ per unit. |
| Insoluble | - Charge - 10¢ per unit. |
| Sulphur | - 2% free - balance 25¢ per unit - maximum $2.25 per ton. |
| Zinc | - Charge - 15¢ per unit paid for. |
| Treatment | - $14.625 per dry ton plus or minus 8¢ per unit of lead over or under 48%. (after deducting 1.5 units) |

All weights, assays and value of shipments were audited in detail for January 1958.

Iron Concentrates Settled For By American Smelting And Refining Company - Garfield, Utah

In January 1958, eleven lots, 4,561 dry tons of Iron Concentrates, were taken from stockpile and sold to American Smelting and Refining Company, Garfield, Utah. A value of $2.00 per dry ton was paid for this concentrate as per letter to Mr. Glen Burt, Ore Buyer, dated November 26, 1957. All weights and assays used are taken from American Smelting and Refining Company's settlement sheets. On the Statement of Treatment - Production and Losses the Iron Concentrates are shown as a return from Lead Plant and a sale to American Smelting and Refining Company, for same weights and value. In January 1958, 54% of the settlement sheets were audited in detail and checked to summary sheet.

Zinc Concentrates Shipped to The Anaconda Company - Anaconda, Montana

During the month of January 1958, there were 26 cars, or 1,348 dry tons, of zinc concentrates shipped to Anaconda, Montana. The weights, moistures, and assays for material shipped are based on the International Smelting and Refining Company calculations. All weights, moistures, and assays were audited for the month of January 1958 on shipment.

Zinc Concentrates Settled For By The Anaconda Company - Anaconda, Montana

There were 26 cars, 1,462 wet tons, or 1,339 dry tons, of zinc concentrates settled for by The Anaconda Company in January 1958. The wet weights, moistures, and dry weights of The Anaconda Company are used. Assays are tested for splitting limits and the average is used unless outside of splitting limit. If outside the limit, repeat assays are prepared and result of these assays are used. The splitting limits are as follows:

| | | | |
|---|---|---|---|
| Lead | - .3% | Gold | - .005 oz. per ton |
| Zinc | - .4% | Insoluble | - .4% |
| Silver | - .4 oz. per ton | Iron | - .4% |

The preliminary and final settlements were audited in detail for December 1957. Also the preliminary settlement for January 1958 was audited in detail.

INVENTORIES

The estimated tonnages were checked to the "ore in bin record books" on file in Mr. Clark's, Chief Clerk, office. The actual moisture and assays were used to calculate contents on a first-in, first-out basis.

The lead concentrate was carried in the Sulphide Concentrator inventories and transferred to stockpile in February 1958. Actual weights and assays were used in calculating contents and values of concentrates.

The zinc concentrates on hand were estimated by Mr. Kettner, Sulphide Concentrator Superintendent, but actual assays were used in calculating contents and values.

All the concentrator bin inventories at February 1 and May 1 were checked to the inventory work sheets. The Auditor accompanied Mr. James Lougy, Metallurgical Clerk, and Mr. Edson Porter, Clerk, on an inventory observation of bins on April 1 and May 1, 1958. At this observation, all bins were measured and the cars with concentrates were observed and later checked to reports of material on hand at February 1 and May 1, 1958.

VALUATION OF INVENTORIES

Ore in Bins

Following is a statement showing the value of the bin inventories, as at January 31, 1958:

## VALUE OF MATERIAL ON HAND - JANUARY 31, 1958

| | Dry Weight | Lead | | Copper | Zinc | | Silver | | Gold | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Pounds | Pounds | Amount | Pounds | Pounds | Amount | Ounces | Amount | Ounces | Amount | Net Amount |
| On Hand - January 1, 1958 | | | | | | | | | | | |
| In Bins<br>Custom Ore | 1,422,887 | 86,997 | $ 6,151.55 | 1,580 | 137,261 | $ 4,080.46 | 7,054.25 | $ 2,034.62 | 14.872 | $ 264.18 | $ 12,530.01 |
| Received: | | | | | | | | | | | |
| Purchased Ore | 17,133,974 | 1,040,709 | 78,409.91 | 21,418 | 1,515,557 | 46,326.17 | 68,235.29 | 50,971.16 | 216.615 | 4,283.87 | 179,991.11 |
| Total | 18,556,861 | 1,127,706 | $ 84,561.46 | 22,998 | 1,652,818 | $ 50,406.63 | 75,289.54 | $ 53,005.78 | 231.487 | $ 4,548.05 | $ 192,521.92 |
| On Hand - January 31, 1958 | | | | | | | | | | | |
| In Bins<br>Custom Ore | 429,440 | 25,766 | 1,953.31 | 537 | 38,650 | 1,181.39 | 1,994.75 | 575.33 | 4.294 | 68.58 | 3,778.61 |
| Put Into Process | 18,127,421 | 1,101,940 | $ 82,608.15 | 22,461 | 1,614,168 | $ 49,225.24 | 73,294.79 | $ 52,430.45 | 227.193 | $ 4,479.47 | $ 188,743.31 |
| In Process - 1-1-58<br>In Process - 1-31-58 | Nil<br>Nil | | | | | | | | | | |
| Treatment | 18,127,421 | 1,101,940 | 82,608.15 | 22,461 | 1,614,168 | 49,225.24 | 73,294.79 | 52,430.45 | 227.193 | 4,479.47 | 188,743.31 |
| Ore on Hand - 1-31-58 | | | | | | | | | | | |
| In Bins<br>In Process | 429,440<br>Nil | 25,766 | 1,953.31 | 537 | 38,650 | 1,181.39 | 1,994.75 | 575.33 | 4.294 | 68.58 | 3,778.61 |
| Total | 429,440 | 25,766 | $ 1,953.31 | 537 | 38,650 | $ 1,181.39 | 1,994.75 | $ 575.33 | 4.294 | $ 68.58 | $ 3,778.61 |
| Reduction Expenses | | | | | | | | | | | Nil |
| Total - Sulphide Concentrator Inventory Cost | | | | | | | | | | | $ 3,778.61 |
| Value of Zinc Concentrates on Hand | | | | | | | | | | | $ 17,307.82 |
| Value of Lead Concentrates on Hand | | | | | | | | | | | $ 23,767.42 |
| Reconcilement: | | | | | | | | | | | |
| Inventory<br>Add Losses Deferred | | 25,766<br>Nil | | 537<br>Nil | 38,650<br>Nil | | 1,994.75<br>Nil | | 4.294<br>Nil | | |
| Total as Above | | 25,766 | | 537 | 38,650 | | 1,994.75 | | 4.294 | | |

SULPHIDE CONCENTRATOR

VALUATION OF INVENTORIES - Continued

Ore in Bins - Continued

The ore in bins is valued at cost, on a first-in, first-out basis, except for silver and gold. The total silver ounces paid for are valued at 34.75¢ per ounce. The total value of gold paid for is divided by $34.91 to arrive at ounces paid for and this total is valued at $34.00 per ounce. Due to the difference in terms of the many contracts as to the per-cent of gold paid for and the price, all are based on an approximate $34.91 price per ounce. This is market price less cost to market.

Lead Concentrates

Following is a statement showing the value of the lead concentrates on hand at January 31, 1958:

LEAD CONCENTRATES ON HAND - JANUARY 31, 1958

| | | | Lead | | Copper | | Zinc | | Silver | | Gold | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | % H2O | Dry Weight Pounds | Per Cent | Pounds | Per Cent | Pounds | Per Cent | Pounds | Oz. per Ton | Ounces | Oz. per Ton | Ounces | % Ins | % Fe | % S | % CaO |
| Lead Concentrates On Hand | 9.224 | 289,071 | 71.400 | 206,368 | .800 | 2,312 | 4.400 | 12,717 | 98.590 | 14,247.78 | .1150 | 16.619 | 2.20 | 1.80 | 16.20 | .60 |

Detail

| Contents | | | Contents Paid For | | | Dr. | Cr. |
|---|---|---|---|---|---|---|---|
| Lead | 206,368 | lbs. - 1.5 @ 95% | 191,931 | lbs. @ $ | .13000 | $ | $ 24,951.03 |
| Copper | 2,312 | lbs. - 10# or 90% | 867 | lbs. @ | .25114 | | 217.74 |
| Silver | 14,247.78 | ozs. @ 97½% | 13,891.59 | ozs. @ | .34750 | | 4,827.33 |
| Gold | 16.619 | ozs. @ 91 % | 15.123 | ozs. @ | 35.0000 | | 529.31 |
| Metal Deduction - Lead | | | 191,931 | lbs. @ | .023565 | 4,522.85 | |
| Copper | | | 867 | lbs. @ | .038565 | 33.44 | |
| Credit - Iron | | | 5,203 | lbs. @ | 6¢ per unit | 15.61 | |
| Debit -- Insoluble | | | 6,359 | lbs. @ | 10¢ per unit | 31.80 | |
| Sulphur | 46,823 | lbs. - 2% | 41,042 | lbs. @ | $ 2.25 per ton maximum or 25¢ per unit | 325.16 | |
| Treatment | | | 144.5153 | tons @ | 12.8730 | 1,860.35 | |
| | | | | | | $ 6,757.99 | $ 30,525.41 |
| | | | Net Amount | | | | $ 23,767.42 |

| | |
|---|---|
| Base | $ 14.6250 |
| Credit - Lead over 48% @ 8¢ per unit | 1.7520 |
| | $ 12.8730 |

The lead concentrates are usually carried on the Lead Plant inventory records. In January 1958, there were three cars held in Sulphide Concentrator inventory and in February they were transferred to stockpile. Lead concentrates are valued at the contract price except for silver which is valued at 34.75¢ per ounce. The gold contract price is $35.00 per ounce and this value is used for gold valuation.

Zinc Concentrates

Following is a statement showing the value of the zinc concentrates on hand at January 31, 1958:

## SULPHIDE CONCENTRATOR

**VALUATION OF INVENTORIES** - Continued

**Zinc Concentrates** - Continued

### ZINC CONCENTRATES ON HAND AND IN TRANSIT - JANUARY 31, 1958

| | % H2O | Dry Weight Pounds | Lead Per Cent | Lead Pounds | Copper Per Cent | Copper Pounds | Zinc Per Cent | Zinc Pounds | Silver Oz. per Ton | Silver Ounces | Gold Oz. per Ton | Gold Ounces | % Ins | % Fe | % S | % CaO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| On Hand and In Transit | 7.490 | 533,969 | .900 | 4,805 | .250 | 1,335 | 61.600 | 328,924 | 2.390 | 638.09 | .0150 | 4.005 | 1.60 | 2.30 | 31.50 | .20 |

### D E T A I L

| Contents | | | | | Contents Paid For | | | | Dr. | Cr. |
|---|---|---|---|---|---|---|---|---|---|---|
| Zinc | 328,924 | lbs. | @ | 85% | 279,585 | lbs. | @ | $ .107223 | $ | $ 29,977.94 |
| Silver | 638.09 | ozs. | @ | 80% | 510.47 | ozs. | @ | .34750 | | 177.39 |
| Gold | 4.005 | ozs. | @ | 80% | 3.204 | ozs. | @ | 33.780 | | 108.23 |
| Treatment | | | | | 266.9845 | tons | @ | 28.680 | 7,657.12 | |
| Freight | | | | | 288.600 | tons | @ | 8.9237 | 2,575.38 | |
| Labor Adjustment | | | | | 266.9845 | tons | @ | 10.200 | 2,723.24 | |
| | | | | | | | | | $ 12,955.74 | $ 30,263.56 |
| | | | | | Net Amount | | | | | $ 17,307.82 |

Zinc concentrates are still valued at the contract sales prices except for silver which is valued at 34.75¢ per ounce. The contract states a gold price of $33.78 per ounce and this is used for valuation.

**In-Process**

On February 1, 1958 no fixed in-process inventories are reported in this plant because it was between runs when the inventory was taken.

## LEAD PLANT

**RECEIPTS**

Following is a schedule showing the details of material received during the month of January 1958:

### STATEMENT OF CUSTOM MATERIAL RECEIVED - JANUARY 1958

| | % H2O | Dry Weight Pounds | Lead Per Cent | Lead Pounds | Copper Per Cent | Copper Pounds | Zinc Per Cent | Zinc Pounds | Silver Oz. per Ton | Silver Ounces | Gold Oz. per Ton | Gold Ounces | Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Combined Metals Reduction Company | | | | | | | | | | | | | |
| Bauer | | | | | | | | | | | | | |
| Concts. | 8.871 | 976,335 | 53.402 | 521,378 | 1.226 | 11,974 | | | 40.654 | 19,846.18 | .0506 | 24.678 | $ 65,513.85 |
| Bristol Silver Mines Company | | | | | | | | | | | | | |
| Crude | 11.826 | 1,110,567 | 1.228 | 13,633 | 10.671 | 118,509 | | | 21.385 | 11,874.94 | .0230 | 12.776 | 29,952.14 |
| Arthur B. Birch | | | | | | | | | | | | | |
| Crude | .330 | 933 | 30.200 | 282 | .100 | 1 | | | 34.550 | 16.12 | | | 22.54 |
| Thermoid Western | | | | | | | | | | | | | |
| Lead Dross | 2.260 | 22,715 | 94.520 | 21,470 | .200 | 45 | | | .100 | 1.14 | | | 1,820.99 |
| National Zinc Company | | | | | | | | | | | | | |
| Zinc Residue | 11.200 | 104,908 | 41.400 | 43,432 | .300 | 315 | | | 135.480 | 7,106.47 | .2725 | 14.294 | 9,823.95 |
| American Zinc Company of Illinois | | | | | | | | | | | | | |
| Zinc Residue | 8.926 | 789,051 | 2.751 | 21,705 | 2.003 | 15,807 | 27.589 | 217,694 | 22.195 | 8,756.59 | .0621 | 24.492 | 4,328.79 |
| Lead Residue Sands | 51.210 | 44,653 | 42.844 | 19,131 | .204 | 91 | | | 195.737 | 4,370.12 | .1077 | 2.405 | 5,102.83 |
| Sulphide Cake | 49.170 | 13,389 | 4.556 | 610 | 5.699 | 763 | 10.718 | 1,339 | 208.730 | 1,397.34 | .0066 | .044 | 1,236.97 |
| Total | 13.934 | 847,093 | 4.893 | 41,446 | 1.967 | 16,661 | 25.857 | 219,033 | 34.292 | 14,524.05 | .0636 | 26.941 | $ 10,668.59 |
| The Anaconda Company | | | | | | | | | | | | | |
| Anaconda, Montana | | | | | | | | | | | | | |
| Arsenic Residue | 10.595 | 1,037,295 | 14.885 | 154,397 | 14.157 | 146,850 | | | 8.705 | 4,514.61 | .0322 | 16.677 | 35,324.05 |
| Total Purchased Ore | 11.214 | 4,099,846 | 19.416 | 796,038 | 7.180 | 294,355 | 5.340 | 219,033 | 28.237 | 57,883.51 | .0465 | 95.366 | 153,126.11 |
| Material Received from | | | | | | | | | | | | | |
| Sulphide Concentrator | | 7,949,711 | | 733,463 | | 20,244 | | | [illegible] | 24,533.27 | [illegible] | 93.316 | 113,807.26 |
| Slag Treatment Plant | .260 | 880,920 | 46.600 | 410,509 | .020 | 176 | | | 7.190 | 3,166.91 | .0100 | 4.405 | 35,550.33 |
| Grand Total Material Received | | 2,968,945 | | 1,940,010 | | 274,287 | | 219,033 | | 85,583.69 | | [illegible] | $302,485.70 |

## LEAD PLANT

RECEIPTS - Continued

Combined Metals Reduction Company - Bauer, Utah - Concentrates

In January 1958, nine lots, or 488 dry tons, were received from the Combined Metals Reduction Company. This concentrate accounted for 24% of the Lead Plant receipts in January. This concentrate is weighed and a moisture is prepared by International Smelting and Refining Company for settlement purposes. The International Smelting and Refining Company assays are averaged with shipper assays and the average assay is used for settlement, unless an umpire assay is needed. Repeat assays are prepared before umpire assays are required.

The schedule for payment on this concentrate is as follows:

Gold - If .01 oz. or over, 91% @ Government Price ($35.00).
Silver - If 1 oz. and under 35 ozs., 95% @ Mint Price.
- If 35 ozs. and under 45 ozs., 96% @ Mint Price.
- If 45 ozs. or more, 97% @ Mint Price

Month's receipts to be averaged, exclusive of crude ore, and adjusted settlements by statement if shipper is benefited.

Lead - If 2.5% or over, 90% of settlement lead (see detail of settlement lead) at N. Y. Price, less 2.1525¢ (8/26/57)

Settlement Lead Definition: When lead price is under 10¢, deduct 30# per ton from wet assay.

| Lead Price | Deduction from Wet Assay Pounds | Units |
|---|---|---|
| 10¢ and under 11¢ | 23 | 1.15 |
| 11¢ and under 12¢ | 22 | 1.10 |
| 12¢ and under 13¢ | 21 | 1.05 |
| 13¢ and under 14¢ | 20 | 1.00 |
| 14¢ and under 15¢ | 19 | 0.95 |
| 15¢ and under 16¢ | 18 | 0.90 |
| 16¢ and under 17¢ | 17 | 0.85 |
| 17¢ and under 18¢ | 16 | 0.80 |
| 18¢ and under 19¢ | 15 | 0.75 |
| 19¢ and under 20¢ | 14 | 0.70 |

Continue to reduce lead deduction one pound for each cent in same manner to zero pounds.

Copper - Pay for 90% as lead or deduct 15# and pay for balance at New York Electrolytic price of copper, less 5.1565¢.
Zinc - If 10% or over, 80% at 22% of East St. Louis price for Prime Western Zinc.
Insoluble - Charge 10¢ per unit up to and including 45%. Charge over 45% at 3¢ per unit.
Sulphur - 2% free, charge excess over 2%, to and including 6%, at 25¢ per unit. Charge excess over 6% at 5¢ per unit. Maximum charge for sulphur $2.00 per ton.
Zinc - When no zinc is paid for, charge the excess over 5% at 25¢ per unit. When zinc is paid for, charge all zinc at 15¢ per unit.

Monthly average only on zinc penalized at 25¢ per unit.

Iron + Manganese - Credit at 8¢ per unit.
Lime - If 3% over, credit at 5¢ per unit.
Arsenic and Antimony - If monthly average is over 2%, penalize for excess over 2% at 30¢ per unit.
Treatment - $10.712 per dry ton on 20% settlement lead plus and minus 8¢ per unit. Additional credit for settlement lead over 45% at 3¢ per unit.

When net payment as determined above is less than $13.00, credit 10% of deficiency to a maximum of 75¢ per dry ton.

Credit for tonnage over 85 tons per day at rate of 1¢ for each ton over 85 tons. Maximum credit 50¢ per ton monthly average.

Variations

Labor - $14.41 plus and minus 15¢ each 25¢.
Coke - $25.06 plus and minus 15¢ each $1.00.
Bullion Freight - $29.63 including tax - Shipper's account.

Note: This contract contains "option for treatment of lead on toll," details of which will not be detailed until option is exercised.

LEAD PLANT

RECEIPTS - Continued

Combined Metals Reduction Company - Continued

Variations

Splitting Limits

| | | | |
|---|---|---|---|
| Gold | - .01 oz. per ton | Insoluble | - 1.0% |
| Silver | - 0.3 ozs. per ton | Sulphur | - 1.0% |
| Lead | - 0.4% | Manganese | - 1.0% |
| Copper | - 0.2% | Lime | - 1.0% |
| Zinc | - 0.5% | Iron | - 1.0% |

54% of the Combined Metals Reduction Company concentrates were audited in detail for January 1958.

Bristol Silver Mines Company - Pioche, Nevada - Crude Ore

Two lots, or 555 dry tons, were received in January 1958. This ore accounted for 27% of the Lead Plant receipts in January. Weights and moistures are prepared by International Smelting and Refining Company for settlement purposes. The average assay is used for settlement unless an umpire assay is needed.

The schedule for payment on this ore is as follows:

| | |
|---|---|
| Gold | - If .02 oz., 100% @ $31.816 per oz. |
| Silver | - If 1 oz., 95%. |
| Copper | - 90% at New York Electrolytic, less 3.8565¢ lb. minimum deduction 15# per ton. Maximum deduction 20# per ton. |
| Insoluble | - Charge at 5¢ per unit. |
| Zinc | - 10% free, excess at 30¢ per unit. |
| Arsenic | - 3% free, excess at 60¢ per unit. |
| Iron + Manganese + Lime | - Credit at 5¢ per unit. Maximum credit $1.00 per ton. |
| Treatment | - $8.876 per dry ton. If value of material is $9.00 or less, credit $1.00 per ton. (Value means payment for metals plus credits and minus treatment and penalties.) |
| Common Labor | - $14.41 variation 15¢ each 25¢. |
| Bullion Freight | - $29.63 (includes tax) |
| Metal Prices | - Date of arrival of first car in lot to govern. |

This schedule effective with receipts at Warren Junction on March 1, 1957, as per letter to Mr. G. D. Burt, Ore Buyer, dated March 1, 1957.

Splitting Limits

| | | | |
|---|---|---|---|
| Gold | - .01 oz. per ton | Insoluble | - 1.0% |
| Silver | - 0.3 oz. per ton | Zinc | - 1.0% |
| Copper | - 0.2% | Arsenic | - 1.0% |

Iron, Manganese and Lime - 1.0%

All the weights, assays and costs were audited in detail for January 1958.

National Zinc Company, Inc. - Bartlesville, Oklahoma - Zinc Lead Residue

In January 1958, one lot, or 52 dry tons, of zinc lead residue was received. This residue accounted for 3% of the Lead Plant receipts in January. Weights and moistures are prepared by International Smelting and Refining Company for settlement purposes. The average assay is used for settlement unless an umpire assay is needed.

The schedule for payment on this residue is as follows:

| | |
|---|---|
| Gold | - If .02 oz., 91% @ $35.00 per oz. |
| Silver | - If 1 oz. and under 75 ozs., 95% at Handy and Harman foreign price week ending Wednesday, next preceding date of sampling. Minimum deduction 0.5 oz. If 75 ozs. or over, 97.5% at foreign price. |
| Lead | - Deduct 1.5 units, 90% at New York Electrolytic market, less 2.3065¢. |
| Copper | - Deduct 0.75 units, 100% at New York Electrolytic market, less 6.8565¢. |
| Zinc | - If 10% and under 15%, 75% @ 22% of East St. Louis price. If 15% or over, add to the 22% of East St. Louis price at rate of 2% for each 1% zinc over 15% to maximum of 32% of the East St. Louis price. |
| Arsenic and Antimony | - 1% free, charge excess at 50¢ per unit. |

LEAD PLANT

RECEIPTS - Continued

National Zinc Company, Inc. - Continued

Treatment - $13.949 per net dry ton f.o.b. International, Utah, when the settlement lead is 30% or under. Credit settlement lead at 10¢ per unit over 30%.

Variables
Labor - $18.773 plus and minus 17¢ each 25¢.
Coke - $25.06 plus and minus 15¢ each $1.00.
Bullion Freight - $29.63 (includes 3% tax). Variation for shipper's account.

Splitting Limits:

| | | | |
|---|---|---|---|
| Gold | 0.01 oz. per ton | Zinc | 0.5% |
| Silver | 0.5 oz. per ton | Arsenic | 0.5% |
| Lead | 0.4% | Antimony | 0.5% |
| Copper | 0.3% | | |

The weights, assays and cost were audited in detail on this one lot for January 1958.

American Zinc Company of Illinois - Monsanto, Illinois - Zinc Residue

During the month of January 1958, 395 dry tons of zinc residue, 22 dry tons of lead residue sands and 7 dry tons of sulphide cake was received from the American Zinc Company.

The International Smelting and Refining Company weights and moisture are used for settlement purposes. The average assay is used for settlement unless an umpire assay is needed.

The schedule for payment of this zinc residue is as follows:

Gold - If .02 oz. 91% @ $35.00 per oz.
Silver - If 1 oz., 95% at Foreign price. Minimum deduction .5 oz.
Lead - Deduct 1 unit, 90% of balance at market, less 2.3565¢.
Copper - Deduct 15 pounds, balance at New York Electrolytic, less 5.8565¢.

Toll Metals
Zinc - Return 80% of zinc currently as residue is treated in form of deleaded zinc fume, of not less than 69% grade, aboard cars at International, Utah. Toll charge - $6.75 per dry ton.
Cadmium - Monthly composite - If 0.10% cadmium or over, return 75% of cadmium in balls to Great Falls, Montana 100 days after date of receipt of last carload of zinc residue taken into monthly accounts. Toll charge of 50¢ per pound of returnable cadmium will be assessed in the monthly accounting.

Base Treatment Charge - $23.186 per short dry ton or 19.5¢ zinc plus 55¢ each 1¢ under 19.5¢ to maximum addition of $3.00 per ton when zinc is 12.5¢ or under maximum addition of $2.00 per ton effective on shipments billed out on July 23, 1957.

Note: Add to base treatment charge an amount not to exceed $1.10 per ton residue when certain freight rate reductions become effective.

Insoluble + Iron - Charge excess over 34% at 30¢ unit.
Arsenic + Antimony- Charge excess over 1% at 50¢ unit.

Variables
Labor - $18.773 plus and minus 20¢ each 25¢.
Coke - $25.06 plus and minus 15¢ each $1.00.
Bullion Freight - $29.63 for shipper's account.

Splitting Limits

| | | | |
|---|---|---|---|
| Gold | 0.01 oz. | Lead | 0.40% |
| Silver | 0.30 oz. | Zinc | 0.50% |
| Copper | 0.20% | Cadmium | 0.04% (Repeat before umpire) |
| Insoluble, Iron, Arsenic, Antimony | 1% | | |

Lot No. 1824 was audited in detail on preliminary and final settlement. Lot No. 1836 was audited in detail in preliminary settlement. The transfer of toll charges was audited for January 1958.

LEAD PLANT

RECEIPTS - Continued

Thermoid Western Company - Nephi, Utah - Lead Dross

One lot, or 11 dry tons, was received in January 1958. International Smelting and Refining Company moistures and assays are used for settlements.

The schedule for payments are as follows:

| | |
|---|---|
| Lead | - Deduct 1.5 units, 90% of balance at New York Electrolytic, less 2.5065¢ per pound. |
| Treatment | - $15.365 per dry ton. |
| Handling Charge | - $5.00 if under 10 tons. |

This lot was audited in detail for month of January 1958.

The Anaconda Company - Anaconda, Montana - Arsenic Plant Residue

Two lots totaling 519 dry tons of arsenic residue were received during the month of January 1958. The International Smelting and Refining Company samples and weights are used to settle on each lot. The assays are checked for splitting and are used for settlement unless an umpire assay is needed. There was a difference in weights and moistures between the International Smelting and Refining Company records and The Anaconda Company records. Under errors and discrepancies a detail of the findings is reported in this audit.

Schedule for payments is as follows:

| | |
|---|---|
| Gold | - If .02 oz., 91% @ $35.00 per oz. |
| Silver | - If 1 oz., 95% @ Mint Price. |
| Lead | - Deduct 1.5 units, pay for 90% at New York Electrolytic price, less 2.5065 per lb. |
| Copper | - Pay for 90% at New York Electrolytic price, less 4.3565¢ per lb. minimum deduction 20¢ per ton. |
| Insoluble | - Charge @ 10¢ per unit. |
| Iron | - Credit @ 6¢ per unit. |
| Sulphur | - 2% free, charge excess @ 15¢ per unit. |
| Zinc | - 5% free, charge excess @ 25¢ per unit. |
| Arsenic | - Charge all @ 50¢ per unit. |
| Antimony | - Charge all @ 75¢ per unit. |
| Bismuth | - Charge all @ 25¢ per unit. |
| Treatment | - $10.756 on 31.5% wet lead plus and minus 8¢ per unit. |

Variables

| | |
|---|---|
| Labor | - $13.773. Variation 15¢ each 25¢. |
| Bullion Freight | - $29.63 (tax included) Variation for shipper's account. |
| Coke | - $25.06. Variation 15¢ each $1.00. |

Splitting Limits

| | | | |
|---|---|---|---|
| Gold | - .005 ozs. | Copper | - 0.3% |
| Silver | - 0.5 oz. | Bismuth | - 0.15% |
| Lead | - 0.5% | Others | - 1.00% |

The final settlement, lot No. 1830, and preliminary settlement, lot No. 1846, was audited in detail for January 1958.

The Lead Plant received 441 dry tons of lead fume from the Slag Plant in January 1958.

SHIPMENTS

Following is a statement of Cost - Treatment - Production and Losses for the month of January 1958:

# LEAD PLANT

## STATEMENT OF COST - TREATMENT - PRODUCTION AND LOSSES - JANUARY 1958

| | Dry Weight Pounds | Cost of Material Treated | Reduction Expenses | Lead Pounds | Copper Pounds | Silver Ounces | Gold Ounces |
|---|---|---|---|---|---|---|---|
| **Original Material:** | | | | | | | |
| On Hand - 1-1-58 | | | | | | | |
| In Stock Piles | | | | | | | |
| Custom | 55,568,574 | $134,856.50 | $ | 2,214,649 | 163,885 | 165,412.52 | 1,682.389 |
| Darwin Mines | 2,038,035 | 79,056.92 | | 592,688 | 14,817 | 27,121.33 | 31.143 |
| Shoshone Mines | 947,632 | 38,356.00 | | 308,220 | 2,669 | 5,857.63 | 56.925 |
| In Bins | | | | | | | |
| Custom | 5,963,736 | 136,087.41 | 2,906.60 | 1,196,045 | 90,875 | 54,503.76 | 188.514 |
| Darwin Mines | 249,813 | 8,831.60 | | 65,994 | 1,748 | 3,320.69 | 4.056 |
| Shoshone Mines | 237,996 | 5,100.63 | | 44,719 | 901 | 903.70 | 6.705 |
| By-products | | | | | | | |
| Custom | 5,637,104 | 127,087.75 | 145.44 | 1,498,288 | 418,431 | 56,710.43 | 159.015 |
| Cost of Finishing Lead in Wells, Kettles, etc. | | | 492.49 | | | | |
| Cadmium Plant Expense | | | 6,911.09 | | | | |
| **Received:** | | | | | | | |
| Custom Ore | 4,099,846 | 153,126.11 | 194,038.95 | 796,038 | 294,355 | 57,883.51 | 95.366 |
| Material from: | | | | | | | |
| Sulphide Concentrator | 7,949,711 | 113,807.26 | | 733,463 | 20,244 | 24,533.27 | 93.316 |
| Slag Treatment Plant | 980,920 | 35,550.33 | | 410,509 | 176 | 3,166.91 | 4.405 |
| Total | 67,673,945 | $831,860.51 | $203,509.59 | 7,860,613 | 967,213 | 399,413.75 | 2,135.202 |
| On Hand - 1-31-58 | | | | | | | |
| In Stock Piles | | | | | | | |
| Custom | 42,774,222 | 11,395.35 | | 653,332 | 88,076 | 57,824.44 | 1,294.189 |
| In Bins | | | | | | | |
| Custom | 3,193,802 | 27,916.44 | 721.32 | 281,229 | 30,082 | 10,897.03 | 65.351 |
| By-products | | | | | | | |
| Custom | 3,772,753 | 80,020.10 | | 1,065,901 | 416,794 | 49,601.51 | 132.940 |
| Cost of Finishing Lead in Wells, Kettles, etc. | | | 260.12 | | | | |
| Cadmium Plant Expense | | | 6,466.75 | | | | |
| Total | 48,940,777 | $ 96,541.19 | $ 6,927.95 | 2,000,462 | 534,952 | 118,322.98 | 1,492.480 |
| | 18,733,168 | $735,319.32 | $196,581.64 | 5,860,151 | 432,261 | 281,090.77 | 642.722 |
| **Treated** | | | | | | | |
| Prorated Into: | | | | | | | |
| Custom | 15,259,692 | $603,974.17 | $160,634.98 | 4,848,530 | 412,526 | 243,887.42 | 543.893 |
| Darwin Mines | 2,297,848 | 87,888.52 | 23,676.71 | 658,682 | 16,565 | 30,442.02 | 35.135 |
| Shoshone Mines | 1,185,628 | 43,456.63 | 12,269.95 | 352,939 | 3,170 | 6,761.33 | 63.694 |
| Cost per ton | | | $20.9875 | | | | |
| **Production** | | | | | | | |
| Lead Bullion | 6,374,809 | | | 6,209,208 | | 290,386.00 | 874.100 |
| Slag to Slag Treatment Plant | 13,243,200 | | | 212,775 | 38,123 | 1,726.01 | 4.580 |
| To The Anaconda Company - Anaconda, | | | | | | | |
| Montana Dross Reverberatory Matte | 207,304 | | | | 50,624 | 2,166.74 | 4.288 |
| Dross Reverberatory Speiss | 790,014 | | | | 440,335 | 32,655.11 | 70.492 |
| Total Production | 20,616,027 | | | 6,421,983 | 529,082 | 326,933.86 | 953.460 |
| Cost per pound of Lead | | 3.1660¢ | | | | | |
| Losses | | | | 561,832 | 96,821 | 45,843.09 | 310.738 |
| **Production** | | | | 6,421,983 | 529,082 | 326,933.86 | 953.460 |
| Prorated into: | | | | | | | |
| Custom Ores | | | | 5,473,149 | 514,310 | 289,784.50 | 859.986 |
| Darwin Mines | | | | 615,661 | 12,941 | 30,416.67 | 33.066 |
| Shoshone Mines | | | | 333,173 | 1,831 | 6,732.69 | 60.408 |
| **Percent Savings:** | | | | 109.587% | 122.399% | 116.309% | 148.347% |
| Custom Ore | | | | 112.883% | 124.673% | 118.819% | 158.117% |
| Darwin Mines | | | | 93.469% | 78.123% | 99.917% | 93.940% |
| Shoshone Mines | | | | 94.400% | 57.760% | 99.576% | 94.936% |
| **Reconcilement:** | | | | | | | |
| Losses per Cost Sheets | | | | 569,883 | 97,043 | 45,973.79 | 311.007 |
| Deferred from 12-31-57 | | | | 8,051 | 222 | 130.70 | .269 |
| Total | | | | 561,832 | 96,821 | 45,843.09 | 310.738 |
| Deferred to 2-1-58 | | | | nil | nil | nil | nil |
| Total as above | | | | 561,832 | 96,821 | 45,843.09 | 310.738 |

## LEAD PLANT

SHIPMENTS - Continued

### Dross Reverberatory Speiss

In January 1958 seven lots, 407 wet tons or 395 dry tons, of Dross Reverberatory Speiss were settled for by The Anaconda Company at Anaconda, Montana.

Schedule for settlement of Speiss is as follows:

| | |
|---|---|
| Material | - Crushed speiss free of large pieces, skulls, or extraneous material. Speiss should be ½" or smaller |
| Delivery | - F.o.b., Anaconda, Montana. In open flat bottom, drop bottom cars. |
| Payment for Metals | - Copper - 94% at New York Electrolytic Price.<br>Silver - 95% at Mint Price.<br>Gold - 94% at $34.9125 per ounce. |
| Treatment Charge | - Speiss at $30.00 per dry ton f.o.b., Anaconda, Montana. The treatment charge was increased from $20.00 to $30.00 per dry ton effective August 1, 1956. The above increase was authorized in a letter dated August 24, 1956, from Mr. W. E. Mitchell, Manager of Anaconda Reduction Department, to Mr. F. A. Wardlaw, Jr., General Manager of International Smelting and Refining Company. |
| Sampling and Weighing | - Speiss to be weighed and automatically sampled at Tooele, Utah. Duplicate pulps to be sent to Anaconda, Montana for assay. All cars will be reweighed and check sampled for moisture at Anaconda, Montana. In case of wide disagreement of Tooele and Anaconda wet weights indicating loss of material in transit, the Anaconda dry weight, based upon this weight and moisture, will be used as a basis for settlement. |
| Settlement | - Settlement to be based upon weights as above and comparison of assays by Tooele and Anaconda on duplicate Tooele sample pulps, using the following splitting limits:<br>Copper - 0.30% Silver - 0.50 ozs. per ton Gold - 0.005 ozs. per ton<br>In the event results do not agree within these limits, both parties will repeat their assays. If repeat results are not within limits, the reserve sample will be sent to another laboratory of the Company as an umpire. |

All seven lots were audited in detail for weights, moistures, assays, and net amount received on these lots in January 1958.

In lot No. S-142 the original assay on copper was not within the splitting limits. Repeat assays were reported and they were not within the splitting limits. The average of the repeat assays was used for the settlement. It is the Auditor's opinion that an umpire assay should have been asked for and reported as stated in the above schedule for settlement

### Dross Reverberatory Matte settled for by The Anaconda Company at Anaconda, Montana

In January 1958 two lots, 119 wet tons, or 104 dry tons, of Dross Reverberatory Matte were settled for by The Anaconda Company at Anaconda, Montana.

Schedule for settlement of Matte is the same as settlement for Speiss with the following exceptions:

| | |
|---|---|
| Material | - Matte should be 2 inch or smaller. |
| Treatment | - Matte at $20.00 per dry ton f.o.b., Anaconda, Montana. The treatment charge was raised from $13.00 to $20.00 as stated in letter dated August 24, 1956, to Mr. F. A. Wardlaw, Jr. from Mr. W. E. Mitchell. |

The two lots were audited in detail for weights, moistures, assays, and net amount received and found to be correct.

### Lead Bullion Shipped to American Smelting and Refining Company, Omaha, Nebraska

The lead bullion is shipped to the American Smelting and Refining Company at Omaha, Nebraska. The contract was dated May 27, 1946 for a ten year period commencing June 15, 1946 and expiring June 14, 1956. This contract has been extended to December 31, 1961 as stated in a letter dated December 1, 1950. The above letter was from the American Smelting and Refining Company, signed by Mr. J. D. MacKenzie, Vice President, to International Smelting and Refining Company, confirmed by Mr. Frederick Laist, Vice President. The silver contained in all lead bullion delivered shall be returnable at 100% within 40 days after receipt at Omaha, Nebraska. 99.5% of the gold is paid for at $34.9125 per ounce. A quantity of refined lead equivalent to 100% of lead content less 8 pounds per ton of lead bullion is returnable within 20 days after receipt at Omaha, Nebraska. The refined lead must not contain more than .1% bismuth. The bismuth contained in all lead bullion delivered is returnable at 90% of content over .25% within 40 days. The splitting limit on silver is still .3 ounces up to and including 100 ounces and .4 ounces for bullion over 100 ounces as reported in an exchange of letters dated June 1, 1948, between Mr. Carl Gall, Manager of the Omaha Plant and Mr. Carlos Bordwell, Superintendent of the Tooele Plant. The supply differential was amended in an exchange of letters dated May 23, 1952, between Mr. J. D. MacKenzie, Vice President of American Smelting and Refining Company and International Smelting and Refining Company approved by Mr. E. O. Sowerwine, Vice President.

# LEAD PLANT

## SHIPMENTS - Continued

### Lead Bullion Shipped to Omaha - Continued

"Supply Differential: This differential shall be based upon the arithmetical average of the indices for (a) fuel, power and lighting materials, (b) chemicals and allied products, (c) metals and metal products, and (d) nonmetallic minerals-structural, as published by the Bureau of Labor Statistics of the United States Department of Labor, in respect to lead bullion delivered on and after February 1, 1952. Any time the arithmetical average of these indices shall exceed 67.4, the refining charge hereinabove specified shall be increased six cents (6¢) per ton of lead bullion for each one-point increase in said average index above 67.4 fractions in proportion. In applying this differential, the average index to be used in respect to lead bullion delivered during any calendar month shall be the average index for the next - preceding calendar month."

The supply differential for January 1958 was $3.648.

A 5% freight increase effective December 28, 1956 was granted the railroads as per letter dated January 2, 1957, to Mr. Ron Warburton, Cashier, from Mr. G. A. Burt, Assistant to the Manager. Another 7% increase effective August 26, 1957 was granted in a letter dated August 28, 1957 to Mr. Ron Warburton from Mr. F. G. Dunard, Assistant Ore Buyer. The two increases make a total of a 12% freight increase plus 3% tax on lead bullion. Tooele, Utah to Omaha, Nebraska, a total of $21.03 rate plus 63¢ tax on lead bullion.

The preliminary and final settlements for January 1958 were audited in detail.

### Hot Slag to the Slag Treatment Plant

The molten slag sent to the Slag Treatment Plant is computed by assuming no loss of iron and manganese at the blast furnace. The total treated iron plus manganese, including that in the cold dump slag, scrap iron and coke, less the production of iron and manganese in all materials except slag is the content of the slag. The monthly composite assays are used to arrive at contents. The cost is transferred to the Slag Treating Plant on the following schedule:

| | |
|---|---|
| Zinc Charge | - Total zinc content of molten slag less 95% of all zinc from the Slag Treating Plant treated at the Lead Plant during the month plus cold slag zinc and toll zinc treated. 75% of this computed zinc content is paid for at 20% of the monthly average Prime Western price. |
| Treatment of Cold Slag Charge | - $7.00 per dry ton treated by blast furnace. The $7.00 per dry ton has not changed since the last audit. |
| Credit for further Treatment of Toll Zinc | - $6.75 per dry ton of toll material treated at the Lead Plant during the month. |

## MISCELLANEOUS INTERPLANT TRANSFERS

### Lead Fume from Slag Treating Plant

This material enters the Sintering Plant change bins and becomes a part of the sintering mix. Actual car weights plus beginning inventories were used. Monthly composite assays were used.

### Cadmium Calcine

This material is also a part of the sintering mix in the Sintering Plant change bins. This calcine is produced at the cadmium roasters after the fume is drawn off. The assays were from the month of November when the last assays were available.

### Blast Furnace Flue Dust

Actual car weights plus beginning inventory was amount to sinter change bins for month. Month of December assays were used for metal calculations.

### Blast Furnace Catcher Dust

The beginning inventory plus actual car weight was used as amount to sinter change bins. The January monthly assays were used.

All of the weights, moistures, and assays of the above materials were audited in detail.

### Sinter to Blast Furnace

The product from the Sintering Plant is weighed by cars, adjusted by inventories at the blast furnace bins and the balance is included as part of the treatment at the blast furnace. A fixed moisture of .75% is used. Fixed loss percentages are used on each metal to arrive at the content of the sinter. Listed on the next page is a comparison on sinter shipped in January 1958.

# LEAD PLANT

MISCELLANEOUS INTERPLANT TRANSFERS - Continued

Sinter to Blast Furnace - Continued

| | Lead | Copper | Zinc | Silver | Gold |
|---|---|---|---|---|---|
| Fixed Loss | 2 % | .5 % | 1.5 % | .5 % | 1.0 % |
| Computed Loss | 2.05 % | .369% | 1.7 % | .749 % | 1.005 % |
| Monthly Assay | 34.00 % | 2.80 % | 11.20 % | 26.33 oz. | .07 oz. |
| Computed Assay | 27.587 % | 2.325% | 9.472 % | 27.584 oz. | .0555 oz. |
| Monthly Weights | 6,330,812 lbs. | 570,773 lbs. | 2,283,01. lbs. | 268,365.10 oz. | 713.466 oz. |
| Computed Weights | 5,623,511 lbs. | 473,942 lbs. | 1,930,838 lbs. | 281,149.96 oz. | 565.674 oz. |

FOUR DIVISIONS OF LEAD PLANT

- Cadmium Roasters - run at intervals to produce cadmium fume
- Sintering Plant - produces sinter for the blast furnace
- Blast Furnaces - produces lead for drossing
- Drossing Plant - draws off dross and pours lead bars

INVENTORIES

Following is a statement showing the details of the inventories on hand at January 31, 1958:

| | % | Dry Weight | Lead | | Copper | | Silver | | Gold | |
|---|---|---|---|---|---|---|---|---|---|---|
| | H2O | Pounds | Percent | Pounds | Percent | Pounds | Oz. per Ton | Ounces | Oz. per Ton | Ounces |
| **Original Material:** | | | | | | | | | | |
| In Stock Piles | | | | | | | | | | |
| Custom Ores | 6.363 | 5,137,397 | 8.320 | 427,447 | .294 | 15,124 | 5.217 | 13,401.08 | .1199 | 308.023 |
| Iron Concentrates | 4.493 | 36,636.825 | .617 | 225,885 | .199 | 72,952 | 2.425 | 44,423.36 | .0538 | 986.166 |
| Total | 4.727 | 41,774,222 | 1.564 | 653,332 | .211 | 88,076 | 2.768 | 57,824.44 | .0620 | 1,294.189 |
| Sintering Plant | | | | | | | | | | |
| Ores | 8.706 | 429,466 | 8.613 | 36,988 | 6.703 | 28,788 | 18.082 | 3,882.87 | .2296 | 49.313 |
| Concentrates | 7.160 | 242,999 | 59.160 | 143,757 | .533 | 1,294 | 45.725 | 5,555.61 | .1320 | 16.038 |
| Total | 8.153 | 672,465 | 26.878 | 180,745 | 4.473 | 30,082 | 28.071 | 9,438.48 | .1944 | 65.351 |
| Blast Furnace Smelting | | | | | | | | | | |
| Custom Slag | .770 | 2,521,337 | 3.585 | 100,484 | | | 1.157 | 1,458.55 | | |
| Total-Original Material | 4.579 | 44,968,024 | 2.078 | 934,561 | .263 | 118,158 | 3.056 | 68,721.47 | .0605 | 1,359.540 |
| **Sinter:** | | | | | | | | | | |
| By-products: | | | | | | | | | | |
| Sinter Cleanings, etc. | 16.708 | 1,116,740 | 43.760 | 439,603 | 1.700 | 18,987 | 30.942 | 17,277.26 | .0970 | 54.141 |
| Lead Dross | 1.990 | 29,440 | 56.600 | 16,664 | 22.000 | 6,477 | 63.990 | 941.34 | .1900 | 2.209 |
| Blast Flue Dust | 6.477 | 736,660 | 27.224 | 200,547 | 6.315 | 46,521 | 16.126 | 5,939.64 | .0447 | 16.465 |
| Blast Furnace Cleanings | | 83,960 | 8.871 | 7,449 | 1.894 | 1,590 | 7.755 | 325.55 | .0200 | .837 |
| Blast Earrings | | 106,230 | 12.800 | 13,596 | 1.600 | 1,700 | 9.790 | 519.42 | .1200 | 6.373 |
| Blast Bag House Fume | .623 | 1,018,060 | 33.275 | 338,963 | .443 | 4,486 | 1.752 | 891.89 | .0115 | 5.846 |
| Total | 8.360 | 3,091,090 | 34.483 | 1,065,901 | 2.582 | 79,801 | 16.755 | 25,895.10 | .0556 | 85.870 |
| Dross Reverb. Speiss: | 2.866 | 449,460 | | | 54.233 | 243,756 | 91.215 | 20,498.68 | .1898 | 42.649 |
| Dross Reverb. Matte | 9.126 | 432,213 | | | 21.572 | 93,237 | 14.843 | 3,207.73 | .0205 | 4.421 |
| Total - By-products | 7.855 | 3,972,753 | 26.830 | 1,065,901 | 10.491 | 416,794 | 24.771 | 49,601.51 | .0669 | 132.940 |
| Grand Total | 4.853 | 48,940,777 | 4.088 | 2,000,462 | 1.093 | 534,952 | 4.835 | 118,322.98 | .0610 | 1,492.480 |
| **Finished Products:** | | | | | | | | | | |
| Lead Bullion | | 3,125,620 | 98.000 | 3,063,108 | | | 91.592 | 143,140.00 | .3100 | 484.500 |
| Grand total Material on Hand | 4.575 | 52,066,397 | 9.725 | 5,063,570 | 1.027 | 534,952 | 10.043 | 261,462.98 | .0759 | 1,976.980 |

At 8:00 A.M. on April 1 and May 1, 1958 the Auditor accompanied Messrs. James Lougy and Edson Porter on the taking of bin measurements at the Tooele Plant. The May 1st inventory was later checked back to the inventory work sheets. The Lead Plant has not been in operation since January 31, 1958.

LEAD DROSS

An estimated fifteen tons of lead dross was on hand at January 31, 1958. At May 1st inventory, the same amount was on hand.

BY-PRODUCTS

All by-products were checked from inventory work sheets to final inventory of ore on hand January 31, 1958.

VALUATION OF INVENTORIES

Stockpiles and Stock Bins

Following is a statement showing the value of the stockpile and bin inventories on hand at January 31, 1958:

VALUE OF MATERIAL ON HAND - JANUARY 31, 195

| | Dry Weight Pounds | Lead Pounds | Lead Amount | Copper Pounds | Copper Amount | S… Ounces |
|---|---|---|---|---|---|---|
| Ore, Etc., on Hand - 1-1-58 | | | | | | |
| In Stock Piles | | | | | | |
| Custom | 58,554,241 | 3,115,557 | $127,795.63 | 141,371 | $ 2,298.80 | 158,3 |
| In Bins | | | | | | |
| Custom | 5,294,845 | 943,516 | 28,275.19 | 56,564 | 3,433.25 | 41,3 |
| Received: | | | | | | |
| Custom | 4,097,846 | 796,038 | 44,641.09 | 294,355 | 55,700.96 | 57,9 |
| Material from: | | | | | | |
| Sulphide Concentrator | 7,949,711 | 733,463 | 92,008.93 | 20,244 | 1,647.03 | 24,5 |
| Slag Treatment Plant | 990,520 | 410,509 | 32,641.07 | 176 | | 3,1 |
| | 60,890,141 | 5,999,083 | $389,162.91 | 512,242 | $ 63,080.04 | 325,2 |
| Ore, Etc., on Hand - 1-31-58 | | | | | | |
| In Stock Piles | | | | | | |
| Custom | 41,774,222 | 653,332 | $ 70,793.33 | 88,076 | $ 621.22 | 57,8 |
| In Bins | | | | | | |
| Custom | 3,193,802 | 281,229 | 20,636.50 | 30,082 | 2,085.83 | 10,8 |
| | 44,968,024 | 934,561 | $ 50,156.83 | 118,158 | $ 2,707.05 | 68,7 |
| Put Into Process | 15,912,117 | 5,064,522 | 438,319.74 | 394,084 | 60,372.99 | 256,5 |
| Ore in Process - 1- 1-58 | 1,156,700 | 363,242 | 27,888.72 | 36,540 | 5,112.79 | 17,4 |
| Ore in Process - 1-31-58 | nil | | | | | |
| Decrease | 1,156,700 | 363,242 | 27,888.72 | 36,540 | 5,112.79 | 17,4 |
| By-products on Hand - 1- 1-58 | 5,637,104 | 1,498,288 | 64,901.19 | 418,431 | 38,040.35 | 56,7 |
| By-products on Hand - 1-31-58 | 3,972,753 | 1,065,901 | 17,257.29 | 416,794 | 41,876.99 | 49,6 |
| Decrease | 1,664,351 | 432,387 | $ 47,643.90 | 1,637 | $ 3,836.64 | 7,1 |
| Total Treatment | 18,733,168 | 5,860,151 | $513,852.36 | 432,261 | $ 61,649.14 | 281,0 |
| Ore, Etc., on Hand - 1-31-58 | | | | | | |
| In Stock Piles | | | | | | |
| Custom | 41,774,222 | 653,332 | $ 70,793.33 | 88,076 | $ 621.22 | 57,8 |
| In Bins | | | | | | |
| Custom | 3,193,802 | 281,229 | 20,636.90 | 30,082 | 2,085.83 | 10,89 |
| By-products | 3,972,753 | 1,065,901 | 17,257.29 | 416,794 | 41,876.99 | 49,60 |
| Total | 48,940,777 | 2,000,462 | $ 32,899.54 | 534,952 | $ 44,584.04 | 118,32 |
| Reduction Expenses | | | | | | |
| Cadmium Plant Expense | | | | | | |
| Total - Lead Plant Inventory Cost | | | | | | |
| Cost of Finishing Lead in Wells, Kettles, Etc. - 147.85 tons @ $1.7589 | | | | | | |
| Reconcilement: | | | | | | |
| Inventory | | 2,000,462 | | 534,952 | | 118,32 |
| Add - Losses Deferred | | Nil | | Nil | | Nil |
| Total as Above | | 2,000,462 | | 534,952 | | 118,32 |

## LEAD PLANT

LUATION OF INVENTORIES - Continued

tockpiles and Stock Bins - Continued

The lots are added at actual costs and charges, but the gold cost is divided by $34.91 to arrive at ounces figure. All gold paid-for ounces go to stockpiles and stock bins at $34.91 per ounce. Mor tories of all lots are recapped and silver and gold total paid-for ounces are revalued at 34.75 ce per ounce. The treatment absorbes the differecne. Therefore, the individual stockpile records ca with gold at $34.91 per ounce. The total inventory as used on statements is revalued for both sil This is useful when lots are transferred between plants, because original costs are then needed. taken out of stockpiles and stock bins, they are given average contents and values.

Actual freight, refining charges, zinc costs, and treatment charges are used as totaled on stockpile

n-Process Inventories

The Lead Plant completed operations at 8:00 A.M. on January 31, 1958. All of the material in the ci up and nothing remained in process.

There are two schedules used to value the by-product inventory. One is to value the Dross Reverbatc Speiss. The other is to value the balance of the by-products.

The Matte and Speiss schedule is the same as the schedule for Matte and Speiss shipped to The Anacor

The balance of the by-products are valued as follows: Lead is 95 percent paid for after a one perce The "normal base" method is applied to the lead valuation. Copper is 92½ percent paid for with a pound per dry ton deduction. The "normal base" method is applied to copper valuation. Silver is 34.75¢ per ounce. Gold is 94 percent at $34.00 per ounce. The treatment charge is $12.27 per dry deductions, lead 2.2565¢ and copper 3.8565¢. Credit iron and lime at 8¢ per unit. Charge insolut unit. Sulphur, 2 percent free, charge balance at 15¢ per unit or minimum $2.25 per dry ton. Char per unit. Charge arsenic at 75¢ per unit.

inished Material

The lead bullion is valued in New York but any lead bullion on hand in wells and kettles is credited finish - drossing expense. This credit remains on the Salt Lake statements until the following mo $1.7589 per ton fixed cost is the same as it was at time of last audit. It is assumed that the Ne uses this credit when valuing this lead inventory.

PNYC 00011817

SLAG PLANT

DEBITS

Following is a statement of customs material received for the month of January 1958:

| | % H2O | Dry Weight Pounds | Lead Per Cent | Lead Pounds | Copper Per Cent | Copper Pounds | Zinc Per Cent | Zinc Pounds | Silver Oz. per Ton | Silver Ounces | G( Oz. p( Ton |
|---|---|---|---|---|---|---|---|---|---|---|---|
| S. Sm. Ref. & Mng. Co. Slag | 1.452 | 15,297,083 | .9746 | 149,085 | .260 | 39,772 | 10.06075 | 1,539,001 | .130 | 994.31 | |
| thlehem Pacific Coast Steel Corp. Residue | 5.540 | 251,377 | 6.200 | 15,586 | .328 | 824 | 29.956 | 75,303 | 3.375 | 424.24 | |
| lumbia Geneva Steel Division Residue | 12.400 | 129,157 | 8.700 | 11,237 | .300 | 387 | 45.500 | 58,766 | 5.950 | 384.24 | |
| tal Purchased Ore | 1.631 | 15,677,617 | 1.122 | 175,908 | .261 | 40,983 | 10.672 | 1,673,070 | .230 | 1,802.79 | |

nited States Smelting, Refining and Mining Company - Midvale, Utah

Fourteen lots of slag, 7,649 dry tons, were received in January 1958. The total dry tons received w
dry tons of current slag and 3,076 dry tons of dump slag. The settlement was calculated on the co

July 1, 1956 through June 30, 1959.

Quantity - Buyer's requirements

Delivery - F.o.b. cars, Midvale, Utah

Current Production of Slag

Lead - Pay for wet lead in excess of 0.90% at rate of 60¢ per unit.

Zinc - Pay 60¢ per dry ton of slag when zinc content is 8% and East St. Louis Prime Western calendar month of receipt is 11¢ per pound.

For each 1% increase or decrease in zinc content, add or subtract at the rate of 60¢

For each 1¢ increase or decrease in zinc price, add or subtract at the rate of 60¢ pe

Minimum payment 60¢ per dry ton.

Deduction in payment for cost of employment.

PNYC 00011818

| Period | To and Including | Amou |
|---|---|---|
| 7-1-56 | 6-30-57 | $ 0.32 |
| 7-1-57 | 6-30-58 | 0.51 |
| 7-1-58 | 6-30-59 | 0.70 |

Minimum payment for slag $0.60 per ton.

ECEIPTS - Continued

United States Smelting, Refining and Mining Co. - Continued

| | |
|---|---|
| Assays | - If assays fail to agree within splitting limits, repeat assays shall be made by e repeat assays agree within splitting limits, the average of the repeat assays a settlement. If the repeat assays do not agree within splitting limits, settlem be exchanged and assayed. If assays on exchanged samples agree within splittir average assays of the exchange samples shall be used for settlement. If the as samples do not agree within splitting limits, then the average of the repeat as assays of the exchanged samples shall be used for settlement. |
| Freight | - 7/1/56 - 70¢ plus 3% and moisture (Use 73¢) for buyer's account. |

All scale tickets to lot sheets were audited in detail for January 1958. 50% of moistures to lot s in detail for January 1958. 50% of dry weights were audited in detail. The settlement was audit metallurgical cost sheets.

Bethlehem Pacific Coast Steel Corporation - Los Angeles, California

Two lots of residue, 126 dry tons, were received in January 1958. The settlement was calculated on contract:

| | |
|---|---|
| Period | - 30 days cancellation notice. |
| Tonnage | - Current production plus and minus 280 tons per month, spaced about one car every |
| Lead | - Deduct 30 pounds, 80% at New York price, less 10.1585¢ per pound. |
| Zinc | - 75% of zinc at 50% of East St. Louis price. |
| Treatment | - $12.663 per net dry ton, f.o.b. International. |
| Variables | - Labor - $18.773 plus and minus 17¢ each 25¢<br>Coke - $25.06 plus and minus 15¢ each 25¢<br>Bullion Freight - $29.63 (tax included) shipper's account |

Smelter assays and sample

One lot or 50% of the receipts was audited in detail for the month of January 1958.

Columbia Geneva Steel Division - Torrance, California

In January 1958 one lot of zinc residue, 65 dry tons, was received. The settlement was calculated contract:

| | | | |
|---|---|---|---|
| Lead | - Deduct 30 pounds, pay 80% at New York price, less 10.1585¢. | | |
| Zinc | - 75% at 50% East St. Louis price (no pay if under 10% zinc). | | |
| Treatment | - $13.982 | | |
| Excess Iron | - Charge excess iron over insoluble at 40¢ per unit. | | |
| Variables | - Labor | - | $18.773 plus and minus 20¢ each 25¢ |
| | Coke | - | $25.06 plus and minus 15¢ each $1.00 |
| | Bullion Freight | - | $29.63 - shipper's account. |

Smelter sample and assays

The one lot was audited in detail for the month of January 1958.

PNYC 00011819

Last Furnace Slag (Moulten)

In January 1958, 6,543 dry tons of moulten slag was received at the Slag Plant from the Blast Furna

Last Furnace Slag Reclaimed From Dump (Cold)

In January 1958 ...

| | Weight Pounds | Cost of Material | Sampling Cost | Fuming Cost | Total | Cost Per Ton | Grand Total | Lead Pounds | Copper Pounds | Zinc Pounds | Silver Ounces | Gold Ounces |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 124,319 | $ 1,254.99 | $ 41.55 | | | | | 9,874 | 373 | 53,446 | 342.24 | |
| | 431,855 | 287.35 | 144.33 | | | | | 3,995 | 1,036 | 42,094 | 30.23 | |
| | 556,174 | $ 1,542.34 | $ 185.88 | | | | | 13,869 | 1,409 | 95,540 | 372.47 | |
| | 330,534 | 2,399.40 | 4,564.14 | | | | | 26,823 | 1,211 | 134,069 | 808.43 | |
| | 15,297,083 | 12,722.96 | | | | | | 149,085 | 39,772 | 1,539,001 | 994.31 | |
| | 13,085,200 | 20,657.57 | | | | | | 210,672 | 36,639 | 2,028,206 | 1,570.22 | 4.580 |
| | 158,000 | | | | | | | 2,103 | 1,484 | 10,904 | 155.79 | |
| sipt | 29,476,991 | $37,822.27 | $ 4,750.02 | | | | | 402,552 | 80,515 | 3,807,720 | 3,901.27 | 4.580 |
| | 3,232,623 | 2,540.43 | 937.46 | | | | | 31,505 | 8,405 | 325,226 | 210.12 | |
| | 26,244,368 | $35,281.84 | $ 3,812.56 | $ 82,070.56 | $ 85,883.12 | $ 6.5449 | $121,164.96 | 371,047 | 72,110 | 3,482,494 | 3,691.15 | 4.580 |
| | 1,775,460 | | | 33,303.99 | 33,303.99 | 37.5159 | 33,303.99 | 238,875 | 2,465 | 916,723 | 1,397.49 | 5.239 |
| | 4,312,491 | 35,281.84 | 3,812.56 | 86,645.64 | 90,458.20 | 41.9517 | 125,740.04 | 287,751 | 176 | 2,816,496 | 2,758.10 | 3.132 |
| | 6,087,951 | $35,281.84 | $ 3,812.56 | $119,949.63 | $123,762.19 | $40.6581 | $159,044.03 | 526,626 | 2,641 | 3,733,219 | 4,155.59 | 8.371 |
| | 1,509,460 | | | 37,879.07 | 37,879.07 | 50.1889 | 37,879.07 | 184,718 | 2,149 | 767,914 | 1,048.85 | 3.250 |
| | 4,578,491 | $35,281.84 | $ 3,812.56 | $ 82,070.56 | $ 85,883.12 | $37.5159 | $121,164.96 | 341,908 | 492 | 2,965,305 | 3,106.74 | 5.121 |
| | | | | | | | | 29,139 | 71,618 | 517,189 | 584.41 | .541 |

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

| y ght nds | Cost of Material | Reduction Expenses Sampling Cost | Fuming Cost | Deleading Cost | Total | Cost Per Ton | Grand Total | Lead Pounds | Copper Pounds | Zinc Pounds | Silver Ounces | Gold Ounces |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2,491 | $35,281.84 | $ 3,812.56 | $86,645.64 | $16,103.94 | $106,562.14 | $49.4202 | $141,843.98 | 287,751 | 176 | 2,816,496 | 2,758.10 | 3.132 |
| panies - Correction | | | | | | | 25.41 | | | | | |
| 0,920 | | | | | | | 35,550.33 | 410,509 | 176 | | 3,166.91 | 4.405 |
| 0,755 | | | | | | | 30,432.39 | | | [illegible] | [illegible] | |

SLAG PLANT

Tooele Slag Treatment Plant - Statement of Cost - Etc. - January 1958 - #2

| Deleading Plant: - Continued | Dry Weight Pounds | Grand Total | Lead Pounds | Copper Pounds | Zinc Pounds | Si Ou |
|---|---|---|---|---|---|---|
| Value of Production | | | | | | |
| On Hand - 1-31-58 | | | | | | |
| Leaded Zinc Oxide Consigned | 54,000 | $ 2,115.18 | 25,654 | | | 1 |
| Leaded Zinc Oxide at Plant | 299,980 | 12,036.92 | 143,992 | | | 1,( |
| Deleaded Zinc Fume In Transit to Anaconda | 163,378 | 6,265.87 | | | 127,108 | |
| Deleaded Zinc Fume: | | | | | | |
| In Transit to National Zinc Co. | 2,566,920 | | | | 1,967,269 | |
| At Plant | 207,458 | | | | 158,213 | |
| | 2,774,378 | 92,018.33 | | | | |
| Value of Zinc Fume returned in excess of returnable zinc in treatment | | 416.42 | | | | |
| Total on Hand Ending and Sales | 8,338,621 | $278,912.01 | 580,155 | 176 | 5,436,476 | 4,4 |
| On Hand - 1-1-58 | | | | | | |
| Leaded Zinc Oxide Consigned | 54,000 | $ 2,115.18 | 25,654 | | | 1 |
| Leaded Zinc Oxide at Plant | 554,420 | 22,079.31 | 266,750 | | | 1,5 |
| Deleaded Zinc Fume in Transit to Anaconda | 277,373 | 10,711.67 | | | 216,351 | |
| Deleaded Zinc Fume: | | | | | | |
| In Transit to National Zinc Co. | 3,032,962 | | | | 2,321,404 | |
| At Plant | 107,375 | | | | 82,225 | |
| | 3,140,337 | 103,867.48 | | | | |
| Value of Zinc Fume returned in excess of returnable zinc in treatment | | 9,591.33 | | | | |
| Total on Hand Beginning | 4,026,130 | $148,364.97 | 292,404 | | 2,619.980 | 1,6 |
| Value of Production | | | | | | |
| Deleaded Zinc Fume | 3,686,011 | 105,064.51 | | | 2,816,496 | |
| Lead Fume | 626,480 | 25,482.53 | 287,751 | 176 | | 2,6 |
| Total Value of Production | 4,312,491 | $130,547.04 | 287,751 | 176 | 2,816,496 | 2,7 |
| Tolls Earned | | 7,943.59 | | | | |
| Total Value | | $138,490.63 | | | | |
| Profit or Loss | | $ 3,353.35 | | | | |

PNYC 00011821

Ore, Etc. on Hand and Value - January 31, 1952

| Original Materials: | % H2O | Dry Weight Pounds | Lead Per Cent | Lead Pounds | Copper Per Cent | Copper Pounds | Zinc Per Cent | Zinc Pounds | Silver Oz. per Ton | Silver Ounces | Gold Oz. per Ton | Gold Ounces | Sales Value | Reduction Expenses | Cost of Material | Sampling | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **At Plant** | | | | | | | | | | | | | | | | | |
| Gaston Slag | 1.632 | 3,233,[illegible] | .2716 | 21,505 | .260 | 8,405 | 10.05975 | 325,226 | .150 | 250.12 | | | $ | $ | $2,540.43 | $937.46 | $ 3,477.89 |
| **In Process:** | | | | | | | | | | | | | | | | | |
| **At Plant** | | | | | | | | | | | | | | | | | |
| Furnace Fume | | 850,[illegible] | 7.069 | 60,074 | .154 | 1,311 | 59.090 | 502,137 | 1.147 | 487.78 | .0050 | 2.126 | | | | | |
| Flue Cleanings | 6.352 | 424,[illegible] | 4.043 | 17,221 | .200 | [illegible] | 48.758 | 207,265 | .810 | 172.11 | .0050 | 1.063 | | | | | |
| Lead Flue Cinge | | 500,000 | 32.[illegible] | 16[illegible],500 | .061 | [illegible] | 41.468 | 207,[illegible] | 2.950 | 737.60 | .0082 | 2.050 | | | | | |
| Total | 1.571 | 1,775,450 | 13.452 | 235,875 | .139 | 2,465 | 51.633 | 916,723 | 1.574 | 1,397.49 | .0059 | 5.239 | | 33,303.99 | | | 33,303.99 |
| Total-Original & In Process Mat'l | 1.621 | 5,008,033 | 5.399 | 270,380 | .217 | 10,870 | 24.759 | 2,241,949 | .642 | 1,607.61 | .0021 | 5.239 | | $33,303.99 | $2,540.43 | $937.46 | $ 36,781.88 |
| **Finished Products:** | | | | | | | | | | | | | | | | | |
| **Leaded Zinc Oxide** | | | | | | | | | | | | | | | | | |
| Consigned to various Companies # | | 54,600 | 47.507 | 25,654 | .020 | | 21.948 | | 3.900 | 105.29 | .0091 | .246 | 2,115.18 | | | | |
| At Plant # | .140 | 299,380 | 48.001 | 143,992 | .020 | | 16.716 | | 6.946 | 1,041.85 | .0077 | 1.161 | 12,036.92 | | | | |
| Total | .119 | 353,980 | 47.925 | 169,646 | .020 | | 17.514 | | 6.481 | 1,147.14 | .0079 | 1.407 | $ 14,152.10 | | | | |
| **Deleaded Zinc Fume ##** | | | | | | | | | | | | | | | | | |
| Intransit to National Zinc Company | 1.375 | 2,566,920 | .720 | | .150 | | 76.639 | 1,967,269 | .305 | | | | | | | | |
| At Plant | .890 | 207,458 | .535 | | .150 | | 76.263 | 158,213 | .299 | | | | | | | | |
| Total | 1.339 | 2,774,378 | .707 | | .150 | | 76.611 | 2,125,482 | .305 | | | | 92,018.33 | | | | |
| Intransit to The Anaconda Co. - Anaconda ### | .670 | 163,378 | .400 | | .150 | | 77.800 | 127,108 | .200 | | | | 6,265.87 | | | | |
| Total-Deleaded Zinc Fume | 1.302 | 2,937,756 | .690 | | .150 | | 76.677 | 2,252,590 | .299 | | | | $ 98,284.20 | | | | |
| Total Finished Products | 1.176 | 3,291,736 | 5.154 | 169,646 | .136 | | 68.432 | 2,252,590 | .697 | 1,147.14 | .0009 | 1.407 | $112,436.30 | | | | 112,436.30 |
| Grand Total - Material on Hand | 1.439 | 8,299,819 | 5.302 | 440,026 | .131 | 10,870 | 42.104 | 3,494,539 | .664 | 2,754.75 | .0016 | 6.646 | $112,436.30 | $33,303.99 | $2,540.43 | $937.46 | $149,218.18 |

13,560 Dry Pounds - Estimated value of Deleaded Zinc Fume returned to The American Zinc Company of Illinois in excess of [illegible] returnable Zinc in Toll residue treated [illegible] 416.42

$149,634.60

PNYC 00011822

## SLAG PLANT

INVENTORIES - Continued

Bins - Continued

There were 1,616 dry tons of custom slag on hand. All the measurements, computation, assays, and values were audited in detail.

VALUATION OF INVENTORIES

The leaded zinc oxide, 150 dry tons, at the Plant is valued at sales terms of lead fumes sent to the Lead Plant, except silver which is 97% at 24.75¢ per ounce. The consigned stock, 27 dry tons, is valued the same way as is the leaded zinc oxide on hand.

The deleaded zinc fume, 104 dry tons on hand and 1,283 dry tons in-transit to National Zinc Company, is valued the same as the lots settled for in January 1958. The treatment rate used in this calculation is the last lot settled for in January 1958.

The deleaded zinc fume, 82 dry tons in-transit to The Anaconda Company, is valued at the same contract as deleaded zinc fume settled for by The Anaconda Company.

The value of slag on hand at January 31, 1958 was understated $36.47. The current slag rate was applied to the dump slag and vice versa. The Auditor is also of the opinion that the formula for determining the dump slag rate is wrong. The following schedule illustrates this error:

| | Dry Pounds | Dry Tons | Rate | Amount | Loading Rate | Amount | Freight | Total |
|---|---|---|---|---|---|---|---|---|
| Current Slag | 9,145,684 | 4,572.8420 | 0.771 | 3,525.66 | | | | |
| Dump Slag | 6,151,399 | 3,075.6995 | 0.771 | 2,371.37 | 0.40 | 1,230.28 | | |
| Total | 15,297,083 | 7,648.5415 | | $ 5,897.03 | | $ 1,230.28 | $ 5,595.66 | $12,722.97 |

Current Slag Rate Formula:

$$\frac{\$12,722.97 \text{ less } \$1,230.28}{15,297,083} = .000751299$$

Dump -- Slag Rate Formula:

$$\frac{\$12,722.97}{15,297,083} = .00831725$$

It is apparent from the preceding that the dump rate formula does not provide for the inclusion of 100% of the loading amount in the rate, although excluded 100% in the current slag rate. This is illustrated by the following schedules:

Current Slag:
- Amount $ 3,525.66
- Freight 3,345.48 (1)
- Total $ 6,871.14 / 9,145,684 dry pounds equal $ .000751299 - agrees with formula

Dump Slag:
- Amount $ 2,371.37
- Loading 1,230.28
- Freight 2,250.18 (1)
- Total $ 5,851.83 / 6,151,399 dry pounds equal $.000951301 - formula shown as $.00831725

$ 12,722.97

(1) Freight prorated to current slag and dump slag on basis of dry tons.

SLAG PLANT

VALUATION OF INVENTORIES - Continued

Inventory January 31, 1958:

| | | | | |
|---|---|---|---|---|
| Shown as : | | | | |
| Current Slag | - 1,389,566 dry pounds @ $ .000831725 | equals | $ | 1,155.74 |
| Dump Slag | - 1,843,057 dry pounds @ $ .000751299 | equals | | 1,384.69 |
| Total | 3,232,623 | | $ | 2,540.43 |
| Should be: | | | | |
| Current Slag | - 1,389,566 dry pounds @ $ .000751299 | equals | $ | 1,043.98 |
| Dump Slag | - 1,843,057 dry pounds @ $ .000951301 | equals | | 1,753.30 |
| | 3,232,623 | | $ | 2,797.28 |
| Inventory Understated | | | $ | 256.85 |

Freight should be distributed to current slag and dump slag on the basis of wet weights on future calculations.

ERRORS AND DISCREPANCIES

LEAD PLANT

Receipts:

The following is of an informative nature rather than an error or discrepancy. The two lots used are examples of the method used in calculating dry weights of receipts. Due to the different method of calculating dry weights, there was a 20 pound difference on lot No. 1824 and a 15 pound difference on lot No. 1832 as explained below. On lot No. 1824, received in December 1957, zinc residue from American Zinc Company of Illinois, the calculated dry weight was 651,005 pounds. This lot was composed of five cars. The weighted average moisture, 8.81% moisture, was used in calculating the dry weight. A separate moisture was taken on each car. By calculating the dry weight on each car and totaling these dry weights, the dry weight is 651,025 pounds. Lot No. 1832, received in January 1958, was composed of five cars and the calculated dry weight was 656,359 pounds. By using the moisture on each car and calculating each car separately as on lot No. 1824, the total dry weight is 656,344 pounds. Lot No. 1832 was from the same shipper. It is the Auditor's opinion that the dry weight should be calculated on each car and the total of the dry weight of the cars in the lot should be the dry weight of the lot.

There is a considerable difference in the dry weights on arsenic residue shipped from Anaconda, Montana and the dry weights settled for by the International Smelting and Refining Company at Tooele, Utah. A comparison of weights and moistures on lot No. 1832 reveals the following information:

| | Green Weight | Tare Weight | Net Weight | % H2O | Dry Weight |
|---|---|---|---|---|---|
| Anaconda | 1,903,160 | 518,900 | 1,384,260 | 16.55 | 1,155,149 |
| International Smelting & Refining Co. | 1,895,900 | 517,600 | 1,378,300 | 14.33 | 1,180,803 |
| | 7,260 | 1,300 | 5,960 | - | (25,655) |

12.8275 dry tons @ $ 70.835 final value per ton = $ 908.64

A comparison of weights and moistures on six cars of lot No. 1846 reveals the following invormation:

| | Gross Weight | Tare Weight | Net Weight | % H2O | Dry Weight |
|---|---|---|---|---|---|
| Anaconda | 1,189,960 | 297,200 | 892,760 | 15.02 | 758,662 |
| International Smelting & Refining Co. | 1,187,160 | 297,140 | 890,020 | 9.77 | 803,030 |
| | 2,800 | 60 | 2,740 | - | (44,368) |

22.184 dry tons @ $ 68.359 final value per ton = $1,516.48

## LEAD PLANT

ERRORS AND DISCREPANCIES - Continued

The Auditor talked to Mr. Cyril Dalton, Head Sampler, and was informed that eight or nine 1½" pipe samples are taken on each car of arsenic residue. The samples used are the full depth of the arsenic residue in each car. These samples of arsenic residue are received in the bucking room and emptied into a pan which is weighed. After a 24 hour drying period the pan is weighed again and a moisture is calculated. The above information is of an informative nature to point out the differences in weight and moisture calculations on arsenic residue received from Anaconda, Montana and settled by International Smelting and Refining Company.

Interplant Transfers:

On January 16, 1958, TV car 705, an error of 1,000 pounds in sinter to blast was recorded. The difference in weights is as follows:

| | Gross | Tare | Net |
|---|---|---|---|
| As shown | 151,440 | 40,260 | 110,180 |
| Should be | 151,440 | 40,260 | 111,180 |
| Difference | - | - | 1,000 |

The wet weights on sinter shipped should be 20,537,780 pounds instead of 20,538,780 pounds in January 1958.

Inventories

On March 21, 1958, Messrs. Earl House, Plant Engineer, D. R. Eason and R. E. Hathaway, while on a tour of the Tooele Plant, noted that 18 lead bars were on hand at the Dross Plant. This quantity was later checked to inventory records at February 1, 1958 which showed 12 bars on hand. The Auditor accompanied James Lougy, Metallurgical Clerk, and Dixon Porter, Clerk, on an inventory trip of the Tooele Plant on April 1, 1958. The six lead bars in the molds and twelve bars in stockpile were checked at the time of this inventory observation. The six bars in the molds were inadvertently overlooked at the time of February 1st, and March 1st, inventory time. The on hand inventory of February 1st would have been reported as follows:

| | Dry Weight Pounds | Lead Per Cent | Lead Pounds | Bismuth Per Cent | Bismuth Pounds | Silver Ounces Per Ton | Silver Ounces | Gold Ounces Per Ton | Gold Ounces |
|---|---|---|---|---|---|---|---|---|---|
| As shown | 156,000 | 98.00 | 152,880 | .327 | 510 | 89.00 | 6,942.00 | .365 | 28.500 |
| Should be | 204,000 | 98.00 | 199,920 | .327 | 667 | 89.00 | 9,078.00 | .365 | 37.200 |
| Difference | 48,000 | 98.00 | 47,040 | .327 | 157 | 89.00 | 2,136.00 | .365 | 8.700 |

An adjustment was made on March Cost Sheets.

## GENERAL COMMENTS

Sulphide Concentrator

The Sulphide Concentrator is in operation producing zinc concentrates and lead concentrates. The zinc concentrates are shipped to Anaconda, Montana. The lead concentrates are shipped to East Helena, Montana.

Lead Plant

The Lead Plant discontinued operation at 8:00 A.M. on January 31, 1958. The number 3 blast furnace has been rebuilt with a thirty inch extension added. It can be ready for production with a few finishing touches. The number 1, 4, and 5 blast furnaces have been dismantled. Number 2 furnace can be repaired and used as a standby.

Slag Treating Plant

The Slag Treating Plant is in operation producing deleaded zinc concentrates, baghouse fumes, and slag. The deleaded zinc concentrates are shipped to the National Zinc Company, Bartlesville, Oklahoma. The baghouse fumes are shipped to East Helena, Montana. Slag is taken to the slag pile at the Tooele Plant.

Only a few errors and discrepancies were uncovered during the audit. The Metallurgical Staff was very co-operative and their work was neat and accurate.