

MEMORANDUM - December 3, 1969

TO - Wm. J. Roberts, Manager

FROM - J. Owings, Plant Metallurgist

SUBJECT - Value of Zinc Oxide and Zinc Dross Sales to American Chemet Corporation

Conclusions:

1. Profit per pound of zinc sold as fume is 4.93 cents compared to 3.11 cents profit per pound of zinc recovered if the fume is treated through to slabs at Great Falls.
2. Profit per pound of zinc sold as dross is 9.32 cents compared to 9.11 cents profit per pound of zinc recovered if the dross is treated through to slabs at Great Falls.
3. If fume is not sold and is treated through to slabs, the additional treatment cost increases the cost per ton of slabs figure even though the divisor is increased. Based on calculations using the first six months of 1969, the cost per ton of slabs would have been increased from \$97.09 to \$97.11 if the fume sold had been treated through to slabs.
4. If dross is not sold and is treated through to slabs, the additional tons of slabs divisor decreases the cost per ton of slabs figure. Based on calculations using the first six months of 1969, the cost per ton of slabs would have been decreased from \$97.09 to \$97.04 if the dross sold had been treated through to slabs.
5. It is to our benefit to produce a unit of zinc as oxide compared to a unit of zinc as metal.

Recommendations:

1. That we attempt to sell American Chemet all the fume they can use with the stipulation that they inform us at least one month in advance of their expected requirements.
2. That we attempt to sell all dross that meets specification to American Chemet. I'm certain that our present use of dross as a neutralizer in the Iron Purification is not conducive to acceptable zinc recovery.
3. That we review present contracts and write new contracts for fume and dross sales.

PNYC 00011874

Since we presently sell dross under our fume contract, our profit margin for dross sale is less than margin for fume sale because the purchase and treatment cost of zinc in dross is higher.

Calculations:

Fume - Based on sales for the 1st 6 months of 1969

Total tons fume sold	=	1,508
Total pounds zinc sold	=	2,107,459
Total purchase cost of slag used to produce Fume sold	=	\$ 40,109
Total treatment cost at E.H. to produce Fume Sold	=	\$ 65,646
Total Cost	=	\$ 105,755
Total money received from sale of Fume	\$	209,674
Less cost	=	<u>105,755</u>
Total Profit	=	<u>\$ 103,919</u>

If 1,508 tons had been treated through Great Falls to slabs:

Transportation @ \$1.984/ton
 Leaching @ \$20.188/ton
 Roasting plus Electrolyzing plus Casting @ \$40.683/ton
 Total treatment cost @ \$62.855/ton for 1,508 tons is \$94,785
 2,107,459 lbs. zinc treated @ 91.65% recovery is 1,931,486 lbs.
 recovered and sold @ \$0.13497 is \$260,693 sales value.
 The sales value, \$260,693, less E.H. purchase and treatment cost,
 \$105,755, less Great Falls treatment cost, \$94,785, leaves
\$60,153 as Total Profit.

Profit on direct sale of fume to Chemet, \$103,919, divided by pounds zinc sold, 2,107,459, is 4.93 cents profit per pound.

Profit on treatment of fume through Great Falls, \$60,153, divided by pounds zinc recovered, 1,931,486, is 3.11 cents profit per pound.

Total cost at Great Falls for the 6 month period was \$6,122,427 for 63,059 tons of produced zinc slabs or \$97.09 per ton. If we add \$94,785 treatment cost for 1,508 tons of fume and add 966 tons of slabs from treatment of 1,508 tons of fume, the new cost per ton of slabs is \$97.11.

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Dross-Based on sales for the 1st 6 months of 1969

Total tons dross sold	=	485
Total pounds zinc sold	=	769,838
Total Roasting cost at Great Falls @ \$10 per ton material	= \$	4,850
Total Cost	= \$	4,850
Total money received from sale of dross	\$	76,591
Less cost	=	4,850
Total Profit	= \$	71,741

If 485 tons had been treated through to slabs:

Leaching @ \$20.188/ton
Roasting plus Electrolyzing plus Casting @ \$40.683/ton
Total treatment cost @ \$60.871/ton for 485 tons is \$29,522
769,838 lbs. zinc treated @ 87.5% recovery is 673,608 lbs. recovered
and sold @ \$0.13497 is \$90,917 sales value.
The sales value, \$90,917, less treatment cost, \$29,522, leaves
\$61,395 as Total Profit.

Profit on direct sale of dross to Chemet, \$71,741 divided by pounds of zinc sold, 769,838, is 9.32 cents profit per pound.

Profit on treatment of dross through to slabs, \$61,395 divided by pounds of zinc recovered, 673,608, is 9.11 cents profit per pound.

Total cost at Great Falls for the 6 month period was \$6,122,427 for 63,059 tons of produced zinc slabs or \$97.09 per ton. If we add \$29,522 treatment cost for 485 tons of dross and add 337 tons of slabs from treatment of 485 tons of dross, the new cost per ton of slabs is \$97.04.

JLO:cl

cc: Messrs. Hannifan ✓ Schwab
Holstrom, Sorell
Powell DeArmond

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