

DEPARTMENT OF MINES
SOUTH AUSTRALIA.

REPORT NO. AB-79 - 45-41.

REVISED COST ESTIMATE OF LITHOPONE MANUFACTURE
IN SOUTH AUSTRALIA, 1957.

Abstract.

A revision of estimated manufacturing costs for lithopone in South Australia, made in 1953, shows that the economics of this proposition have further deteriorated, particularly in view of the preference for titanium dioxide in lieu of lithopone in the paint industry, where 60 per cent of the Australian demand for lithopone is consumed.

Introduction.

A cost estimate for the manufacture of lithopone in South Australia was prepared by the State Mining Engineer in 1953, vide Report No. 36-15, based on local raw material costs and other relevant data furnished by the Consolidated Zinc Proprietary Ltd. This estimate, prepared during a period of wide price fluctuations, indicated that the proposition was not economically attractive, but sufficiently marginal to warrant further attention when more stable market conditions prevailed.

In view of price changes meanwhile, this revised report has been prepared, bearing in mind a new avenue of uses for barite production in South Australia.

Basic Cost Data.

Estimates are based on the following current cost data for a plant assumed to be established at an industrial centre such as Port Pirie, convenient to basic material, power, and water supply.

MICROFILMED

Sulphuric Acid	£9.0.0 per ton - Port Pirie.
Barytes	£15.0.0 " " " "
Zinc	£97.0.0 " " " "
Coke breeze	£8.15.0 " " " "
Coal	£6.0.0 " " " "
Power	2½d. per unit " "
Steam	10.0 per 1000 lb. " "
Labour, (mean rate)	12.0 per hour.

Capital Requirement.

The Consolidated Zinc Proprietary Ltd. estimate for a plant of 3,500 tons annual output of lithopone in 1947 is £117,000 and £30,000 working capital. From a study of usage and wholesale commodity price indices over the period 1947-1957 a cost increase factor of 2.2 must be applied to the above costs to bring them to a current approximation, i.e. £258,000 plant cost and £66,000 working capital.

Raw Material, Power and Labour Requirements.

From quantitative data furnished by Consolidated Zinc Proprietary Ltd. in 1952 which is still current, the following cost has been estimated.

	£
Barite, 3,675 tons @ £15.0.0 per ton	55,125
Zinc, 840 tons @ £95.0.0 per ton	79,800
Sulphuric Acid, 1645 tons @ £9.0.0 per ton	14,800
Coal, 910 tons @ £6.0.0 per ton	5,460
Coke Breeze, 910 tons @ £8.15.0 per ton	7,950
Water (treated) 24.5 million galls @ 12/2 per 1,000 galls	14,820
Steam, 47.6 million lb. @ 10/- per 1,000 lb.	23,800
Power, 448,000 KWH @ 2½d. per unit	4,200
Labour, 84,000 man hours @ 12/- per hour	<u>50,400</u>
Direct Operating Cost -	<u>£256,355</u>

Capital Interest, Plant Depreciation and Maintenance Costs.

Based on an interest rate of 5 per cent per annum, the annual interest charge on the total capital investment of

£324,000 is ————— £16,200

Plant depreciation based on 10 per cent per annum of £258,000 amounts to

£25,800

Plant maintenance based on 5 per cent of plant cost amounts to	<u>£12,900</u>
Total overhead charges amount to	<u>£54,900</u>

Total Production Costs.

Total production cost of 3,500 tons of lithopone per annum may be summarized as follows:-

Material, power & labour cost	£256,355
Overhead charges	<u>54,900</u>
Total production cost	<u>£311,255</u>
" " " per ton	<u>£89.0.0</u>

Marketing Price.

On the assumption that a gross profit of 15 per cent is to be recouped on the capital employed in the enterprise, i.e. 15 per cent of £324,000, an amount of £48,600, the marketing price for lithopone becomes £103 per ton.

It is to be noted that the gross profit, which has been assumed at a most conservative figure, must also bear provision for taxation, marketing and administration charges, which at present cannot be estimated.

Conclusion.

It will be noted from the following statistical table of lithopone imports into Australia during the past ten years that, whereas quantities and values fluctuated widely over the period 1948 to 1953, quantity imported, and value per ton over the past three years have been reasonably constant in the vicinity of 2,000 tons per year, valued at £70 per ton.

Lithopone Imports into Australia.

<u>Year</u>	<u>Tonnage</u>	<u>Value</u> £	<u>Value per ton</u> £
1947-48	1704	149,000	87 10 0
1948-49	2595	162,000	62 10 0
1949-50	4110	200,900	49 0 0
1950-51	1802	117,700	65 10 0
1951-52	5920	749,000	126 10 0
1952-53	67	5,100	76 0 0
1953-54	1870	129,000	69 0 0
1954-55	2225	148,000	66 10 0
1955-56	1925	141,000	73 0 0
1956-57	NA	NA	75 0 0 nom.

Enquiries within the paint industry, which consumes 60 per cent of lithopone imports, show that demand for lithopone is fast receding in favor of titanium dioxide, (titanium white) and that the present price of lithopone ranges between £70 and £80 per ton, depending upon the source of import.

Even though the price of zinc was to fall £10 to £87 per ton and barites also fall to £10 per ton, the selling price of locally produced lithopone must be £95 per ton, far higher than imported lithopone.

Furthermore it is probable that a 3,500 ton per annum plant is approaching the economic minimum in size and consideration of a smaller plant to meet the receding Australian demand for lithopone would be out of the question.

29/8/57.

DM-229/47

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