DEPARTMENT OF MINES
SOUTH AUSTRALIA

REVIEW OF THE PRESENT S.A. EXPORT GYPSUM SITUATION - January, 1921

by

J.R. ADAM

MINERAL DEVELOPMENT ENGINEER

CONTENTS

D.M. 1253/65
Rept.Bk.No. 71/20
A.B. 124

DEPARTMENT OF MINES
SOUTH AUSTRALIA

D.M. No. 1253/65
Rept.Bk.No. 71/20
A.B. 124

A REVIEW OF SOUTH AUSTRALIAN GYPSUM EXPORTS - JANUARY, 1971

General

At present South Australia, with a production of about 6-700,000 tons of gypsum per year provides about 75% of the Australian gypsum production and almost all of the Australian gypsum exports of about 200,000 to 250,000 tons per year. Western Australia has recently attempted to capture some of the markets to the North of Australia by opening up a supply from Shark Bay. 51,000 tons of gypsum was supplied from there in 1969-9 and 10,000 tons in 1969-70.

One third of the South Australian production is exported overseas, about 56% is sent interstate and 11% is used within the state. The South Australian consumption is mainly used in the cement industry, and for plaster manufacture, with smaller quantities for agricultural uses.

Main South Australian Producers

(1) The Kanmantoo Gypsum Pty. Ltd. (a subsidiary of the Australian Gypsum Industries Ltd.). This company produces 4-5000,000 tons of gypsum per year in South Australia i.e. about 70% of the South Australian production and practically all of the South Australian overseas exports. Their production comes from Lake MacDonnell, 35 miles west of Ceduna and from Stenhouse Bay at the

tee of Yorke Peninsula. All the overseas export gypsum except about one third of the New Zealand supply comes from Lake MacDonnell and is shipped at Thevenard. The remaining third of the New Zealand supply is shipped by Waratah Gypsum from Stenhouse Bay.

(2) The Colonial Sugar Refining Coy. Ltd. This company produces about one quarter of the South Australian production, mostly for their own use interstate. They also have leases in New South Wales and Victoria but the quality as mined is not as good as that of their South Australian supplies. Their main supply comes from Salt Lake on Kangaroo Island and is shipped interstate through their private port of Ballast Head. They also produce some gypsum from the leases held at Lake MacDonnell. Their leases of seed gypsum at Lake Fowler are sublet to the Adelaide Cement Company who take about 15,000 tons per year for use as an additive in their cement.

These above two companies supply about 90% of the South Australian gypsum production.

The only other producers of any reasonable supplies are:-

(3) Mr. C.E. Bartsch of Hurlstone who mines 12-14,000 tons of gypsum per year from near Blanchtown and other places, mainly for the Brighton Cement Company's works at Angaston.

and (4) Mrs. O.H. Smith who produces 8-11,000 tons per year of seed gypsum from Cookes Plains, south of Tailem Bend and 95 miles by rail from Port Adelaide

This is supplied to several fertiliser companies.

Table I, gives the total South Australian Gypsum production and the production from these four suppliers for the last three financial years. (The financial year has been used as this has been used for providing the export figures in Table II).

South Australian Gypsum Production (Tons)

Year	1967-8	1968-9	1969-70
Marubbi Gypsum			
Lake MacDonnell	228,780	260,638	270,811
Stenhouse Bay	192,135	208,786	178,358
Total	420,915	469,424	449,169
C.S.R.			
Kangaroo Island	121,858	140,128	167,531
Lake MacDonnell	27,302	21,888	10,981
Lake Fowler	17,125	18,600	19,250
Total	166,285	180,616	197,765
C.D. Bartsch	13,288	15,035	11,194
D.M. Smith	7,741	9,041	11,918
Total of Four Producers	608,229	664,116	670,046
Others	2,318	14,160	5,377
Total S.A. Production	610,547	678,276	675,423

Australian Gypsum Exports

The overseas exports of gypsum from South Australia have amounted to about 200,000 tons per year with about 80-100,000 tons being sent to New Zealand, about 35,000 tons going to the Philippines, 30,000 tons to Taiwan, 12-13,000 tons to Singapore, and varying smaller quantities to Hong Kong, Indonesia, Malaysia, New Caledonia, Fiji and Ceylon.

All the overseas exports have been shipped from the port of Thevenard except for about 30,000 tons per year which has been sent from Stenhouse Bay to New Zealand.

Table II gives the Australian exports of gypsum for the last three financial years and their average f.o.b. price at Thevenard or Stenhouse Bay from figures supplied by the Bureau of Census and Statistics.

Australian Exports of Gypsum

Year	1967-8		1968-9		1969-70	
Destination	Tons	Value $A.f.o.b.	Tons	Value $A.f.o.b.	Tons	Value $A.f.o.b.
a) Ex. South Australia						
(1) Thevenard						
to - Taiwan	33,766	2.82	28,722	3.18	31,585	2.89
Philippines	35,289	3.00	35,021	3.05	31,010	3.20
Singapore	13,263	3.25	13,000	3.25	11,884	3.20
Hong Kong	6,417	2.90	12,325	2.95	-	
Indonesia	6,000	3.04	19,150	4.00	8,501	3.14
Malaysia	4,954	1.75	-		-	
New Caledonia	10,968	4.00	-		-	
Fiji	-		3,300	3.00		
Ceylon			7,895	3.70		
New Zealand	61,705	6.75	60,391	6.80	69,816	6.80
(2) from Streaky Bay to New Zealand	18,804	3.70	33,756	3.38	31,910	3.50
Total Ex. S.A.	211,166	4.20	213,558	4.33	184,706	4.55
b) Other States						
Ex. Shark Bay W.A.	-		51,000		10,000	
Total (Australia)	211,166		264,558		194,706	

26 7 9 7 9 7 9

(all)

Comments on Exports

The Waratah Gypsum Company, the only S.A. gypsum exporter at present, has connections with the plaster industry in New Zealand and has various contacts in the other market areas. In these areas they have found that the market opportunities fluctuate considerably with the availability of finance to the purchasers, the pressure of competitors, and the availability of shipping.

About half of Waratah's whole production was exported overseas in 1967-8 (49%) and in 1968-9 (53%); but in 1969-70 their export quantities decreased by 12% while their Australian and New Zealand demands increased so the export proportion was only 38%.

Most of their export gypsum is of high quality "rock" or "crystalline" gypsum and is preferred by most of the buyers if it can be obtained at about the same landed price as gypsum from other sources.

Gypsum, as mined, is a very cheap commodity so the shipping and land transport costs have a great effect on the landed price at a market. Waratah's f.o.b. value at Thevenard including the 35 mile rail cartage is mostly about $3 per ton with about double that price for the higher grade gypsum for New Zealand. However, the landed price at the market will be much greater and will depend on the distance to be transported, the size of the ship used and the availability of this size ship.

At present only ships of up to about 9,000 dead weight tons (dwt) can be used at Thevenard and 5,000 dwt at Stenhouse Bay. But the berth and channel at Thevenard are being deepened so that the use of ships of up to about 19,000 dwt will be possible. This should help in securing markets. In one case recently a freight rate of $7

per ton could have been arranged with an available larger ship if the port had been ready, but instead a freight of $12 had to be negotiated with a smaller ship. Also ships of the larger class may be more available and some of the shipping difficulties may be reduced.

Ample gypsum for export is available at Lake MacDonnell as the deposits there are estimated to contain over 500 million tons of high grade gypsum.

Competitors:-

Shark Bay, Western Australia -

One of the Garrick Agnew companies has extensive plans for the development of large gypsum exports from the deposits of "seed gypsum" at Shark Bay and has been reported to have orders for about 200,000 tons of gypsum tied up. However they have run into a number of difficulties with their gypsum being too moist when shipped and too fine for some markets. They were using pumps to transport the gypsum as a slurry out to the shipping point but could not dry the gypsum out afterwards. They have now built a causeway and truck the gypsum out. To overcome the fineness of the material they are experimenting with a method of compacting the gypsum into larger hard lumps. If they are successful in doing this without much additional cost they may become a serious competitor for the markets in Singapore and Malaysia where the shipping distance from Shark Bay is only half that from Thevenard and even in Taiwan though further away.

There are reported to be 25 million tons of seed gypsum available in the deposits. The shipping point is believed to be capable of taking ships up to 18,000 dwt capacity.

(all)

"Chemical Gypsum"

Chemical Gypsum or "Phospho-gypsum" or "by-product gypsum" as it is sometimes called, is a chemically-made artificial "gypsum" made as a waste product in the manufacture of high strength fertilisers. This "gypsum" still has some phosphates left in it and is not liked either by the plaster or cement industries, but it is being used in a number of places because of its cheapness and availability in industrial areas. The Japanese plaster wallboard industry is estimated to use 1½ million tons per year and considerable tonnages are also used in the Japanese cement industry.

San Marcos Island, Mexico

The Kaiser Gypsum Company of America mines rock gypsum from its quarry alongside deep water at San Marcos Island in the Lower Gulf of California. This can be provided at a very cheap f.o.b. price because the gypsum beds are about 100 feet thick with no overburden and are quarried alongside a port which can take large ships of about 70,000 dwt capacity. However the distance from Mexico to many of the markets - north of Australia and the comparatively small size of the shipments required have allowed Waratah Gypsum to compete.

The San Marcos production is about 1 million tons per year mostly for the American market but about 60,000 tons per year is going to Taiwan and some to New Caledonia.

Thailand

Thailand appears to be the only country in the Far East to be in any position to become a major gypsum exporter. Their production has been 1966 - 39,003 tons, 1967 - 60,722 tons, 1968 - 126,070 tons, 1969 - 90,580 tons.

ab

Pakistan

The Pakistan production reached about 200,000 tons per year in the 1962-64 period when about 80,000 tons were being exported to India for fertilizer production but the trade agreement terminated when hostilities broke out in 1965 and production is now only about 50,000 tons per year mainly catering for the local cement industries.

(India

India's production has reached 1½ million tons in 1969 but all is used for the domestic market about half in the production of ammonium sulphate fertilizer and most of the rest in the cement industry.)

United Arab Republic

The United Arab Republic did export gypsum to Japan and other countries from deposits at Ras Malaap in the Gulf of Suez but this production has ceased since the Israel occupation of the Sinai.

Morocco

Morocco is about the only country in Africa exporting gypsum. According to the "Industrial Minerals" magazine. They have supplied Japan for a number of years 15,846 tons in 1966, 25,833 tons in 1967, 51,757 in 1968, 54,489 tons in 1969. (It appears that some concessions with back loading etc. must have made this distance of transport possible).

Cyprus

Cyprus used to be a competitor in the Far East but is no longer so with the closure of the Suez Canal.

(ab)

Different Markets with their Main Competitors

Japan. This is the largest market but they are now using "chemical gypsum" extensively in their plaster and cement industries. This is a waste product from their chemical industries and is used for its cheapness though it is not liked. Otherwise Mexico would be the main competitor. Waratah Gypsum did arrange sales in 1962-64 by quoting a low price when small shipping was plentiful but was undersut by Mexico at the next arrangement of contracts.

Taiwan. Here the main competitors would be Mexico and Shark Bay.

Philippines. Chemical gypsum is likely to be used because of their shortage of finance for imports. They prefer the Australian gypsum but can not pay for it.

Singapore. Shark Bay gypsum could be a threat here especially if their compacting process for the weed gypsum is a success. The shipping costs would be lower than from South Australia.

Hong Kong. The use of "chemical gypsum" seems to be growing because of its price.

Indonesia. Shark Bay gypsum could be a threat with the shorter shipping distance.

Malaya. There seems to be a tendency to purchase cheap "chemical gypsum" from the Philippines and Shark Bay gypsum would also be a threat.

New Caledonia. Some of Waratah Gypsum's "crystalline" gypsum was used in the Nickel production but great difficulty was experienced in the dust extraction because the Australian gypsum, tends to lose the edges off the crystals at each handling and this created

excessive dust in the nickel production. They have found the Mexican gypsum which is more of a true "rock gypsum" does not break up so much.

Ceylon. The chief competitor in Ceylon is Pakistan because of its closeness.

end

Sources of Supply for South Australian Export Gypsum

At present the Waratah Gypsum Company (Australian Gypsum Ltd.) is the only overseas exporter of gypsum for South Australia.

The company was formed in the nineteen twenties and thirties by the combination of a number of small South Australian gypsum producers under the Australian Plaster Industry Pty. Ltd. which itself was formed as a combination of the South Australian producers and several major plaster manufactureres in the eastern states. The Waratah Gypsum Company holds the bulk of the large Lake MacDonnell deposit as well as extensive deposit at Stenhouse Bay.

They have been active in the export market of recent years and sell about 45% of their production overseas. They seem to have contracts with the various markets and are in no way tied or restricted in their sales of gypsum.

The Colonial Sugar Company was hopeful of entering the export market from their leases at Lake MacDonnell and at an enquiry into the necessity of upgrading the rail link to Thevenard they said they had made enquiries overseas and they thought they would be able to export about 100,000 tons per year. However, when the final arrangements had to be made with these markets the contracts

did not eventuate. They are still willing to sell to overseas markets but do not appear to be very active in chasing up any opportunities. Their Kangaroo Island deposit is not extensive but is handy for their own use so they are not likely to export gypsum from there.

The Peninsula Prospecting Company have recently taken up the remaining gypsum areas at Lake MacDonnell and have been investigating the possibility of producing sulphur and cement clinker from gypsum but their plans have been upset by the recent drastic drop in world sulphur prices. They would be willing to export gypsum if they could obtain markets.

Of these three, Waratah Gypsum with its major operation at Lake MacDonnell would be the company most likely to land new export sales.

Mrs. Smith would be very willing to sell seed gypsum on the export market but is unlikely to be able to compete with an 85 mile rail haul to Port Adelaide and not first class gypsum to sell even then. It would be suitable for cement manufacture as it was used by Adelaide Cement for a number of years. It is possible that she would be able to make the odd sale if some ship was going past a gypsum market with a partly empty ship. There are about 3 million tons in the Cooks Plains deposit of Mrs. Smith.

The only other source suitable for export gypsum is the lower grade deposit of about 30 million tons a few miles south of Streaky Bay but the gypsum here would require washing and a new harbour facility would have to be established. Several companies have had a look at this deposit but have not found the location attractive.

Addresses of Potential Gypsum Exporting Companies.

Waratah Gypsum Company Pty. Ltd.

17 Bagot Street,
North Adelaide, 5006. Phone 67 3344

Colonial Sugar Refining Coy. Ltd.

41 Currie Street,
Adelaide, 5000. Phone 511321

Peninsula Prospecting and Mining Pty. Ltd.

256 Stanley Street,
North Adelaide, 5006.

Mrs. C.M. Smith (seed and flour gypsum only)

117 Jeffcott Street,
North Adelaide, 5006.

Possible Assistance to South Australian Export Gypsum Industry

All the above companies would welcome any new contacts which could be made for the export of gypsum.

Other than that the only assistance that can be given short of reduced rail or port charges is to see that the harbour improvements at Thevenard are completed as soon as possible and perhaps some new arrangement in reducing waiting time for ships at Thevenard.

(Any bookings Waratah Gypsum and Colonial Sugar Refining Coy. Ltd. make for ships to load at Thevenard are notified to the Thevenard Harbour authorities and are posted up. But the wheat ships are only posted as loading at ports between say Thevenard and Wallaroo between certain dates and are free to call at any of these ports to load grain. There have been times when they have slipped into Thevenard, without warning, a day ahead of the gypsum booking and have delayed the gypsum ship.

This seems unfair in three ways. One, in the booking arrangement, two, because the gypsum ship has no other port it can be sent to to load and save delay and three, because both of the gypsum companies had to guarantee to pay towards the 1962 wharf improvements if their combined wharf usage fell below a certain point while the Wheat Board were not so bound.

The delays in shipping at Thevenard have caused the unusual arrangement of shipping companies charging the gypsum companies for any holdups and not including this in their freight quotes.)

JRA:CMH
11th February, 1971

J.R. ADAM
MINERAL DEVELOPMENT ENGINEER