

SALT MINES, BRINE PITS AND SALT WORKS.

Contents.

	Page
INTRODUCTORY	47
Summary of results	47
Qualifications affecting comparisons	48
Value of output and cost of materials	48
PRODUCTION	49
Salt and brine	49
Other products	50
Value of output free from duplication	50
Cost of materials	50
Net output.. .. .	50
Exports and imports	51
WAGES IN 1924	51
EMPLOYMENT.. .. .	51
MECHANICAL POWER	52
TABLES	53

Introductory.*

The tables on pages 53 to 55 are based on returns received from firms in Great Britain and Northern Ireland whose business in 1924 consisted wholly or mainly in the production of salt at mines and brine pits and in the refining of salt at salt works. The number of such separate returns was 40.

Summary of results.—The following table shows the main results of the Censuses of 1924, 1912 and 1907, comparisons between the figures for the three years being subject to the qualifications mentioned in the next paragraph.

* See also the Notes on pp. vii to xv.

Particulars.	Unit.	1924.	1912.	1907.
Total value of products and work done (Gross output)	£'000	1,918	816	667
Cost of materials used	"	783	419	348
Net output	"	1,135	397	319
Average number of persons employed	No.	5,138	5,304	4,736
Net output per person employed ..	£	221	75	67
Mechanical power available:—				
Prime movers	H.P.	19,413	13,829	4,127
Electric motors driven by purchased electricity	"	686	495	(not recorded)

Qualifications affecting comparisons.—In considering the above table and the other tables in this report which show figures for different censal years, it should be borne in mind that:—

(1) The comparability of figures relating to value or cost is affected by the changes which have taken place in the general purchasing power of money.

(2) The Censuses of 1907 and 1912 covered Great Britain and the whole of Ireland, but that of 1924 applied only to Great Britain and Northern Ireland. The exclusion of Southern Ireland in 1924 does not, however, seriously affect the comparability of the figures.

(3) The Censuses of 1907 and 1924 extended to all firms, however small, but in 1912 firms employing not more than five persons (excluding the proprietors) were required to state only the average number of persons employed by them in the year. According to the information so furnished, the number of persons employed in the establishments thus excluded was 57, or about 1 per cent. of the number employed by the remaining firms, as shown in the above table.

(4) The figures for 1924 are inclusive of salt obtained from brine pits owned by alkali manufacturers and used by them for further manufacturing purposes in the form of brine or coarse salt. The figures for 1907 and 1912 are exclusive of such salt.

Value of output and cost of materials.—The figures in the above table representing the value of products and work done and the cost of materials used, are the aggregates of the figures recorded by the firms that made returns, and, for the reasons explained in paragraphs (i) and (ii) on pages xii and xiii, they may overstate the value of the output of, and the cost of materials used at, Salt Mines, Brine Pits and Salt Works considered as a whole. The matter is discussed on page 50, where it is estimated that the value, free from duplication, of the output of Salt Mines, Brine Pits and Salt Works in 1924 was about £1,910,000, and the cost of the materials purchased from sources outside the trade and worked up into its products was about £775,000.

Production.

Detailed information relating to the output of Salt Mines, Brine Pits and Salt Works in 1924 is summarised in Table II on page 53.

Salt and brine.—The following statement shows, for 1924 and 1907, the quantity and value of salt and brine returned, including not only the output recorded on schedules for Salt Mines, Brine Pits and Salt Works, but also the salt returned on schedules for other trades:—

Salt and brine.	1924.				1907.	
	Returned on schedules for				Total.	
	Salt Mines, etc.		All trades.			
	Quantity.	Selling value.	Quantity.	Selling value.	Quantity.	Selling value.
Table salt	Th. tons.	£'000	Th. tons.	£'000	Th. tons.	£'000
Other kinds of salt	80·1	355	98·5	697	44·0	93
	882·8	1,443	901·2	1,473	1,421·0	626
TOTAL: Salt	962·9	1,798	999·7	2,170	1,465·0	719
Brine sent to alkali works (Salt content)	1,020·5	59	1,020·5	59	..	*
TOTAL	1,983·4	1,857	2,020·2	2,229	1,465·0	719

* Value included with *Salt, other kinds.*

For the reason stated in paragraph (4) on page 48, the totals shown for 1924 and 1907 in the above table are not comparable. The quantity of salt produced in Great Britain* in 1924 (including the salt content of brine pumped from the salt deposits) as returned to the Mines Department, together with the output of Northern Ireland, was as follows:—

	<i>Tons.</i>
Rock salt mined	53,454
Salt evaporated from brine	884,699
Salt content of brine pumped to alkali works	1,107,609
	2,045,762

The differences between those figures and the quantities returned to the Census office are due to the fact that the latter did not in all cases refer to the calendar year, which was the period covered by the Mines Department returns. The total quantity of salt mined, evaporated, or contained in brine sent to alkali works in 1907 in Great Britain and the whole of Ireland was returned to the Home Office as 1,985,000 tons, so that the increase in production in 1924 was under 3·1 per cent.

* Including the Isle of Man.

In response to a request for a more detailed classification of the kinds of white salt manufactured, firms that produced 49,900 tons of table salt, and 811,400 tons of other kinds of salt, furnished the following particulars:—

	Tons.
Rock salt mined	45,300
White salt manufactured:—	
Coarse—	
For chemical or manufacturing purposes	74,200
For other purposes	156,300
Not separately distinguished	77,000
Fine	417,700
Fishery	90,800

Voluntary information was also requested as to the total quantity of brine pumped in 1924 and its estimated salt content. The quantity of brine for which these particulars were furnished amounted to 950,450,000 gallons, of which the total salt content was estimated at 976,500 tons.

Other products.—In addition to salt and brine, firms that made their returns on schedules for Salt Mines, Brine Pits and Salt Works recorded an output of other goods in 1924 valued at £61,000. These goods, being of kinds mainly produced in other trades, are dealt with in the reports on those trades. The output of other products recorded in 1907 was £17,000.

Value of output free from duplication.—The gross output in 1924 of firms that made their returns on schedules for Salt Mines, Brine Pits and Salt Works was £1,918,000. The greater part of the salt was refined by the firms that produced it, but a small portion was refined by firms that purchased their coarse salt. An examination of the returns shows that the cost of coarse salt purchased from other firms in the trade did not exceed £8,000. The value of the output, free from duplication, would thus be about £1,910,000 in 1924. The corresponding figure for 1907 was estimated to be £643,000.

Cost of materials.—The cost of materials used by firms that made their returns on schedules for Salt Mines, Brine Pits and Salt Works was returned as £783,000 in 1924, a sum which, by the exclusion of purchases of the products of other firms in the trade, is reduced to about £775,000; the corresponding figure for 1907 was £335,000.

Net output.—The net output in 1924 of the firms that made their returns on schedules for Salt Mines, Brine Pits, and Salt Works (whose gross output was valued at £1,918,000) was £1,135,000, that sum representing, without duplication, the total amount by which the value, as delivered, of the aggregate output exceeded the cost, as purchased, of the materials used.

The net output per head of persons employed in the censal year 1924 was £221 as compared with £67 in 1907.

Exports and imports.—About 6,200 tons of table salt were exported and 3,800 tons imported and retained in 1924. About 350,800 tons, or 38·9 per cent., of the "Other kinds of salt" produced, were exported, while the retained imports, 108,800 tons, were equivalent to about 12·1 per cent. of the British production.

Wages in 1924.

Under the Census of Production Act, 1906, the powers of the Board of Trade to require information do not extend to particulars of the amount of wages paid, and, consequently, no information on this head was secured in connexion with the Census of 1924. As a result, however, of the voluntary enquiry undertaken by the Ministry of Labour into wages and hours in the United Kingdom in 1924, information was obtained as to the total wage-bill of a group of firms in the Salt industry that made returns both to the Ministry of Labour and to the Census of Production office. According to the Census records this group of firms employed, in the week ended 18th October, 1924, 4,663 operatives, or 97 per cent. of the total of 4,815 operatives for the industry as a whole, and their net output totalled £1,054,000, or 93 per cent. of the aggregate net output of £1,135,000 for the industry as a whole. The total wage-bill of these firms, as returned to the Ministry of Labour, was £611,000, representing about 58 per cent. of their aggregate net output.

Employment.

The detailed information relating to employment in 1924 is summarised in Table III on page 54. The following table sets out certain particulars for that year together with those relating to the 1907 Census. For the purpose of this comparison, the average numbers of operatives of each sex returned for 1924 have been divided between the two age-groups in the proportions shown by the data relating to the week ended 18th October.

Average number.	Males.		Females.		Males and females.	
	Under 16.*	All ages.	Under 16.*	All ages.	Under 16.*	All ages.
1924.						
Operatives	198	4,199	80	541	278	4,740
Administrative, etc.	16	338	—	60	16	398
TOTAL	214	4,537	80	601	294	5,138
1907.						
Wage earners	337	4,006	139	427	476	4,433
Salaried	30	291	—	12	30	303
TOTAL	367	4,297	139	439	506	4,736

* For salt works the division in 1924 was between males, etc., under 18 years and over 18 years.

The numbers of operatives recorded month by month in 1924 ranged from 200 below the average in February to 138 above the average in September (see Table IIIB, page 54).

Mechanical Power.

The detailed information relating to mechanical power in 1924 is summarised in Table IV on page 55. The following table sets out the particulars for 1924 and 1907 relating to the capacity and kinds of *prime movers* and the capacity of *electric generators* installed.

Power equipment.	1924.			1907.
	Ordinarily in use.	In reserve or idle.	Total.	Total.
	H.P.	H.P.	H.P.	H.P.
PRIME MOVERS :—				
Reciprocating steam engines	6,153	1,997	8,150	3,677
Steam turbines	4,300	6,300	10,600	300
Gas engines	369	98	467	150
Petrol and light oil engines	146	19	165	
Heavy oil engines	31	—	31	
TOTAL	10,999	8,414	19,413	4,127
ELECTRIC GENERATORS :—				
Driven by—	Kw.	Kw.	Kw.	Kw.
Reciprocating steam engines.. .. .	2,243	964	3,207	241
Steam turbines	3,200	4,700	7,900	200
Gas engines	145	—	145	—
Petrol and light oil engines	22	—	22	—
Heavy oil engines	27	—	27	—
TOTAL	5,637	5,664	11,301	441

The capacity of *electric motors* recorded in 1924 was as shown below :—

Electric motors.	1924.		
	Ordinarily in use.	In reserve or idle.	Total.
Driven by—	H.P.	H.P.	H.P.
Electricity generated in own works	3,158	1,087	4,245
Purchased electricity	669	17	686

Corresponding information was not required for 1907. The total number of Board of Trade units of electricity purchased for power and lighting purposes in that year was returned as 4,500.

TABLES.

I.—Summary of results.

Particulars.	Unit.	England and Wales and Northern Ireland.*	Scotland.	United Kingdom.
Value of products and work done (Gross output)	£'000	1,901	17	1,918
Cost of materials used	"	775	8	783
Net output	"	1,126	9	1,135
Average number of persons employed	No.	5,088	50	5,138
Net output per person employed ..	£	221	185	221
Mechanical power available :—				
Prime movers	H.P.	19,371	42	19,413
Electric motors driven by purchased electricity	"	666	20	686

* In order to avoid the possible disclosure of information relating to individual firms, the particulars for Northern Ireland have been combined with those for England and Wales.

II.—Production.

Output sold or added to stock and work done.	England and Wales and Northern Ireland.*		Scotland.		United Kingdom.	
	Quantity.	Selling value.	Quantity.	Selling value.	Quantity.	Selling value.
	Th. tons.	£'000	Th. tons.	£'000	Th. tons.	£'000
Salt :—						
Table salt	80·1	355	—	—	80·1	355
Other sorts	879·9	1,426	2·9	17	882·8	1,443
TOTAL—SALT	960·0	1,781	2·9	17	962·9	1,798
Brine sent to alkali works (Salt content)	1,020·5	59	—	—	1,020·5	59
Other products and work done	61	—	—	..	61
TOTAL VALUE OF PRODUCTS AND WORK DONE (GROSS OUTPUT)	1,901	..	17	..	1,918

* See footnote to Table I.

III.—Employment.

A.—NUMBERS EMPLOYED IN WEEK ENDED 18TH OCTOBER, 1924.

Kind of staff.	Males.		Females.		Males and females.	
	Under 16.†	All ages.	Under 16.‡	All ages.	Under 16.‡	All ages.
<i>England and Wales and N. Ireland*—</i>						
Operatives	200	4,224	82	550	282	4,774
Administrative, etc.†	16	332	—	57	16	389
TOTAL	216	4,556	82	607	298	5,163
<i>Scotland :—</i>						
Operatives	—	38	—	3	—	41
Administrative, etc.†	—	6	—	3	—	9
TOTAL	—	44	—	6	—	50
<i>United Kingdom :—</i>						
Operatives	200	4,262	82	553	282	4,815
Administrative, etc.†	16	338	—	60	16	398
TOTAL	216	4,600	82	613	298	5,213

* See footnote to Table I.

† Administrative, technical and clerical staff.

‡ For salt works the division was between males, etc., under 18 years and over 18 years.

B.—OPERATIVES EMPLOYED IN ONE WEEK IN EACH MONTH OF 1924.

*England and Wales and N. Ireland.**
(Annual average : Males, 4,161 ; Females, 538 ; Total, 4,699.)

Week ended	Males.	Females.	Total.	Week ended	Males.	Females.	Total.
Jan. 12th ..	4,061	529	4,590	July 19th ..	4,184	508	4,692
Feb. 16th ..	4,001	497	4,498	Aug. 16th ..	4,250	533	4,783
March 15th ..	4,009	507	4,516	Sept. 13th ..	4,267	570	4,837
April 12th ..	4,164	549	4,713	Oct. 18th ..	4,224	550	4,774
May 17th ..	4,214	538	4,752	Nov. 15th ..	4,198	550	4,748
June 21st ..	4,183	551	4,734	Dec. 13th ..	4,171	575	4,746

Scotland. (Annual average : Males, 38 ; Females, 3 ; Total, 41.)

Jan. 12th ..	39	3	42	July 19th ..	38	3	41
Feb. 16th ..	39	3	42	Aug. 16th ..	37	3	40
March 15th ..	39	3	42	Sept. 13th ..	38	3	41
April 12th ..	38	3	41	Oct. 18th ..	38	3	41
May 17th ..	38	3	41	Nov. 15th ..	38	3	41
June 21st ..	38	3	41	Dec. 13th ..	38	3	41

United Kingdom. (Annual average : Males, 4,199 ; Females, 541 ; Total, 4,740.)

Jan. 12th ..	4,100	532	4,632	July 19th ..	4,222	511	4,733
Feb. 16th ..	4,040	500	4,540	Aug. 16th ..	4,287	536	4,823
March 15th ..	4,048	510	4,558	Sept. 13th ..	4,305	573	4,878
April 12th ..	4,202	552	4,754	Oct. 18th ..	4,262	553	4,815
May 17th ..	4,252	541	4,793	Nov. 15th ..	4,236	553	4,789
June 21st ..	4,221	554	4,775	Dec. 13th ..	4,209	578	4,787

* See footnote to Table I.

IV.—Mechanical Power.

PARTICULARS OF PRIME MOVERS, ELECTRIC GENERATORS AND ELECTRIC MOTORS.

Power equipment.	United Kingdom.	
	Ordinarily in use.	In reserve or idle.
PRIME MOVERS :—	H.P.	H.P.
Reciprocating steam engines	6,153	1,997
Steam turbines	4,300	6,300
Gas engines	369	98
Petrol and light oil engines	146	19
Heavy oil engines	31	—
TOTAL	10,999	8,414
TOTAL OF PRIME MOVERS INSTALLED	19,413	
ELECTRIC GENERATORS :—	Kw.	Kw.
Driven by—		
Reciprocating steam engines	2,243	964
Steam turbines	3,200	4,700
Gas engines	145	—
Petrol and light oil engines	22	—
Heavy oil engines	27	—
TOTAL	5,637	5,664
TOTAL OF ELECTRIC GENERATORS INSTALLED ..	11,301	
ELECTRIC MOTORS :—	H.P.	H.P.
Driven by—		
Electricity generated in own works	3,158	1,087
Purchased electricity	669	17

The power equipment returned for Scotland and included above was as follows :—

PRIME MOVERS :—	H.P.
Reciprocating steam engines	30
Gas engines	12
TOTAL	42

ELECTRIC MOTORS—

Driven by purchased electricity 20

All the above power was returned as being ordinarily in use.