

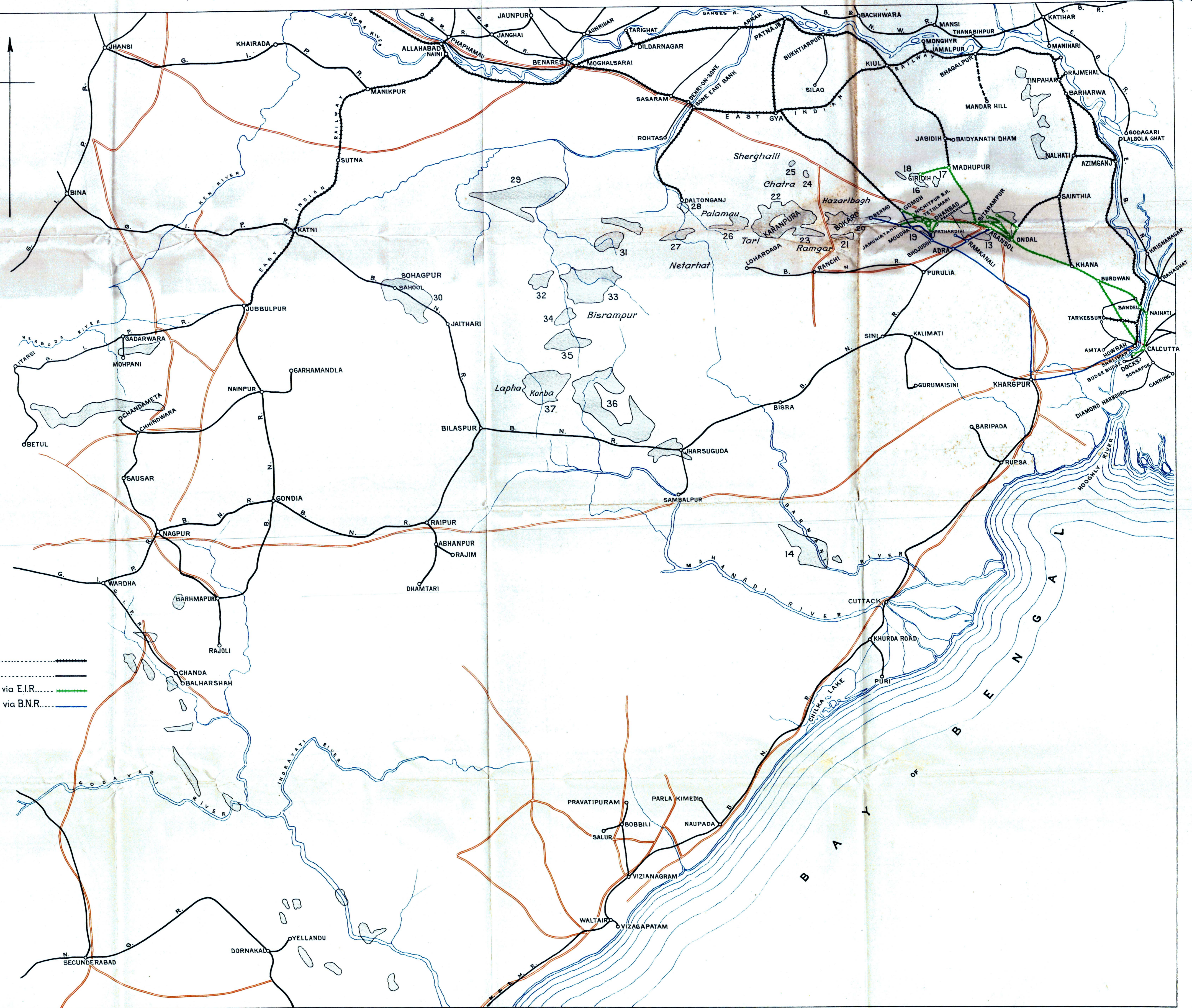
Scale 32 miles to 1 inch.

INDEX TO COAL FIELDS

- 13....RANEEGUNGE
- 14....TALCHIR
- 16....SAHAJORI JAINTI
- 17....KUNDIT KURIAH
- 18....GIRIDIH
- 19....JHERRIAH
- 20....BOKARO
- 21....RAMGARH
- 22....KARANPURA (NORTH)
- 23....KARANPURA (SOUTH)
- 24....CHOPE
- 25....ITHKURI
- 26....AURANGA
- 27....HUTAR
- 28....DALTONGANJ
- 29....SINGRAULI
- 30....UMARIA & SOHAGPUR E¹
- 31....TATAPANI
- 32....JHILMILLI
- 33....BISRAMPUR
- 34....LAKHANPUR
- 35....RAMPUR
- 36....RAMPUR (RAIGARH & HINGIR)
- 37....LAPHA OR KORBA

REFERENCE

- East Indian Railway Lines.....
- Other Railway Lines.....
- Route from Coalfields to Docks via E.I.R.....
- Route from Coalfields to Docks via B.N.R.....

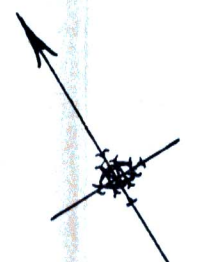


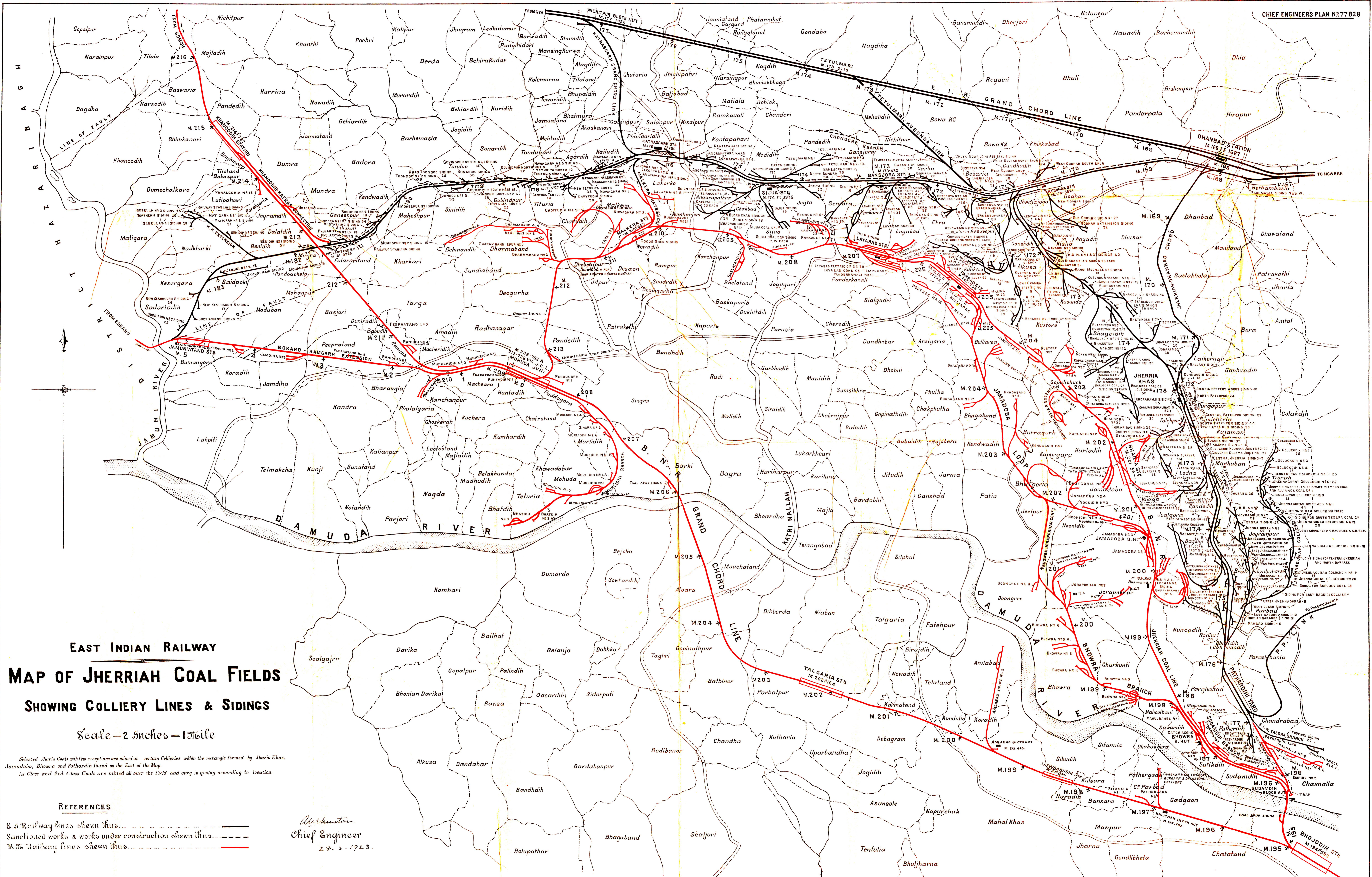
EAST INDIAN RAILWAY
MAP SHOWING EXTENSIONS AND IMPROVEMENTS
COMPLETED OR IN PROGRESS SINCE 1921

Scale - 16 miles to 1 Inch

REFERENCE

- Lines Completed since 1921.....
- Lines Under Construction.....
- Lines Awaiting Sanction.....
- Station yards remodelled.....
- New Engine sheds.....
- New Block Huts.....





EAST INDIAN RAILWAY
MAP OF JHERRIA COAL FIELDS
SHOWING COLLIERY LINES & SIDINGS

Scale - 2 inches = 1 mile

Selected Jherria Coals with few exceptions are mined at certain Collieries within the rectangle formed by Jherria Khas, Jamadoba, Bhanua and Patardih found on the East of the Map.
1st Class and 2nd Class Coals are mined all over the field and vary in quality according to location.

- REFERENCES**
- Railway lines shown thus
 - - - Sanctioned works & works under construction shown thus
 - B.F. Railway lines shown thus

A. K. Hunter
 Chief Engineer
 2. 3. 1923.

EAST INDIAN RAILWAY MAP OF RANEEGUNGE COAL FIELDS SHOWING COLLIERY LINES & SIDINGS

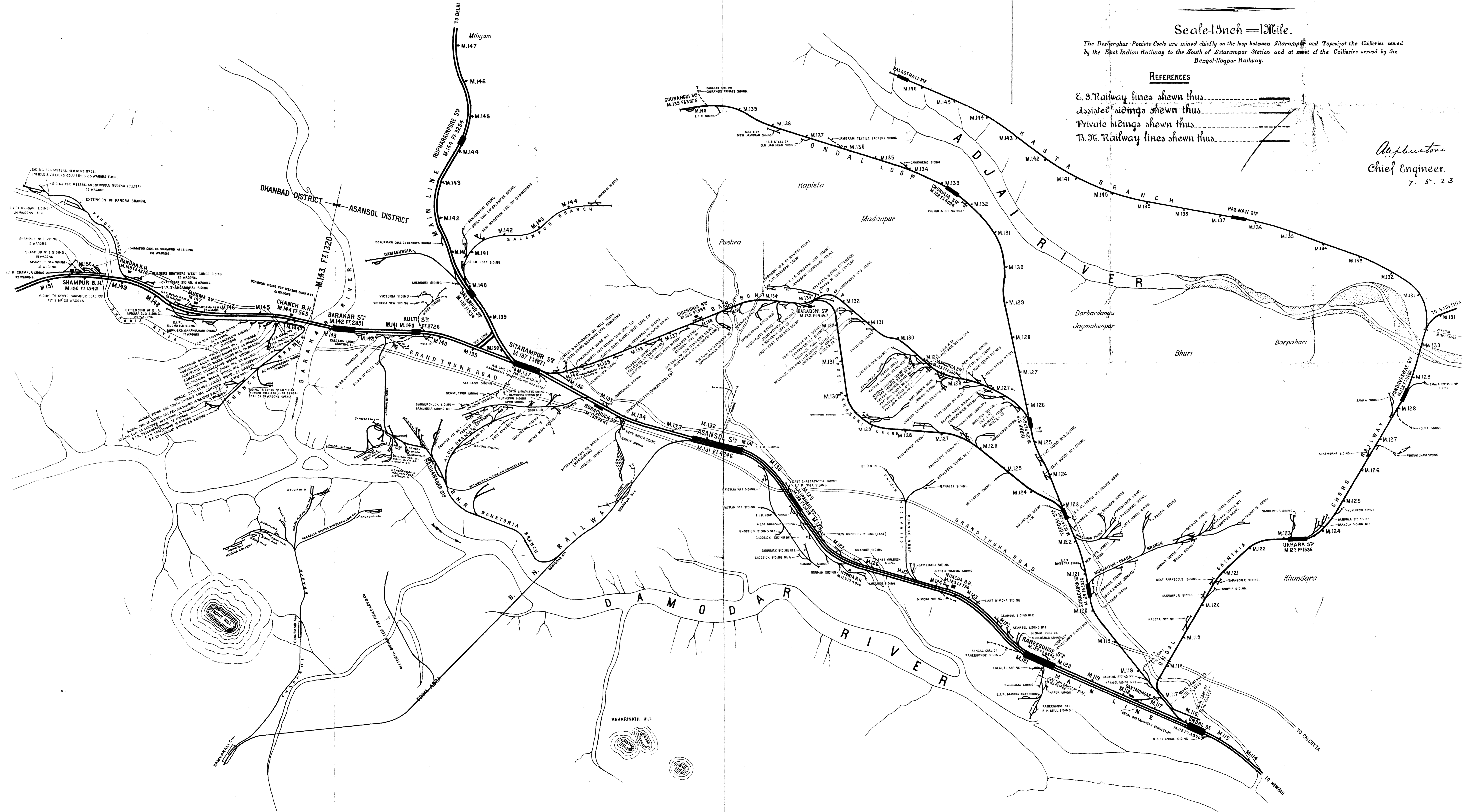
Scale 1 Inch = 1 Mile.

The Dasherghur-Paniata Coals are mined chiefly on the loop between Sitarampur and Topes; of the Collieries served by the East Indian Railway to the South of Sitarampur Station and at most of the Collieries served by the Bengal-Nagpur Railway.

REFERENCES

- E. I. Railway lines shewn thus
- Assisted sidings shewn thus
- Private sidings shewn thus
- B. N. Railway lines shewn thus

Asplundson
Chief Engineer.
7. 5. 23

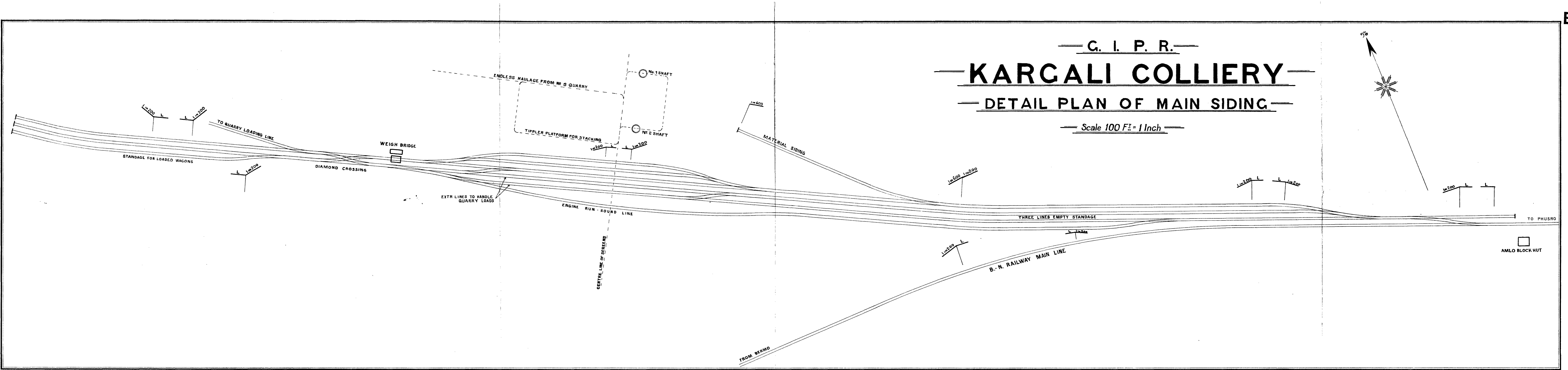
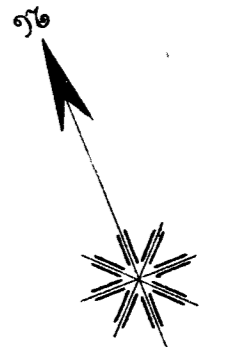


— G. I. P. R. —

— KARGALI COLLIERY —

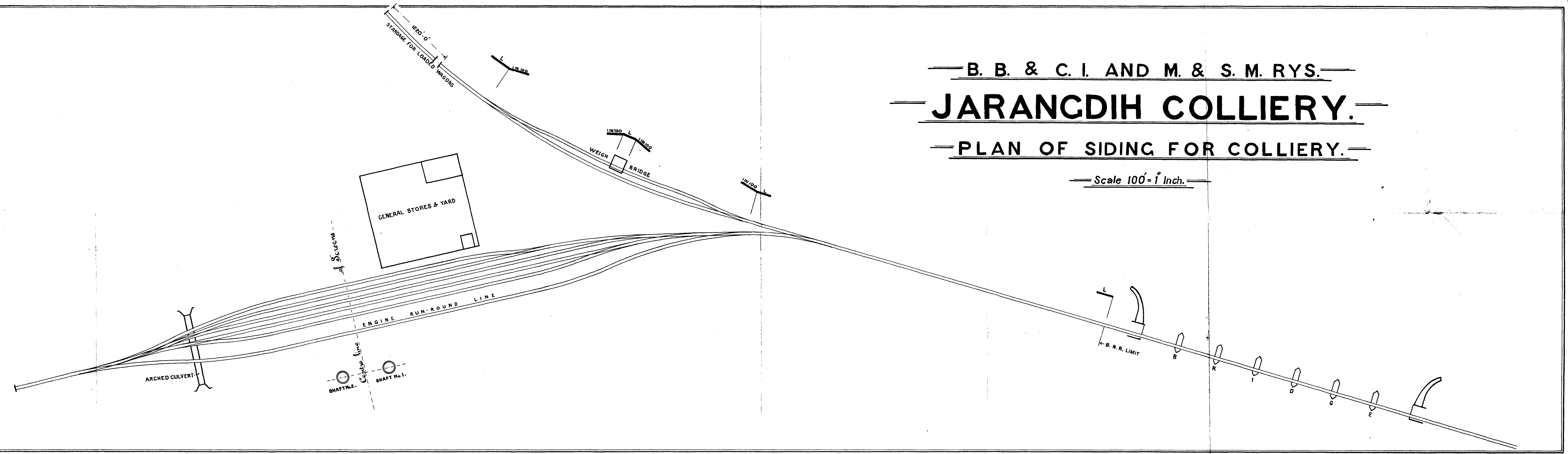
— DETAIL PLAN OF MAIN SIDING —

— Scale 100 Ft = 1 Inch —



— B. B. & C. I. AND M. & S. M. RYS. —
 — **JARANGDIH COLLIERY.** —
 — PLAN OF SIDING FOR COLLIERY. —

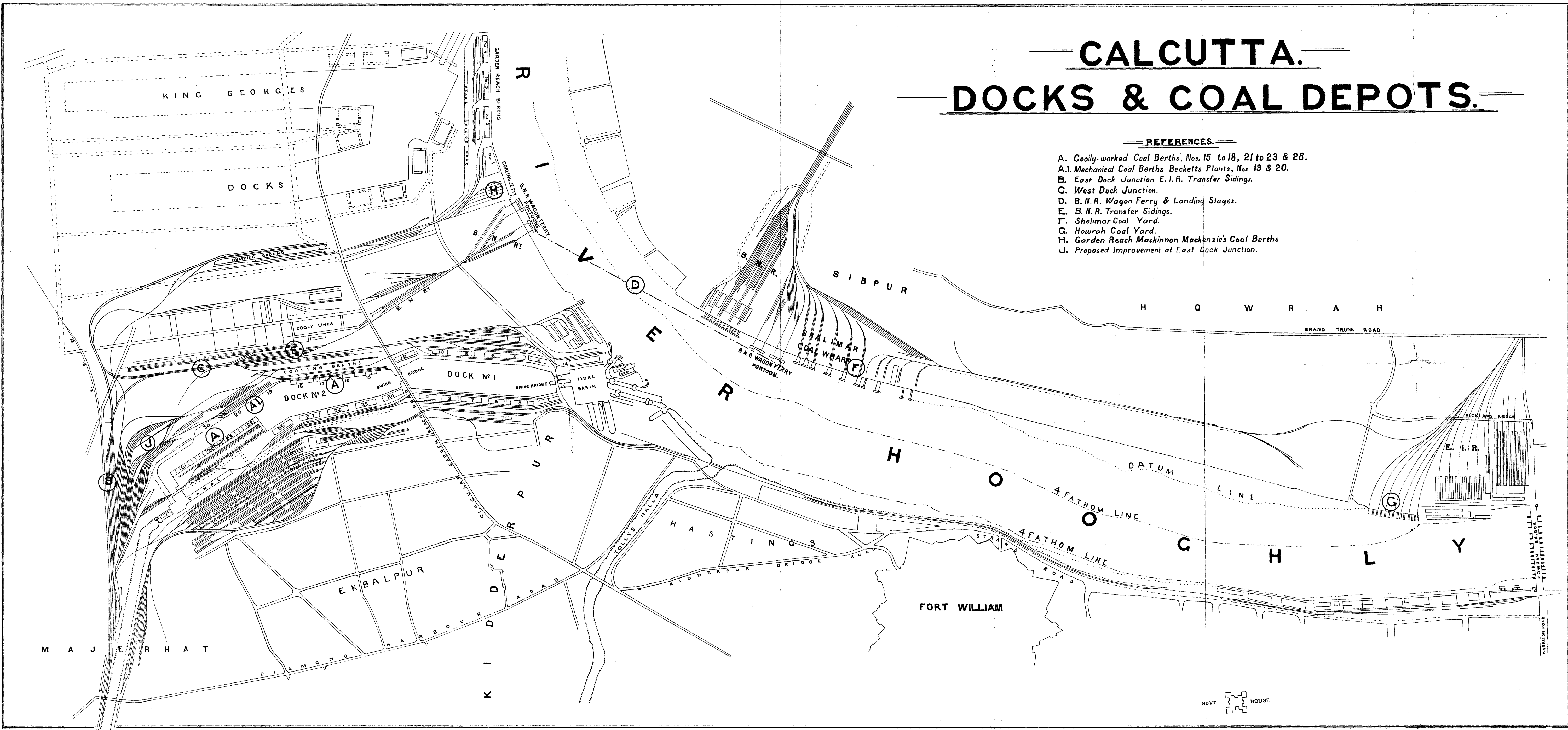
— Scale 100' = 1" Inch. —



—CALCUTTA.— —DOCKS & COAL DEPOTS.—

—REFERENCES.—

- A. Cooly-worked Coal Berths, Nos. 15 to 18, 21 to 23 & 28.
- A.1. Mechanical Coal Berths Becketts' Plants, Nos. 19 & 20.
- B. East Dock Junction E.I.R. Transfer Sidings.
- C. West Dock Junction.
- D. B.N.R. Wagon Ferry & Landing Stages.
- E. B.N.R. Transfer Sidings.
- F. Shalimar Coal Yard.
- G. Howrah Coal Yard.
- H. Garden Reach Mackinnon Mackenzie's Coal Berths.
- J. Proposed Improvement at East Dock Junction.



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REPORT
OF THE
INDIAN COAL COMMITTEE
1925

Volume I



CALCUTTA : GOVERNMENT OF INDIA
CENTRAL PUBLICATION BRANCH
1925

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(1) Salaries of members and staff	57,617
(2) Travelling allowance (including daily allowance)	9,701
(3) Printing (including cost of Maps)	7,954
(4) Contingencies	890
	<hr/>
TOTAL	76,162
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APPENDIX I.

PRODUCTION OF COAL IN EACH PROVINCE AND STATE OF INDIA.

Year	BRITISH PROVINCES									
	Burma	Assam	Bihar and Orissa	Bengal †	Punjab	N.-W. F. Province	Baluchistan ‡	Central Provinces	Madras	TOTAL
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
1878-1880 (Average)	946,000	...	...	...	41,000	...	987,000
1881-1885 (Average)	...	12,000	...	1,110,000	...	...	...	103,000	...	1,225,000
1886-1890 (Average)	...	105,000	...	1,411,000	16,000	...	...	137,000	...	1,674,000
1891-1895 (Average)	...	168,000	...	2,064,000	69,000	...	19,000	134,000	1,000	2,460,000
1896-1900 (Average)	8,000	201,000	...	3,763,000	83,000	...	18,000	167,000	...	7,001,000
1901-1905 (Average)	7,000	252,000	...	6,481,000	53,000	...	89,000	167,000	...	9,112,633
1906	1,222	285,400	5,325,201	3,203,529	73,119	...	42,164	32,848	...	10,586,488
1907	...	295,795	5,467,612	3,505,736	60,740	...	42,488	134,068	...	12,149,020
1908	...	275,224	7,992,372	3,567,539	54,794	90	45,212	213,789	...	11,284,327
1909	...	305,563	7,134,573	3,525,238	37,208	96	53,449	230,437	...	11,398,086
1910	...	297,236	7,041,208	3,757,322	49,189	90	52,614	180,000	...	20,895,000
1906-1910 (Average)	...	292,000	6,795,000	3,526,000	55,000	...	47,000	211,616	...	12,051,885
1911	...	294,893	7,616,330	3,858,574	30,575	140	45,707	233,996	...	14,066,515
1912	...	297,180	9,126,385	4,306,129	38,409	...	54,386	236,651	...	15,459,117
1913	...	270,862	10,227,557	4,649,985	51,040	90	48,234	244,745	...	16,736,155
1914	...	305,160	10,661,062	4,424,507	54,303	84	43,607	253,118	...	16,359,632
1915	25	311,296	10,718,155	4,975,480	67,311	60	49,000	236,000	...	17,739,000
1911-1915 (Average)	...	295,000	9,669,000	4,443,000	46,000	...	49,000	236,000	...	16,424,893
1916	...	287,315	10,767,683	4,062,376	47,449	75	43,168	237,532	...	17,327,837
1917	...	301,460	11,982,419	4,631,571	49,899	215	40,765	371,495	...	19,852,062
1918	...	294,494	13,680,080	5,302,295	50,418	240	43,125	451,470	...	21,769,940
1919	...	(a) 1,500	15,119,812	5,777,032	49,893	20	33,941	491,205	...	17,091,227
1920	...	326,535	11,975,656	4,307,452	55,078	...	39,000	426,000	...	18,493,000
1916-1920 (Average)	...	(b) 1,800	12,695,000	4,392,000	51,000	...	54,627	712,914	...	18,397,971
1921	...	300	12,980,481	4,259,642	67,242	...	60,135	675,916	...	18,191,320
1922	...	174	12,711,328	4,328,988	67,180	...	43,562	648,074	...	18,515,385
1923	...	1,371	13,212,250	4,621,578	63,201	...	...	...	...	...

* Figures included in Bengal.
(a) Figures for Northern Shan States.

† Includes figures for Bihar and Orissa up to 1905.

‡ Includes figures of the Kalat State.
(b) Figures for 1919.

APPENDIX I—contd.

PRODUCTION OF COAL IN EACH PROVINCE AND STATE OF INDIA.

Year	INDIAN STATES				GRAND TOTAL
	Hyderabad	Rajputana (Bikaner)	Central India (Rewah)	TOTAL	
	Tons	Tons	Tons	Tons	
1878-1880 (Average)	...	...	2,000	2,000	987,000
1881-1885 (Average)	...	...	40,000	81,000	1,387,000
1886-1890 (Average)	...	...	101,000	298,000	1,765,000
1891-1895 (Average)	41,000	...	141,000	592,000	2,768,000
1896-1900 (Average)	378,000	8,000	178,000	696,000	4,760,000
1901-1905 (Average)	428,000	28,000	170,202	670,587	7,697,000
1906	467,923	32,373	178,588	670,871	9,783,350
1907	414,231	28,082	155,107	620,815	11,147,389
1908	444,211	11,449	121,496	620,815	12,769,635
1909	443,892	12,744	130,400	640,817	11,870,064
1910	508,173	21,000	151,000	627,000	13,047,413
1906-1910 (Average)	466,000	14,701	143,568	663,869	11,828,000
1911	505,280	18,251	140,921	649,834	12,715,534
1912	481,652	18,781	148,978	710,892	14,708,339
1913	552,133	17,211	152,808	726,108	18,208,000
1914	555,991	17,708	139,680	744,300	16,464,263
1915	598,924	17,000	147,000	701,000	17,103,932
1911-1915 (Average)	597,000	13,841	200,285	820,416	15,440,000
1916	615,200	6,045	198,407	868,081	17,254,300
1917	680,629	11,334	182,141	850,007	18,212,918
1918	659,122	14,700	158,051	870,347	20,723,493
1919	602,186	15,000	188,000	865,000	22,628,087
1920	604,980	24,521	102,034	905,278	17,963,214
1916-1920 (Average)	662,000	28,000	161,231	841,408	19,366,000
1921	698,721	15,055	175,950	890,726	19,302,947
1922	642,880	7,110	...	810,166	18,010,986
1923	658,429	...	...	841,408	19,656,883

APPENDIX II.

QUANTITY OF INDIAN COAL* EXPORTED FROM BRITISH INDIA.

(Private merchandise only.)

Year	To Aden	To British East Africa	To Mauritius	To Ceylon	To Java	To Straits Settlements	To Sumatra	To Hongkong	To other countries	TOTAL	
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Rs.
1891—1895 (average)	1,000	...	2,000	28,000	...	10,000	...	..	1,000	42,000	4,16,000
1896—1900 (average)	19,000	1,000	8,000	193,000	2,000	69,000	2,000	...	10,000	225,000	32,25,000
1901—1905 (average)	84,000	11,000	14,000	328,000	4,000	138,000	20,000	16,000	9,000	559,000	49,46,000
1906	19,233	2,700	10,832	416,191	12,103	317,855	71,482	133,752	10,003	1,002,951	79,70,206
1907	13,835	3,700	4,087	320,735	8,284	202,445	84,337	11,206	8,473	658,145	52,73,404
1908	11,224	150	2,508	424,875	8,522	110,100	97,508	...	5,007	650,596	57,35,581
1909	3,483	...	...	313,355	4,713	128,789	70,394	...	34,215	563,940	50,75,018
1910	7,383	...	4,905	522,019	20,055	230,933	100,234	...	90,837	988,308	85,01,877
1906—1910 (average)	11,000	1,000	5,000	399,000	11,000	199,000	87,000	29,000	33,000	776,000	65,89,000
1911	11,677	...	...	404,093	5,208	235,450	109,383	...	16,399	803,177	72,84,059
1912	12,577	...	5,320	570,161	625	149,031	119,427	...	32,608	898,739	80,27,263
1913	5,336	...	1,800	436,206	...	107,433	102,759	...	25,531	751,155	74,40,574
1914	16,537	...	1,249	341,128	51	111,689	83,739	...	25,455	579,748	51,16,857
1915	10,717	...	1,945	555,241	12,050	90,483	64,373	...	9,538	733,042	68,03,555
1911—1915 (average)	11,000	...	2,000	479,000	4,000	167,000	86,000	...	22,000	771,000	71,62,000
1916	19,388	10	982	540,505	30,380	142,025	104,121	5	35,257	881,741	80,37,689
1917	419	4	...	299,507	...	50,531	8,474	...	19,183	408,117	37,88,372
1918	83	...	...	53,040	...	10,273	...	...	12,094	74,406	7,85,163
1919	13,525	...	...	296,102	17,198	110,304	41,750	8,710	14,854	608,537	60,38,113
1920	83,689	...	1,500	685,550	16,083	228,355	60,473	...	140,119	1,224,758	1,67,13,036
1916—1920 (average)	23,000	...	1,000	877,000	13,000	175,000	45,000	2,000	44,000	620,000	68,71,000
1921	17,576	2	...	230,645	...	11,373	6,251	...	3,724	275,571	38,47,395
1922	...	...	...	76,742	50	...	...	...	319	77,111	10,02,433
1923	...	502	...	119,620	100	15,388	...	...	955	136,575	23,41,969
1924	7,423	...	...	170,701	...	17,703	...	...	10,596	206,493	34,19,098

* Excluding bunker coal and Government Stores, but including coke and patent fuel.

APPENDIX III.

Exports of coal from the port of Calcutta.

	To Foreign ports Tons	To Indian ports Tons	Total Tons
1910-11	887,362	2,210,517	3,097,879
1911-12	871,308	2,017,183	2,888,491
1912-13	879,390	2,237,076	3,116,466
1913-14	721,349	2,324,167	3,045,516
1914-15	592,474	1,904,624	2,497,098
1915-16	803,303	828,531	1,631,834
1916-17	823,124	490,028	1,313,152
1917-18	254,503	206,824	461,327
1918-19	142,942	101,322	244,264
1919-20	672,778	213,260	886,038
1920-21	1,135,722	1,408,686	2,544,408
1921-22	111,537	1,282,211	1,393,748
1922-23	97,611	812,136	909,747
1923-24	131,559	936,504	1,068,063

APPENDIX IV.

Tonnage of coal bunkered at Calcutta.

Year	Foreign Ports Tons	Indian Ports Tons	Total Tons
1896	267,118	136,250	403,368
1897	305,325	173,512	478,837
1898	321,609	175,482	497,091
1899	306,301	197,546	503,847
1900	392,740	222,400	615,140
1901	454,496	224,270	703,425
1902	479,657	216,850	678,766
1903	468,619	234,806	696,507
1904	461,893	297,290	759,183
1905	488,848	349,870	838,718
1906	524,848	371,464	896,312
1907	459,362	462,706	922,068
1908	544,772	513,530	1,058,302
1909	493,636	394,904	888,540
1910	540,552	364,130	904,682
1911	529,163	354,642	883,805
1912	596,629	367,368	963,997
1913	573,298	409,216	982,514
1914	684,082	334,671	1,018,753
1915	542,963	224,701	767,664
1916	491,386	109,544	600,930
1917	400,091	86,304	486,395
1918	307,353	70,932	378,285
1919	469,675	112,043	581,718
1920	673,061	172,932	846,013
1921	611,858	254,003	865,860
1922	412,670	162,470	575,140
1923	453,054	153,078	606,132
1924	530,557	167,422	697,979

APPENDIX V.

QUANTITY AND VALUE OF FOREIGN COAL* IMPORTED INTO BRITISH INDIA.

(Private merchandise only.)

Year	QUANTITY						TOTAL
	From United Kingdom	From Australia	From Union of South Africa	From Japan	From Portuguese East Africa (b)	From other countries	
	Tons	Tons	Tons	Tons	Tons	Tons	
1891-1895 (average)	677,000	17,000	(a)	7,000	...	4,000	705,000
1896-1900 (average)	267,000	21,000	...	43,000	...	2,000	333,000
1901-1905 (average)	164,000	19,000	1,000	34,000	...	3,000	206,000
1906	189,215	18,961	15	5,358	...	7,816	230,305
1907	237,024	50,086	16,548	8,481	...	3,880	301,588
1908	178,405	120,680	71,831	2,980	...	7,808	385,333
1909	311,213	54,792	91,907	11,413	...	21,098	490,421
1910	261,245	38,040	18,224	6,854	...	1,833	315,998
1906-1910 (average)	234,000	56,000	40,000	6,000	...	8,000	344,000
1911	245,043	35,703	16,098	6,075	4,177	11,685	318,869
1912	145,087	92,087	120,010	97,280	40,648	50,890	560,701
1913	185,034	51,344	107,834	97,208	77,570	65,935	644,984
1914	107,178	33,410	79,495	32,234	58,742	47,092	416,758
1915	47,343	28,103	41,740	18,089	52,312	3,084	100,654
1911-1915 (average)	168,000	48,000	80,000	50,000	49,000	36,000	427,000
1916	5,402	12,301	10,789	...	3,587	1,854	34,033
1917	6,903	22,554	3,857	448	0,080	1,076	44,818
1918	4,867	13,020	3,276	3,276	23,680	1,789	54,340
1919	5,643	3,329	18,080	927	10,880	3,807	48,675
1920	5,022	8,134	7,835	4,302	7,083	6,411	30,727
1916-1920 (average)	6,000	10,000	11,000	2,000	12,000	3,000	44,000
1921	441,305	111,384	306,908	68,071	158,556	6,486	1,030,740
1922	742,460	17,840	236,034	55,647	167,123	11,018	1,220,639
1923	131,739	69,380	281,793	4,600	115,943	81,404	624,918

* Figures exclusive of Government Stores, but including coke and patent fuel.
 (a) Average quantity imported is 142 tons.
 (b) Figures for years previous to 1911 are included in "Other countries."

Year	VALUE						
	From United Kingdom	From Australia	From Union of South Africa	From Japan	From Portuguese East Africa (a)	From other countries	TOTAL
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1891-1895 (average)	1,20,22,000	2,72,000	8,000	1,13,000	...	73,000	1,24,83,000
1896-1900 (average)	55,80,000	8,75,000	...	6,58,000	...	37,000	66,55,000
1901-1905 (average)	30,79,000	2,11,000	18,000	4,78,000	...	51,000	38,37,000
1906	38,30,556	2,53,985	150	72,408	...	1,44,093	43,01,101
1907	46,24,918	7,90,013	2,62,519	45,531	...	51,310	57,74,376
1908	37,33,039	21,01,125	12,17,923	43,849	...	1,21,727	73,17,603
1909	55,86,831	7,77,681	14,13,091	1,63,692	...	3,20,124	62,60,019
1910	45,89,547	4,27,387	2,76,080	1,46,375	...	27,301	54,67,590
1906-1910 (average)	44,73,000	6,70,000	6,34,000	1,64,000	...	1,33,000	62,64,000
1911	43,35,700	5,67,368	2,92,743	1,04,625	...	1,54,109	54,44,843
1912	29,17,183	14,52,531	21,85,745	15,38,594	8,53,350	5,83,255	98,29,638
1913	41,33,668	8,15,728	30,22,474	16,12,891	13,67,004	12,33,094	1,21,05,775
1914	37,04,856	5,48,145	15,08,395	5,01,494	10,44,756	9,95,390	63,04,036
1915	12,92,160	5,39,870	6,84,918	3,07,694	9,23,791	50,015	37,97,348
1911-1915 (average)	32,75,000	7,85,000	15,22,000	8,13,000	8,47,000	6,67,000	79,09,000
1916	3,11,570	2,56,770	4,93,060	15	79,845	38,995	11,81,145
1917	3,80,920	5,63,265	97,260	9,780	3,23,000	64,273	13,18,168
1918	6,02,576	1,48,113	4,47,069	1,90,281	5,81,238	23,559	20,20,896
1919	2,68,016	63,645	5,43,042	34,800	4,37,193	71,089	14,16,845
1920	2,95,380	2,01,380	2,54,671	1,32,945	2,37,113	1,71,621	12,93,010
1916-1920 (average)	3,07,000	2,46,000	3,07,000	74,000	3,08,000	84,000	14,46,000
1921	1,59,49,295	37,58,254	1,13,75,837	24,07,993	66,74,569	2,50,891	4,35,17,320
1922	2,91,26,337	6,67,330	74,03,673	21,21,030	67,74,456	2,75,770	4,55,58,844
1923	48,09,631	21,61,940	74,49,181	1,64,374	31,10,308	5,67,468	1,86,83,003

QUANTITY OF COAL* IMPORTED INTO BRITISH INDIA BY SEA ON GOVERNMENT ACCOUNT.

	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Imports	54,738	12,379	3,593	1,637	13,095	205	...	209,007	491,828	4,251

*Including coke and patent fuel,

(a) Figures for years previous to 1911 are included in "Other countries,"

NOTE.—Value of imports of coal imported on Government account is not available.

APPENDIX VI.

Coal imported into the Straits Settlements, 1918-23.

	Tons					
	1918	1919	1920	1921	1922	1923
<i>A. British Empire and Protectorates.</i>						
United Kingdom	4,601	693	151	10,384	90,583	33,888
British North Borneo	8,637	3,380	...	6,273	18,921	...
Brunei	13,609	10,178	13,084	...	7,213	6,439
Sarawak	6,612	3,653	1,716	3,249	...	1,800
British India and Burma	19,482	87,066	183,432	12,483	...	21,984
Hongkong	500	56	281	959	2,125	3,189
F. M. S. . . . .	...	...	...	...	...	32,741
Non-F. M. S. . . . .	...	...	...	...	...	...
Australia	8,074	64,543	135,473	93,941	67,377	34,965
Union of South Africa	12,930	84,634	5,317	11,656	76,501	153,907
Other British Possessions . . . . .	...	4	...	113	...	...
<i>B. Foreign Countries.</i>						
China	21,694	...	320	26,245	14,652	15,154
French Indo-China	11,424	12,777	12,742	9,831	14,955	10,304
Japan	394,644	271,326	341,195	340,007	226,640	176,692
Dutch Borneo	7,239	12,316	21,281	17,117	17,336	68,101
Sumatra	8,730	2,385	8,680	3,091	11,158	60,104
Siam and Siamese States . . . . .	...	...	...	...	...	...
Other Foreign Countries	207	20	10	...	...	14,704
TOTAL	457,480	503,041	726,701	533,343	547,367	633,752

Coal imported into the Straits Settlements for the first half of 1924.

A. BRITISH EMPIRE AND PROTECTORATES.

United Kingdom	7,516
British North Borneo	3,877
British India and Burma	6,955
Hongkong	271
F. M. S.	2,141
Non-F. M. S.	25
Australia	37,875
Union of South Africa	120,063
Other British Possessions . . . . .	...

B. FOREIGN COUNTRIES.

China	34,521
French Indo-China	420
Japan	38,215
Dutch Borneo	40,067
Sumatra	24,449
Other Foreign Countries	17,875

TOTAL .. **334,270**

APPENDIX VII.

Imports of Coal into Colombo, 1910—1924.

Countries	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
<i>By Private Firms.</i>	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
United Kingdom	339,623	260,289	278,466	234,334	263,054	57,325	39,256	17,417	187	3,104	6,165	129,568	240,516	166,968	163,037
British Colonies—															
British India	446,683	395,878	655,638	384,020	269,575	451,962	446,437	227,261	71,044	488,696	640,742	301,479	14,949	32,756	70,057
Natal	5,503	2,853	9,927	21,370	42,406	45,475	5,812	11,120	68,928	69,097	18,686	183,461	196,044	160,290	215,513
Cape Colony . . . . .	...	...	...	...	...	...	...	...	1,432	1,850	...	...	...	...	...
New South Wales . . . . .	...	...	...	...	...	21,646	...	1,654	...	7,688	3,763	12,546	6,400	13,473	7,000
South Australia . . . . .	...	...	...	...	...	...	...	...	...	10,426	...	...	...	(Australia)	(Australia)
Western Australia . . . . .	...	...	7,141	...	...	...	...	...	...	1,177	3,158	15,610	...	...	...
Queensland . . . . .	...	...	...	...	...	...	...	...	...	...	...	5,850	...	...	...
Other British Possessions in Africa	...	...	2,442	22,847	6,767	47,498	42,172	24,471	43,069	43,200	16,576	54,184	35,066	29,939	79,078
Victoria . . . . .	...	...	...	603	...	...	...	...	...	...	...	...	...	...	...
Foreign Countries—															
Japan	7,671	520	32,017	94,317	10,340	17,516	19,776	8,201	10,537	23,602	8,928	26,313	5,915	80	...
Mozambique . . . . .	...	5,507	...	7,139	6,915	...	20,574	16,555	3,166	43,258	6,976	...	25,027	31,373	7,417
China . . . . .	...	...	...	...	...	164	...	...	...	...	...	...	...	...	...
Cochin-China . . . . .	...	...	...	...	...	...	1,650	...	...	...	...	...	...	...	...
Other Foreign Countries in Africa . . . . .	...	...	...	...	...	...	...	5,017	...	...	...	...	...	...	...
TOTAL	801,379	665,047	885,661	744,529	599,057	641,536	575,677	311,606	218,350	686,077	705,193	640,961	523,100	437,888	561,103
<i>By Government.</i>															
United Kingdom . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
British Colonies—															
British India	78,089	73,617	72,143	52,093	72,638	87,407	120,367	84,851	55,605	50,045	103,948	74,414	58,616	91,658	97,833
Natal . . . . .	...	...	...	43,319	34,840	...	...	...	...	...	...	...	...	15,002	16,171
Straits Settlements . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	30
TOTAL	78,089	73,617	72,143	95,412	107,478	87,407	120,367	84,851	55,605	50,045	103,948	74,414	58,616	106,660	114,034

Charges on Coal—

Import Harbour dues 25 cents per ton of coal.

Tonnage dues (i.e., dues payable by ships discharging cargo), 25 cents per ton of cargo.

Coal stacking grounds adjoining the Harbour are leased to Coal Importing Companies at a rental of Rs. 8,000 to Rs. 10,000 per acre per annum.

APPENDIX VIII.

IMPORTS INTO ADEN.

Year	From United Kingdom	From Calcutta	From South Africa	From Japan	TOTAL
1912-13	115,356	10,194	2,500	6,700	134,750
1913-14	115,143	5,284	5,367	...	125,794
1914-15	98,731	16,377	25,938	...	141,046
1915-16	82,671	12,958	29,880	...	125,509
1916-17	29,988	15,852	43,662	...	89,502
1917-18 . . . .	...	5,758	41,861	...	47,619
1918-19 . . . .	...	...	76,595	...	76,595
1919-20	50,904	15,966	85,876	...	152,746
1920-21	29,167	36,854	87,333	...	153,354
1921-22	53,882	...	29,403	...	83,285
1922-23	76,215	...	22,634	...	98,849
1923-24	59,117	...	51,020	...	110,137

APPENDIX IX.

Imports of coal into Burma from 1910-11 onwards.

Year	INDIAN COAL.					OTHER COAL.							Total Indian and other Coal.
	From Bengal	From Bombay	From Madras	From Sind	Total Indian coal	United Kingdom	South Africa	Portuguese E. Africa	Australia	Japan	Other countries	Total other coal	
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
1910-11 . . .	424,958	294	173	...	425,425	16,548	83	63	6,555	...	714	23,080	449,414
1911-12 . . .	378,429	...	200	...	378,629	9,120	135	...	1,887	3,335	415	14,802	393,521
1912-13 . . .	454,850	190	700	...	455,740	5,720	...	...	3,727	31,553	1,475	42,484	408,224
1913-14 . . .	473,180	90	1,579	...	474,820	7,011	...	200	13,946	8,310	1,066	30,623	505,452
1914-15 . . .	423,553	1,780	1,100	...	426,503	7,826	...	...	15,293	4,145	1,500	22,853	455,356
1915-16 . . .	408,598	...	350	...	408,938	3,385	226	...	4,753	7,330	631	16,326	425,263
1916-17 . . .	419,719	593	555	50	420,917	1,308	400	...	6,551	180	1,321	9,660	430,577
1917-18 . . .	214,359	100	520	...	214,978	2,643	1,130	...	1,854	75	1,403	7,105	222,173
1918-19 . . .	183,666	88	...	...	183,752	6,301	...	...	2,350	2,663	1,089	12,412	196,164
1919-20 . . .	268,870	520	1,165	...	270,555	5,011	...	...	...	...	1,400	6,471	277,026
1920-21 . . .	415,894	500	330	...	416,524	2,314	...	...	23,244	7,425	5,070	38,062	454,586
1921-22 . . .	350,410	405	800	...	350,705	50,573	...	89,812	24,242	37,491	3,013	208,731	509,436
1922-23 . . .	331,530	...	...	...	331,530	40,604	12,888	21,097	4,018	5,937	1,275	85,819	417,340
1923-24 . . .	503,204*	Not available	...	...	503,204*	1,811	26,901	15,358	6,970	430	5,009	57,469	560,673
April 1924 to end of December.	281,000*	...	...	...	281,000*	3,117	2,973	...	1,342	187	80	7,684	288,774

* Represent exports from Bengal.

APPENDIX X.

Imports of coal into Madras from 1910-11 onwards.

	INDIAN COAL:			OTHER COAL:							Total Indian and other Coal.
	From Bengal	From Bombay	Total	United Kingdom	South Africa	Portuguese East Africa	Australia	Japan	Other Countries	Total	
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
1910-11	235,397	2	235,399	1,438	3,022	...	...	...	...	4,460	239,859
1911-12	272,793	529	273,322	1,114	...	...	602	...	55	1,771	275,093
1912-13	378,514	928	379,442	679	...	...	14,953	...	135	15,767	395,209
1913-14	341,588	1,282	342,870	262	5,538	1,207	5,470	...	756	13,342	356,112
1914-15	367,242	1,897	369,139	264	...	436	...	...	888	1,078	370,217
1915-16	215,235	3,191	218,426	...	...	...	...	...	12	12	218,438
1916-17	54,912	4,742	59,654	138	...	...	805	...	138	881	60,535
1917-18	13,674	5,176	18,850	100	...	...	...	...	55	155	19,005
1918-19	34,546	2,660	37,206	...	...	...	...	...	25	25	37,231
1919-20	45,204	4,760	49,964	101	...	...	...	...	55	156	50,120
1920-21	177,921	4,408	182,329	...	...	...	...	...	...	...	182,329
1921-22	309,401	3,506	312,907	24,191	19,905	42,101	...	...	...	86,197	399,104
1922-23	330,927	3,070	333,997	14,603	30,549	...	150	3,252	10	57,564	391,561
1923-24	207,781	4,200	211,980	14,463	27,415	13,914	11,411	...	...	67,208	279,188
1924 (April to December) .	260,551*	...	260,551	11,727	9,289	58	6,242	...	10	27,333	277,884

* Represent exports from Bengal.

APPENDIX XI.

Imports of coal into Bombay (excluding Sind) from 1910-11.

Year	INDIAN COAL.				OTHER COAL.							Total Indian and other Coal.
	From Bengal	From Madras	From Sind	Total	United Kingdom	Union of South Africa	Portuguese East Africa	Australia	Japan	Other Countries	Total	
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
1910-11	869,103	...	...	869,103	214,021	12,237	115	36,408	13,629	655	277,065	1,146,168
1911-12	802,075	...	...	802,075	156,732	19,787	5,373	33,220	10,757	24,738	250,617	1,052,692
1912-13	713,660	...	...	713,660	140,649	169,006	38,349	76,908	75,680	61,468	561,083	1,274,743
1913-14	704,307	...	...	704,307	135,188	101,378	66,230	25,884	62,654	52,410	443,744	1,148,051
1914-15	613,358	...	...	613,358	123,622	67,066	61,321	17,116	36,895	10,008	326,228	939,586
1915-16	81,221	...	...	81,221	5,195	35,179	39,581	13,588	38	2,145	95,721	176,942
1916-17	1,114	...	...	1,114	1,572	12,617	6,077	12,479	190	370	33,305	34,419
1917-18 . . . . .	...	...	...	...	904	509	...	1,346	8,457	33	11,240	11,240
1918-19 . . . . .	...	...	949	949	1,380	17,417	32,930	...	1,313	90	53,140	54,089
1919-20	54,906	...	...	54,906	690	15,567	5,274	1,804	647	480	24,252	79,158
1920-21	599,452	...	2,009	601,452	6,657	5,980	18,430	8,713	2,650	685	43,095	444,547
1921-22	348,416	...	...	348,416	584,150	311,555	132,059	62,683	45,651	100	1,116,198	1,464,614
1922-23	89,289	...	...	89,289	372,815	186,952	13,597	19,689	28,772	100	620,925	710,214
1923-24	126,065*	...	...	126,065*	45,005	197,890	98,235	32,220	275	1,467	375,002	501,157
1924 (April to December)	174,355*	..	...	174,355*	46,737	76,121	53,329	3,432	2,117	1,048	182,784	357,139

* Represent exports from Bengal.

APPENDIX XII.

Imports of coal into Sind, i.e., into Karachi from 1910-11 onwards.

	INDIAN COAL.	OTHER COAL.						Total other coal	Total Indian and other Coal.
	From Bengal	United Kingdom	South Africa	Portuguese East Africa	Australia	Japan	Other Countries		
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
1910-11	42,648	12,781	912	...	...	...	...	13,693	56,341
1911-12	59,240	12,551	5,557	...	...	...	120	18,228	77,477
1912-13	57,674	10,657	630	11,910	...	...	95	23,292	110,956
1913-14	81,382	12,498	17,620	11,606	...	...	50	41,774	123,156
1914-15	92,705	10,393	6,416	5,993	...	...	...	22,801	115,506
1915-16	39,567	1,720	...	...	...	...	...	1,720	41,287
1916-17 . . . . .	...	...	...	...	...	...	250	250	250
1917-18 . . . . .	...	...	...	...	...	...	92	92	92
1918-19 . . . . .	...	...	...	...	...	...	...	...	...
1919-20 . . . . .	...	...	...	...	...	...	...	...	...
1920-21	64,617	190	...	...	...	...	58	257	64,874
1921-22	84,684	45,476	8,171	10,300	...	...	...	63,947	148,631
1922-23	35,560	45,606	37,665	7,984	...	...	...	91,255	127,116
1923-24	69,480	16,793	21,452	41,765	9,118	...	60	80,188	157,677
1924 to end of December	61,379*	15,680	24,552	34,820	...	...	75	75,127	136,606

*Represent exports from Bengal.

APPENDIX XIII.

TONNAGE OF COAL BUNKERED AT INDIAN PORTS.

N.B.—For the years 1911 to 1915, figures for Calcutta only are available.

At Calcutta.

	Tons.
1911	888,000
1912	884,000
1913	888,000
1914	1,019,000
1915	708,000

	1916	1917	1918	1919	1920 (a)	1921	1922	1923	1924
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
At Calcutta	601,000	488,000	378,000	500,000	938,000	886,000	575,000	608,000	608,000
„ Bombay	1,092,000	931,000	897,000	883,000	824,000	408,000	102,000	99,000	84,000
„ Madras	35,000	44,000	38,000	43,000	51,000	49,000	20,000	19,000	25,000
„ Rangoon	24,000	58,000	69,000	110,000	156,000	169,000	98,000	101,000	132,000
„ Karachi (b) . . . . .	...	...	...	...	...	...	...	...	116,000
TOTAL	1,752,000	1,514,000	1,180,000	1,576,000	1,997,000	1,592,000	796,000	819,000	1,034,000

(a) Represents figures for the official year 1920-21.
 (b) Figures given to 1924 are not available.

APPENDIX XIV.

Oil-bunkering at different ports.

Port.	Year.	Liquid fuel imports.	Liquid fuel bunkers.	Number of ships bunkered.	Number of ships fitted to burn oil only.	Number of ships fitted to burn oil or coal.
		Tons.	Tons.			
Calcutta	1919-20	Not available.	23,808	57	Not available.	Not available.
	1920-21	Do.	42,051	117	Do.	Do.
	1921-22	Do.	8,913	49	Do.	Do.
	1922-23	Do.	9,152	50	Do.	Do.
	1923-24	Do.	8,712	41	Do.	Do.
	1924-25	Do.	8,579	43*	Do.	Do.
Rangoon	1922-23	397,869	Not available.	Not available.	Do.	Do.
Singapore	1921	13,394	368	1	Do.	Do.
	1922	109,204	2,155	6	Do.	Do.
	1923	504,816	196,646	16	Do.	Do.
Co.ombo	1922	103,197	77,923	187	Do.	Do.
	1923	128,717	123,281	240	116	64
	1924	161,575	126,773	230	351	78
Madras	1919-20	12,009	1,400	Not available.	2	45
	1920-21	14,289	1,856	Do.	6	86
	1921-22	15,046	881	Do.	5	99
	1922-23	22,888	5,424	Do.	12	113
	1923-24	18,043	5,809	Do.	18	114
Bombay	1920-21	88,417	8,195	Not available.	122	2
	1921-22	132,455	14,389	Do.	109	2
	1922-23	143,109	27,964	Do.	203	1
	1923-24	195,070	39,513	Do.	221	5
Karachi		Not available.	Not available.	Not available.	Not available.	Not available.
Aden	1920-21	42,196	Do.	90	Do.	Do.
	1921-22	35,741	Do.	112	Do.	Do.
	1922-23	69,231	Do.	164	Do.	Do.
	1923-24	155,926	Do.	288	Do.	Do.

* Up to December.

APPENDIX XV.

Statement showing action taken on the recommendations and conclusions of the Coal Traffic Conference held in 1912.

Statement showing action taken on the Recommendations and

Recommendations.	E. I. Railway.
<p>(1) That the system of allotment of wagons was theoretically sound, but it should be rigidly worked to so as to leave no loop-hole for the irregular supply of wagons.</p>	<p>There is no room for any loop-hole for the irregular supply of wagons under the existing system of allotment so far as the railways are concerned.</p>
<p>(2) That at present the allotments are made too early in the afternoon to ensure accurate information in regard to the number of wagons which will be actually received: the allotment should be made as late in the evening as may be necessary to ensure more accuracy in fixing the basis of allotment.</p>	<p>Allotments are made at about 5 P.M. and are based on the empty position at 14 hours. As a result of the introduction of "Control" and of extended telephone communication, it is possible to estimate the number of wagons which will be available with a fair degree of accuracy on the information available at 14 hours. The allotments cannot be made much later than this as the allotment orders have to be despatched to the various Depot stations so as to permit of the necessary empty loads being made up in time to allow of supplies to collieries being placed, wherever possible, before 7 hours in the morning.</p>
<p>(3) That the basis of a colliery should be calculated on the despatches of a colliery and not on the despatches from the individual sidings serving the colliery.</p>	<p>The bases of collieries are now calculated by the Coal Transportation Officer on their raisings as furnished quarterly by the Chief Inspector of Mines and on stocks.</p>
<p>(4) That the questions (a) whether the carriage of locomotive coal for railways should have precedence in respect to the supply of wagons over the carriage of coal required for steamers and industrial enterprises, (b) whether shipment coal should be considered as coal for special purposes and be entitled to priority in the supply of wagons were matters which required early settlement, action being taken in the first instance by Chambers of Commerce and the Indian Mining Association.</p>	<p>Locomotive coal continues to receive precedence in respect of the supply of wagons.</p> <p>Shipment coal also is given special supply when so authorised by the Coal Transportation Officer for Public and the Chief Mining Engineer, Railway Board, for locomotive coal when wagons for this purpose are scarce.</p>

Conclusions of the Coal Traffic Conference held in 1912.

B. N. Railway.	E. B. Railway.	Port Commissioners.
<p>Allotments are now regulated almost entirely by the Coal Transportation Officer, and detailed checks are made to see that wagons are not supplied irregularly.</p>	<p>.....</p>	<p>.....</p>
<p>The allotment is now made as late as possible consistent with accuracy in fixing the basis of allotment. The allotment is completed at 12 hours daily, and owing to the telephone facilities that are available in connection with the Train Control system, full particulars of all wagons which are likely to be available by midnight of the same day are taken into account and allotted.</p>	<p>....</p>	<p>....</p>
<p>The basis of a Colliery is now fixed by the Coal Transportation Officer.</p>	<p>....</p>	<p>....</p>
<p>At the present time the available wagons are distributed in the following order of precedence—</p> <ol style="list-style-type: none"> (1) Locomotive coal. (2) Specials as authorised by the Coal Transportation Officer. (3) Emergency. Small lots and half rakes for Shipment, Bunker and Industrial coal as authorized by the Coal Transportation Officer. (4) Advance Cumulative. Half rakes for Bunker, Shipment and Industrial coal as authorized by the Coal Transportation Officer. (5) Pro-rata. 	<p>....</p> <p>....</p> <p>....</p> <p>....</p> <p>....</p>	<p>..</p> <p>..</p> <p>....</p> <p>....</p> <p>....</p>

Statement showing action taken on the Recommendations and

Recommendations.	E. I. Railway.
(5) That it was in the interests of both the railways and the collieries that the supply of empties should be made at regular hours, and in time for early morning work.	On most of the more important Pilot sections, supplies to collieries are made under what is called the 10-hour system, that is to say, the empty wagons are placed in the colliery siding before 7 hours in the morning and taken away loaded at or after 17 hours in the evening.
(6) That the railways, if they are not able to carry out this important improvement for all collieries, should endeavour to carry it out for a certain proportion of them.	Where the 10-hour system is not worked to, the reason is that either the existing facilities do not at present permit of this being done or the return in freight and quicker turn round of a small number of wagons daily is not commensurate with the additional expenditure involved by the 10-hour system as compared with the 20-hour system.
(7) That loaded wagons should be removed as soon as possible after they were loaded and the present long delays at collieries of loaded wagons be reduced.	The introduction of the 10-hour system wherever possible and where the return is commensurate with the expenditure involved, meets the suggestion.
(8) That it is possible that the working of these pilots at the collieries, which is left mainly to the discretion of the guard, might be susceptible of improvement.	There is constant supervision over pilot guards by District Officers and Inspectors.
(9) That to get over the difficulty of the Guard and the colliery peon not always meeting when wagons were delivered and drawn each colliery should have a post box into which the guard could post a challan of the wagons he had delivered at the time. The challan should also state the number of wagons available for distribution on that day. This challan should be sent by the Colliery Manager to the District Traffic Office duly initialled if correct and it would then serve as a useful check in the office that the actual wagons delivered were in accordance with the allotment orders.	Challans are delivered in the manner recommended but it is not always the practice for collieries to return them to the District Offices in token of the supply having been correctly made. Many collieries, in fact, retain them for the purpose of record in their own offices. The requisite check in the District Offices is secured by comparison of the Office Allotment Memo. with the Pilot Guard's Supply Memo. and the Pilot Guard's Clearance Memo. The statement received from weigh bridges of wagons involved daily affords an additional check.

Conclusions of the Coal Traffic Conference held in 1912—*contd.*

B. N. Railway.	E. B. Railway.	Port Commissioners.
Supplies of empty wagons to Collieries are made at regular hours, and Collieries are allowed 20 hours for loading purposes.
<p>Endeavour was made in 1912 to give effect to these recommendations of the Conference, and to supply empty wagons in the early morning and to clear loaded wagons 10 hours later, but this arrangement was found unsuitable for all collieries and two of our largest consignors were unable to work to this arrangement.</p> <p>....</p>
<p>The working of Pilot Guards is frequently supervised by Inspectors and District Officers. Moreover the "Train Control" is in force over the whole B. N. Railway coal fields and by this means a constant check is maintained over the work of each individual guard.</p>
<p>Post boxes are provided at the majority of the Collieries, but they are not much used, as the wharf peons of the collieries usually take delivery of the Challans personally, and also hand Declaration Notes direct to the Guard together with the completed challans.</p>		

Statement showing action taken on the Recommendations and

Recommendations.	E. I. Railway.
(10) That a good system of telephonic connection between the collieries, the District Traffic Office and the central distributing station should be installed as soon as possible so that ample information could be obtained by collieries of the working of pilots; advice could be sent when wagons were ready loaded.	The public telephone has since been installed in the Coal Fields and is made full use of.
(11) That every wagon should have a load line calculated on the basis of 42 cubic feet of coal weighing 1 ton.	This is done. Complaints have been made that some foreign wagons do not possess load lines and the matter has in each case been referred to the railway concerned.
(12) That the minimum for charge be 2 tons below marked carrying capacity and no wagon load be adjusted which did not exceed one ton more than the marked carrying capacity of the wagon.	The minimum charge of 2 tons below marked carrying capacity is permitted in all cases. Owing, however, to the large increase in axle-loads, the overload of one ton cannot be permitted <i>vide</i> paras. 22 (a) and 23 (2) (a) of the current Coal Tariff (No. 36) but this is more than compensated for by the recent Circular No. 219 of 5th September 1924 allowing increased carrying capacity of wagons for Coal Traffic.
(13) That the system of marking should be the same on all railways and that all coal load lines should be painted in white with the word "coal" marked on the line, and such lines should consist of one line at each end of the wagon, 2 ft. long and two lines one on each side of the door, each 1 ft. long with a broad arrow from the top indicating the position of each line; the thickness of the line should be half an inch.	See reply to (11). Owing to varying specific gravity of coal, uneven loading and variations in air spaces between lumps according as to whether the coal has been picked or not, the load line is not an accurate indication of the extent to which a wagon may be loaded, though it may give an approximate idea. This has long been recognised by the railways and a proposal was made to the trade that collieries should calculate, with the aid of the formula furnished in the extract given below, the height to which the particular coal they were raising should be loaded. "This index figure is the floor area of each wagon worked out in sq. feet and divided into 12 with the result given to five places of decimals. "In order to arrive at the height to which each class of coal may be loaded in each type of wagon it will be necessary to multiply the index figure by the specific gravity of the coal to be loaded

Conclusions of the Coal Traffic Conference held in 1912—*contd.*

E. N. Railway.	E. B. Railway.	Port Commissioners.
Telephonic communication has been introduced.	....	....
The measure proposed has been carried out.	....	....
Do.	Coal is generally charged at 2 tons less than the marked carrying capacity of the wagon and this virtually carries out the recommendations of the Coal Committee.	
Do.	This recommendation has been carried out.	

Statement showing action taken on the Recommendations and

Recommendations.	E. I. Railway.
<p>(14) That the present system of marshalling trains for separate destinations at each marshalling station in the collieries and detaining these trains until a full load was received was a serious cause of delay in the use of rolling stock. The Conference were strongly of the opinion that the yard proposed by the E. I. Railway Traffic Officials at Bandel should be built at once (Mr. Hight dissenting). Down coal trains from the collieries being run there without marshalling, that work being done on arrival at Bandel.</p>	<p>and by the quantity of coal which may be loaded in each particular type of wagons as follows:—</p> <p>Index Specific Quantity of figure. gravity of coal which may coal. be loaded.</p> <p>·05607 × 42 c.ft. × 19 tons.</p> <p>“This gives 44·74 inches or 3 ft. 8½ inches, the height to which the coal may be loaded.</p> <p>“The Colliery Manager or his loading Representative will be responsible for—</p> <p>(a) knowing the specific gravity of each class of coal which he loads up at each of his collieries.</p> <p>(b) measuring the height to each wagon may be loaded after making the necessary calculations as detailed above and marking the height on the inside of the wagon in chalk.</p> <p>“The Railway Companies will be prepared to assist colliery managers further by issuing a printed pamphlet which will save them all calculations. In this pamphlet there will be a separate page for every specific gravity that can possibly be applicable to steam coal, rubble coal, slack coal, soft coke or hard coke. On each such page will be found against the different index figures the heights to which the required amount of coal should be loaded.”</p> <p>Notwithstanding these endeavours, the proposal was not accepted.</p> <p>The system of marshalling has not been altered but it is not considered that it is a serious cause of delay in the use of rolling stock. The Bandel yard has been remodelled but not sufficiently to do all the marshalling suggested by the Committee.</p> <p>The accommodation in this yard has only just received further consideration but the amount of additional facilities which should be provided is largely dependent on the result of the proposals to build the Bally Bridge.</p>

Conclusions of the Coal Traffic Conference held in 1912—*contd.*

B. N. Railway.	E. B. Railway.	Port Commissioners.
<p>Does not apply to B. N. Railway.</p>		

Statement showing action taken on the Recommendations and

Recommendations.	E. I. Railway.
<p>.....</p>	<p>In any case Bandel is not a suitable site to do all the marshalling of wagons received from the Coal fields.</p>
<p>The accommodation at Katras, Kusunda and Jherriah station yard should be increased</p>	<p>The Katrasgarh yard has been remodelled, and considerably enlarged. Electric lighting has also been installed.</p> <p>The Kusunda yard remodelling is now in hand.</p> <p>The Jherriah yard remodelling is now in hand.</p>
<p>(15) That it was considered that ample siding accommodation should be provided at all new collieries and that the siding accommodation of existing collieries should be improved as far as possible.</p>	<p>Applications for new sidings and extension of existing sidings are dealt with on their merits, the chief consideration being the proportion of freight which can be earned from additional traffic anticipated from wagons loaded at the new sidings or extensions of the old, in relation to the Capital expended in their construction.</p>
<p>(16) That the line from Dhanbad to Katrasgarh should be doubled.</p>	<p>This has been done.</p>
<p>(17) That collieries should see that wagons are examined before being loaded and again before being despatched with special reference to the fixing of the doors pins.</p>	<p>Very little assistance is received from collieries in this matter and printed circulars have repeatedly to be issued. Individual cases coming to notice are brought to the attention of collieries, but with the constant changes that take place in the supervision and management, our requests are soon forgotten.</p>
<p>(18) That the Managing Agents should instruct their collieries to load upwards coal in E. I. Ry. covered wagons whenever they are available providing the marshalling of wagons so permitted.</p>	<p>Collieries do not usually load wagons in accordance with the requests of the Railways although such requests are brought to their notice daily on the reverse of their wagon challans. Both the indent form and the wagon challan have a permanent request printed on them to load covered wagons upwards.</p>
<p>(19) That when foreign loco. coal wagons were available and a colliery was not being pressed for the immediate shipment of coal the loading of such loco. wagons should have precedence over the loading of public coal.</p>	<p>Since the introduction of the Wagon Pool, the system of loading a railway's loco. coal in its own wagons sent specially for the purpose is no longer necessary.</p>

Conclusions of the Coal Traffic Conference held in 1912—*contd.*

B. N. Railway.	E. B. Railway.	Port Commissioners.
This is done.
Does not apply to B. N. Railway.
These matters require more attention on the part of Collieries.
Do.
This matter has been disposed of by the introduction of the Wagon Pool.

Statement showing action taken on the Recommendations and

Recommendations.	E. I. Railway.
(20) That the E. I. and B. N. Railways should take immediate steps to increase their supply of wagons pari passu with their facilities for handling them so as to enable them to meet the reasonable demands of the coal trade for the carriage of the output and sale of coal at all seasons.	The supply of wagons and facilities for handling them have been increased, but this was considerably delayed as a result of the War.
(21) That Managing Agents should instruct Colliery Managers to load in groups wagons for the same destination as far as possible.	Our experience is that collieries do not load in groups wagons for the same direction.
(22) That it was very desirable that collieries should endeavour to assist railways as far as they can in the direction of reducing the time required to remove loaded wagons and that the details of such arrangements could best be settled at joint meetings of railway representatives and Colliery Managers.	These meetings were held for sometime but it was found that the number of subjects for discussion did not warrant their continuance. Now that the public telephone has been installed in the Coal Fields, Colliery Managers can always be in close touch with the Railway Officers.
(23) That over-indenting was objectionable, but a colliery might indent for the number of wagons it could load in a day.	Repeated representations resulted in all collieries being permitted to indent to the extent of twice their loading accommodation except collieries who have three wagons space or less. Such collieries are permitted to indent to the extent of three times their loading accommodation. Inflated indents are still, however, quite common.
(24) That the two railways should combine and arrange meetings of the Colliery Managers in the coalfields, to discuss and settle with them the steps which should be taken to constitute regular monthly meetings of Colliery Managers and railway officers at which all points of difficulty should be fully discussed, and, if possible, settled.	See remark against (22).
(25) That more co-operation was very advisable between the E. I. Railway and the E. R. S. Railway and that each should endeavour to do its best to help the other.	Such co-operation does exist and mutual assistance is rendered.
(26) That the new sidings sanctioned by the Port Trust would be an improvement on the present sidings and would tend to enable the Dock Junction work to be done more expeditiously.	

Conclusions of the Coal Traffic Conference held in 1912—*contd.*

B. N. Railway.	E. B. Railway.	Port Commissioners.
<p>A very great increase has been made, and is being made in the provision of facilities.</p>	<p>....</p>	
<p>This is regulated by the Coal Transportation Officer's allotments.</p>	<p>....</p>	<p>....</p>
<p>Monthly meetings were held and were called until February 1914. There were no Agendas for the last two or three meetings, and in consequence they ceased to be held.</p>	<p>Meetings were commenced, but were not found to be of any utility and were therefore stopped.</p>	<p>....</p>
<p>Collieries are permitted to submit separate indents for each separate route, each indent being equivalent to not more than the full capacity of their siding. Thus if 9 different routes are open, a colliery can indent up to 9 times its siding capacity, provided the indents are for wagons for each route.</p>	<p>....</p>	<p>..</p>
<p>See answer to (22)</p>	<p>....</p>	<p>....</p>
<p>....</p>	<p>There is still room for improvement under this head and the matter is receiving attention.</p>	
	<p>....</p>	<p>The new sidings referred to were provided. The new entrance to the grain sheds referred to in paragraph 33 of the report page 14, was also provided and has been in use since 1913.</p>

Statement showing action taken on the Recommendations and

Recommendations.	E. I. Railway.
<p>(27) These new sidings would not, however, be sufficient to deal with the development of traffic from railways and in the near future, and that the only course to take would be to completely remodel Dock Junction Yard in light of the large traffic railways would pour into it as the works they now have in hand are completed and the future Dock developments the Port Trust have in contemplation.</p>	
<p>(28) In these circumstances the proper course to take was to divert the E. B. Railway between the vicinity of Tally's Nullah and that of Brace Bridge Junction, so as to leave ample space for the remodelling of Dock Junction Yard.</p>	

Conclusions of the Coal Traffic Conference held in 1912—*contd.*

B. N. Railway.	E. R. Railway.	Port Commissioners.
		<p>At the time the Coal Traffic Conference sat, the Commissioners had already acquired the land necessary for the construction of a new Dock Junction Yard to serve both the Kidderpore and King George's Docks and their outline plans provided for the diversion of the Eastern Bengal Railway as proposed in recommendation 28. The land has been raised but the construction of a new Dock Junction has not been begun, because the present arrangements are sufficient for existing traffic, and it will not be begun in the immediate future because the first portion of the King George's Dock can be served by making comparatively minor extensions to the existing arrangements. Plans and estimates for these extensions have been drawn up and will shortly be submitted to the Commissioners for sanction. Incidentally, the handling of coal wagons will be facilitated by the alterations proposed.</p> <p>A revised plan for the new Dock Junction, which will ultimately be required when the King George's Dock is extended, has been drawn up and will shortly be submitted to the Commissioners for approval, not with a view to completing the work in the near future but to enable the excavations from the King George's Dock to be utilised to advantage in raising the land which will ultimately be required for this new yard.</p>

Statement showing action taken on the Recommendations and

Recommendations.	E. I. Railway.
<p>(29) They were of the opinion that the practice of collieries of over-booking to a berth was extremely objectionable.</p> <p>(30) They consider that by better watering arrangements, by doing away with wagon examination, by providing a direct route for Bengal-Nagpur and Eastern Bengal Railways exchange traffic and by dealing more rapidly with trains on their arrival in Dock Junction yard it may be possible to reduce the present time of 36 hours allowed for Dock work.</p>	<p>Prior to the abolition of dumping charges by the Port Commissioners over-booking to a berth was not indulged in to any great extent. Since, however, the dumping charges have been withdrawn, overbooking occurs in many cases.</p> <p>....</p>
<p>(31) That the East Indian Railway should keep a careful watch on the rapid removal of empties from Dock Junction yards.</p>	<p>This matter is carefully watched at Head-Quarters.</p>

Conclusions of the Coal Traffic Conference held in 1912—*contd.*

B. N. Railway.	E. B. Railway.	Port Commissioners.
<p>.....</p> <p>.....</p> <p>.....</p>	<p>.....</p> <p>.....</p> <p>.....</p>	<p>Since 1912 a number of improvements have been carried out in the siding accommodation serving the coal berths and these improvements have, of course, re-acted on Dock Junction.</p> <p>.....</p> <p>Additional water columns have been provided and there is now a direct route for Bengal-Nagpur and Eastern Bengal Railways interchange traffic. Wagon examination has not been dispensed with but it causes no appreciable delay. After the 1912 report was published the Commissioners objected to any reduction of the 36 hours' free time then allowed and none was made. They stated that to enable wagons to be turned round quicker it would be necessary to resort more to dumping and they considered that dumping should be reduced to a minimum.</p> <p>Since 1912 the Commissioner's agreements with the Railways have been altered. They were then allowed 36 hours' free time in the case of wagons returned empty and 60 hours in the case of wagons returned loaded. This arrangement was altered in March 1922 and the Commissioners are now allowed 48 hours on all wagons.</p> <p>Difficulties are not now experienced by the Commissioners through slow removal of empties at Dock Junction by the East Indian Railway.</p>

Statement showing action taken on the Recommendations and

Recommendations.	E. I. Railway.
(32) That an additional down line should be constructed at once between Burdwan and Bandel.	The Burdwan-Howrah Chord was opened for traffic on the 1st January 1917.
(33) That an additional up line between Burdwan and Bandel should be put in hand without much delay.	
(34) That eventually this quadruple line would have to be extended at no distant date to Asansol.	The line between Burdwan and Khana Junction has been quadrupled.
(35) That it was imperative that Howrah Goods accommodation should be remodelled on a large scale at once.	<p>Since the year 1910 the following additional accommodation has been provided in Howrah Goods. A Riverside Goods Warehouse, consisting of 3 Storeys, each with an approximate floor area of 64,722 sq. ft. was brought into use in February 1910. In 1910 and 1913 two new Jute Sheds consisting of 7 and 5½ bays respectively, each bay 100 ft. long, were built. The approximate floor area of these Sheds is 57,500 sq. ft. and 22,700 sq. ft. respectively. In 1913 there were also built 4 double-storeyed Goods Sheds in replacement of four single storeyed ones. These Sheds were brought into use in March and April of that year and the combined floor area of these four double storeyed Sheds is 2,04,919 sq. feet. The Sheds are provided with Cranes and electrical equipment. In the same year the old Roadside Goods Shed was dismantled. The object of this was to increase the width of the road and so facilitate removal from the Sheds.</p> <p>In 1915 the re-erection of 3 of the old Sheds, in replacement of which the four double storeyed Sheds were built, was taken in hand. It will, therefore, be seen that the Resolution made in the Conference of 1912 has been fully complied with.</p>
(36) That the site now used for coal traffic at Howrah was the obvious site for the extension of the Goods accommodation.	Other methods having been found of extending the accommodation required for Goods Sheds, the coal traffic continues to be dealt with at Howrah.

Conclusions of the Coal Traffic Conference held in 1912—*contd.*

B. N. Railway.	E. B. Railway.	Port Commissioners.
....
....
....
....
.....

Statement showing action taken on the Recommendations and

Recommendations.	E. I. Railway.
(37) That this traffic could without any disadvantage to trade be transferred to a site to be provided by the Port Trust near Shalimar which should be used both by the B. N. and E. I. Railways.	.....
(38) That by the use of the chord connecting the E. I. Railway and B. N. Railway at Lillooah or some other alternative scheme this coal traffic could be taken off the E. I. Railway at Lillooah and run to the new site, an arrangement which would tend to relieve Howrah terminal goods station very much.	The chord or other scheme has not materialized. See items (36) and (37).
(39) That the present sorting yard at Lillooah was inadequate, though the additions and alterations proposed would be of advantage.	Although the Coal Traffic Committee of 1912 considered the yard to be inadequate experience has shown that any large outlay on additional facilities is not required and therefore no material alterations to the Yard have been made.
(40) That it was no use improving Lillooah sorting yard largely until Howrah had been made capable of dealing with a very much larger traffic than at present.	The Howrah Goods Yards have not had any large additions; certain facilities to enable the work in the Yard to be got through quicker have been provided.
(41) That the question of building a proper railway terminal station at Ramkristapur was a matter which required very early attention.	This has not been found necessary.
(42) That the time now allowed, viz., 40 hours to the Port Trust by the B. N. Railway for wagons sent to their Shalimar bunker depots was excessive and should be reduced.	.....
(43) That the possibility of receiving wagons from the B. N. Railway more rapidly at the Docks by the Port Trust should be looked into.	.....

Conclusions of the Coal Traffic Conference held in 1912—*contd.*

B. N. Railway.	E. B. Railway.	Port Commissioners.
This recommendation is dependent on Recommendations 34, 35 and 36.	No action has been taken on this recommendation but the Commissioners are in a position to provide more land for bunker depots at Shalimar if it be required.
Do.
This does not apply to the B. N. Railway.
Do.
This has not been found necessary.
This was referred to the P. T. Railway but a reduction was not arranged.	This matter no longer concerns the Port Commissioners, as the railway traffic at the Shalimar bunker depots is now worked by the East Indian Railway.
Wagons are received by the Port Trust at the Docks as rapidly as we can put them in.	No additional accommodation has been provided, because the Agent, Bengal Nagpur Railway, agreed that none was necessary.

Statement showing action taken on the Recommendations and

Recommendations.	E. I. Railway.
<p>(44) That collieries situated in the Jherriah field on one railway have the right, whenever they may so desire, to indent for the other railway's wagons for the carriage of coal by the latter's route to Howrah, Shalimar, Kidderpore Docks, Brace Bridge Hall, Jetties and other Calcutta stations, subject to the following conditions:— When B. N. Railway wagons are supplied coal cannot be booked to Howrah. When E. I. Railway wagons are supplied, coal cannot be booked to B. N. Railway Shalimar Coal Depot Station.</p>	<p>This is permitted.</p>
<p>(45) That collieries on one railway despatching coal to stations on, or <i>via</i>, the other railway when indenting for wagons, shall name the destination or route, and the railway that receives the indent, if unable to supply its own wagons, shall indent for the wagons of the other railway.</p>	<p>The system of allotment of wagons for loading <i>via</i> the links is that collieries situated on each railway submit their indents to that railway. The allotment in both cases is, by mutual arrangement, made by the B. N. Railway.</p>
<p>(46) That a representation should be made to the Government of India by the Indian Mining Association urging that, owing to new developments, the arrangement made eleven years ago under which the Jherriah field was divided into areas, each of which was to be served by one railway only should be enquired into at an early date.</p>	<p>....</p>
<p>(47) That in the future there would be a steady expansion of the coal trade required to meet the demands for internal consumption, and that in regard to the export coal trade, provided transport facilities are improved, there are possibilities of expansion.</p>	<p>....</p>
<p>(48) That it was impossible to estimate the life of the Jherriah coal field, but it would certainly be long enough to justify large expenditure in improving existing railway and Dock facilities.</p>	<p>....</p>
<p>(49) That it seemed desirable that some reliable system of check and record should be maintained by railways in order that a watch might be kept and serious delays prevented in the running of single wagons or small numbers of wagons between local stations.</p>	<p>So far as concerns Dock traffic this matter is carefully watched, periodical checks being made by all concerned of date of wagon labels at Dock Junction and <i>en-route</i> and delays taken up. At times of congestion in downwards traffic, wagons for Docks are given preference in despatch.</p>

Conclusions of the Coal Traffic Conference held in 1912—*contd.*

B. N. Railway.	E. B. Railway.	Port Commissioners.
When a route is blocked traffic is diverted by the alternative route. The Wagon Pool has done away with the necessity for indenting for the other Railway's wagons.
Do.
....
Transport facilities have been, and are still being, improved.
....
A detailed record on the movement of individual wagons is maintained by means of the wagon record system.

APPENDIX XVI.

Statement of Coal passing through the Port of Calcutta.

—	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924 (Ten months)
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Cargo—													
Docks . . .	2,817,172	2,652,427	2,449,669	1,691,489	1,574,245	8,10,516	603,059	1,347,332	2,114,268	1,597,472	774,485	804,262	855,180
Overside . . .	..	..	..	..	..	8,104	15,323	20,221	40,528	34,185	8,673	31,721	6,966
Garden Reach Depot.*	..	..	..	..	89,999	100,510	124,007	180,807	246,700	222,445	121,526	225,128	221,680
TOTAL . . .	2,817,172	2,652,427	2,449,669	1,691,489	1,664,244	920,130	743,079	1,548,360	2,401,500	1,854,102	904,684	1,061,111	1,083,832
Bunker—													
Docks . . .	249,852	254,195	292,121	166,615	142,997	71,663	66,413	125,077	188,747	156,830	39,749	86,599	48,960
Overside . . .	714,148	728,805	726,879	581,385	411,310	159,170	351,578	406,448	500,244	588,834	412,460	480,259	442,844
Garden Reach Depot.*	..	..	..	..	46,098	93,042	77,185	80,786	157,262	147,843	144,208	96,030	113,787
TOTAL . . .	964,000	983,000	1,019,000	768,000	601,000	323,875	495,776	612,911	846,258	893,507	596,423	612,888	605,591
GRAND TOTAL . . .	3,781,172	3,635,427	3,468,669	2,459,489	2,265,244	1,244,005	1,238,255	2,161,271	3,247,753	2,747,609	1,501,107	1,673,939	1,689,423

* Opened in June 1916.

N.B.—The figures for bunker coal loaded overside prior to 1917 are not available in the Port Commissioner's records. The figures of bunker coal for 1912-16 given in para. 3 of the Report have therefore been adopted.

APPENDIX XVII.

Average mean rates of freight.

	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	Increase in 1924 as compar- ed with 1912
	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Per cent.
A.—COAL RATES FROM CALCUTTA.														
To Rangoon	3 0	3 0	3 8	5 4	10 0	15 0	17 8	12 8	11 0	10 4	9 0	7 0	5 0	60
„ Colombo	4 0	5 0	4 8	8 8	18 8	22 0	29 0	19 0	16 4	13 0	12 8	8 8	6 8	62
„ Bombay	5 0	5 8	5 8	7 8	..	..	..	20 0	21 0	14 0	12 8	9 0	7 0	40
B.—RICE RATES (NETT) FROM BANGCOON.														
To Calcutta	3 8	4 8	6 0	9 0	10 0	25 0	22 0	18 0	9 0	5 0	5 0	5 0	5 0	48
„ Colombo	8 0	9 8	11 0	18 0	22 0	68 0	60 0	27 0	20 0	12 0	9 0	14 0	18 0 11 0	50
„ Cochin	8 0	9 8	9 0	11 0 15 0	15 0 27 0	50 0	27 0	18 0	18 0	12 0	11 0	13 0	13 0	62
„ Bombay	7 8	9 8	10 0	11 0	30 0	65 0	55 0	21 10	18 0	12 0	11 0	13 0	13 0	73
C.—RATES FOR JUTE, LINSEED, ETC., FROM CALCUTTA.														
To United Kingdom	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	52
	25 0	27 0	22 6	55 0	180 0	300 0	320 0	170 0	125 0	60 0	36 0	36 0	38 0	

The 1921 rates were fixed by the Rice Controller.

APPENDIX XVIII.

Union of South Africa.

Act to provide for the inspection and grading of coal produced in the Union which is intended for export beyond the Union or for bunkering steamers in South African ports; the prohibition or restriction of the export and bunkering of coal when the demand for coal for consumption within the Union warrants it, and the safeguarding of the supply of coal for public utilities.

BE IT ENACTED by the King's Most Excellent Majesty, the Senate and the House of Assembly of the Union of South Africa, as follows:—

Prohibition of export of ungraded coal.

1. After the expiry of six months from the commencement of this Act no coal produced within the Union shall be used for export or for bunkering, unless it has been graded and a certificate in the prescribed form has been granted in respect thereof.

Appointment of grading committees and officers.

2. (1) The Minister may appoint one or more grading committees, each consisting of a chairman and four members, to control the grading of coal.

(2) If the Minister is satisfied that not less than two-thirds of the collieries in any province are prepared to adopt a method of grading coal in accordance with the principles laid down in this Act, he may appoint such persons as may have been nominated by the collieries of that province, together with an independent chairman nominated by the Minister, to be a grading committee therefor: Provided that a grading committee so constituted may, in the discretion of the Minister, be dissolved by him at any time.

(3) If a grading committee is not appointed by the Minister in accordance with sub-section (2), or if any grading committee which has been appointed is dissolved by him, he may himself appoint a grading committee consisting of a chairman and four members, two of whom shall be persons nominated by the collieries as prescribed in the regulations.

(4) The members of a grading committee shall be remunerated in the manner prescribed by regulation and the committee shall have power to appoint a secretary and graders, inspectors, samplers, and other officers, to establish laboratories and testing stations, and to carry on such experimental and analytical work and tests as it may deem necessary for the efficient performance of its duties.

(5) The salaries of members of a grading committee, or such portion thereof as the Minister may decide, the salaries of all officers of the committee, as well as all expenses incurred in connection with its administration and its work, shall be paid out of moneys to be raised as provided in section seven.

Method of grading.

(6) A grading committee appointed to replace one dissolved by the Minister shall *ipso facto* assume all the obligations, duties, funds and assets of its predecessor.

3. (1) The grading of coal shall be conducted in such manner as may be prescribed by the regulations. Grading certificates may be issued by a grading committee and each such certificate shall specify the grade of coal to which it applies and shall be issued and signed on behalf of the committee by the secretary or by one of its graders.

(2) In determining the grade of any coal a grading committee shall take into consideration the report of its graders and other officers on the results of their sampling, inspection and tests, and it shall also permit the colliery concerned, if it so wishes to submit facts and figures relating to its coal.

(3) A grading committee may in its discretion refuse to issue a grading certificate in respect of any coal submitted for grading if the liability of such coal to spontaneous combustion is deemed by the committee to constitute a danger to life or property. The decision of the grading committee shall be subject to review by the Minister.

4. (1) Any colliery which desires to provide or sell coal for export or for bunkering shall apply to a grading committee within the province where the coal then lies or at the port from which it is to be exported, to grade its coal and the grading committee shall, with all reasonable despatch, take the necessary steps to determine the grade.

Application
by colliery
for grading
certificate.

(2) Any colliery which is not satisfied with the grade in which its coal is graded may forthwith bring the decision of the grading committee in review before the Minister.

5. A grading committee may authorize any of its members, officers or servants to enter at any time in and upon any colliery, storage bin, truck, vehicle, vessel or other place where there is coal and any person so authorized may inspect, sample and test such coal for the purpose of ascertaining what its grade may be, and may take and remove samples of coal as he thinks fit. The officers and servants of the colliery so inspected and the officers and servants of any person engaged in or concerned with the export or bunkering of coal shall render such reasonable assistance in the work of inspection and taking samples as may be called for.

Inspection
of coal by Com-
mittee or
officers.

6. A grading committee may from time to time publish in such form as it may deem suitable particulars of the grade of coal available in South Africa and any other information concerning South African coal that it may consider to be of commercial or scientific interest.

Publication
of informa-
tion as to
South African
coal.

7. (1) A grading committee shall make an initial levy of money on the collieries at the commencement of its operations. The amount so levied shall be based upon the tonnage shipped by the several collieries during the preceding six months. Thereafter a grading committee shall once every quarter levy an amount from the collieries in proportion to the quantity of coal supplied during the preceding quarter by each of them for export and bunkering.

Levy on
collieries to
defray ex-
penditure of
committees.

(2) The total quarterly amount so levied shall be the estimated expenditure of a grading committee for the quarter in which the levy is made.

(3) At the end of each calendar year there shall be an adjustment of accounts in accordance with the actual expenditure of a grading committee during that year, and the adjustment shall be taken into account in calculating the amount to be levied from each colliery for the first quarter of the next succeeding year.

(4) A committee may charge for any service rendered by it under this Act such fee as may be prescribed by regulation.

(5) If any moneys payable under this section are not paid by a colliery within fourteen days after its receipt of a notice from a grading committee, giving particulars of the amount payable and demanding its payment, such moneys may be recovered, together with costs and interest, by action in a competent court at the suit of such grading committee.

(6) A grading committee shall be capable of suing and being sued under the name of its chairman who shall be the proper person to execute powers of attorney to bring or defend proceedings.

(7) The accounts of a grading committee shall be audited each year by a competent auditor.

8. If it appears to the Minister that there is a real or apprehended scarcity of available coal for consumption within the Union, the Minister may by notice in the *Gazette* temporarily prohibit or restrict any or every colliery from exporting or bunkering coal until adequate supplies for local consumption have been assured. No action shall lie against any person prevented from fulfilling in whole or in part any contract entered into before the passing of this Act, by reason of the exercise of the powers granted under this section.

Temporary
prohibition
or restriction
of export.

Requisition
of coal for
use of the
South African
Railways and
Harbours Ad-
ministration.

9. (1) If the South African Railways and Harbours Administration after making all reasonable efforts in that behalf is at any time unable to make satisfactory contracts for securing the coal required for its purposes, by reason of a scarcity of available coal, or of any combine, concerted action or the like between the collieries or any two or more of them it shall have power to call upon the collieries which supply coal considered by it to be suitable for its requirements to deliver such coal in proportion to the total amount sold by each colliery: Provided that such call shall only be made upon the collieries in the province or provinces from which the coal required is usually obtained and no such call shall be made upon any colliery which has entered into a contract to supply coal to the Administration if that colliery has already supplied to it a reasonable proportion of its output. The prices of the coal so requisitioned, as well as the precise quantity to be supplied and the conditions applicable thereto shall, failing mutual agreement, be promptly determined by a board of arbitration, consisting of a representative of the colliery concerned a representative of the Administration, and a chairman mutually agreed between the parties or, failing agreement, to be appointed by the Minister, but such chairman shall be neither a public servant or a person having any financial interest direct or indirect in the coal trade.

(2) The South African Railways and Harbours Administration may, if it finds itself at any time temporarily short of coal for its purposes, intercept and apply to its own uses any suitable coal which may be in transit: Provided that the interception and use of any consignment of coal under this sub-section shall be such as to cause the least possible inconvenience and embarrassment to any colliery, consignee or other person, and shall be limited to the quantities urgently required by the Administration day by day. The amount of any particular colliery's coal so intercepted in any one calendar month shall not in the aggregate exceed two and a half per cent. of that colliery's monthly despatches of coal. The price to be paid for coal so intercepted shall be as mutually agreed between the colliery concerned and the Administration, and, failing agreement, the price shall be fixed by a board of arbitration appointed as provided in the preceding sub-section.

Penalties.

10. (1) Any person who contravenes or causes to be contravened any provision of this Act or any regulation or makes default in performing any obligation which it is duty to perform, shall, if no penalty is specially provided for such contravention or default, be liable, in the case of a first conviction, to a fine not exceeding one hundred pounds, and in the case of a second or subsequent conviction to a fine not exceeding two hundred and fifty pounds or to imprisonment for a period not exceeding six months, or to both such fine and imprisonment.

(2) Any person who obstructs, resists or hinders a grader or other person authorized by a grading committee under section five, in the lawful exercise of his powers or duties under this Act, or any regulation, shall be guilty of an offence and liable on conviction to a fine not exceeding twenty-five pounds.

Offence of
forging
brands or
falsely
issuing
warrants.

11. (1) Any person who forges or utters, knowing it to be forged, any certificate or brand, or any writing or signature required by or provided in this Act, shall be guilty of an offence and liable on conviction to the penalties prescribed by law for the crime of fraud.

(2) Any person who wrongfully issues a written warrant or invoice, label, analysis or partial analysis, certificate, or notification in respect of export, or bunker coal, if such written document falsely describes such coal or is false in any other material particular, shall be guilty of an offence and liable on conviction to a fine not exceeding one hundred pounds or to imprisonment without the option of a fine for a period not exceeding six months or to both such fine and imprisonment.

Regulations.

12. (1) The Governor-General may make regulations not inconsistent with this Act prescribing—

(a) the appointment and method of nomination of members of grading committees and the remuneration payable to the members thereof;

- (b) the procedure of a grading committee in the exercise of its functions;
- (c) the forms or certificates to be issued in respect of coal graded for export or bunkering;
- (d) the circumstances under which the shipment of coal may be prohibited or restricted;
- (e) the fees which shall be payable to grading committees under this Act;
- (f) the manner in which coal shall be graded,

and generally as to any matter which may be necessary for the better carrying out of the objects and purposes of this Act.

(2) The regulations may be made applicable to every or any province, and different regulations may be made in respect of any province or other area of the Union.

13. In this Act, unless inconsistent with the context—

Interpretation
of terms.

“ export ” or “ exporting ” means the supply of coal for shipment as cargo from a South African port to a destination beyond the Union and South-West Africa;

“ bunker ” or “ bunkering ” means the supply of coal to or for the bunkers or bunkering of ships in South African ports;

“ grader ” means a person appointed by a grading committee to examine or grade coal intended for export or for bunkering;

“ Minister ” means the Minister of Mines and Industries, or any other Minister to whom the Governor-General may from time to time assign ministerial responsibility for the carrying out of this Act;

“ regulation ” means a regulation made under this Act and for the time being in force;

“ South African ports ” mean and include the ports and harbours of the Union and those of South-West Africa and also the Port of Delagoa Bay.

14. This Act may be cited for all purposes as the Coal Act, 1922, and shall commence and come into operation on a date to be fixed by the Governor-General by proclamation in the *Gazette*.

Short title
and commencement
of Act.

APPENDIX XIX.]

Handling of coal at different ports.]]]

(a) ADEN.

Method of handling.—Coal is discharged in stream by methods resembling those in use at Colombo.

Stacking grounds.—The stacking grounds, on which the average amount stacked is 60,000 tons, are in private hands.

Costs.—The Port Trust levy a toll of two annas *plus* 70 per cent. surcharge on coal imported for the use of importers, and of 4 annas *plus* 70 per cent. surcharge on coal imported for sale.

The cost of landing and stacking on shore is put at Re. 1-12-0 per ton and the cost of bunkering at the same figure, but it varies if night work is done and according to the number of stages on the ship's side.

(b) BOMBAY.

Method of handling.—Coal is almost invariably discharged in stream, not in the docks. It is hoisted by ship's gear from the hold and then tipped overside into lighters which may be either country craft or iron barges.

The country craft sail and the iron barges are towed to the bunders, where the coal is unloaded and carried in baskets on the heads of coolies for dumping on the stacking ground alongside the wharf.

From the stacking ground it is removed to destinations in Bombay either by motor lorry or by bullock cart: or, if it is wanted for bunkering, it is taken out to the ship in lighters.

All labour is supplied by contractors.

Stacking grounds.—There are three stacking grounds belonging to the Port Trust, (1) Mazagon Coal Bunder, (2) Haji Bunder, and (3) Railway Depot Station. The combined capacity of the two first is 215,298 tons, and of the last 141,200 tons. The ground is held on monthly tenancy and the rent is payable whether coal is actually stacked on it or not.

(1) *Mazagon Bunder.*—Rents are Rs. 10 *plus* ten per cent. per month, for each 500 square feet in the 80 feet strip adjoining Wharf Road, and Rs. 7 *plus* ten per cent. for land outside that strip. The coal merchants prefer to use this bunder rather than Haji Bunder.

(2) *Haji Bunder.*—This has rail connections but is considered by merchants to be somewhat remote and is not popular with them. The rent charged is three annas per square yard per month.

(3) *Railway Depot Station.*—This is not accessible by sea and is not used for shipment coal. The rent charged is three annas per square yard per month.

Besides these an additional storage ground and a new coal bunder are being constructed.

Costs.—(1) When coal is landed in the docks, the wharfage charge leviable is Re. 1-0-0 per ton *plus* 50 per cent. surtax: the cost of landing coal by this method is considerably higher than when it is discharged in stream and very little coal is now landed in this way.

(2) On coal discharged in stream and landed at the bunders, the wharfage charge is two annas a ton *plus* 50 per cent. surtax, three annas in all. The cost of discharge from the ships into lighters was quoted as *ten annas a ton*:

it is paid by the ship. Excluding this the following rates were quoted as average rates for landing and stacking at the bunder.

	Rs.	A.	P.	
Port charges	0	8	0	per ton.
Lighterage	0	10	0	„
Discharging and stacking at the bunder	0	10	0	„
Tallying on the ship	0	1	0	„
Miscellaneous	0	8	0	„

All save the first item may vary: lighterage, for example, when the committee were in Bombay, cost only six annas per ton and it is in evidence that large importers can work more cheaply. To the above must be added for foreign coal only.

	Rs.	A.	P.	
Duty	0	8	0	per ton.

Cart transport from Mazagon Coal Bunder to the nearest Port Trust Railway station was quoted at twelve annas a ton: for carting to the mills Re. 1-12-0 per ton was a figure given. An additional twelve annas would represent the cost of loading into lorries at the bunder, weighing, unloading and stacking at the mill.

The cost of re-loading the coal into lighters and taking it out to a ship for bunkering is said to be the same as for landing the coal or, on an average, as follows:—

	Rs.	A.	P.
Loading lighters at the bunder	0	10	0
Tallying lighters at the bunder	0	1	0
Lighterage	0	10	0
Loading ex-lighter into ship	0	10	0

(3) In order to avoid the extra cost of unloading coal on to the bunder and again loading into lighters for bunkering, agents try to arrange for bunkering direct, by lighter, from a vessel discharging coal in stream. This cannot be done successfully unless arrangements can be made for a regular succession of coal cargoes to arrive at suitable intervals: and it is said to be one of the points in favour of South African coal that steamers arrive regularly in Bombay from South African ports: South African coal thus put into bunkers direct from a vessel discharging in stream does not have to pay duty.

Weighment.—This may be either on the ship or on the bunder.

(a) Weighment on the ship is usual with foreign coal and is frequently required for Indian coal also. The cost, which is reckoned at from 4 to 6 annas a ton, is said to be borne by the shipper. The usual method of weighment is in large iron tubs, from which eventually the coal is tipped into the lighter alongside.

(b) Weighment on the bunder is carried out by weighing baskets, five at a time, on a portable scale. It is usually done at the time when coal is removed from the bunders whether by land or in lighters for bunkering.

An alternative to weighment on the bunkers is to tally baskets at 40 to a ton. When coal is landed in iron barges, of which the capacity can be calculated, measurement is sometimes substituted for weighment.

(c) COLOMBO.

Method of handling.—All coal is discharged in stream. The work of discharging into lighters is usually, for convenience, arranged by the importers, although properly it is the business of the ship: the cost is put at 45 to 47½ cents per ton, according to the class of gear provided on the ship.

The coal is loaded into 1 ton buckets which are lifted by ship's gear and tipped into sheets overside into the lighters. It is taken in the lighters to the

jetty and bagged, in locally made coir bags, on the lighters to facilitate handling by coolies: it is then landed and carried to the stack where it is emptied out on to the heap.

When an order is received for bunkering, the coal is rebagged and taken out to the ship in lighters: the bags of coal are handed up stages placed against the ship's side, from man to man, and the contents shot into the bunker.

The coal is handled by wharfage companies.

Stacking grounds.—The coal grounds, which stretch along the east side of the harbour, belong to Government but are let out to private persons and firms. The rent, which covers the cost of the jetties in front of each ground, is from Rs. 8,000 to Rs. 10,000 a year per acre. Many of the grounds have sheds under which the coal is stacked but there is a tendency to give up using sheds except for Welsh coal.

Costs.—Besides the cost, already noted, of some 45 cents on discharging coal from ships, there are the following charges:—

- (a) Port dues, paid by the ship,
- (b) Import harbour dues of 25 cents per ton of coal,
- (c) Tonnage dues of 25 cents a ton, on inward cargoes only,
- (d) Cost of lighters from ships to jetty, of stacking, of lighters from jetty to ships and of bunkering, averaging Rs. 3-10.

No attempt is made to avoid any part of these handling costs by bunkering direct *vid* lighter from a ship which is discharging coal. The reason for this is said to be that the system of bagging coal is established in Colombo, that in rough weather it would be impossible to bag coal in lighters in the harbour, and that to bring the lighter to the jetty for bagging to be done would be almost as expensive as the present method.

Weighment.—Ten per cent. of the total can be weighed on shore, if the purchaser wishes, before the coal is sent out to the ship. Usually, instead of weighment, the quantity of coal is calculated by tally of bags or measurement. Some of the barges are 30-ton and some 40-ton; and there is also measurement of ship's bunker space.

Wastage.—A certain amount of coal is lost during discharge from the shoots or overside from lighters. This is salvaged at intervals by the Port authorities and divided among importers in proportion to their total imports during the quarter. The allowance made for waste when discharging is two per cent., and there is none made when loading.

Rate of discharge.—The rate of discharge per ship is said to be about 1,000 tons, working both sides of the ship, or some 500 tons in rough weather when it is necessary to shut out the weather side. The rate largely depends on the number of ships in port working coal, and it was claimed that, if only one collier were in port, 2,000 tons could be handled.

(d) KARACHI.

Method of handling.—Almost all coal is discharged by ship's gear into lighters in stream. It is then usually taken to Baba Island or Bunker Island where it is stacked until it is required for bunkering. The coal is carried in baskets on the heads of coolies.

An alternative, now rarely used, is for it to be discharged alongside the wharves by the aid of coal tubs and loaded into wagons.

Stacking grounds.—The stacking grounds on Baba and Bunker Islands are rented from the Port Trust or Municipality at rates fixed according to the locality and to the amount of work originally necessary for preparing the sites. There is also some stacking accommodation at West Wharf. The total area is about 27,500 square yards.

Costs.—The Port Trust levy a charge of six annas per ton on coal discharged into lighters, and of Re. 1-2 per ton on coal discharged over the wharf.

For unloading and bunkering the inclusive cost is said to vary between Rs. 2-4-0 and Rs. 2-12-0 in all.

Transshipping, to avoid payment of duty and to reduce handling costs, is practised whenever consignments can be arranged to arrive conveniently for the purpose.

Improvements in handling facilities.—No schemes for mechanical appliances are contemplated at present: it has been decided to carry on with coolie labour so long as it is available at reasonable prices.

(e) **MADRAS.**

Method of handling.—Coal is discharged usually alongside a quay but on occasion, if more than two steamers are discharging coal, in the harbour into lighters. Discharge is by ship's gear.

At the quays discharge may be direct into wagons only at the east and outer quays: but the latter quay cannot be used for this purpose except in fine weather. At the south and west quays the railway line is too far away for the ship's gear to load direct into wagons: the coal has therefore to be discharged on to the quay and thence to be loaded by hand into the wagons.

Whether the coal is discharged at the quay or into lighters, it has eventually to be loaded into wagons for despatch from the harbour or to the Port Trust coal dépôt where coal is stacked.

Bunkering is done from railway wagon, usually by hand labour. All labour is supplied by contract.

Stacking ground.—The Port Trust has provided a yard, measuring 222,020 square feet and divided into 25 plots of varying size: it can accommodate some 56,000 tons of coal stacked to 10 feet.

Rent is charged at 2 annas a day for each 1,000 square feet, or less allotted. The yard has railway communications.

Costs.—The costs of discharge, paid by shipper, are from eight to twelve annas: other charges are as follows:—

	Rs.	A.	P.	
Harbour dues (not paid by Railway coal)	0	8	0	per ton.
Quay dues	0	4	0	„
Landing charges, about	1	2	0	„
Cost of additional handling, if the coal is not discharged direct into wagon	0	4	0	„
Bunkering by hand from wagon, about	2	0	0	„

The cost of conveyance from the quay would be as follows:—

(a) *On coal despatched from the harbour.*

	Rs.	A.	P.	
Harbour terminal charges (exclusive of freight charged by the railway)	0	6	9	per ton.

(b) *On coal despatched to the stacking ground (instead of the terminal shown in (a)).*

	Rs.	A.	P.	
Hire of wagons	15	0	0	per day.
Cost of haulage for 23-ton broad gauge wagon	6	0	0	} for each trip between 6 A.M. and 9 P.M.
12-ton broad gauge wagon	3	0	0	
Hire of locomotive, (compulsory if work is done after 9 P.M.)	32	0	0	per night.
Cost of unloading wagon at stacking yard	0	4	0	per ton.

Discharge of a shipload of 7,435 tons of coal direct into wagons, in October 1924, cost the South Indian Railway Rs. 2-7-0 per ton up to the point of interchange between the Port Trust Railway and the neighbouring railway: but railway coal does not pay the harbour dues of 8 annas a ton.

Improvement in handling facilities.—An additional berth is expected to be ready in two years' time.

(f) RANGOON.

Method of handling.—All coal is discharged in stream by ship's gear into lighters in which it is taken on shore to be stacked, as a rule, either on the Port Commissioners' stacking ground or on private stacking grounds. It is landed in baskets carried on the heads of coolies.

Stacking grounds.—The Port Commissioners have two stacking grounds, one on the Pazundaung creek, where the land is leased out at Rs. 2-0-0 per 100 square feet per month, and the other at Botataung where the rent is Rs. 3-0-0 per 100 square feet. Accommodation can also be rented at 10 annas per square feet per day, but this is never actually done.

There are, besides, private grounds belonging to different concerns, such as the Burma Railways, Irrawaddy Flotilla Co., Messrs. Mackinnon, Mackenzie & Co. and Messrs. Steel Brothers & Co.

Costs.—A river due of seven annas a ton is levied by the Port Commissioners on all coal landed or shipped except when the coal is for the bunkers of the vessel in which it is shipped. The Port Commissioners levy no other charges unless the coal is landed on their property, when they levy a landing charge of five annas a ton, a small wharfage charge, of about 8 pies per ton, for the use of jetties by lighters and a shipping charge of five annas a ton on coal despatched by lighters.

The average cost of landing coal is given as follows:—

	Rs. A. P.
River due	0 7 0
Landing charge	0 5 0
Wharfage	0 0 8
Hire of lighter	0 14 0
Unloading and stacking	0 11 6

These last two items may vary, and the second two are not payable if the coal is not landed on the Port Commissioners' property. The cost of storage is put at 8 pies per ton. Other estimates placed the cost of landing coal at Rs. 2-8-0. For coal despatched by lighter the additional cost is put by the Port Commissioners at Re. 1-10-8. But the Irrawaddy Flotilla Co. estimated the cost on coal from time of discharge to time of bunkering at about Rs. 4-8-0.

Improvements in facilities.—The large proportion of coal landed on private foreshore makes the provision of a deep-water berth or mechanical appliances for handling coal impracticable. The land necessary for future development has been acquired but there is no prospect of work being taken up in the near future.

(g) SABANG.

Method of handling.—Coal is discharged from ships alongside the quay in iron buckets, each containing 30 to 40 cwts, by five electrically driven transporters, which are carried by travellers above the storage sheds and lowered into them through hatches in the roof. For bunkering the same appliances are used, but with either buckets or baskets. The coal is stored in sheds with concrete floors.

There is in addition a floating 7½-ton grab crane, used for both discharge and bunkering, and a mechanical bunkering barge which works through shoots

either into hatches or into sideports. Hand labour is also employed both for loading and trimming.

Costs.—All harbour and pilot dues are included in the cost of the coal supplied to steamers calling for bunker-coal.

(h) SINGAPORE.

Method of handling.—It is the object of the Singapore Harbour Board to encourage bunkering at this port by avoiding any delay to steamers. The coal is therefore stacked directly behind the transit sheds along the wharves, to enable bunkering to be carried on from the wharf at the same time as cargo is being handled. As a rule therefore coal is discharged alongside the wharf. The coal is handled between ship and stack in baskets of 160 lbs. (14 baskets to the ton). Each basket is carried slung on a bamboo between two coolies. This method avoids breakage and appears to be very satisfactory.

Stacking grounds.—No figures were obtained as to the amount of coal that could be stacked on the various stacking grounds. The total quantity that would be stocked in Singapore, in sheds or hulks, of which there are two, and in the stacking grounds, was estimated at between 100/120,000 tons.

Costs.—The cost of discharge, stacking, and bunkering at the wharf is approximately as follows:—

	Cents.
Wharfage inwards	40
Wharfage outwards	40
Stacking charges, i.e., charges from ships to stack, paid to the Harbour Board	56
Unstacking, removing and loading	90
3 months storage	24
Insurance and tallying	10
TOTAL	\$2.60

The charge for stacking is a fixed charge, but the amount payable to the coolies, who are supplied by a sub-contractor, varies between 2 and 6 cents. per basket according to the length of carry, the difficulty of walking the gangways the height of the stack and the amount of work on hand.

If coal is taken out on lighters from the wharf into stream the cost charged by the Port Trust is \$1.40 per ton, but for the past two years hardly any coal has thus been shipped.

The reduction possible in the cost of handling if coal is transferred from one ship to another in stream, instead of being landed on the wharf, was estimated at \$1.50 per ton. As Singapore is a free port there are no dues levied on the steamer or the coal unless the steamer goes to the wharf.

Weighment.—It is usual to weigh coal, because the Harbour Board are under an obligation to deliver as many tons as they have taken over on the wharf. The importer has the option of weighing one basket in five or one in ten on the wharf, and his tallyman is present at the scales to check the work of the Harbour Board's weighman. The quantity of coal delivered into bunkers is calculated on weights thus taken and not on measurement.

Improvement in facilities for dealing with coal.—There are no mechanical coal handling appliances at present. The Harbour Board are considering the possibility of installing a mechanical coaling plant which could lift coal from the storage heap, convey it parallel to the wharf till it is opposite the vessel for which it is intended, and carry it past the transit sheds to the bunders.

Rate of discharge.—The rate of discharge varies very greatly, depending as it does on the number of vessels awaiting discharge. The average per day for July 1924 was 1,467 tons discharged and 853 bunkered.

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