



INDIAN MINES ACT, 1923

ANNUAL REPORT

OF THE

CHIEF INSPECTOR OF MINES IN INDIA

FOR THE YEAR ENDING

31st DECEMBER 1938



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FROM

W. KIRBY, Esq., B.Sc., M.I.Min.E.,
 CHIEF INSPECTOR OF MINES IN INDIA.

TO

THE SECRETARY TO THE GOVERNMENT OF INDIA,
 DEPARTMENT OF LABOUR,
 SIMLA.

Dated Dhanbad, the 27th May 1939.

SIR,

I have the honour to submit the report upon the inspection of mines in British India for the year ending 31st December 1938.

INTRODUCTION.

The Indian Mines Act, 1923, applies to British India only and not to the Indian States. For the complete figures of production of all minerals raised from excavations of all depths in British India and the Indian States reference may be made to the statements of the "Mineral Production of India" published annually in the records of the Geological Survey of India, and to the "Quinquennial Review of the Mineral Production of India" published every five years by the same Department. Detailed information of the mineral industries in Mysore—where the Kolar gold field is situated—and Hyderabad (Nizam's Dominions) is given in the annual reports of the Chief Inspector of Mines in those States.

Section I.—Persons Employed.

During the year 1938 the daily average number of persons working in and about the mines regulated by the Indian Mines Act was 306,260, as compared with 267,858 in the previous year. The former figure is the highest on

record. The increase was 38,402 persons, or 10·60 per cent. Of these persons 140,651 worked underground, 83,333 in open workings and 82,276 on the surface. The number of men who worked underground, in open workings and on the surface and the women who worked in open workings and on the surface, were as follows :—

	Men.		Women.	
	1938.	1937.	1938.	1937.
Underground . . .	140,651	118,920	..	3,887
In open workings . . .	54,121	48,268	29,212	24,479
Surface	58,199	52,387	24,077	19,917
Total	252,971	219,575	53,289	48,283

The daily average number of persons employed in coal mines was 201,093 which is 29,944 more than the number employed in 1937. Of these persons 53,735 were males employed in cutting coal, 32,235 were males employed as loaders of coal and 23,515 were women.

The increase in the daily average number of persons employed in coal mines in 1938, as compared with 1937, is reflected in the large quantity of coal produced.

Annual returns are now received of the number of persons actually at work and also of persons who should ordinarily have been at work but were absent on a selected day in February of each year. The returns relate only to coal mines. The day to which the returns apply must be the day of a week selected by the Chief Inspector in which there is the largest turn-out of workers. For February 1939, the week selected by me was as follows :—

Bengal, Bihar and Orissa 12th to 18th.

Assam, Baluchistan, the Central Provinces and the Punjab 5th to 11th.

Although these returns are for a day in 1939, they are included in this report as they would be more than a year out of date if held over till the submission of the report for the year in which they are made.

The returns for 1939 show that on the day selected 263,763 persons were either at work or were prevented from attending work. This figure is 62,670 more than the average number of persons employed in coal mines during 1938. Three of the important district comparisons are as follows :—

	Average daily attendance.	Attendance on selected day (absentees included).	Excess over average daily attendance.	Percentage excess.
Jharia Coalfield	88,679	111,372	22,693	25·59
Raniganj Coalfield	67,903	89,421	21,518	31·69
Central Provinces Coalfield	13,771	18,120	4,349	31·58

Some of the percentages of absentees are as follows :—All mines from which returns were received 7·5 ; Jharia 3·3 ; Raniganj 7·7 ; and the Central

Provinces 6-1. It is probable that the reason for the low percentage of absentees in the Jharia coalfield is that a larger proportion of the labour force is resident at or near the mines than in the other areas. A detailed statement compiled from the returns is given in Appendix I, Table No. 1-A.

Figures showing the average output of coal per person employed are given below :—

	Tons of coal per person employed.			
	Underground and in open workings.		Above and below ground.	
	1938.	1936-37.	1938.	1936-37.
British India	182	185	128	128
Bengal and Bihar	184	188	127	130
Assam	159	151	113	105
Baluchistan	33	43	31	42
Central Provinces	173	169	120	122
Orissa	165	202	122	151
Punjab	111	110	67	70

There was a general decrease in the average output of coal per person employed except in the Punjab and Assam. In comparing the figures with similar figures in other countries it should be remembered that both men and women are employed in Indian coal mines. In 1937, the output of coal per person employed above and below ground in the United Kingdom was 304 tons. In the same year, i.e., 1937, comparative figures in certain other countries were Japan 207 tons; France 191 tons; Germany 372 tons; and the United States of America 761 tons.

The number of persons employed in metalliferous (including mica, stone, clay and salt) mines was 105,167, which is 8,458 more than the number employed in 1937. 75,393 were men and 29,774 were women.

Bengal, Bihar and Orissa.—At the beginning of the year there was a plentiful supply of labour and the removal of women from the mines appeared to have very little or no effect on output. The standard of wages was comparatively high. There was a good deal of labour unrest during the year. Strikes occurred at several collieries and at one colliery the strike lasted for three months and it was necessary to institute proceedings against some of the strikers for interfering with men engaged on matters of safety at the mine.

The general health of the mining population in the Jharia and Raniganj coalfields was on the whole satisfactory. The death rate per thousand persons was higher in both the Raniganj and Jharia Mining Settlements. Details of the activities of the Mines Board of Health in the Raniganj and Jharia coalfields are given in Section V of this report, from which it will be seen that the work of both the Boards is being satisfactorily maintained.

In the iron ore mines of Singhbhum district there was a brisk demand for iron ore and a number of small mines re-opened during the year to meet the demand, which towards the end of the year declined somewhat. This re-opening of a number of mines led to a shortage of labour during part of the year and intensified the labour shortage during the harvest periods. There was no serious labour trouble and the large companies made concessions, such as leave with pay, sick leave, and maternity benefit to their employees. There was also a general increase in wages with improvement in housing and education.

At the copper mines worked by the Indian Copper Corporation, Limited, in the Singhbhum district, operations were seriously dislocated due to a strike which broke out at the Mosaboni mine in April, lasting approximately for three months. Operations at the smelter site at Moubhandar were continued throughout the year but were badly hampered through lack of ore. The management and the workers eventually agreed that the various points at variance should be placed before a Conciliation Board appointed by the Government, and as a result of this Board various concessions were made by the management and operations were resumed and soon continued to be normal. As a result of the above-mentioned strike the output of copper was considerably reduced during the year.

At the mica mines of Chota Nagpur the supply of labour was adequate, as due to the falling off in demand for "splittings", comparatively few dumps were worked. In certain districts there was a slight increase in wages. Prices for the larger sizes of block mica had an upward tendency, not so much because of increased demand but due to the fact that reserved stocks no longer existed and production in general appeared to be on the decline. There have been no serious epidemics during the year and labour conditions on the whole were very satisfactory.

Assam.—There was a plentiful supply of labour during the year and better wages were paid to the labour. The incidence of malaria which still remains the biggest problem was slightly less than in 1937. There were no epidemic diseases and the general health showed an improvement.

Central Provinces.—In the Pench Valley coalfield there was a shortage of labour from the close of the monsoon period until the end of the year. There was no change in the rate of wages and relations between labour and employers were good. A cholera epidemic resulted in 127 attacks with 42 deaths and 15,667 cholera inoculations were given, additional staff being employed for this work, and many surrounding villages within a radius of several miles and from which no colliery labour was employed being also voluntarily visited and the inoculation of the villagers systematically carried out. Apart from this epidemic the general health was very good.

At the manganese mines in the Central Provinces there was a large drop in the amount of ore exported in 1938 as compared with 1937 due, it is presumed, to buyers over-estimating their requirements in 1937 and ore from manganese mines in other parts of the world coming into the market in large quantities. There was a general increase in wages in all districts. There were no disputes or strikes of any description. During the year cholera in epidemic form was general in three districts but fortunately the

mine authorities were able to get the entire labour population inoculated against the disease before it established itself at any of the mines. Other precautionary measures were taken and there were in all 24 attacks of cholera resulting in 16 deaths. There were also 3 attacks of small-pox and one death.

Punjab.—Labour conditions remained unaltered with the supply again exceeding the demand. The industry, however, is sheltered and there was no real distress in the mining community which enjoys a good and steady income, irrespective of the labour conditions outside. There was no epidemic and the health of the workers remained very satisfactory. In addition to an Assistant Surgeon, a Lady Sub-Assistant Surgeon and a Sanitary Inspector were again employed to supervise the welfare of the workers and to maintain and improve sanitary conditions.

Madras.—There was a general improvement in the mica trade during the year and the labour was plentiful. Good wages were paid and there were no strikes or epidemics. The relations between employers and labour continued to be good.

In the table on page 6 figures are given of the average daily wages paid in December in each important mining field in India. If the figures are compared with those in last year's Annual Report it will be seen that there was a small general increase in the wages paid to underground miners and to other classes of labour in practically all the coalfields.

Average daily earnings in December 1938.

Mineral Field.	UNDERGROUND.					OPEN WORKING.						SURFACE.			
	Overmen and Sirdars. — Foremen and Mates.	Miners.	Loaders.	Skilled Labour.	Un-skilled Labour.	Overmen and Sirdars. — Foremen and Mates.	Miners.	Loaders.	Skilled Labour.	Un-skilled Labour.	Females.	Clerical and Supervising Staff.	Skilled Labour.	Un-skilled Labour.	Females.
	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.
Jharla Coalfield (Bihar) . . .	1 2 9	0 9 6	0 8 3	0 10 9	0 7 6	0 14 6	0 8 9	0 7 0	0 8 9	0 6 3	0 5 3	1 3 3	0 10 6	0 6 9	0 4 6
Raniganj Coalfield (Bengal) . . .	1 1 0	0 9 3	0 7 9	0 10 0	0 6 9	0 11 9	0 8 6	0 5 9	0 7 3	0 7 9	0 5 3	1 0 0	0 9 6	0 6 3	0 4 0
Gridih Coalfield	2 5 0	0 9 9	0 11 6	0 12 9	0 8 0	0 5 0	0 3 0	..	0 5 3	..	0 2 6	2 0 9	0 12 6	0 7 9	0 4 6
Anam Coalfield	1 4 6	1 0 0	1 0 0	1 1 3	0 13 0	1 3 0	1 0 0	0 11 0	0 15 0	0 10 9	0 3 0	1 12 6	0 14 9	0 12 0	0 7 6
Punjab Coalfield	1 0 9	1 0 6	1 0 9	0 11 9	0 7 6	..	..	..	..	..	..	4 12 9	0 11 6	0 8 6	0 2 9
Baluchistan Coalfield	1 4 3	0 10 9	0 10 9	0 11 3	..	..	..	0 9 0	0 9 0	..	..	..	0 9 9	0 9 9	..
Pench Valley Coalfield (Central Provinces).	1 2 0	0 13 0	0 7 3	0 9 6	0 7 3	1 0 0	0 9 9	0 6 0	0 7 3	0 6 3	0 3 6	0 15 3	0 9 3	0 6 9	0 3 9
Bihar Mica	0 10 6	0 7 3	..	0 7 9	0 5 6	0 8 3	0 7 3	..	0 7 9	0 5 9	0 3 6	0 14 3	0 6 6	0 5 3	0 3 3
Madras Mica	0 9 6	0 5 9	..	0 5 6	0 4 9	0 9 9	0 5 0	..	0 5 0	0 4 9	0 3 3	0 10 3	0 2 3	0 4 9	0 3 6
Central Provinces Manganese	0 14 0	0 6 6	..	0 9 9	0 6 0	0 14 0	0 4 3	..	0 7 6	0 4 6	0 3 3	1 4 0	0 11 3	0 5 3	0 3 6
Central Provinces Limestone . . . . .	..	..	..	..	..	0 9 6	0 6 3	..	0 7 9	0 3 9	0 2 9	1 3 0	0 5 0	0 3 9	0 3 0
Bihar Iron . . . . .	..	..	..	..	..	0 13 9	0 8 0	..	0 11 3	0 5 9	0 2 9	1 4 3	1 0 9	0 5 3	0 4 0
Punjab Salt	3 4 6	2 5 6	..	0 14 6	0 8 9	..	..	..	..	..	..	0 15 0	1 3 6	0 6 0	..
Bihar China clay	0 10 9	0 6 3	..	..	0 4 3	0 5 0	0 2 9	..	0 5 3	0 3 6	0 2 6	1 3 9	0 7 6	0 3 6	0 2 9
Punjab Slate . . . . .	..	..	..	..	..	0 8 9	0 6 9	..	0 5 9	0 4 6	..	1 1 3	0 12 0	0 6 6	..
United Provinces Stone . . . . .	..	..	..	..	..	0 6 9	0 9 3	..	0 5 6	0 3 9	0 3 0	0 10 6	0 4 0	0 12 0	0 2 6

Section II.—Output of Minerals.

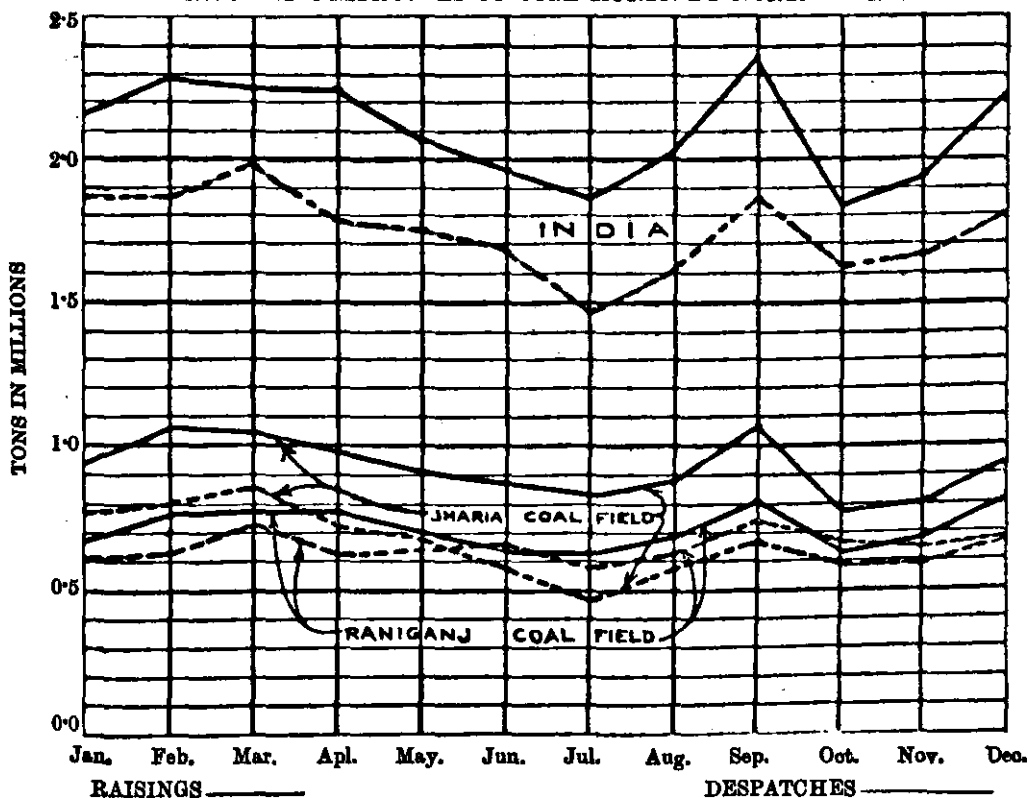
Output.—The statement given below shows the output of coal in the various provinces in British India during the years 1937 and 1938.

Output in tons.

	1938.	1937.
Assam	267,300	243,650
Baluchistan	14,388	10,624
Bengal	7,745,372	6,527,820
Bihar	15,362,604	13,835,516
Central Provinces	1,658,628	1,504,159
Orissa	44,425	47,127
Punjab	184,028	166,632
Total	25,276,743	22,335,528

The total output in 1938 was 25,276,743 tons of a declared value of Rs. 9,46,27,865. The total output is the highest yet recorded, the next highest being 22,683,861 tons in 1930. The increase in the output was 2,941,215 tons, i.e., 13·17 per cent. and the increase in the value of Rs. 2,47,48,726, i.e., 35·42 per cent. The opening stocks in 1938 were 836,491 tons and the closing stocks 2,193,511 tons. In the charts which appear below the raisings and despatches of coal are shown month by month :—

RAISINGS AND DESPATCHES OF COAL MONTH BY MONTH IN 1938.



It will be seen from the chart that, as usual, the output was highest in the first three months of the year. The fall of output in October was greater than usual due to the early harvesting season.

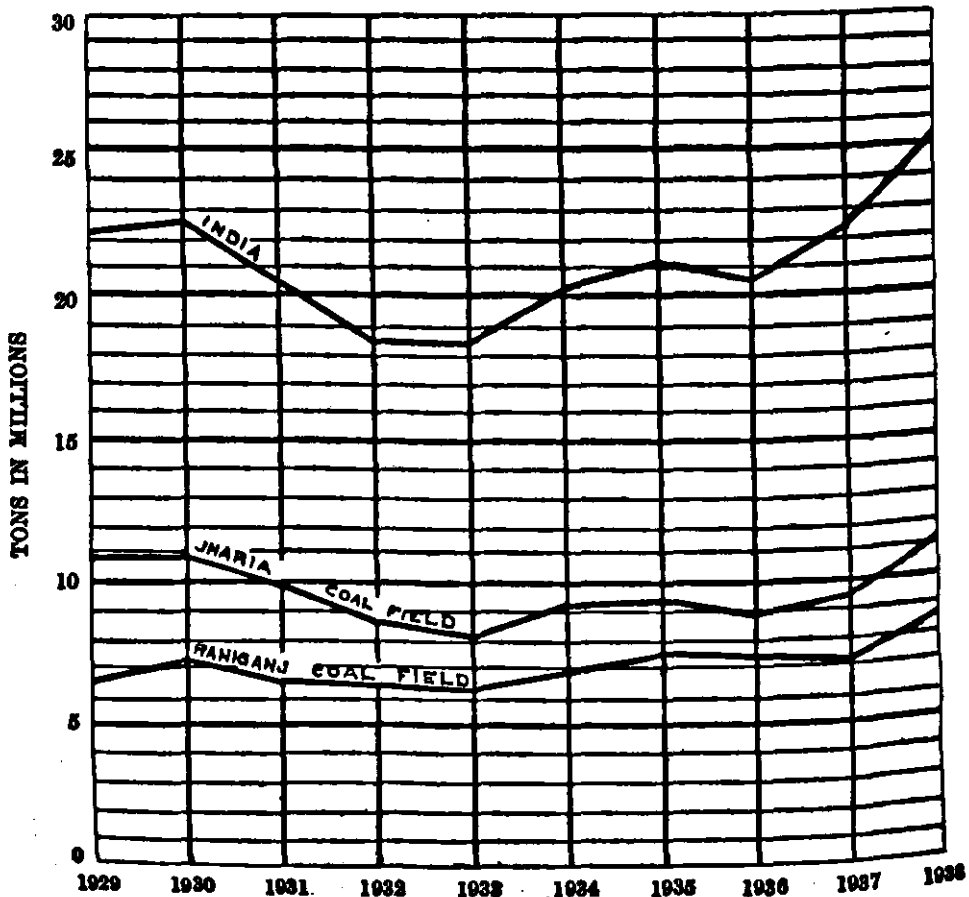
The output in Bihar increased by 1,527,088 tons; there was a decrease of 2,702 tons in the province of Orissa; and in Bengal there was an increase of 1,217,552 tons. In the Central Provinces the output increased from 1,504,159 tons to 1,658,626 tons. There were increases of 17,396 tons in the Punjab, and 3,764 tons in Baluchistan. There was also an increase of 23,650 tons in Assam.

The figures of output for the principal coalfields are as follows:—

Coalfield.	1938.	1937.	Percentage increase + or decrease —.
Jharia	11,144,462	9,601,230	+16·07
Raniganj	8,650,920	7,196,324	+20·21
Bokaro	2,007,016	2,309,170	—13·08
Giridih	636,371	674,794	—5·69
Karanpura	625,914	534,328	+17·14
Pench Valley	1,369,208	1,234,233	+10·94
Assam	267,300	243,650	+9·71

The output of the Jharia coalfield increased by about 16 per cent., the Raniganj coalfield increased by about 20 per cent., the Karanpura coalfield increased by about 17 per cent., and the output of the Assam coalfield by about 9½ per cent. There was an increase in the Pench Valley coalfield of the Central Provinces of about 11 per cent. and in the Bokaro coalfield a decrease of 13 per cent. In the Giridih coalfield the output fell by over 5½ per cent. The accompanying chart shows the variation of the output of coal during the period 1929-1938:—

CHART SHOWING OUTPUT OF COAL DURING THE PERIOD 1929-38.



Despatches.—The despatches of coal were 21,056,367 tons, and 1,442,572 tons, or 5·71 per cent. of the raisings were consumed on the collieries. The quantity of coal used for coking at the collieries was 1,420,784 tons, and 900,923 tons of soft coke and 103,844 tons of hard coke were made. There was an increase, i.e., 7·62 per cent. in the quantity of soft coke manufactured at the collieries for domestic consumption. The quantity of hard coke made at the collieries is small. Most of the hard coke is made at coke-making plants which do not come under the Mines Act, and 1,627,077 tons of coal were despatched to coke-making plants of this kind in 1938. This quantity is 301,675 tons less than in 1937. Analyses of the figures relating to the output of coal and the manufacture of coke will be found in Appendix I, Table No. 3.

The despatches of coal for the year were more than those for 1937 by 1,113,813 tons. The stocks of coal at the collieries at the end of the year were much more than at the beginning.

The following figures giving the average value per ton of coal put into wagons in various districts may be of interest:—Assam, Rs. 9 annas 10·5; Baluchistan, Rs. 6 annas 12·5; Bengal, Rs. 4 annas 6·9; Bihar (Jharia coalfield), Rs. 4 annas 9·6; Central Provinces, Rs. 3 annas 15·2; and the Punjab, Rs. 5 annas 12·6. There was an all-round increase in the average value per ton of coal. In Assam it was Re. 1 annas 8·2; in Baluchistan, anna 0·2; in Bengal, Re. 1 anna 0·6; in Bihar, Re. 1 anna 1; in the Central Provinces, annas 7·2; and the Punjab, annas 10·1, respectively.

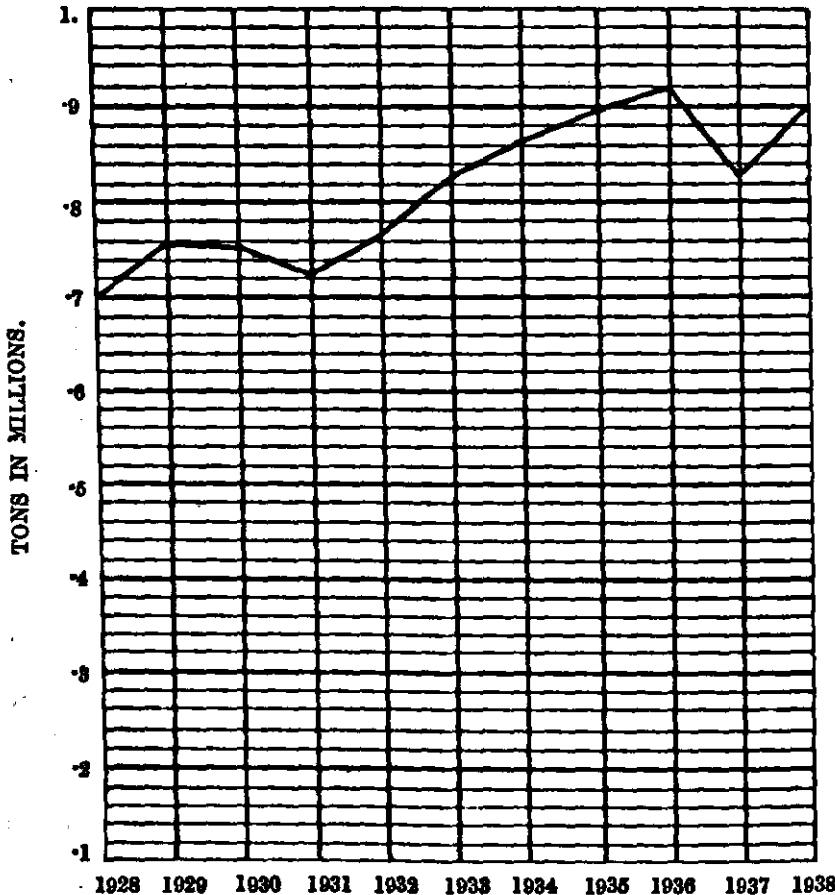
Trade Conditions.—Early in the year there was a wagon shortage which assisted in the maintenance of high prices but as soon as there was an adequate supply of wagons it appeared that trading concerns up-country had been accumulating stocks which were likely to meet a large part of their requirements for the year. Collieries raising first class coal were fully committed, but the smaller collieries in the Kajora field and some of the collieries in the Jharia field raising lower grade coal found it difficult to dispose of even a small portion of their output. At the end of the year stocks of all classes of coal were very heavy. Had it not been for the export demand to the Far East which led to an increase in the quantity of coal exported as compared with 1937, the position would have been extremely difficult and the forward outlook bad.

Coal Grading Board and Soft Coke Cess Committee.—The Indian Coal Grading Board continued to maintain its standard of good work during the year and the quality of coal exported was generally satisfactory. During the year 2,206,841 tons of coal were exported under the supervision of the Board, as compared with 1,832,735 tons in the previous year, or an increase of 374,106 tons.

The Soft Coke Cess Committee continued to work on the same lines as in former years. Propaganda for popularising soft coke as domestic fuel was continued. The arrangement for the inspection of loading soft coke wagons at the collieries was maintained and the Committee are carrying on experiments for the improvement in the quality of soft coke. During the year the prices of soft coke remained very high and despatches were adversely affected. Approximately 889,671 tons of soft coke were

despatched from the coalfields in the year 1938, as compared with 830,784 tons during the year 1937. Out of the output for 1938, 846,612 tons were despatched from mines in the Jharia coalfield. The accompanying graph shows the development of the soft coke industry during the last ten years.

DESPATCHES OF SOFT COKE FROM 1928 TO 1938.



Use of Electricity both at Coal Mines and at other mines.—The number of coal mines using electrical energy was 136, as compared with 124 in 1937, and the aggregate horse power employed at coal mines increased from 86,804 to 98,077, i.e., by 13 per cent. The increase is due chiefly to the increased horse power of motors installed in Jharia and Raniganj coalfields. The increase in horse power during the year in the Jharia coalfield is 3,567 and that in the Raniganj coalfield is 7,657. During the year electrical plant was installed and brought into operation in seven additional mines and was re-introduced in two mines. Of mines using electricity, four were re-opened and one was closed.

Electricity was used in 21 metalliferous mines, as against 20 in 1937, and the aggregate horse power employed was 7,751, as against 7,246 in the previous year.

Statistics of the electrical plant in use at mines in the various provinces of British India and in certain mine fields are contained in Appendix I, Table Nos. 7, 8 and 9.

Explosives.—During the year 3,479,883 lb. of gunpowder, 93,788 lb. of high explosives, and 290,131 lb. of “permitted” explosives were used at coal mines. These figures compare with 2,751,418 lb. of gunpowder, 61,840 lb. of high explosives, and 220,519 lb. of “permitted” explosives used in 1937. In addition 125,346 lb. of liquid oxygen explosives were used. These explosives were used in quarries in the Bokaro coalfield. A statement of the kind and quantity of explosives used during the year in the different kinds of mines under the Act is given in Appendix I, Table No. 12.

Coal Cutting Machines.—The number of coal cutting machines in use was 186, as compared with 140 in 1937, and 110 in 1936. All the machines were worked by electricity. 53 machines were at work in the Jharia coalfield, 115 machines in the Raniganj coalfield, 3 in the Karanpura coalfield, 2 in the Giridih coalfield, 3 in the Bokaro coalfield and 10 in the Central Provinces. During the year there was an increase of seven machines in the Jharia coalfield and of thirty-seven machines in the Raniganj coalfield. Coal cutting machines were in use in 66 mines, as against 50 in 1937, and 39 in 1936. Besides coal cutting machines, six pneumatic picks worked by compressed air were in use in one mine. The total area undercut was 8,827,200 square feet, as compared with 6,890,160 square feet undercut in 1937. Some collieries are equipped for intensive machine mining with coal cutting machines and mechanical loaders.

Mechanical Ventilators.—In Appendix I, Table No. 10, particulars are given of the number of mechanical ventilators in use in coal mines under the Act. In 1938, 128 mechanical ventilators were in use, the number being 117 in the previous year.

Safety Lamps.—In Appendix I, Table No. 11, particulars are given of the number of safety lamps in use in coal mines under the Act. 46,520 safety lamps were in use in 1938, as compared with 42,932 in 1937.

IRON ORE.

The production of iron ore was 1,421,090 tons, valued at Rs. 26,89,996 as compared with 1,587,362 tons, valued at Rs. 27,30,077 in 1937.

MANGANESE ORE.

There was a decrease of 33,939 tons in the output of manganese ore, the figures of production being 766,341 tons, valued at Rs. 1,23,81,646, as compared with 800,280 tons, valued at Rs. 1,21,06,593 in 1937. The average reported value per ton of manganese ore produced rose from 15·13 in 1937 to Rs. 16·16 in 1938. The corresponding value in 1936 was 7·94. The Central Provinces Manganese Ore Company, Limited, despatched a total of 362,588 tons as follows:—102,097 to Calcutta; 195,697 tons to Vizagapatam; 34,352 tons to Bombay; and 30,442 tons of other sales on f.o.r. basis. The quantity despatched by the company in 1937 was 754,367 tons so that the despatches in 1938 were much less than those in 1937.

The average f.o.b. price realised in 1938 was 10.66 annās per unit, which is much more than the price obtained in the previous year. A sudden heavy demand and consequent high price which prevailed in 1937 did not continue into 1938, although a good deal of the high priced ore sold in 1937 was actually delivered in 1938. Buyers apparently over-estimated their requirements in 1937 and ore from manganese mines in other parts of the world came on to the market in large quantities. As a result there was a large drop in the amount of ore exported in 1938 as compared with 1937.

GOLD.

The output of gold in 1938 was 16 ounces, valued at Rs. 996, which was obtained from the Singhbhum and Manbhum districts of Bihar.

CHROMITE ORE.

The production of chromite ore was 27,086 tons, valued at Rs. 4,25,942, as compared with 35,386 tons, valued at Rs. 5,13,473.

COPPER ORE.

The output of copper ore was 288,076 tons, valued at Rs. 32,40,640, as compared with 371,458 tons, valued at Rs. 48,69,790 in 1937. The whole of the production came from the mines belonging to the Indian Copper Corporation, Limited, in the Singhbhum district in Bihar. The production of refined copper amounted to 5,330 tons, as compared with 6,830 tons in 1937. The production of yellow metal sheet and circles at the rolling mills was 9,363 tons, involving the use of 5,527 tons of copper.

MICA.

The quantity of mica consigned was 101,633 cwt., valued at Rs. 40,89,448, as compared with 94,811 cwt., valued at Rs. 39,16,718 in 1937. The output of dressed mica in 1938 was 108,835 cwt., as compared with 103,641 cwt., in 1937. In addition, 34,109 cwt., of waste mica fit for "splittings" valued at Rs. 1,37,329, were consigned from Nellore district, Madras Presidency, and 1,419 cwt., valued at Rs. 345, from Ajmer-Merwara district in Rajputana. The output of this kind of mica was 36,975 cwt.

The quantities of mica and "splittings" shipped in 1937 and 1938 were as follows:—

	Cwt.	Rs.
1937	134,425	1,16,73,944
1938	79,621	95,85,168

In addition, 63,161 cwt. of "pattern cut" and scrap mica having a value of Rs. 4,00,019 were shipped, as compared with 120,191 cwt., valued at Rs. 9,63,873 in 1937.

ROCK-SALT.

The production of rock-salt was 164,674 tons, as compared with 163,813 tons in the previous year.

LIMESTONE.

The reported production of limestone was 1,582,058 tons, valued at Rs. 17,09,905, as compared with 1,318,598 tons, valued at Rs. 13,88,468 in 1937.

STONE.

Returns were submitted by the owners of one hundred and twenty-six stone mines, and the figures of production were as follows:—1,456,771 tons of igneous rock; 18,612 tons of sandstone; 47,542 tons of gravel; and 43,763 tons of murrum. The total production was 1,566,688 tons, as compared with 1,315,569 tons in 1937.

CLAYS.

From the thirty-five clay mines from which figures were obtained 46,407 tons of fire-clay, 11,007 tons of china clay and 61,565 tons of ordinary clay were produced.

OTHER MINERALS.

The production of other minerals were as follows:—10,134 tons of bauxite, valued at Rs. 16,272; 7,733 tons of slate, valued at Rs. 1,57,276; 23,052 tons of magnesite, valued at Rs. 1,34,876; 23,242 tons of gypsum, valued at Rs. 91,435; 3,280 tons of barytes, valued at Rs. 10,100; 2,298 tons of steatite, valued at Rs. 9,836; 246 tons of ochre, valued at Rs. 2,226; 605 tons of felspar, valued at Rs. 3,545; 23 tons of apatite, valued at Rs. 119; and 832 tons of Kyanite, valued at Rs. 16,292. Small quantities of asbestos, beryl, corundum, graphite and fuller's earth were also produced.

Section III.—Accidents.

During the year 1938, at mines regulated by the Indian Mines Act, 1923, there were 248 fatal accidents which is 40 more than in 1937, and 59 more than the average number in the preceding five years.

In addition to the fatal accidents there were 1,165 serious accidents, involving injuries to 1,196 persons, as compared with 1,085 serious accidents, involving injuries to 1,115 persons in the previous year. The so-called "serious" accidents reported are those in which an injury has been sustained which involves, or in all probability will involve, the permanent loss of or injury to the sight or hearing or the fracture of any limb or the enforced absence of the injured person from work for a period exceeding twenty days. Two hundred and eighty-three persons were killed and 1,233 persons were seriously injured. The latter figure includes 37 persons injured in fatal accidents. The number of persons killed was 35 more than in 1937. 276 persons killed were men and 7 were women. In one case 9 lives, in one case 4 lives, in four cases 3 lives and in fourteen cases 2 lives were lost.

The proportion of accidents which occurred to men underground, in open workings, and on the surface and to women in open workings and on the surface were as follows :—

	No. of fatal accidents.	No. of men killed.	No. of women killed.	Death rate per 1,000 persons employed.		No. of serious accidents.	No. of men injured.	No. of women injured.	Serious injury rate per 1,000 persons employed.	
				Men.	Women.				Men.	Women.
Underground .	202	233	..	1.66	..	872	898	..	6.38	..
Open workings.	20	21	3	0.39	0.10	73	55	21	1.02	0.72
Surface .	26	22	4	0.38	0.17	220	192	30	3.30	1.25

There was an increase in the death rate of men employed underground and on the surface and a decrease in open workings. With respect to women there was a decrease in the death rate in open workings and on the surface. The causes of the fatal accidents have been classified as follows :—

	No. of fatal accidents.	Percentage of total number of fatal accidents.
Misadventure	172	69.35
Fault of deceased	31	12.50
Fault of fellow workmen	17	6.86
Fault of subordinate officials	19	7.66
Fault of management	9	3.63
Total	248	100.00

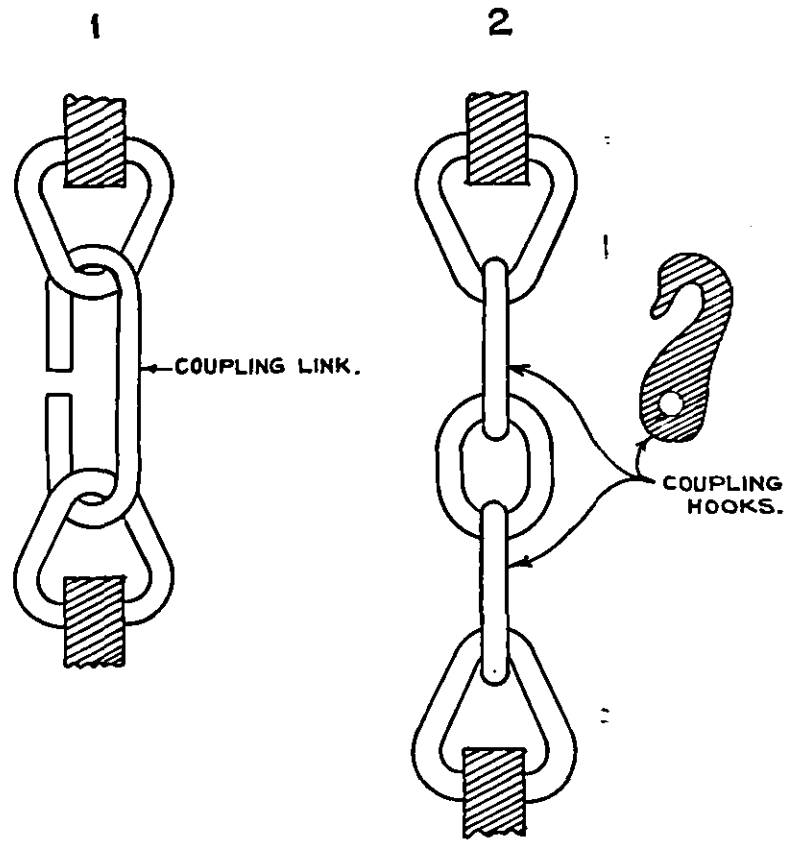
There was an increase of 35 in the number of persons killed during 1938, as compared with 1937.

I have analysed the serious accidents and find that out of the total of 1,233 persons seriously injured 1 was permanently and totally disabled; 20 were permanently partially disabled and 1,212 were only temporarily disabled.

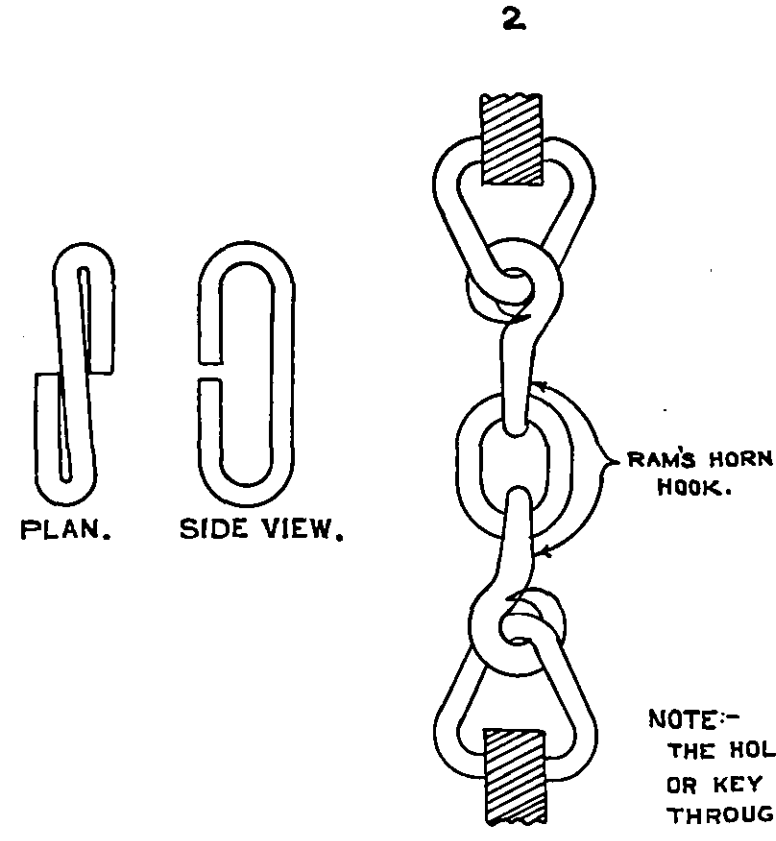
In addition, it was reported that 10,859 persons received minor injuries which necessitated the enforced absence from work for a period exceeding forty-eight hours. From the increase in the number of persons receiving minor injuries during the year it is obvious that many of the minor accidents were not reported until attention was drawn to the requirements of Section 20(3) of the Indian Mines Act.

Falls of roof and sides.—Falls of roof and sides caused 133 fatal accidents and 253 serious accidents. As compared with the figures under this head in the previous year the total number of accidents increased from 306 to 386; the number of persons killed increased from 148 to 166; and the number of persons seriously injured increased from 205 to 270. In one case nine lives; in three cases three lives and in five cases two lives were lost

SKETCHES SHOWING DIFFERENT TYPES OF TUB COUPLINGS.

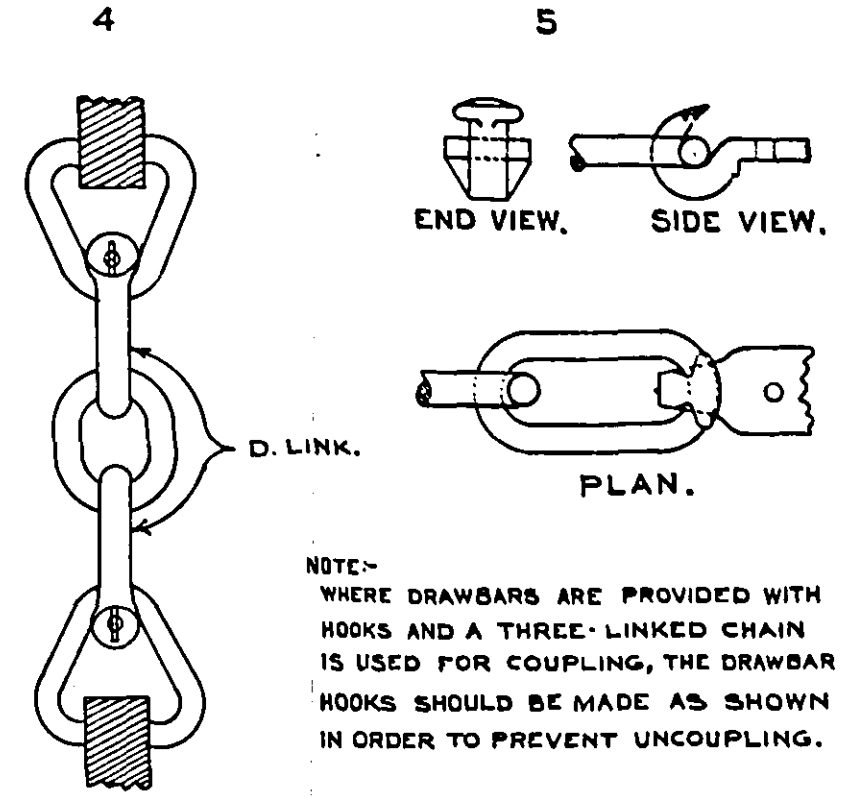


UNSUITABLE TYPES.



NOTE:-
THE HOLE FOR SLIDING PIN
OR KEY SHOULD BE DRIFTED
THROUGH LINK DURING
MANUFACTURE.

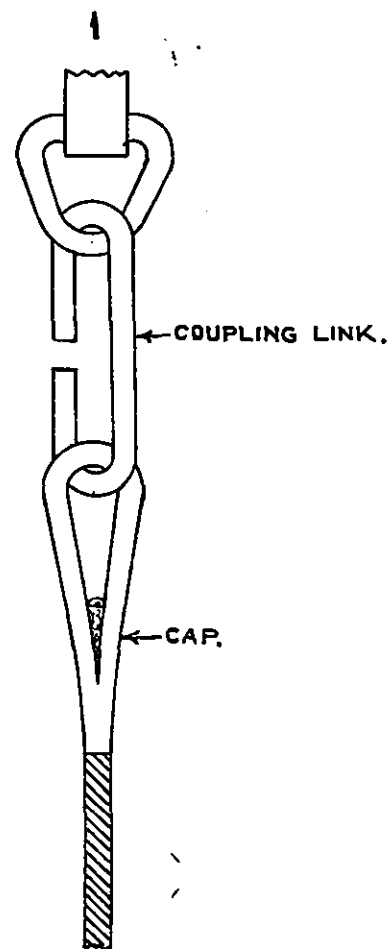
SUITABLE TYPES.



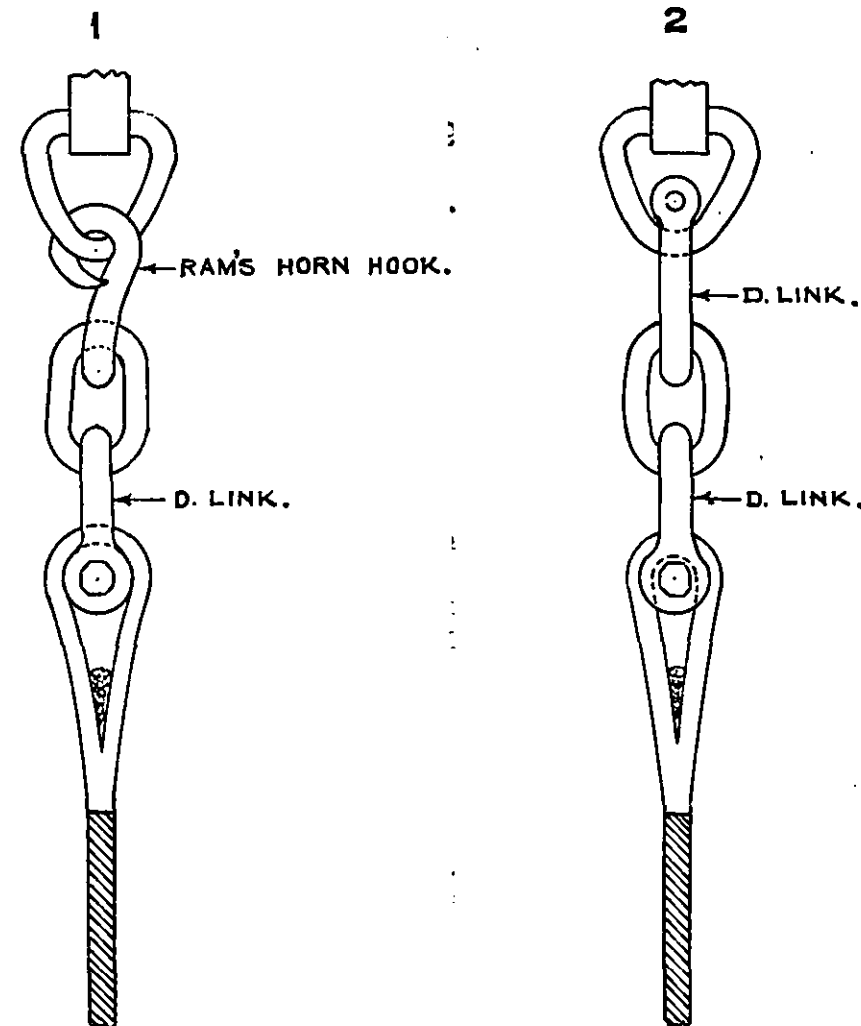
NOTE:-
WHERE DRAWBARS ARE PROVIDED WITH
HOOKS AND A THREE-LINKED CHAIN
IS USED FOR COUPLING, THE DRAWBAR
HOOKS SHOULD BE MADE AS SHOWN
IN ORDER TO PREVENT UNCOUPLING.

NOTE:-
THIS TYPE OF COUPLING
CHAIN IS RECOMMENDED
FOR USE ON VERY STEEP
GRADIENTS.

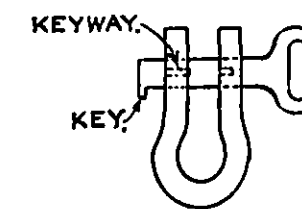
SKETCHES SHOWING METHODS OF ATTACHING
HAULLAGE ROPES TO TUBS.



UNSUITABLE METHOD.



SUGGESTED METHODS.



DETAILS OF D. LINKS.

in depillaring areas; also in one case three lives and in six cases two lives were lost in galleries by falls of roof. The accidents by falls of sides include one in which four persons were killed in open workings, and in three other cases two lives were lost in galleries.

In Shafts.—There were 15 fatal accidents and 33 serious accidents in shafts, as compared with 10 fatal accidents and 32 serious accidents in the previous year.

Explosives.—There were 10 fatal accidents and 38 serious accidents caused by explosives. In the previous year the figures were 13 and 31, respectively.

Irruption of Water.—There was one fatal accident by an irruption of water.

Haulage.—There were 40 fatal accidents and 257 serious accidents on haulage roads. The accidents due to haulage have been classified as follows :—

Classification.	Fatal.	Serious.	Total.
Haulage rope breaking	2	1	3
Coupling chains and hooks breaking	2	1	3
Drawbars breaking . . . . .	..	..	..
Couplings becoming detached	1	6	7
Riding on sets (authorised)	1	10	11
Riding on sets (unauthorised)	3	8	11
Allowing tubs to run uncontrolled	8	33	41
While hand-tramming tubs	2	58	60
While guiding tubs on a curve	2	9	11
Following derailments or while re-railing tubs	10	53	63
While coupling or uncoupling tubs . . . . .	..	18	18
While resting on or loitering about haulage roads or tramming levels.	3	15	18
Crushed against tubs, sides of roadways, doors, etc.	5	15	20
While spragging moving tubs . . . . .	..	9	9
Unclassified	1	21	22
Total	40	257	297

I give below a table showing the fatal and serious accidents on haulage roads during the last five years :—

Year.	Fatal.	Serious.
1934	20	155
1935	20	161
1936	24	189
1937	32	218
1938	40	257

It will be seen that there has been a steady increase both in fatal and serious haulage accidents during the last five years. This increase is very regrettable as many of these accidents could have been prevented by better supervision; suitable haulage tracks and gear; and greater care on the part of persons employed on haulage roads.

There was a decrease in the number of accidents due to breakdown in materials, there being 6 in 1938, as compared with 11 in 1937. The employment of haulage gear of adequate strength and its maintenance in good order will greatly minimise this type of accident.

Accidents due to couplings becoming detached from tubs could be avoided to a large extent by using a suitable type of coupling, and types of couplings, which it is considered should be used on haulage roads, are shown in Figure 1.

There was an increase in the number of accidents resulting from set riding, there being 6 in 1937, as compared with 22 in 1938. The riding on haulage sets should be discouraged as far as possible. It is considered to be a dangerous practice to authorise men to ride on sets merely for the purpose of stopping sets if a derailment occurs, as several accidents have occurred due to the set rider not being able to get clear of derailed tubs. Set riding should only be permitted when there is a number of loading points worked by the same haulage engine and it is necessary for the trolley men to travel between these loading levels for the purpose of assembling the sets.

There was a considerable increase in the number of accidents resulting from tubs being allowed to run uncontrolled, there being 41 in 1938, as compared with 28 in 1937. On tramming roads, a sufficient supply of suitable sprags and lockers should be provided and their use insisted on.

To prevent tubs running uncontrolled from the tops of haulage inclines due to the haulage attendants failing properly to operate the stop-blocks and runaway switches, it is suggested that the type of inter-coupled stop-block and runaway switch, as illustrated in Figure 2 be used at the tops of all haulage inclines where stop-blocks and runaway switches are required, as such an appliance would prevent accidents caused by the negligence of persons employed in operating stop-blocks and runaway switches at the tops of these inclines.

In the Annual Report for 1931, details of a suitable type of drag were given. A lighter and improved drag has been designed as a result of experiments carried out by Mr. N. Barraclough, Inspector of Mines, No. 1 Circle, and is shown in Figure 3. This type of drag has been found very effective in practice and its use is recommended.

There was the same number of accidents from hand tramming in 1938 as in 1937. Accidents resulting from hand tramming still form a large percentage of the total number of accidents on haulage roads and many of these accidents could be avoided by greater care on the part of the trammers.

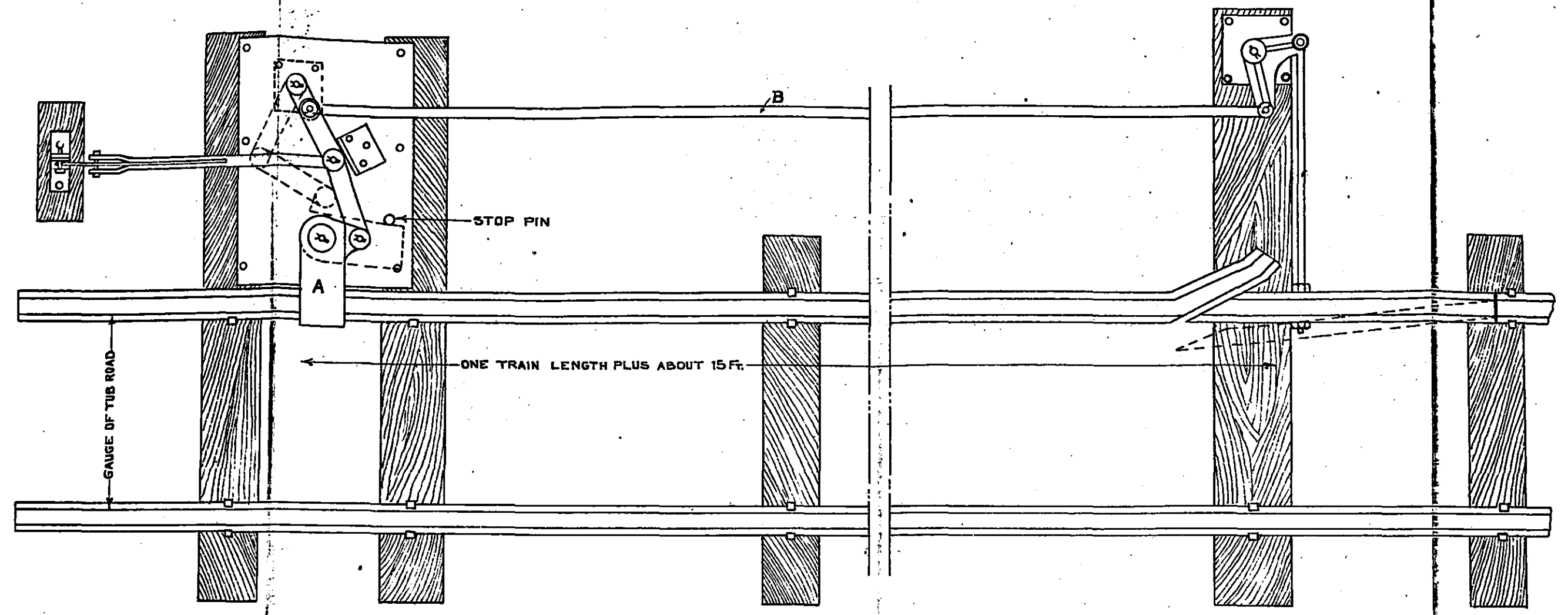
There was an increase in the number of accidents from guiding tubs on curves, there being 8 in 1937 and 11 in 1938. Well laid and properly graded tracks with guide rails will minimise this type of accident.

There were 63 accidents due to derailments or while re-railing tubs, as against 61 accidents in 1937. This type of accident could be greatly minimised by providing a well laid track with rails of a suitable section. It is not uncommon to see rails of different sections in the same haulage line with joints badly made and very little attention paid to the grading of the track, so that it is not surprising so many derailments occur.

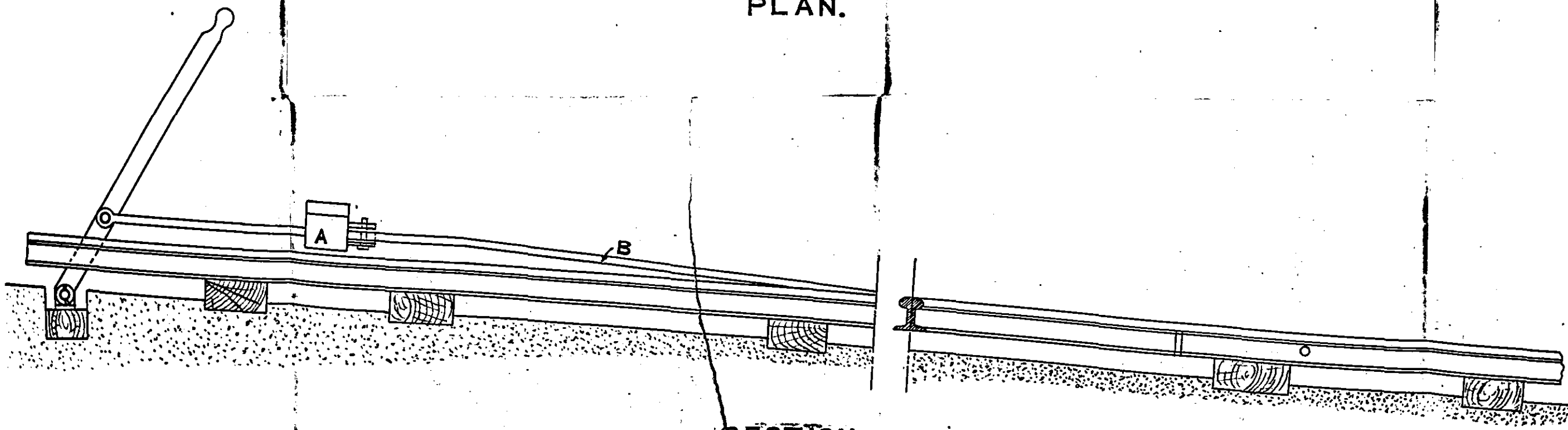
For re-railing tubs suitable levers should be used so that, in addition to facilitating the re-railing of the tubs, the work can be done in greater safety.

The number of accidents to persons while resting on or loitering about the haulage roads or tramming levels decreased from 27 in 1937 to 18 in 1938. In my Annual Report for 1937, the attention of owners, agents and managers was drawn to my Circular No. 4 of 1931, in the hope that the recommendations contained therein would be more rigidly enforced. Although there has been a reduction in this type of accident, a number of accidents which occurred during the year would have been prevented by stricter supervision on the part of the subordinate officials. In a number of cases it has been

INTER-COUPLED STOP BLOCK AND RUNAWAY SWITCH.



PLAN.



SECTION.

suggested that a fence or gate should be placed some distance along working levels to prevent persons going out on to the main haulage roads. It is considered that this safeguard would be more effective in many cases than the "white line" as referred to in the above-mentioned circular.

Underground Machinery.—Two fatal and 28 serious accidents were caused by underground machinery.

Sundries Undergrounds.—Twenty-three fatal accidents and 339 serious accidents were due to miscellaneous causes underground.

Surface Machinery.—One fatal accident and 20 serious accidents were caused by surface machinery.

Surface Railways and Tramways.—Seventeen fatal accidents and 102 serious accidents took place on surface railways and tramways.

Electricity.—There were seven serious accidents attributable to the use of electricity.

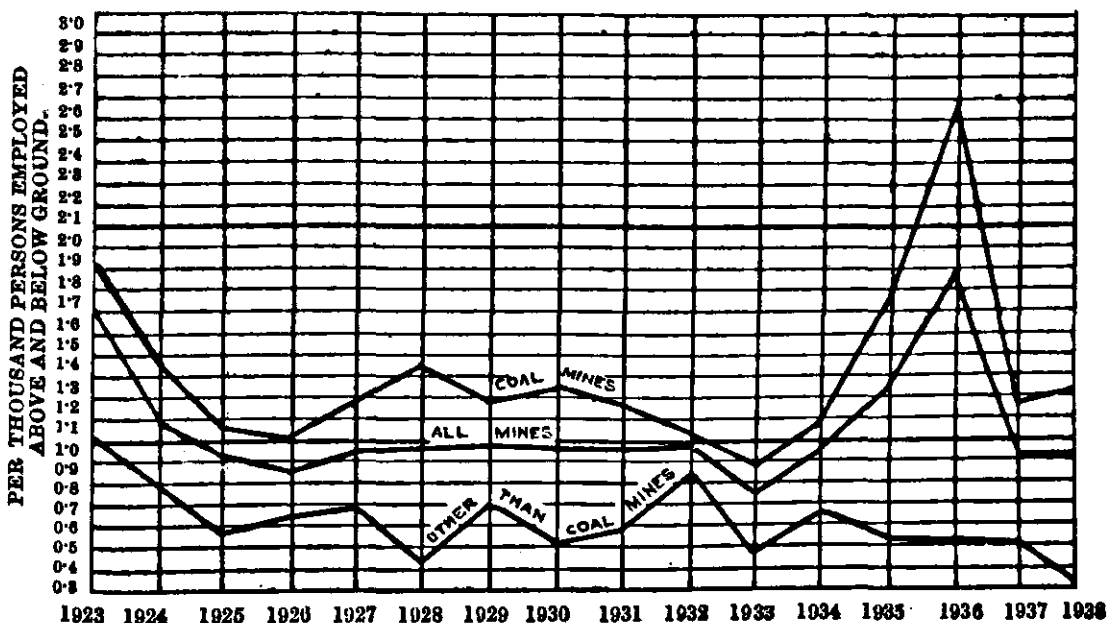
Miscellaneous on the Surface.—Six fatal accidents and 88 serious accidents of this kind took place on the surface.

Accidents excluded from the statistics.—Twenty-four accidents causing 24 deaths and injury to one person were excluded from the statistics for reasons which are given in Appendix II.

Death rates.—The death rate per thousand persons employed above and below ground was 0.92 which was less than the rates in 1936 and 1937. The average rate for the preceding five years was 1.12. At coal mines the rate was 1.23, as compared with 1.17 in 1937. At mines other than coal mines the rate was 0.33, as compared with 0.50 in 1937.

The chart below shows graphically the variations in the death rate during the period 1923-38—

CHART SHOWING THE DEATH RATE FROM ACCIDENTS DURING THE PERIOD 1923-1938.



from the above it will be seen that the death rate with the exception of that for coal mines has fallen. The high death rate in 1936 was due chiefly to an explosion in a coal mine which caused the loss of 209 lives.

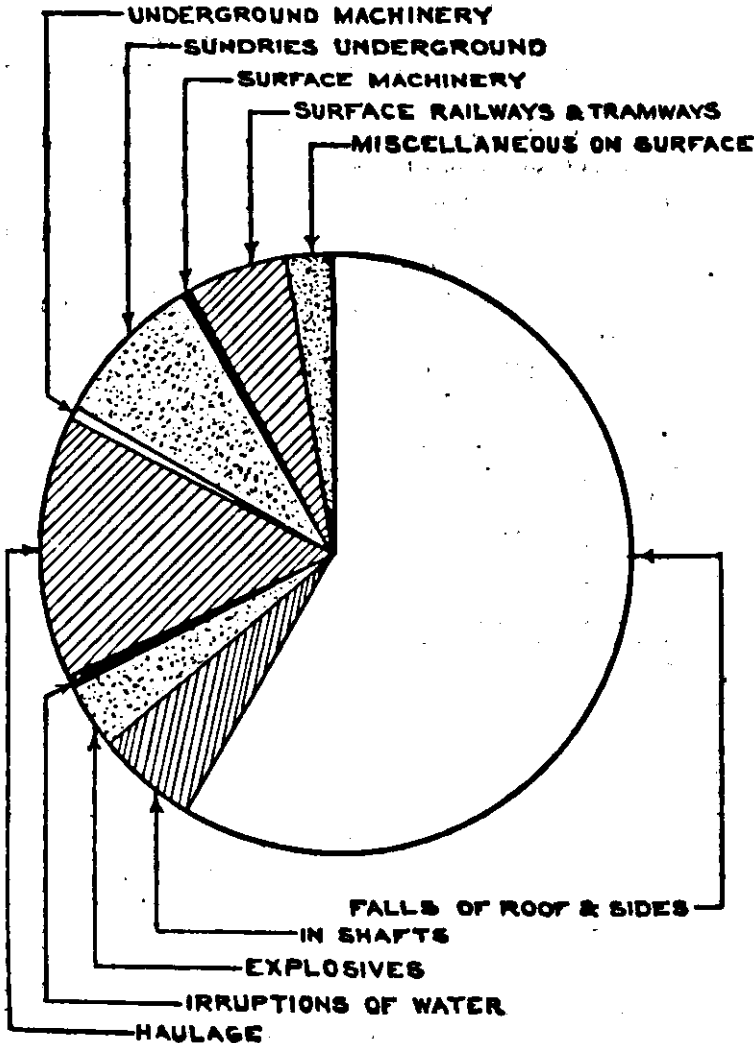
The death rate per million tons raised at coal mines was 9·81, while that of the preceding five years was 11·30.

Deaths occurring in each class of mines were as follows:—248 in coal mines; 4 in iron ore mines; 15 in mica mines; 4 in limestone mines; 2 in stone mines; 1 in a copper mine; 1 in a chromite ore mine; 2 in a china clay mine and 6 in manganese mines.

One hundred and four persons lost their lives by falls of roof; 62 by falls of sides; 15 in shafts; 10 by explosives; 2 by an irruption of water; 40 by haulage; 26 by other accidents underground; and 24 on the surface.

The accompanying chart shows the relative importance of the various cases of accidents in coal mines during 1938.

CHART SHOWING
DISTRIBUTION OF CAUSES OF PERSONS KILLED IN AND ABOUT COAL MINES
IN THE YEAR 1938.



A list of the fatal accidents appears in Appendix II, Table 1, where each is briefly described. The details of certain accidents are reported at greater length as follows:—

FALLS OF ROOF.

No. 9.—The Equitable Coal Company, Limited's Bejdih coal mine.

(Three persons killed.)

This accident occurred while roof coal was being taken down in a level in the Dishergarh seam, which is 15 feet thick and lies at a depth of 1600—1700 feet. Plan No. 1 shows the place of accident.

Where the accident occurred, the level was 26 feet wide and props had been set as indicated on the plan. The work of taking down the roof had been commenced by the first relay of miners, who were instructed to take down 2 feet of roof coal. Tubs had been placed on the dip side of the level and to load these tubs the loaders had to pass under the coal which was being taken down. During the first relay nothing untoward occurred, but shortly after the second relay commenced, miners and loaders were engaged at the place of accident, when a mass of roof coal, 24'×4'—6"×2', collapsed and displaced four props. Two miners were killed instantly by the falling coal and a third was fatally injured. The place had been inspected by the day shift assistant and by the second relay overman, who were satisfied that it was safe and that sufficient supports were set.

The manager considered that the fall of coal was due to a "bump" in the goaf, and there was a further severe "bump" during his inspection of the place after the accident. It is very probable that the "bump" caused the coal to fall from the "slip" on the dip side of the level. Since the accident the roof coal is being worked along the level in order to obviate workers passing beneath roof coal on which work is being done.

A similar accident, caused by a "bump", occurred in another district of the same mine about a month previous, and two persons were killed. As a result of these accidents, it was suggested by this department that in the vicinity of places where pillars are being extracted and particularly at loading points, the following precautions should be adopted:—

- (a) Provision should be made for an adequate supply of substantial props and the generous use of supports for the roof and sides in all loading levels.
- (b) The complete stowing of all galleries not required for traffic and ventilation within two pillar lengths of any pillar which is being extracted.

The agent stated that steps had been taken to give more supports in the levels, and to take down roof coal within one pillar length of pillars under extraction, and also to extract pillars as rapidly as possible once they were attacked. These precautions will, no doubt, make for safer working conditions.

No. 56.—The Dhemu Main Collieries Limited's Dhemu Main coal mine.

(Nine persons killed.)

The following description of the accident is given by Mr. G. S. Cameron, Inspector of Mines, No. 2 Circle, who enquired into the occurrence :—

“ This accident occurred in the Disbergarh seam, which varies in thickness from 12 to 13 feet, and dips at about 1 in 5½. As shown in plans Nos. 2 and 3 the seam is overlain by a band of hard shaley sandstone, 6 feet thick, above which there is a layer of hard white sandstone, 12 feet in thickness.

A small goaf, approximately 300'×240', had already been formed adjoining the place of accident, and at the time of occurrence, coal was being stripped off the side of the barrier, as indicated in the plan.

The accident occurred an hour before the termination of the second relay, which commenced at 3 p. m. and ended at 11 p. m. Just previous to the occurrence, the second relay sirdar had handed over charge to the relieving sirdar after going round the workings with him and explaining what work was in hand. The persons involved in this accident belonged to a gang of miners 27 in number, and of these, nine were engaged in stripping the barrier on the dip side of a level. Of the remaining miners, some were employed on a level above and six were working as loaders. The working place itself measured 57'×45', owing to the fact that a quantity of coal had been cut from the barrier. The roof coal had been taken down to the entrance to the level, leaving the hard shaley sandstone roof exposed. On the dip side of the working place there was a bench of floor coal, 25 feet in length and 8 feet in width, on which the miners were working. When the second relay of workers had finished, no more coal was to be taken from the barrier and the third relay of miners were to be employed to cut away the bench of floor coal. This operation would, in all probability, have been finished by the end of the third relay and would have completed all the work that had to be done on that level. At about 10 p. m., while the nine miners were engaged in cutting coal from the barrier, a mass of stone, 57'×38'×3', suddenly fell from the roof without warning, over-riding the props and a cog which was set under the loose end of stone adjacent to the goaf. All the nine miners were killed instantly.

An inspection of the scene of the accident disclosed that there was a very well defined “ slip ” running across the south east corner of the working place, while a less pronounced “ slip ” was exposed on the rise side of the place, running practically parallel to the pillar. It was also noticed, that the stone which was 3 feet in thickness, had come away from a clean “ parting ” in the roof.

The assistant, who had been in charge of the district for the last two years, stated that the props in the centre of the place were set 4 feet apart and staggered, and on the working bench there were two rows of short props 6½ feet in length and set the same distance apart. There were also two rows of props set under the loose end next the goaf, while in the centre of the place, between the two rows, there was a 4'×4' timber cog. At the time this accident was investigated it was impossible to ascertain the amount of timber set as a good deal of the fallen stone required to be removed.

When the manager visited the place four days previous to the accident, he was quite satisfied with the conditions existing then. He stated that there was no "weight" on the place and that there had not been any "bumping" in that particular district. The assistant deposed that he visited the place of accident the day previous to the occurrence and found conditions normal and satisfactory. The sirdars in charge of the district found everything in order. The supervising staff was well experienced in depillaring work and the place was properly inspected in accordance with the regulations.

As to the cause of the accident, it would appear that there was no "weighting" from the adjoining small goaf which might have caused the fall. The main sandstone roof in the small goaf had fallen. It may, therefore, be reasonably assumed that no "weight" was being thrown on to the place of accident. It is considered that the fall was due to the abnormal roof conditions existing at the place of accident. In all probability there was a bending movement of the shaley sandstone at the loose end next to the goaf which drew the stone away from the two "slips", at the same time over-riding the props. The presence of these two "slips" would not be apparent before the accident.

A similar fall had never previously occurred at this colliery, and there is no reason to doubt that the management considered the place to be adequately supported. Had the actual roof conditions been known to the management before, it is probable that they would either have abandoned the place or had it strongly supported by a number of cogs. It is extremely doubtful if a large number of props would have supported the weight of this mass of stone once it started moving. In their evidence, the miners who were out on the loading level, adjoining the place of accident, stated that the roof gave no warning whatsoever before it fell, and they all mentioned that the place was thickly "propped".

In order to guard against a recurrence of this type of accident it was suggested, and the management agreed, that in all cases where a barrier is being stripped or where there is a large area of exposed roof in depillaring areas, the roof should be supported by cogs or chocks set at intervals not exceeding 15 feet, as such substantial supports are not likely to be over-ridden by any movement in the roof.

No. 57.—The Mundalpur Coal Company, Limited's Mundalpur Coal Mine.

(Three persons killed and two injured.)

This accident occurred during depillaring operations in a seam $8\frac{1}{2}$ feet thick, which dips at 1 in 12. Above the seam is a layer of hard sandstone 3 feet in thickness, above which is a band of shale 4" thick. The shale band is overlain by a layer of sandstone 3 to 4 feet in thickness. Depillaring had been in progress in this section, which lay between two faults, for about a month and the extraction of five pillars had been completed. Plan No. 4 indicates the place of accident.

On the morning of the occurrence, there had been a fall of roof in the goaf at about 8 a.m., but after that the day shift overman, who was in

charge of the district, said that everything was normal. At about 9-30 a.m. the overman put twelve miners to work in the section and instructed seven of them to commence work on the half pillar, as indicated on the plan. After the miners had started work, two timbermen arrived and commenced measuring props, which they were going to set on the curve of the tram line. Less than two hours later, a mass of sandstone, 40'×14'×3', fell without any warning from the roof. One miner and the two timbermen were killed instantly, while two other miners were seriously injured.

The fallen roof exposed the fault on the rise side at the curve of the tram line, and a well-defined "slip" was also exposed on the level at the curve. Nine props were said to have been set in the working place, but these were all over-ridden and buried by the fallen roof.

It is considered that the fall was due to the proximity of the fault to the working place, and it is likely that the previous goaf-fall earlier in the day was a contributory factor in that it disturbed the strata. Apart from the first fall referred to, there had been no "bumping" or indications of "weight". The overman in charge of the district visited the place half-an-hour before the occurrence and was satisfied that everything was in order. The assistant also visited the place before the miners commenced work, and he was of the opinion that the place was safe and adequately timbered.

In order to guard against a similar occurrence, systematic timbering was introduced and the agent issued orders that in all depillaring areas in the vicinity of dykes or faults supports were to be set at the following intervals:—

- (a) between each row of props, 4 feet,
- (b) between adjacent props in the same row, 4 feet,
- (c) between the front row of props and the face, 8 feet, and
- (d) chocks or cogs to be set where necessary.

FALLS OF SIDES.

No. 132.—Messrs. Chaturam Horilram Limited's Matuni Mica Mine.

(Four persons killed and three injured.)

This is an unusual type of accident and occurred in an excavation for mica, 16 feet deep. The following details of the accident are given by Mr. N. Barraclough, Inspector of Mines, No. 1 Circle, who enquired into the occurrence:—

"The mine was opened on 1st December 1938, and it consists of one small excavation about 40 feet long, 25 feet wide and 16 feet deep. The mica-bearing pegmatite vein is about 3 feet wide. It runs in a north-easterly direction and heads south-east at an angle of about 35 degrees to the vertical. The pegmatite vein contains hard crystalline quartz and felspar and the hanging and foot-walls near the surface consist of soft decomposed schist. The pegmatite vein outcrops on the surface but the soft schists on either side of it have been denuded and are covered with alluvium

On the day of the accident about 25 work-persons were employed at the mine; four of them were engaged in operating a hand-pump and the remainder were excavating soft schist and removing the debris to a dump on the surface. Two of the deceased, Bain Singh and Dil Bahadur, car-driver and car-cleaner, respectively, who were servants of the mine-owners and who had been engaged during the day in repairing a motor car close to the mine, thought they would like to see the mine, before returning home. They stood on the edge of the excavation to watch operations and the side gave way, precipitating them into the quarry. As shown in plan No. 5 a mass of earth, 10 feet long, about $2\frac{1}{2}$ feet wide and 2 to 5 feet high, which would weigh about $3\frac{1}{2}$ tons, fell with them. Two pump attendants, who were standing on the platform near the pump, were also involved. The four deceased fell into the small sump at the bottom of the quarry which contained water, about 2 feet deep and were buried by the earth which fell. Three other labourers were also struck and severely injured. The "Incharge" and the mate with the help of others soon rescued the injured persons but the four deceased died from suffocation before they could be released.

The fall revealed a smooth inclined plane at the junction of the schist and earth which was covered with flakes of mica, the smooth plane extending from the bottom of the part which collapsed to within 2 feet of the surface. This smooth plane was the principal cause of the collapse of the side but the weight of the deceased car-driver and cleaner was also a contributing factor and there is no doubt that the accident would not have occurred if these two persons had not stood so close to the edge of the excavation."

The sides of the excavation were stepped and sloped, but the smooth inclined face covered with decomposed mica facilitated the fall of earth which caused the accident.

IN SHAFTS (WHILST DESCENDING BY MACHINERY).

No. 140.—Messrs. Pure Dishergarh Colliery Company's Pure Dishergarh coal mine.

(One person killed.)

This accident occurred in a shaft, 185 feet deep, which was fitted with two cages. Each cage had a rigid gate at either end, consisting of three flat iron bars, $1\frac{1}{2}'' \times 5/16''$, which moved up and down two rigid guides. When in position, these bars formed an effective barrier against persons falling from the cages while in motion.

Deceased and his three companions entered one of the cages, and the banksman closed the gate nearest to him, but he admitted failing to close the gate at the other end of the cage before the cage was lowered. While being lowered, the cage was suddenly stopped, when it was 15' to 20' from the shaft bottom, and deceased was thrown from the cage to the shaft bottom.

The banksman, who absconded immediately after the accident, violated Bye-law 82, which requires the cage gates to be in position and closed before the cage is signalled away.

During the year, there were three other fatal accidents due to persons falling from cages while riding in shafts. In one case, it was definitely proved that the cage gates were not closed, and although the evidence was very conflicting, it is very probable that the cage gates were not closed and caused the other two accidents.

This type of accident is easily preventable and is due to the negligence of the banksman or on-setter failing to comply with Bye-law 82. It is probable that there are frequent violations of this bye-law and it is requested that, in the event of managements detecting such contraventions, suitable action be taken against those concerned as will have a salutary effect.

HAULAGE.

No. 179.—The Kanhan Valley Coal Company, Limited's Damua coal mine.

(One person killed.)

This accident occurred on a haulage incline, dipping at 1 in 3. During the course of the investigation into this accident, it was disclosed that a banksman and a trammer were employed at the top of the incline to arrange the empty sets of tubs. A signal was received from underground to lower a set of empties. The banksman, finding that the haulage rope did not reach the empty set signalled to the engine driver to slacken off the rope so that it might be attached to the tubs. The engine driver was absent from the engine room and the banksman went to call him. While the banksman was away, the trammer, apparently thinking that the set was coupled together and attached to the rope, pushed a tub past the stop-block which had been left open over the brow of the incline, and the tub ran wild, striking deceased, who was engaged on the haulage line at the time.

After the accident, the manager examined the incline brow and found the runaway switch and stop-block in good working order. It transpired that the runaway switch had been deliberately jammed to save the banksman the trouble of opening and closing it.

This accident was obviously due to negligence on the part of the banksman and the trammer in not seeing that the tubs were properly coupled together; the haulage rope attached to the set, and that the runaway switch remained open until the stop-block had been opened and the set of tubs found to be securely attached to the rope. Proceedings were instituted against the banksman and the trammer. In spite of so many mistakes committed by the human element, an inter-coupled stop-block and runaway switch would have prevented this accident and such appliances should be fixed at the top of all similar haulage inclines both on the surface and underground with a view to preventing this type of accident.

No. 198.—*The Indian Iron and Steel Company, Limited's Chasnalla coal mine.*

(One person killed.)

This accident occurred 200 feet to the dip of the main incline entrance. The following description of the accident is given by Mr. N. Barrackough, Inspector of Mines, No. 1 Circle, who enquired into the accident :—

“ The incline entrance is some 200 feet from the brow of the incline and the runaway switch about 90 feet from the brow. The switch consists of a heavy section rail pivoted at its middle on a horizontal shaft and operated by a pull wire. The empty tubs formed the set, the tubs being coupled by strong “ D ” links with loose pins. Three hookmen worked on the brow of the incline and did the various operations collectively. The coupling between the third and fourth empty tubs was not properly attached and when the train was being pushed over the brow the first three empty tubs ran away. The hookman, Jadhu, became confused and held the runaway switch closed instead of releasing it or not operating it until he was sure that the set was properly coupled. The three tubs were derailed some distance down the incline and came to rest just below the place of accident.

Two haulage line attendants, deceased and Sohan Mia, who had been laying rails on “ K ” level of No. 3 incline had completed their work early and came out of the mine by the travelling road to “ A ” level. They saw that the haulage was not working and proceeded up the haulage road. As they travelled up the incline, Sohan heard the tubs running away and he stepped into a manhole. Deceased, who was behind him and midway between the two manholes, was unable to reach a manhole, and was struck and fatally injured by the runaway tubs.

The precautions against such accidents consisted of stopping the haulage during the changing of shifts. At “ A ” level, some 400 feet from the incline entrance, where the travelling road leaves the haulage road, there is a signalling station and it was customary to give a signal—one rap—from this point when men travelled through the haulage incline during the working period. Apparently, the two haulage line attendants passed this signal station and the signal was not given ”.

The accident was due to mistakes made by the hookmen on the surface and it was considered that further precautionary measures were necessary. The Inspector of Mines, No. 1 Circle, recommended that the following measures should be taken in order to avoid a recurrence of this type of accident, due to mistakes made by the human element, and these precautions are quoted in the hope that similar measures will be adopted at all mines where similar haulage inclines are working :—

- (1) An inter-coupled stop-block and runaway switch should be installed on the incline.
- (2) An improved type of drag should be used.

- (3) Where the travelling road meets the haulage road, a gate should be provided and the signalman at this point should not allow any person to travel on the haulage road until a special signal has been given and a reply has been received from the surface.
- (4) A special signal of six raps should be used and a reply of six raps should be received from the surface before persons are allowed to travel on the haulage road.

Section IV.—Prosecutions and amendments to the Act, Regulations, rules and orders made thereunder.

PROSECUTIONS.

During the year judgments in prosecutions were delivered as follows :—

The owner and manager of a coal mine in the Jharia coalfield were prosecuted for failing to have the entries in the register of employees made as required by the rules ; for failing to have a surface plan and also up to date plans of the underground workings, and for failing to fence disused underground galleries. They were fined Rs. 50 each.

The manager of a mica mine in the Hazaribagh district was prosecuted for employing the same miners underground in the mine for more than nine hours a day, and for failing to maintain a register of the employees. He was fined Rs. 20.

The owner, agent and manager of a mica mine in the Hazaribagh district were prosecuted for employing the same miners underground for more than nine hours a day ; for not maintaining a register of the employees ; and for failing to keep a plan of the underground workings of the mine. The owner was acquitted and the other two fined Rs. 50 each.

A trammer in a coal mine in the Raniganj coalfield was prosecuted for failing to sprag a tub and allowing it to run uncontrolled on an underground haulage road, with the result that the tub "ran wild" and fatally injured a loader. The case was withdrawn as the accused could not be traced.

The owner, who was also the manager of a coal mine in the Jharia coalfield, was prosecuted for extending galleries under a river without submitting the required notice ; for failing to keep some of the inclines on the surface properly fenced ; and for failing to fence disused underground galleries. He was fined Rs. 100.

The manager and attendance clerk of a coal mine in the Jharia coalfield were prosecuted, the manager for failing to have a correct register of persons working underground maintained and for failing to notify the appointment of a temporary sirdar ; the attendance clerk for not maintaining a correct register of persons working underground. The manager was fined Rs. 50, and the attendance clerk Rs. 20.

The agent and manager of a coal mine in the Jharia coalfield were prosecuted for failing to provide proper stationary lights at the bottom of a shaft ; for failing to keep in working order the runaway switch on an underground haulage road ; for failing to fence an incline securely at the surface ; for

failing to fence properly on the surface a subsided area ; and for failing to provide proper manholes in a haulage road. The former was acquitted and the latter fined Rs. 100.

The attendance clerk of a coal mine in the Jharia coalfield was prosecuted for having entered the haulage engine room and interfered with the engine, without authority, causing serious bodily injury to a workman. He was fined Rs. 40.

The owner, manager and attendance clerk of a coal mine in the Jharia coalfield were prosecuted ; the owner and manager for failing to maintain an up to date plan of the underground workings of the mine ; for failing to arrange for the necessary underground inspections of the mine ; and for failing to keep a number of inclines securely fenced ; the attendance clerk for failing to maintain a correct record of the persons employed underground. The owner and manager were fined Rs. 30 each. The case against the attendance clerk was withdrawn.

The manager of a coal mine in the Raniganj coalfield was prosecuted for making false statements in five certificates issued by him to five persons to enable them to appear for the underground sirdars' examinations. He was acquitted.

Five persons referred to above were also prosecuted for obtaining false certificates and using them in order to obtain permission to appear at the underground sirdars' examination. Three of the accused were acquitted and two could not be traced.

For obtaining a false certificate in order to obtain permission to appear at the underground sirdars' examination, an employee of a coal mine in the Jharia coalfield was prosecuted. He was sentenced to six weeks' rigorous imprisonment and a fine of Rs. 30.

The manager and assistant storekeeper of a coal mine in the Jharia coalfield were prosecuted. The former for issuing a false certificate and the latter for making use of it in order to be permitted to appear for the sirdars' examination. They were fined Rs. 50 each.

Four employees of a coal mine in the Jharia coalfield were prosecuted for "robbing" coal from the side of a loading level which was not the working place allotted to them, and causing an accident in which one person was killed. Three of them were convicted and each sentenced to three months' rigorous imprisonment ; the fourth could not be traced.

The owner, contractor and manager of a fireclay mine in the Jharia coalfield were prosecuted for failing to maintain a register of work-persons ; for failing to keep the requisite medicines and ambulance appliances at a convenient place on the surface ; and for failing to fence several disused quarries. The owner was fined Rs. 50, the contractor Rs. 25, and the manager Rs. 40.

Eight employees of a coal mine in the Raniganj coalfield were prosecuted for endangering life by a negligent and wilful act for damaging and improperly interfering with materials used in the workings of the mines ; and for throwing stones and other missiles about the mine with the intention of causing injury. Judgment has not yet been received.

The owner and the manager of a fireclay mine in the Jharia coalfield were prosecuted for failing to fence several disused quarries. For the same offence they were prosecuted previously. The owner was fined Rs. 50, and the manager Rs. 40.

The owners (four) of a coal mine in the Jharia coalfield were prosecuted for allowing the coal from pillars to be "robbed" thereby making the galleries wide and the pillars too small. They were fined Rs. 20 each.

The owners (two), one of whom was also the manager, of a coal mine in the Raniganj coalfield, were prosecuted for failing to keep the sides of a quarry sloped, or secured in such a manner so as to prevent danger from falls of material, with the result that a fatal accident occurred. The owner-manager was fined Rs. 45.

The manager and an attendance clerk of a coal mine in the Raniganj coalfield were prosecuted; the manager for employing miners underground for more than the stipulated number of hours; and the attendance clerk for falsifying the attendance register of the persons actually employed underground. They were fined Rs. 50 each.

The acting manager and a sirdar of a coal mine in the Jharia coalfield were prosecuted for allowing women underground in the mine. The former was fined Rs. 75 and the latter Rs. 25.

The manager and an overman of a mica mine in the Hazaribagh district were prosecuted for failing to remove the overburden and make the sides of the open workings secure, as a result of which an accident occurred and three persons lost their lives and one was seriously injured. The case was withdrawn as neither of the accused could be traced.

Three prosecutions were instituted against an agent and two owners for failing to submit annual returns. The agent was fined Rs. 10 and one of the owners Rs. 25; the other owner could not be traced.

Information was received of the following prosecutions instituted by mine officials against subordinate staff.

A banksman and a trammer of a coal mine in the Pench Valley coalfield were prosecuted. The banksman for leaving his appointed working place; and for not keeping the stop-block and runaway switch in proper order; and the trammer for pushing a loaded tub past the stop-block and over the brow of the incline. The case against the former was not proceeded with. The latter was fined Rs. 30.

A miner of a coal mine in the Raniganj coalfield was prosecuted for leaving his working place and for entering a fenced off area to extract fallen coal. The case was withdrawn as the accused could not be traced.

The "in charge" of a shunting yard of a coal mine in the Pench Valley coalfield was prosecuted for giving orders contrary to instructions, which resulted in two locomotives colliding in a surface cutting, thereby causing a fatal accident. The case has not yet been disposed of.

A trammer of a coal mine in the Pench Valley coalfield was prosecuted for detaching a haulage rope from a set of full tubs and not taking steps to prevent the tubs "running wild" and endangering workers. He was fined Rs. 5.

A shot-firer of a coal mine in the Pench Valley coalfield was prosecuted for having in his possession more than the permitted amount of explosives and for issuing explosives to unauthorised persons. He was fined Rs. 4.

An underground trammer of a coal mine in the Pench Valley coalfield was prosecuted for riding on tubs without authority. He was fined Rs. 10.

For the same offence a trammer in one case and three trammers in another case were prosecuted and fined Rs. 10, Rs. 10, Rs. 5 and Rs. 5, respectively.

A shot-firer of a coal mine in the Pench Valley coalfield was prosecuted for being in possession of more than the permitted amount of explosive. He was fined Rs. 3.

A shot-firer of a coal mine in the Pench Valley coalfield was prosecuted for issuing explosives to miners. He was fined Rs. 5.

AMENDMENTS TO THE INDIAN MINES ACT AND TO THE REGULATIONS, RULES AND BYE-LAWS MADE UNDER THE ACT.

In supersession of the notification of the Government of India, in the late Department of Industries and Labour, dated the 1st October 1935, the Central Government, in Notification No. M-1051, dated the 20th January 1938, exempted certain mines, groups of mines, classes of mines, parts of mines and classes of persons specified in the Schedule to this notification from the operations of the Indian Mines Act, 1923. The notification is reproduced in Appendix IV, Statement No. 3.

In Notification No. M-1028(1), dated the 22nd February 1938, the Central Government directed that certain amendments shall be made in the Indian Oil Mines Regulations, 1933. The notification is reproduced in Appendix IV, Statement No. 4.

In Notification No. M-1028(2), dated the 22nd February 1938, the Central Government directed that the Lanywa Oil Mine Regulations, 1933, shall be cancelled.

In Notification No. M-1028(1), dated the 23rd March 1938, the Central Government directed that certain further amendments shall be made with effect from the 1st April 1938, in the Indian Coal Mines Regulations, 1926. The notification is reproduced in Appendix IV, Statement No. 5.

In Notification No. M-1028(2), dated the 23rd March 1938, the Central Government directed that certain further amendments shall be made with effect from the 1st April 1938, in the Indian Metalliferous Mines Regulations, 1926. The notification is reproduced in Appendix IV, Statement No. 6.

In Notification No. M-955, dated the 20th May 1938, the Central Government directed that certain further amendments shall be made in the Indian Coal Mines Regulations, 1926. The notification is reproduced in Appendix IV, Statement No. 7.

Certain amendments in the conduct of examinations for Colliery Managers' and Surveyors' Certificates of Competency made by the Board of Examiners under Regulation 31(4) of the Indian Coal Mines Regulations, 1926, were published. They are reproduced in Appendix IV, Statement No. 8.

In Notification No. M-955(1), dated the 7th June 1938, the Central Government directed that the Supplementary Coal Mines (Temporary) Regulations, 1936, and the Coal Mines (Temporary) Regulations, 1937, shall be cancelled.

In Notification No. M-955(2), dated the 7th June 1938, the Central Government directed that the following amendments shall be made in the Supplementary Coal Mines (Temporary) Regulations, 1937, namely :—

In the said Regulations, regulations 6, 7 and 8 shall be omitted.

Rules for the conduct of examinations for Underground short-firers' certificates made by the Board of Examiners under Regulation 31(4) of the Indian Coal Mines Regulations, 1926, were published. They are reproduced in Appendix IV, Statement No. 9.

In Notification Nos. M-1055(1) and M-1055(2), dated the 24th August 1938, the Central Government constituted for the province of Bihar, Mining Boards for coal mines and mines other than coal and directed that the Boards shall consist of the persons whose names are reproduced in Appendix IV, Statements Nos. 10 and 11.

In Notification No. M-1268, dated the 31st August 1938, the Central Government applied to Berar the Indian Metalliferous Mines Regulations, 1926, subject to such amendments as are in force in British India or may be made in the said Regulations from time to time.

In Notification No. M-1051, dated the 6th December 1938, the Central Government directed that the following amendment shall be made in the Notification of the Government of India, in the Department of Labour, No. M-1051, dated the 20th January 1938, namely:—

“In appendix I to the Schedule annexed to the said notification, under the head “Central Provinces and Berar ” to the entries under the sub-head “Stone mines”, the following entry shall be added, namely :—

6. Salbardi Paras. Dula Khan. Salbardi, Multai. Betul.”

By the end of the year bye-laws under Section 32 of the Act had been established at six hundred and twenty seven coal mines and twenty two mines other than coal. Amended bye-laws had been established at four hundred and fifteen coal mines. Bye-laws for the treatment of coal-dust had also been established at forty-six coal mines.

During the year four circular letters were issued to owners, agents and managers of coal mines. They are reproduced in Appendix IV, Statements Nos. 12 to 15.

Section V.—General Remarks.

UNDERGROUND FIRES.

Reference was made in my last report to the precautionary measures taken at the Khas Jharia group of mines to prevent the spread of fire in the vicinity of the Jharia town and the Jharia-Pathardih main line of the East Indian Railway, and to the protective works made at the Kusunda

group of mines to stabilise the Kari River due to an area of old workings being on fire beneath and in the vicinity of the river. At the Khas Jharia group of mines "blanketting" was continued and boreholes, through which sand was flushed, put down into old galleries adjoining the Jharia-Pathardih main line of the East Indian Railway. The protective work in connection with the railway was under the supervision of the Mining Advisor to the East Indian Railway. At the Kari River "blanketting" was continued by several large concerns, which undertook these protective works at great cost. On re-opening some of the 69 boreholes in the bed of the river it was found that no more material could be flushed down them and it is anticipated that the stowing under and in the vicinity of the river is nearing completion. The success so far attained in making these protective works at the Kari River is in a large measure due to the constant supervision by the management of Bhuggutdih Colliery, owned by the Bengal Nagpur Coal Company, Limited.

RECOVERY OF POIDIH COLLIERY BELONGING TO THE BENGAL COAL COMPANY, LIMITED.

After the disastrous explosion at Poidih Colliery on the 18th December 1936, resulting in the death of 209 persons, the mine remained sealed for eighteen months. Details of this accident are given in my Report for the year 1936.

On the 27th May 1938, I was informed that recovery operations would be commenced on the 4th July 1938, and a scheme was submitted by the Chief Mining Engineer of the Bengal Coal Company, Limited, which was duly approved. During June 1938, the headgears, electric winders, fan, etc., were put into working order. A brief description of the recovery operations is as follows:—

The first operation was to clear the mine of noxious and inflammable gases. Samples taken from the pipe in No. 1 shaft seal during May, on analysis, were found to contain 81 per cent. CH_4 , 0.5 per cent. oxygen, and 2.3 per cent. carbon dioxide, the remainder being probably nitrogen. Previous to the fan being started up a small door, 5'-6" \times 3'-0", was built into the side of the fan drift. This door was constructed in three sections, each of which could be opened and closed independently of the others. Its object was to admit pure air into the fan drift and so dilute the highly concentrated accumulation of inflammable gas in the shafts and workings. The fan was started up on the 1st July, and was run satisfactorily for three days. With the special door in the fan drift open 45,000 to 50,000 c.ft. of air per minute passed into the fan drift. On the 4th July, as arranged, a 9" \times 9" opening was made in the brick stopping in the fan drift. The relief pipe in the upcast was sealed with a blank flange and the relief pipe in the downcast shaft was opened out and found to be downcasting. An analysis of the air in the fan drift was made continuously and it was found that with an opening, 18" \times 12", in the fan drift stopping the percentage of inflammable gas was 3½. This was considered to be too high and the opening was reduced in size until a steady 2 per cent. of gas was obtained. On 5th July, another small hole was made in the stopping and an analysis of the gas actually issuing from the upcast shaft showed

59 per cent. CH_4 , 8 per cent. oxygen and 1 per cent. CO_2 . The seal at the downcast shaft top was broken and an opening approximately, $8' \times 1'$, was made by moving the steel plates apart. On the 6th July, the openings in the stopping were slightly enlarged and with two openings, $9" \times 9"$, there was a steady $2\frac{1}{2}$ per cent. of gas in the fan drift. On the 7th July, the openings were further enlarged and the same evening the brick stopping was entirely removed. The steel door in the fan drift was then gradually closed section by section and the covering of the downcast shaft was also completely removed. The quantity of air circulating then rose to 110,000 c.ft. per minute, the gas percentage being steady at 0.40. The fan was run continuously on the 8th July, and the gas percentage varied from 0.4 to 0.35, and the quantity of air passing rose to 147,000 c.ft. per minute. On the 9th July, the ventilation quantities remained constant at 145,000 c.ft. per minute and the gas percentage was 0.25. As these conditions indicated that the ventilation in the downcast shaft bottom and for some distance from it was good, it was decided to make a preliminary examination of the downcast shaft on the afternoon of 10th July. During the above operations the air-lock at the upcast shaft was also put into working order by removing the brick stopping. The seal at the top of the upcast shaft was also partly removed so that work could be commenced on building the permanent air-lock. The gas percentage in the fan drift was determined both by a safety lamp and by a McLuckie gas detector. On the afternoon of 10th July, as arranged, and after a sinking bucket had been run up and down the downcast shaft several times, a party of three persons descended as far as the Burra Dhemio seam, dressing the sides as they went. A further examination of the shaft was then made as far as the shaft bottom. Air was found to be circulating freely along the shaft levels, and there was no trace of gas on the main east level until the third cross-cut between the intake and the return was reached. On the west side the air was fresh as far as the main west deep cross-cut. In the main return the air was fresh and no firedamp could be detected with a safety lamp at the upcast shaft bottom. On the following morning the work of erecting brattice cloth stoppings between the intake and return shaft levels was commenced. This cleared the gas on the east side for some distance, but in the rise itself there was still a large percentage of inflammable gas in the air. On the west side an examination was made of the main west cross-cut dip haulage as far as the third level. The two large goaves to the dip of the shafts were both found to be full of water and the stoppings blown inward towards the goaf. The work of bratticing down the main west cross-cut in order to restore the ventilation was then continued, and at the same time, steps were taken to clear the downcast shaft bottom, while on the surface preparations were made to remove the damaged guide ropes. By the 13th July, ventilation had been restored on the west side of the mine, and a complete inspection was made of the west dip goaf. This was found to be sealed by water. The west side having been cleared of gas, bratticing work was concentrated on the east side and at the same time work was continued in the shaft bottom. New cages were duly fitted in the downcast shaft and were running by the 25th July. The work of bratticing the east rise district was completed and ventilation restored by the 31st July. Meanwhile, the building of the air-lock at the upcast shaft had been commenced and the cage which was resting on the keps was removed. A sinking bucket was installed,

thus establishing a second outlet for the mine. This shaft on examination was found to be in good order. The work of building permanent stoppings was then commenced, and these (70 in all) were completed by the 21st October. At this time the quantity of air circulating was 110,000 c.ft. per minute. This quantity was found to be adequate both in the east rise and west dip district although only brattice sheets were hung to course the air current. It is to be noted that the men employed in building the permanent stoppings worked in fresh air all the time and under fairly comfortable conditions.

It is not proposed to discuss here the cause of the explosion, or the point of origin, except that a thorough examination revealed indications of indescribable violence, as a complete report concerning conditions disclosed after the accident is being prepared. All stoppings with the exception of two were destroyed. Many were blown with great violence against barriers and the bricks pulverised. It can also be stated definitely that all persons employed in the mine met their deaths by violence and were killed instantly. All the bodies were recovered. It may, therefore, be safely concluded that every person in the pit was killed outright by the explosive blast, and that whatever rescue means could have been adopted at the time no lives could have been saved.

It may be mentioned that a thorough examination by the Electric Inspector of Mines of all electrical apparatus in use at the time of the explosion revealed nothing defective.

Since the mine has been recovered all galleries have been systematically cleaned and stone-dusted, while main haulage roads and the shaft bottoms have been white-washed and electrically illuminated.

The scheme adopted for the recovery of the mine proved sound in practice, and enabled operations to be completed in the minimum time.

In conclusion, I should like to add that great credit is due to the Chief Mining Engineer and those members of his staff who took part in these operations for the workmanlike and efficient manner in which the scheme was brought to a very successful conclusion.

EXAMINATION AND CERTIFICATION OF UNDERGROUND SHOT-FIRERS.

As pointed out in my last Annual Report, the report of the Coal Mining Committee was published in 1937, and action has already been taken on a number of recommendations made by the Committee. One of the recommendations was to the effect that shot-firers should be certificated by examinations after two years' practical experience underground, of which at least six months should be experience in connection with shot-firing, and that all shot-firers should be required to obtain this certificate after examination within two years from the date on which the regulation comes into force.

To give effect to this recommendation, Regulation 108 (3) of the Indian Coal Mines Regulations, 1926, published by the Government of India, Department of Labour, in Notification No. M-955, dated the 20th May 1938, provides that with effect from 1st April 1940, no person shall be appointed as a shot-firer unless he holds a shot-firer's certificate or a sirdar's certificate in accordance with this regulation. For the conduct of these examinations the

Board of examiners, under Regulation 31(4) of the above regulations, have prepared rules for the purpose of these examinations and arrangements are being made to hold these examinations in the various coalfields with a view to giving an opportunity to all existing shot-firers to qualify themselves for the necessary certificates before the 1st April 1940.

EDWARD MEDAL FOR BRAVERY IN MINES.

At an investiture durbar held at Government House, Patna, on 25th February 1939, His Excellency the Governor of Bihar presented the Edward Medal to Mr. Theodore George Barker for saving the lives of two miners at Kustore colliery, belonging to the Raneegunge Coal Association, Limited, and situated in the Jharia coalfield in the province of Bihar. The facts of the case are briefly as follows :—

“The extraction of a pillar of coal in a seam, 12 feet thick, was being carried out. The roof in the area from which coal was being extracted was supported on props. At about 8 p.m. on the 20th October 1937, the roof began to show signs of “weighting” and the overman in charge of the work withdrew the miners. He then decided to withdraw the props to allow the roof to ‘cave’ in. There were thirty-four props in the place. Eight props had been withdrawn when a mass of roof stone, 40' × 10' × 3½' thick, suddenly collapsed, burying two of the men engaged in withdrawing the props. The agent, the manager and the assistant manager were informed and they proceeded to the place of accident.

Attempts were being made to recover the bodies of the two men when a second large fall occurred and in this fall a timberman, Akal Tanti, and a helper, named Bhima, were trapped. Bhima was almost completely covered by small debris and Akal Tanti was buried from the hips downwards. Bhima who was nearer the outer edge of the fall was rescued within about half an hour. The work of rescuing Bhima was done personally by Mr. Barker, the Assistant Manager, at great risk to himself.

The rescue of the second man, Akal Tanti, took much longer as he had been caught farther in the fall and by larger pieces of stone. Attempts were made to pull Akal Tanti out but he was held too tightly by the fallen stones. Above Akal Tanti there was a large mass of stone, about 15' × 12' × 3½' thick, which had parted from the roof above and was insecurely supported on three props. Two or three additional props were set under this stone. As the roof was treacherous and small pieces of stone were falling from time to time a timber cage was built round Akal Tanti's body and above his head. This work was done personally by Mr. Barker, who then proceeded to break up the stone that was holding the man. Mr. Barker continued the work until the man was rescued at 4 a.m. Altogether, the work of rescuing the two men took about two hours and 45 minutes. Both the men who were rescued have fully recovered and have no permanent injuries.”

The manner in which Mr. T. G. Barker behaved was worthy of the highest traditions of the mining profession, and His Majesty the King Emperor was graciously pleased to award the Edward Medal to him in recognition of his gallantry on the occasion of the above-quoted accident.

In addition, the Government of India greatly appreciated the gallantry displayed by Jhari Baree, a mistry, and Tukin, a stone cutter, who at great risk to their own persons helped Mr. Barker in the rescue work for a considerable part of the time during which he was engaged in it, and for their gallantry, the Government of India were pleased to grant them each a certificate.

HEALTH AND SANITATION.

The Asansol Mines Board of Health held four special and twelve ordinary meetings during the year. Dr. L. Sen was Chief Sanitary Officer of the Board throughout the year. The birth-rate has been steadily on the increase since 1936. The progressive decrease in the death-rate was not maintained during the year owing to the prevalence of bacillary dysentery and enteric fevers during the rainy season and the recrudescence of malaria which was generally prevalent in many parts of Bengal during the latter half of 1938. Bye-laws empowering the Board to declare dangerous epidemic diseases like dysentery, enteric fevers, diphtheria, etc., are still awaiting the sanction of the Government of Bengal. The colliery population enjoyed better health than the general population. The mortality rate among miners was considerably below that of the Mining Settlement as a whole throughout the year. The mortality rate among the resident mining population fluctuated from 10·1 per 1,000 to 19·6 per 1,000 against a variation between 17·3 and 25·9 per 1,000 in the general population. Sickness among the miners was at the lowest level in January and February and reached the maximum in July and August, declining again towards the end of the year. The medical arrangements that exist at collieries were overhauled—the unqualified doctors being replaced by registered practitioners. Indoor beds have also been provided at many collieries. The year was comparatively free from epidemic outbreaks of cholera. Out of 387 attacks from cholera 142 cases were reported from collieries, 37 from municipal towns and 208 from rural areas. The incidence rate in collieries was 2·02 per 1,000, while that in villages was 0·78. The higher incidence in collieries was due to migration of labour from outside the Mining Settlement and the constant movement of labour from mine to mine in search of work. Adequate control was maintained by measures taken under the Cholera Regulations. The total number of persons inoculated was 35,382, of whom 15,723 represented colliery population. Only 87 cases of small-pox were reported during the year. The steady effort made during the last few years to keep the population of the Mining Settlement (382,000) protected by mass re-vaccination has been effective in controlling the infection. The total number of re-vaccinations during the last five years was 308,777, while children and adults primarily vaccinated numbered 77,086. The provisions of the small-pox Regulations were enforced where found necessary.

The number of maternity and infant welfare centres maintained by the Board of Health was increased from seven to nine—each in charge of a Health Visitor. 235 infants and 136 toddlers attended the morning clinics at these centres. Out of 121 dais trained during the year, 90 appeared in the annual examination conducted by a Board of Examiners and 69 received certificates. 1,494 cases of confinements were attended by trained dais and 127 by Health Visitors either alone or with a dai.

A welfare centre was opened during the year in Raniganj town by the Asansol Health and Baby Welfare Society. Messrs. MacNeil & Company, Managing Agents of a group of collieries, opened three welfare centres, in charge of trained nurses, to look after the health and welfare of women and children. Sewing and other classes and baby clinics were the special features of these centres.

The activities of the annual Baby Week organised by the Welfare Society included a Health Exhibition, Baby Show and competitions in first-aid, home-nursing, mother-craft and health study which were preceded by a special course of training. The inter-colliery ambulance competition was held to encourage training and re-training in first-aid and ambulance work. The senior competition was confined to holders of the St. John Ambulance Certificate, while non-certificate-holders, including miners and non-miners, appeared in the junior competitions. There was a separate competition for school boys.

The number of Leprosy officers was increased from four to five and thirteen trained assistants were in charge of survey, propaganda and home-visiting. The annual Leper Day, organised by the Leprosy Relief Association, met with increasing response, the total collection having been Rs. 14,988, as against Rs. 11,330 in 1937. Arrangements have been made to construct a leper settlement near Asansol to segregate the leper beggars and the highly infectious cases from collieries and villages. The re-survey made during the year revealed an incidence rate of leprosy of 1.6 per cent. among the general population and 2.3 per cent. among the students of primary schools. 127 leper beggars were detected in course of a special survey, of whom 57 were in the infectious stage of leprosy. 2,990 cases were registered for treatment in 14 clinics out of 5,619 cases detected. As a result of treatment, 89 patients were discharged cured, 138 were declared symptom-free and 40, who were infectious, became non-infectious.

The Board carried out intensive anti-malaria-operations in four malarious areas. A partial campaign was undertaken in six other areas with a view to stimulate and supplement local effort by the residents themselves. The campaign included pre-epidemic cleaning out of tanks, treatment of breeding places by spraying and abolition where possible. Inoculation of private wells with a local larvicide fish—Dankona—has met with considerable success.

The Board carried out a Tuberculosis survey for a period of six months among a group of miners and also retired miners with a view to finding out the incidence of Tuberculosis infection and manifestation of the disease. A boys' school and a girls' school were also included in the survey.

During the year the Jharia Mines Board of Health held nine ordinary, nine special meetings and one joint meeting with the Jharia water Board. The estimated population of the settlement was 561,090 persons. The death rate was 16.33 per thousand, as compared with 16.50 in the previous year. There were 86 cases of suspected cholera with 30 deaths, as compared with 27 cases with 14 deaths in the previous year. The number of deaths on collieries from cholera was 5, as compared with 9 in the previous year. The total number of anti-cholera inoculations performed was 10,232. During the year, there were 378 cases of suspected small-pox with 19 deaths,

as compared with 418 cases with 6 deaths in the previous year. Four hundred and fifty-four samples of food were analysed in the Board's laboratory and prosecutions were ordered in all cases of adulteration. The five years' housing programme, enforced by the Board last year, continued during the year. Subjects chosen for propaganda work were leprosy, maternity and child welfare, general hygiene, sanitation, dietetics, vitamins and temperance.

As in previous years, all leprosy relief work continued to be managed by the Dhanbad and District Leprosy Relief Fund which organised a leper day on the 5th March 1938, and was successful in raising Rs. 9,125 on the occasion. The District Board, the Dhanbad Municipality and the Jharlia Mines Board of Health continued their annual grants during the year. One new clinic was open at Telmucho on the 4th May 1938, making a total number of five clinics. Dr. M. Wardman, Chief Leprosy Officer, resigned her post on the 10th October 1938, and Dr. D. Mukherjee was appointed to act as Chief Leprosy Officer for six months. During the year 704 new patients were treated in the different clinics, the total number of treatments given being 30,259.

The Jharlia water Board continued to function throughout the year. The total quantity of water supplied throughout the supply area during the year 1938, was 535 million gallons as under :—

	Gallons.
1. Collieries	443,110,000
2. Non-colliery premises (domestic and non-domestic supply)	37,960,000
3. Bazars of Jharlia, Katras and Kirkend, and other places supplied free through standposts	54,030,000
Total	535,090,000

INSPECTIONS MADE BY MEDICAL OFFICERS AS EX-OFFICIO INSPECTORS OF MINES.

During the year many reports were received from provincial and district Medical Officers of Health concerning health and sanitation. All the reports were dealt with and most of the recommendations were carried out.

STATISTICS OF RAINFALL.

Statistics of rainfall in the eastern coalfields have been recorded as follows :—

	Rainfall in inches.	
	1938.	1937.
Jharlia Coalfield—		
Jealgora	51.24	49.37
Topchanchi	36.34	56.18
Raniganj Coalfield—		
Asansol	47.87	56.53
Dishergarh	55.59	58.98
Giridih Coalfield—		
Giridih	52.25	60.75

During the year the rainfall in the catchment area at Topchanchi was exceptionally low. The total rainfall for the year was 35.34 inches only against 56.18 inches in the year 1937. This rainfall is the lowest on record since Topchanchi reservoir was used as a water supply for the Jharia coalfield. Apart from being low, the rainfall was so irregular that much of the water was lost by percolation and evaporation. As a result, the Topchanchi water level was 13'-7½" below the overflow level by the end of the rains, whereas it should have been near the overflow mark for a normal rainfall. As this shortage represented about a 50 per cent. reduction in the storage of water, various means for preventing wastage by leakage were adopted, and in addition, a scheme for augmenting the supply from pit water at Kustore colliery, at an estimated cost of Rs. 30,000, had to be undertaken by the Board.

AMBULANCE WORK.

Classes in first-aid were held at nineteen centres in the Jharia coalfield and also in the mining areas of Gaya, Ranchi and Sambalpur districts in the provinces of Bihar and Orissa. Three hundred and sixteen candidates attended these classes and 257 certificates were awarded.

A centre of the St. John Ambulance Association was started in the Jharia coalfield in the year 1922, and up to the end of 1937, no less than 2,650 certificates in first-aid had been granted to colliery employees. The work of this centre was organised by the Chief Inspector of Mines as President and the major part of the administrative work fell on the Inspector of Mines, No. 1 Circle, as Honorary Secretary. On the 2nd August Col. H. Stott, O.B.E., M.D., F.R.C.P., D.P.H., I.M.S., Inspector General of Civil Hospitals, Bihar, and Chairman of the Bihar Provincial Centre of the St. John Ambulance Association, visited Dhanbad and a meeting with certain colliery owners and agents was arranged. At this meeting it was decided to re-organise the centre, and on the 15th August a general meeting was convened when a committee and an executive committee were elected. The centre has since been transferred from Bengal to the Bihar provincial centre and a warrant of constitution has been granted to it by the Indian Council of the St. John Ambulance Association.

In the Raniganj Coalfield, similar classes were held at eight centres. One hundred and sixty-seven candidates attended these classes and 118 were awarded certificates. A St. John's Ambulance Shield was competed for among teams from various collieries in the Raniganj coalfield. The shield was won by the Samla Kendra colliery team (Messrs. Martin & Company) and the runners up were Sodepur Nos. 9 and 10 pits team (Messrs. Bengal Coal Company, Limited).

The Lang-Cunningham Memorial Shield which is competed for among teams, the members of which do not hold first aid certificates, was won by a team from the Neamutpur workshop (Messrs. Equitable Coal Company, Limited), the runners up being a team from Pretoria colliery (Messrs. Shibpur Coal Company, Limited). The object of this competition was to stimulate interest among the more illiterate workers. Both these competitions were held at Asansol during the Health Exhibition Week, and created much interest among the general public.

I wish to express my appreciation of the valuable work done by lecturers and examiners in the two major coalfields and other mining districts.

Mining Boards in Bengal, Bihar and the Central Provinces.

The Bengal Mining Board held one meeting during the year. Among the subjects discussed at the meeting and by correspondence were:—(a) exemption of certain mines from the operation of the Indian Mines Act, 1923; (b) Coal Mines Rescue Rules; (c) sand stowing in coal mines; (d) list of mines proposed to be brought under the scope of the Indian Mines Act; (e) regarding the proposed stowing at mines the question of imposing a cess on all coalfields without exception which should also apply to Railway collieries and that a duty equal to the cess should be imposed on all coal imported into British India; (f) proposed amendments to the Indian Coal Mines Regulations, 1926; and (g) question of the retention of the cess on soft coke beyond 1939. The non-official members of the Board were Messrs. F. W. Manley, A. L. Ojha and Rai Sahib Upendra Nath Mondal.

The Bihar Mining Board for coal mines did not meet during the year and the only subject dealt with by correspondence was certain amendments to the Indian Coal Mines Regulations, 1926. The non-official members of the Board were Messrs J. E. Phelps, A. L. Ojha, Shiva Kali Bose and S. B. Sen.

The non-official members of the Mining Board for mines other than coal mines were Mr. J. E. Phelps and Rao Bahadur D. D. Thacker.

The Central Provinces Mining Board held no meetings during the year. The subjects dealt with by correspondence were:—(a) Coal Mines Rescue Rules; (b) legislation to secure evacuation of inhabited buildings rendered dangerous by mining operations; and (c) proposed further amendments to the Indian Coal Mines Regulations, 1926. The non-official members of the Board were Messrs. D. M. Nargolwalla, L. H. Bartlett, O.B.E., G. Llewelyn, Shamsher Bahadur Verma and Kunjilal Tulsiram Mehta.

BOARD OF EXAMINERS.

Five meetings of the Board of Examiners were held during the year. The non-official members of the Board were Messrs. N. N. Sarkar, L. A. Jacobs and Jas. E. Phelps. The local examiners appointed were Messrs. W. B. Penman and J. Thomson for coal mine managers' first class certificates; Messrs. D. Heron and B. Panda for coal mine managers' second class certificates and J. Mackay for the examination for coal mine surveyors' certificates. Mr. N. Barraclough, Inspector of Mines, was also an examiner and acted as Secretary for the coal mine managers' first and second class examinations; Mr. N. G. Chatterjee, Inspector of Mines, was also an examiner and acted as Secretary for the coal mine surveyors' examination.

Thirteen first class certificates of competency to manage a coal mine and two surveyors' certificates were granted in lieu of British certificates of the same class. At the examinations for coal mine managers' certificates held at Dhanbad in February, 93 candidates sat for first class certificates and 78 for second class certificates. Six certificates of the first class and eleven of the

second class were granted. At the examination for coal mine surveyors' certificates of competency held at Dhanbad in November, 43 candidates attended the examination. Nine of them were successful.

One thousand and ninety persons were examined for coal mine sirdars' certificates of competency and 733 certificates were granted. Out of 841 holders of sirdars' certificates examined in gas-testing, 561 were successful and their certificates were duly endorsed to that effect. 539 holders of sirdars' certificates appeared for re-examination in eyesight and hearing. 515 were successful and their certificates were duly endorsed. Two sirdars' certificates were granted in lieu of British certificates of the same class. Under Coal Mines Regulation 49, the certificates of four sirdars were suspended for periods varying from three to six months. During the year 30 duplicate sirdars' certificates and 68 duplicate discs were issued.

Mining Education.

At the Indian School of Mines, the number of students on the roll at the beginning of the session was 76, as compared with 68 at the beginning of the previous session. 27 students were in the first year, 19 in the second year, 17 in the third year and 14 in the fourth year. On the results of the examinations held at the end of the session, 27 students were promoted to the second year and 18 students to the third year. The results of the Diploma of Associateship and Certificate Examinations held in July 1938 were as follows :—

Diploma or Certificate.	No. of candidates.	No. of successful candidates.
Diploma of Associateship in Geology	2	.. (Class I nil). 2 (Class II).
Diploma of Associateship in Mining Engineering	13	6 (Class I). 5 (Class II).
Certificate in Geology	2	2
Certificate in Metal Mining	2	2
Certificate in Coal Mining	12	10

The mine surveying camp was pitched at Gonhudih colliery during the month of November 1938, and 55 students were in attendance. Visits and tours of inspection were paid as usual to the mica mines of Kodarma, the copper and iron mines of Singhbhum and to many local collieries and places of geological interest. Six former students obtained the second class colliery managers' certificate, the second, third, fourth and fifth places in order of merit at the examination being taken by former students. Three students obtained the surveyors' certificate of competency. In November 1938, the total number of students on the roll was 87.

In the Department of Mining and Metallurgy at the Benares Hindu University there were 116 students at the beginning of the session, as compared with 95 at the beginning of the previous session. Two students passed the final examination for the degree of B.Sc. in Mining and 10 in Metallurgy. Up to date the total number of Mining graduates is 31 and the total number of Metallurgy graduates 69. Most of the graduates were employed almost immediately after qualifying. Tours of inspection were paid to the mica mines at Kodarma, the iron mines at Gorumahisani, the manganese mines at Chaibasa and to some of the important collieries in Bokaro and Raniganj coalfields. Geological field-work was conducted in the Jubbulpore area and geological mapping was done in Jharia. During the summer vacation, 44 students underwent practical training in the most important mining and metallurgical works, including oil-fields, lead and silver mines of Upper Burma and tin mines of South Burma. One former student headed the list of the successful candidates at the First Class Colliery Managers' examination held at Dhanbad in February.

No advanced classes were held in the Raniganj coalfield during the year. Administrative approval of the Bengal Government has, however, been received for the re-opening of these classes in the Bengal Coalfield as an experimental measure for three years at an annual cost of Rs. 9,424 only. Such classes continued to be held under the auspices of the Government of Bihar at Jharia and Sijua in the Jharia coalfield. The total number of students attending the classes at these two centres was 105, as against 79 in the previous year. Twenty-one of the third year students appeared at the final examination and fourteen were successful. In both coalfields, courses of lectures were delivered in the modern Indian language to overmen and sirdars in the Raniganj coalfield in Bengali and in the Jharia coalfield in Hindi. There were eight centres in the Raniganj coalfield and 200 enrolled for this course. In the Jharia coalfield there were six centres with a total enrolment of 436. Classes in gas testing were also held at Sitarampur and Jamuria in the Raniganj coalfield and at Jharia in the Jharia coalfield for the training of colliery sirdars and shot-firers in gas-testing. The number of candidates enrolled for these classes in the Raniganj coalfield was 36 and in the Jharia coalfield 63.

SCIENTIFIC AND TECHNICAL ASSOCIATIONS.

(a) *Mining, Geological and Metallurgical Institute of India.*

The total number of members, including subscribers, at the end of the financial year of the Institute, i.e., on the 31st October 1938, was 438. The rate of subscription in the case of Student Associates has been reduced to Rs. 5 per year. In addition to the annual meeting, six ordinary general meetings were held for the reading and discussion of papers. Visits were also paid to the offices and laboratory of the Geological Survey of India, Calcutta; to the Central Provinces Manganese Ore Company Limited's manganese mines in the Central Provinces; to the Indian Steel and Wire Products Limited's work at Tatanagar; to the fire control work at the Ekra Jore in the Jharia coalfield; and to Messrs. Bird & Company's Rescue Station at Loyabad. Illustrated lantern lectures were delivered by Dr. Cyril S. Fox on "Mineral Development in Soviet Russia".

Five parts of the Transactions were published, forming parts 2, 3 and 4 of Volume 33 and Parts 1 and 2 of Volume 34. The Government of India prize and the Institute gold medal were awarded to Mr. J. Thomas for his paper entitled "Methods of Stowing for Indian Mines"; the Institute silver medal to Dr. Cyril S. Fox for his paper entitled "Mineral Development in Soviet Russia"; and the Institute bronze medal to Mr. P. N. Mathur for his paper entitled "Small scale manufacture of iron and steel in India by the direct method". The Pickering medal, presented by the Institute for the best student in mining at the Indian School of Mines, was awarded to Mr. B. R. Marwaha. The Hayden medal for the best student in Geology was awarded to Mr. G. C. Chattopadhyaya.

(b) *The Geological, Mining and Metallurgical Society of India.*

At the close of the session 1937-38, the total membership on the roll was 181. In addition to the annual general meeting, six ordinary general meetings were held. Five meetings were held in the Geological Laboratory, Presidency College, Calcutta, and one in the Indian School of Mines, Dhanbad. Fourteen original papers on various aspects of Geology and Mining were read and discussed at these meetings. During the year, parts 3 and 4 of Volume IX and parts 1 and 2 of Volume X of the Quarterly Journal of the Society were issued. One bulletin was also published, containing comments offered by various members on the Coal Mining Committee Report (1937). Five excursions to the following places were arranged:—(i) Amlabad colliery (Jharia coal-field); (ii) Barakar and its neighbourhood; (iii) The power house, workshop, etc., of the Indian School of Mines; (iv) Metal Box of India Limited, Kidderpore, Calcutta; (v) National Soap and Chemical Works, Limited, Tollygunj, Calcutta.

(c) *The National Association of Colliery Managers (Indian Branch).*

The number of members of the National Association of Colliery Managers, Indian Branch, at the end of the year was 92. Some of the subjects dealt with by the Council during the year were:—(1) the amendments of the Indian Mines Regulations, 1926; (2) Coal Mines Rescue Rules; (3) the draft regulations for first working and sectional working; and (4) Electrical Supervisors' Certificates (Bengal). With the support of the Indian Mining Association, the Indian Mining Federation, the Indian Colliery Owners' Association and the Indian Mine Managers' Association, the Council approached the Government of Bengal to grant service certificates to *bonâ fide* electrical supervisors, without examination contingent upon such workmen having the necessary qualifications in respect of their length of service as supervisors at the time of the rules coming into force. The Council of the Association addressed the Government of India relating to the appointment of Junior Inspectors of Mines. Messrs. D. W. Baron and L. S. Buxton were representatives of the Association on the Railways and Collieries Advisory Board; Mr. M. M. Mukherjee was joint representative of the National Association of Colliery Managers (Indian Branch) and the Indian Mine Managers' Association on the Asansol Mines Board of Health; Mr. W. V. Curtain represented the Association on the Health and Baby Welfare Central Committee. Mr. H. S. Allen represented the Association on

the Dhanbad and District Leprosy Relief Committee and Mr. V. C. Durham on the Mining Education Advisory Board.

Four meetings were held—two in Dhanbad and two in Asansol, to display the safety in Mines Research Board (Great Britain) films depicting (a) underground mining operations; (b) protective equipment, and (c) underground shot-firing.

(d) The Indian Mine Managers' Association.

The membership of the Indian Mine Managers' Association at the end of the year was 240. Among the activities of the Association during the year were:—(1) consideration of the proposed amendments of the Coal Mines Regulations, 1926; (2) consideration of the Bihar Money-lender's Bill, 1937; (3) consideration of Draft Coal Mines Rescue Rules; (4) consideration of the questionnaire of the Labour Enquiry Committee issued by the Government of Bihar; (5) consideration of proposed "Stowing in Coal Mines"; (6) correspondence with the Government of India regarding the appointment of Junior Inspectors of Mines in India; (7) interview with the Premier of Bihar regarding representation on the Jharia Mines Board of Health and other local bodies; (8) correspondence with the Government of Bengal regarding the issue of Service Certificates for Electrical Supervisors in lieu of Certificates of Competency for Electrical Supervisors issued under Rule 40-A.; (9) correspondence with the Government of Bengal regarding separate representation for the Asansol Mines Board of Health; (10) active participation with the Safety First Association of India, Bombay; (11) closer touch with the National Association of Colliery Managers (Indian Branch), Indian Colliery Owners' Association and the Indian Mining Federation; (12) active participation in all public functions held in honour of high Government officials and co-operation with local bodies to raise funds for charitable purposes; and (13) excursions to places of Mining and geological interest. Mr. B. K. Bose represented the Soft Coke Research Committee; Mr. M. M. Mukherjee was the representative on the Asansol Mines Board of Health; Mr. S. C. Ghosh was the representative on the Asansol Health and Baby Welfare Society (Central Committee) and on the mining Education Advisory Board for part of the year; Mr. N. Ghosh on the Asansol Leprosy Relief Association for part of the year; Mr. J. K. Dholakia on the Mining Education Advisory Board for part of the year and on the Dhanbad Leprosy Relief Association; and Mr. K. K. Baksi on the Committee for the Society for the Prevention of Cruelty to animals and on the Governing Body to the Dhanbad and District Leprosy Relief Association. Mr. P. H. Pandya acted as President and S. M. Chatterjee acted as Honorary Secretary of the Railways and Collieries Advisory Board for part of the year.

(e) The Railways and Collieries Advisory Board.

The Railways and Collieries Advisory Board held one meeting during the year and dealt with the following subjects:—(1) public telephone connections with B. N. Railway weigh-bridges; (2) leaving of empty wagons at the buffer end of sidings; (3) cancelling of supplies before pilots started from the base stations; (4) timings of local trains of both B. N. Railway and E. I. Railway, their stoppages and extension further up the branch

lines; (5) availability of the Coal Manager, Adra, B. N. Railway at Bhaga, on the first Monday of every month; (6) charging and refunding of excess freights in certain cases; (7) desirability of having one base station at Ondal for freight purposes for both Up and Down traffics; (8) exemption of collieries from liability of freight in certain cases of undelivered wagons; and (9) privileges (a) to book up country wagons down country and vice versa; (b) to allow diversion of wagons in certain cases. Mr. P. H. Pandya, the President of the Indian Mine Managers' Association, was the President, and Mr. W. V. Curtain, the Honorary Secretary of the National Association of Colliery Managers, was the Secretary of the Board up to November, and then Mr. S. M. Chatterjee, the officiating Secretary of the Indian Mine Managers' Association, assumed the Secretaryship for the remaining period of the year.

LABOUR ASSOCIATIONS.

(a) *The Indian Colliery Labour Union.*

This Union is registered under the Indian Trade Union Act, 1926, and its headquarters are at Jharia. The number of members on the roll is 8,317, chiefly miners and skilled and unskilled labourers. The rates of subscription vary from three pies to four annas per month. The Union claims to have assisted workers in compensation claims and wage disputes. It has also organised lantern lectures on welfare schemes.

(b) *The Indian Miners' Association.*

The Indian Miners' Association is registered under the Indian Trade Union Act and has its head office at Jharia. The membership improved during the year and is now about 5,000. The rates of subscription vary from one anna to four annas per month according to the scale of pay. The Association has conducted meetings and lantern lectures on general education, hygiene and temperance, etc. Assistance has been given by the Association in wage disputes and compensation claims.

LABOUR INQUIRY COMMITTEE.

The Bihar Legislative Assembly passed a resolution on the 3rd September 1937, recommending to Government that a Committee of the members of the House and outside experts be appointed by the Premier to investigate the conditions of industrial labour in Bihar and make recommendations on the same within six months.

In accordance with this recommendation the Hon'ble the Prime Minister has been pleased to appoint a Committee with Dr. Rajendra Prasad as Chairman for the purpose of conducting an enquiry into the conditions of (industrial) labour prevailing in the important industrial centres and industries of the province with particular reference to each important industry and locality and to make such recommendations as may appear practicable for the purpose of improving the level of wages, conditions of work, employment, etc., in the important industries and localities concerned.

The *Personnel* of the Committee consists of the following :—

Chairman.

DR. RAJENDRA PRASAD.

Members.

PROF. ABDUL BARI, M.L.A.

BABU JAGAT NARAIN LAL, M.L.A.

MR. M. P. GANDHI.

DR. RADHIKAMAL MUKHARJI.

MR. H. B. CHANDRA.

Secretary.

PROF. R. K. SARAN, M.A.

I, in my Circular No. 3, dated the 22nd April 1938, asked the owners, agents or managers of mines in the province to afford the Committee all facilities in carrying out the work entrusted to it. A general questionnaire was drawn up by the Enquiry Committee and issued to all industrial concerns throughout the province of Bihar. The Enquiry Committee also drew up a supplementary questionnaire on mining labour, copies of which were circulated to all collieries in Bihar. It is expected that the Committee will make its report about the middle of the year 1939.

VISITORS TO THE COALFIELDS.

Mr. W. D. Croft, C.I.E., Economic and Overseas Department of the India Office, visited the Jharia coalfield and was accompanied by Dr. D. Penman during the course of surface inspections of Kustora, Bhulanbararee and Khas Jharia collieries on the 8th January and Pure Jharia colliery on the 9th January.

The Hon'ble Mr. Jaglal Chaudhuri, Minister for Excise and Public Health visited the Jharia coalfield from 30th January to 1st February. On the 31st January, the Hon'ble Minister visited the Teetulmari Leprosy Hospital, Topchanchi Water Works and the Jharia Maternity and Child Welfare centre. On the 1st February, a visit was paid to Kustora colliery to see the surface dwellings.

The Hon'ble Mr. S. K. Sinha, Prime Minister of Bihar, visited the Jharia coalfield from the 11th to the 13th September 1938. On the 13th September the Hon'ble Prime Minister visited the Topchanchi Water Works.

OFFICE & DUTIES, 1938.

Dr. D. Penman was Chief Inspector of Mines from 1st January to 24th March. He was on leave on sabbatical leave from the 25th March to the 8th April.

Dr. Penman came to India in March 1921, as Principal of the Indian School of Mines at Dehra Dun and for a period was occupied in arranging for the building of the school. He joined the Department as an Inspector of Mines in December 1921, and on the School of Mines opening in November

1926, he returned as Principal, which post he occupied until 2nd September 1932. He returned to the Department as Chief Inspector of Mines and also retained the post of Principal of the School of Mines, which he relinquished on 1st November 1936. During Dr. Penman's period of Office as Chief Inspector of Mines, it was necessary to introduce a good deal of safety legislation to meet the difficult and changing conditions in mining operations in this country, and the beneficial effects of this legislation are already being observed. His high technical and practical attainments were recognised by the mining community and his opinion on mining matters was often sought, and he was always willing to collaborate with the managements of mines in dealing with any problems which arose. He was renowned throughout the coalfields for his integrity and fair dealing with all those with whom he came into contact. He was greatly respected by all the Officers who worked under him and he has left a record which will always be admired.

Mr. W. Kirby, Inspector of Mines, held charge of No. 1 Circle, up to the 24th March. He officiated as Chief Inspector of Mines from the 25th March and was appointed to that post from the 9th April.

Mr. N. Barraclough, Inspector of Mines, without circle, held charge of No. 1 Circle from the 25th March.

Mr. G. S. Cameron, Inspector of Mines, held charge of No. 2 Circle throughout the year.

Rai Bahadur H. M. Mitra was Electric Inspector of Mines throughout the year.

Mr. N. G. Chatterjee, Junior Inspector of Mines, was promoted to be an Inspector from the 14th April and was placed in-charge of the duties of the Inspector without circle. He was on leave from 26th September to 5th November.

Mr. H. K. Chatterjee, Junior Inspector of Mines, was on duty throughout the year.

Mr. A. Young was Junior Inspector of Mines up to 31st January and was permitted to resign from Government service from the 1st February.

Mr. S. S. Grewal, Junior Inspector of Mines, was on leave from the 14th February to 15th March.

Mr. V. S. Chopra, Assistant Inspector of Mines, was promoted to be a Junior Inspector from the 4th July and was on duty throughout the year.

Mr. G. S. Jabbi, Assistant Inspector of Mines, was on leave from the 12th April to 21st May; from the 17th August to 27th September; and from the 8th November to 17th December.

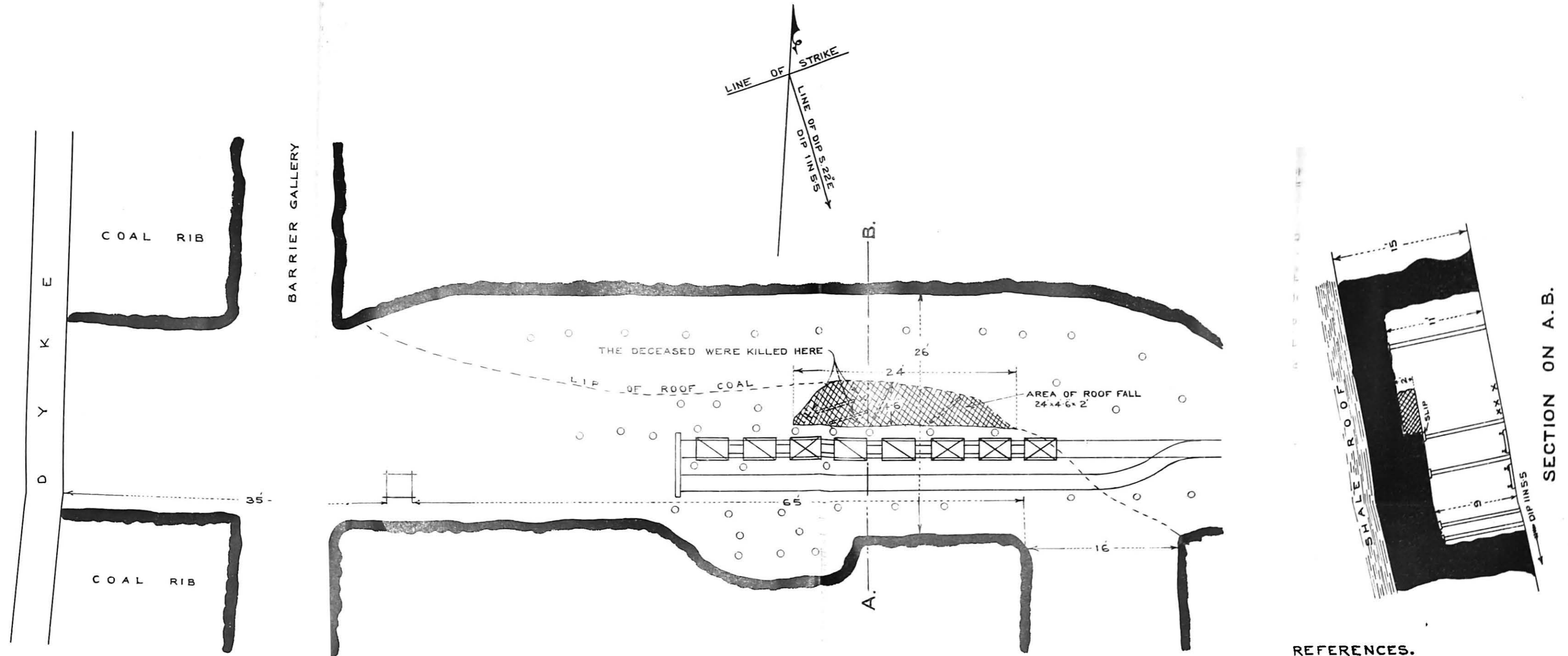
Mr. M. Yasin was appointed to be an Assistant Inspector of Mines from the 5th July and was on duty to the end of the year.

The number of coal mines worked during the year was 665, which is 61 more than in the previous year. The number of metallic (including stone, etc.) mines at work was 1,288 as compared with 1,327 in 1937.

PLAN & SECTION ILLUSTRATING REPORT ON
 FATAL ACCIDENT BY FALL OF ROOF
 AT

THE EQUITABLE COAL Co. LTD'S BEJDIH MINE.

SCALE 1 INCH=10 FEET.



PLAN.

- REFERENCES.
- LOADED TUBS [Symbol]
 - PARTLY LOADED TUBS..... [Symbol]
 - AREA OF ROOF WHICH FELL..... [Symbol]
 - BODIES OF DECEASED..... XXX
 - PROPS..... O O O
 - DISPLACED PROPS..... [Symbol]

PLAN ILLUSTRATING REPORT ON
FATAL ACCIDENT BY FALL OF ROOF
AT
THE DHEMO MAIN COLLIERIES LTD'S DHEMO MAIN MINE.

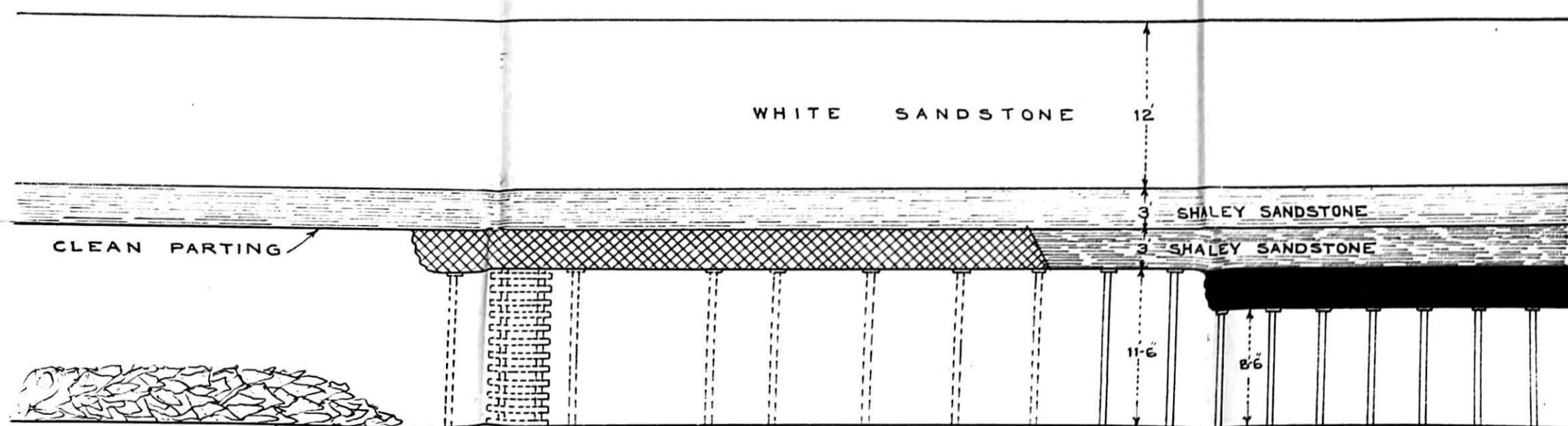
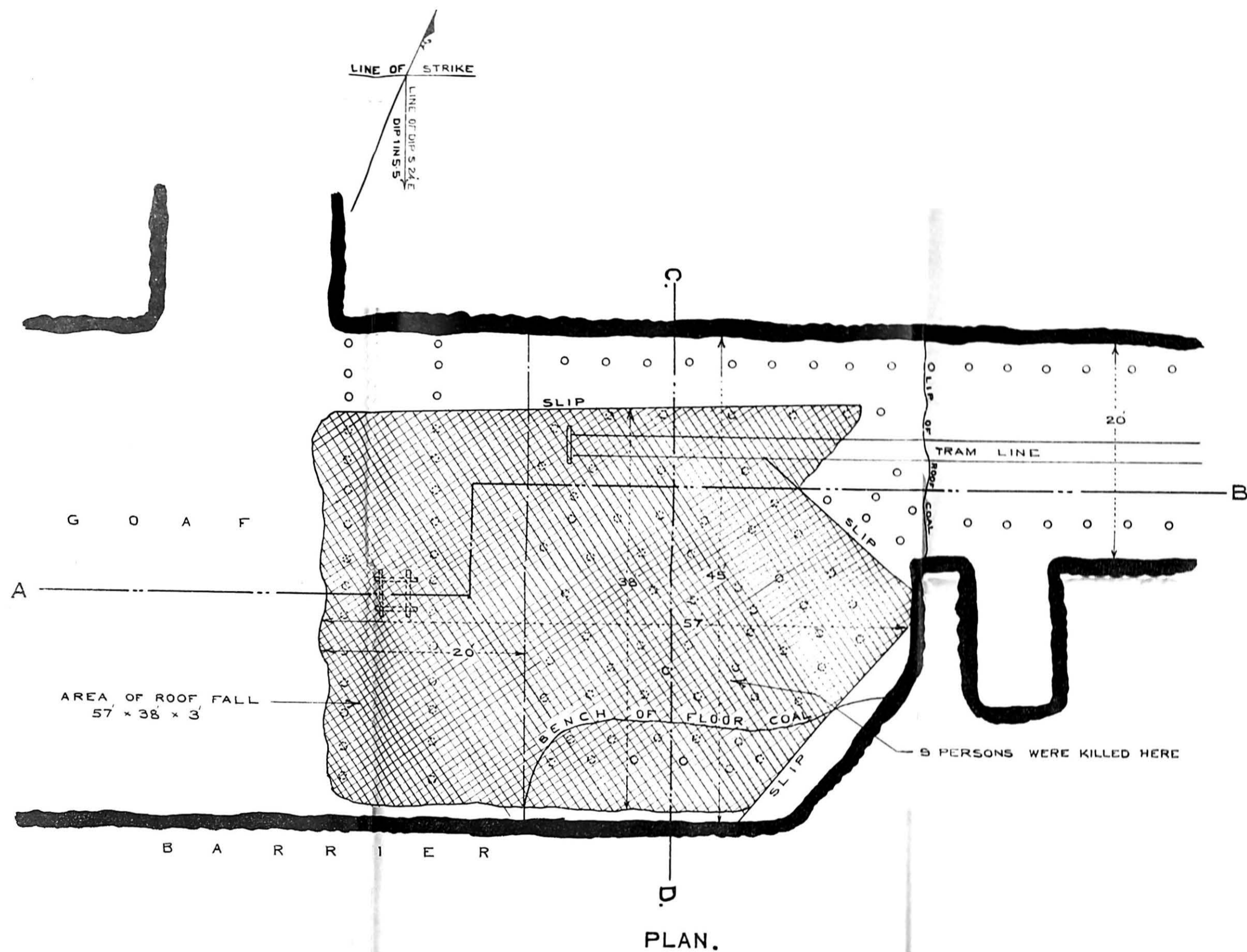
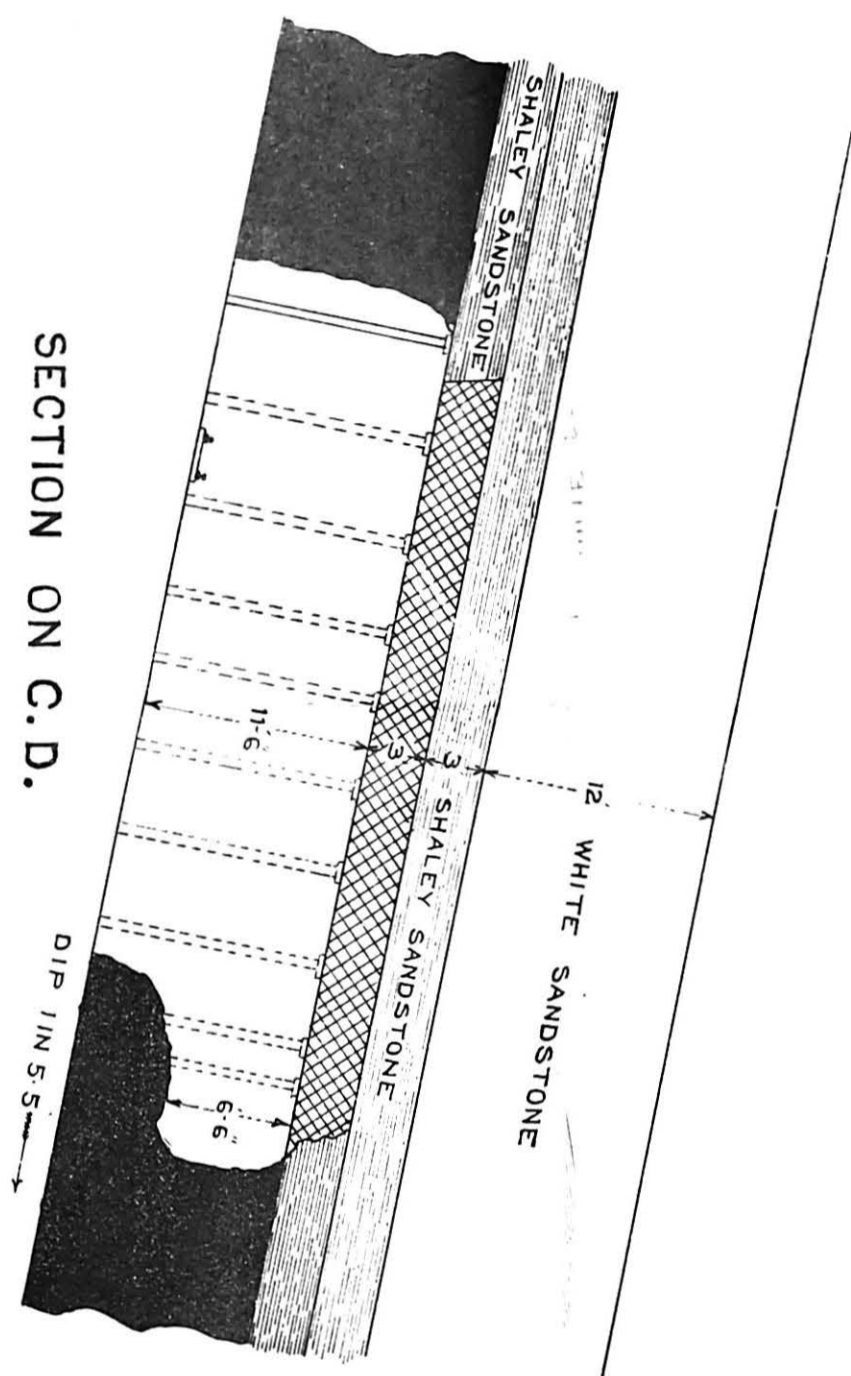
SCALE 1 INCH = 100 FEET.



PLAN & SECTIONS ILLUSTRATING REPORT ON
FATAL ACCIDENT BY FALL OF ROOF

AT
THE DHEMO MAIN COLLIERIES LTD'S DHEMO MAIN MINE.

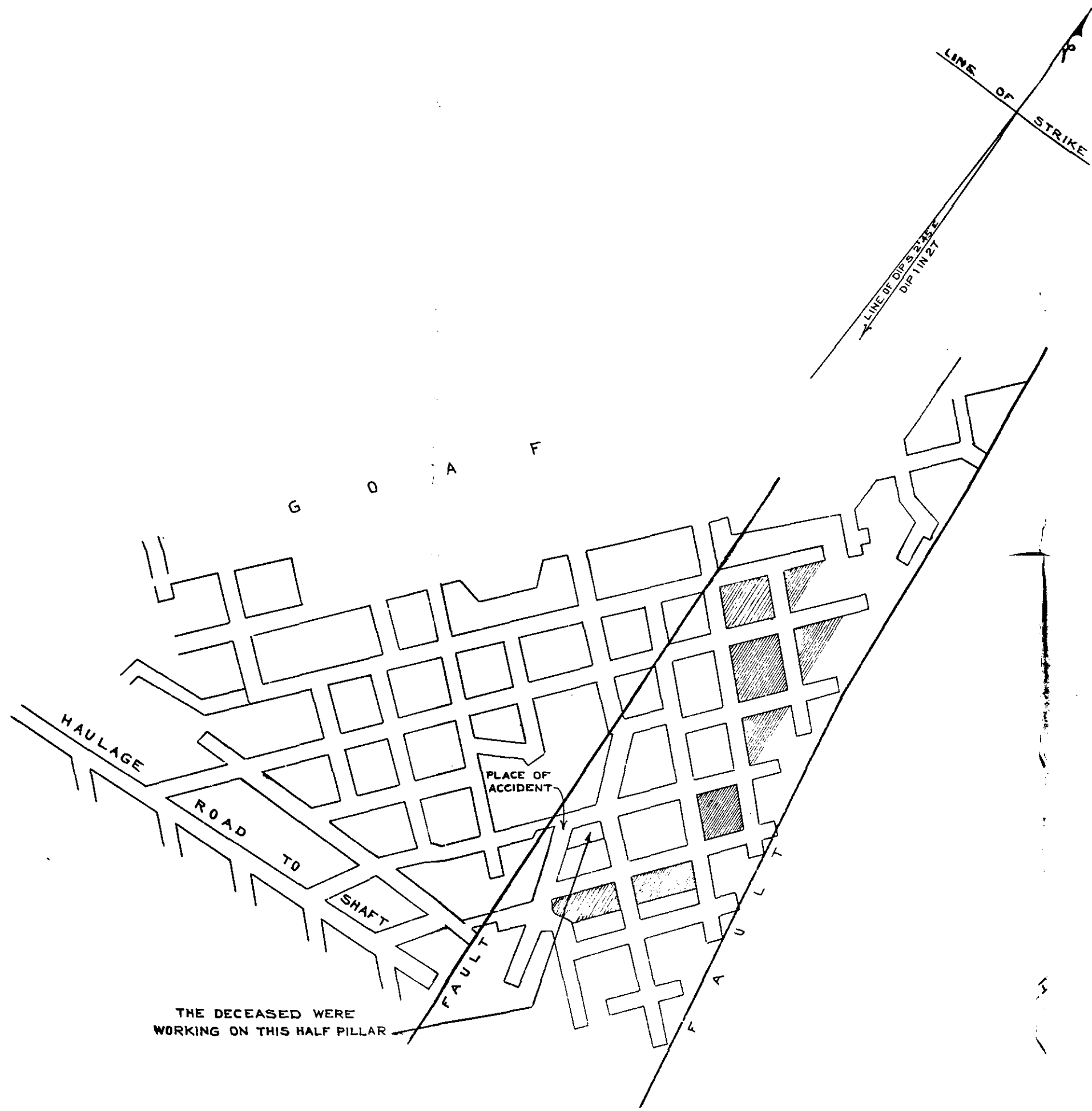
SCALE 1 INCH = 10 FEET.



REFERENCES.
AREA OF ROOF WHICH FELL
PROPS O O O

SECTION ON A. B.

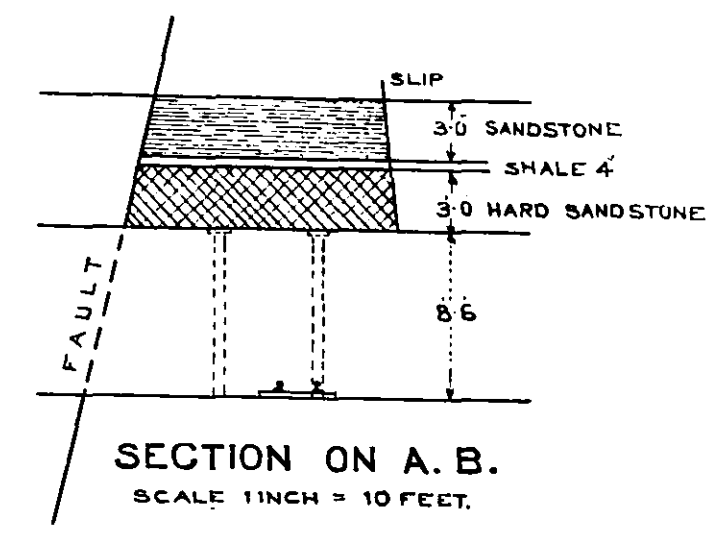
PLANS & SECTION ILLUSTRATING REPORT ON
 FATAL ACCIDENT BY FALL OF ROOF
 AT
 THE MUNDALPUR COAL Co. LTD'S MUNDALPUR MINE.



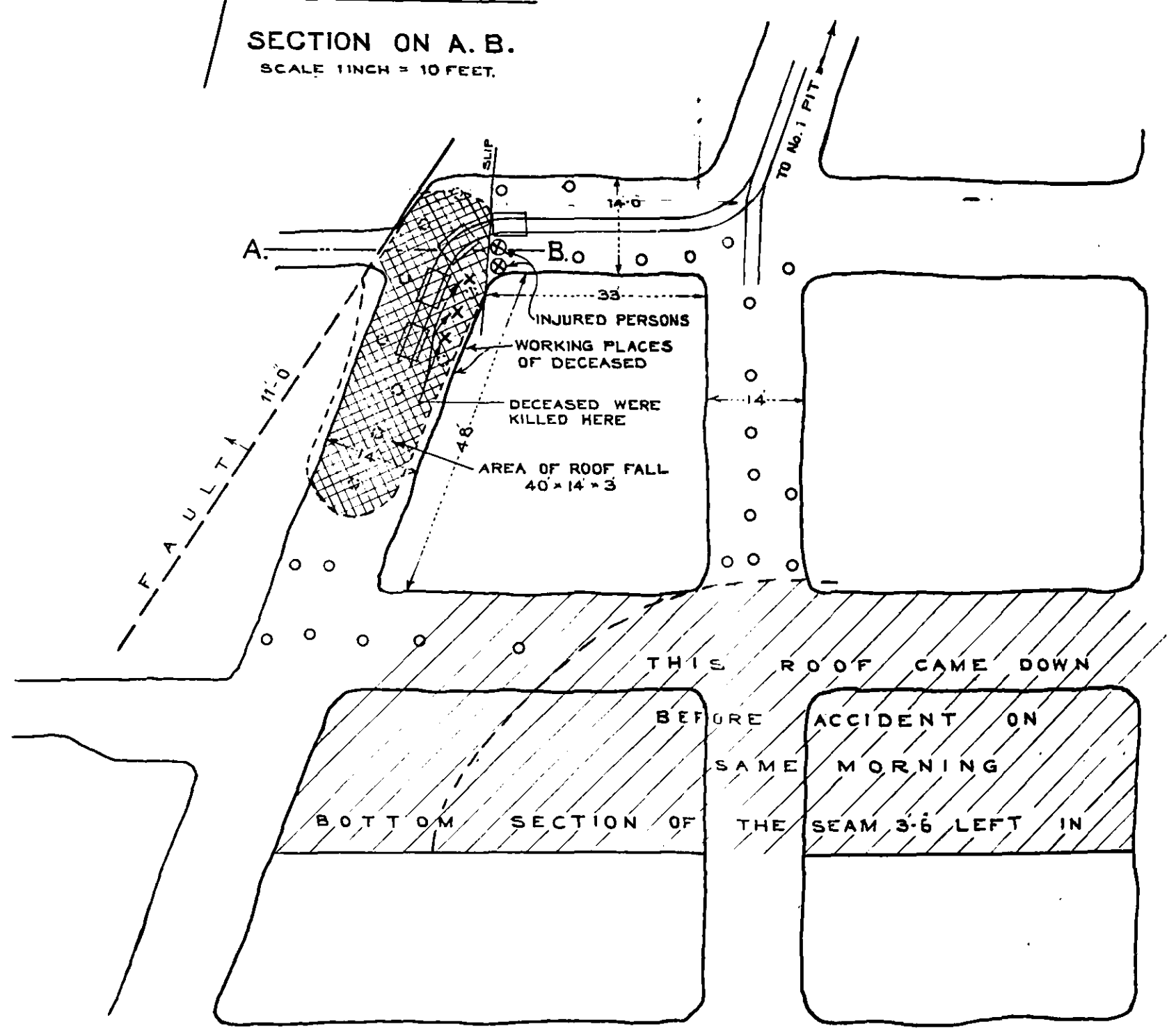
GENERAL PLAN.
 SCALE 1 INCH = 100 FEET.

THE DECEASED WERE WORKING ON THIS HALF PILLAR

- REFERENCES.
- AREA OF ROOF WHICH FELL [stippled pattern]
 - BODIES OF DECEASED [X X X]
 - INJURED PERSONS [circle with cross]
 - PROPS [O O O]



SECTION ON A. B.
 SCALE 1 INCH = 10 FEET.

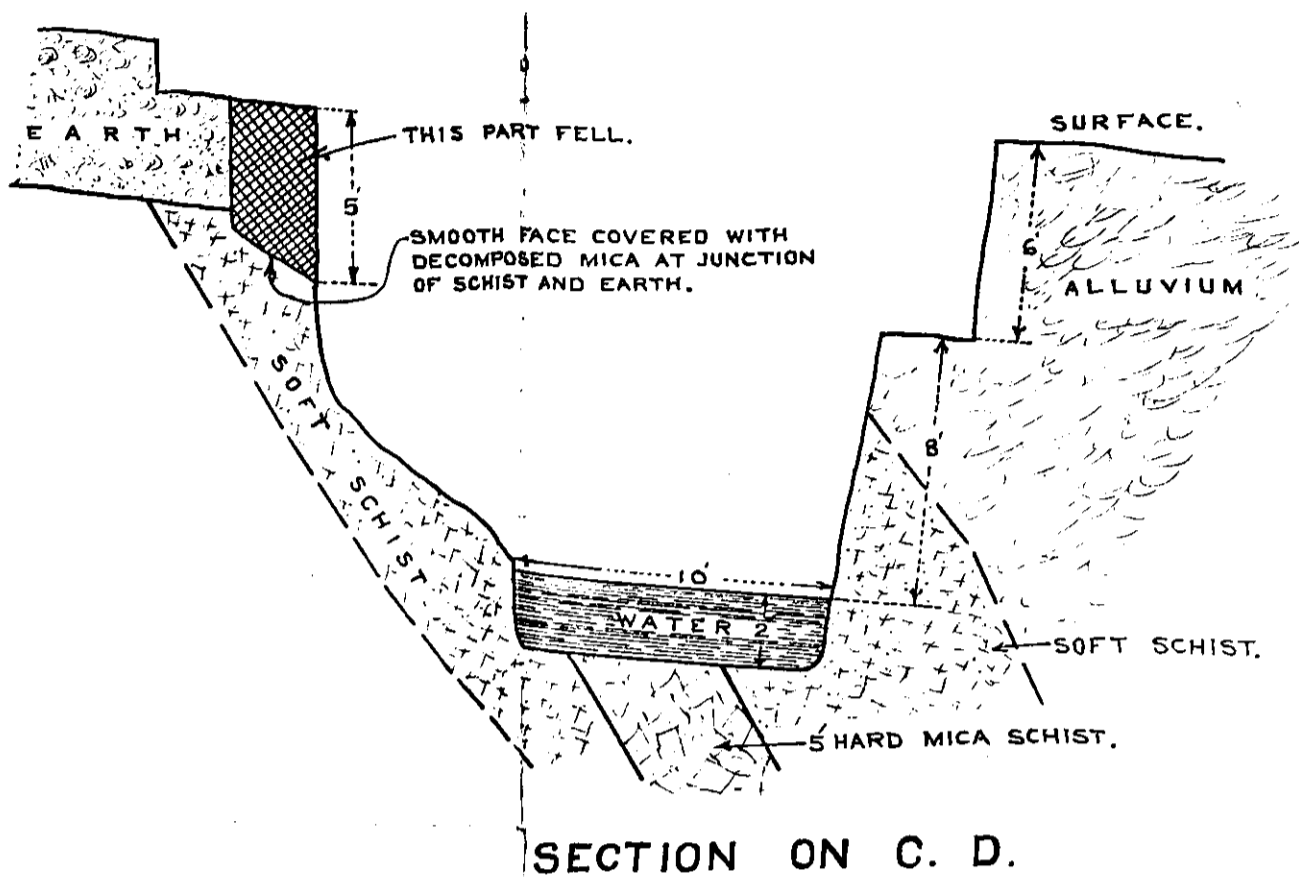
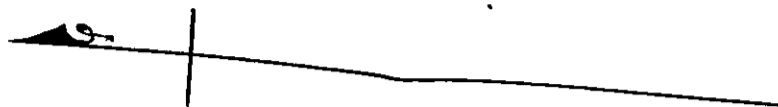


DETAIL PLAN.
 SCALE 1 INCH = 20 FEET.

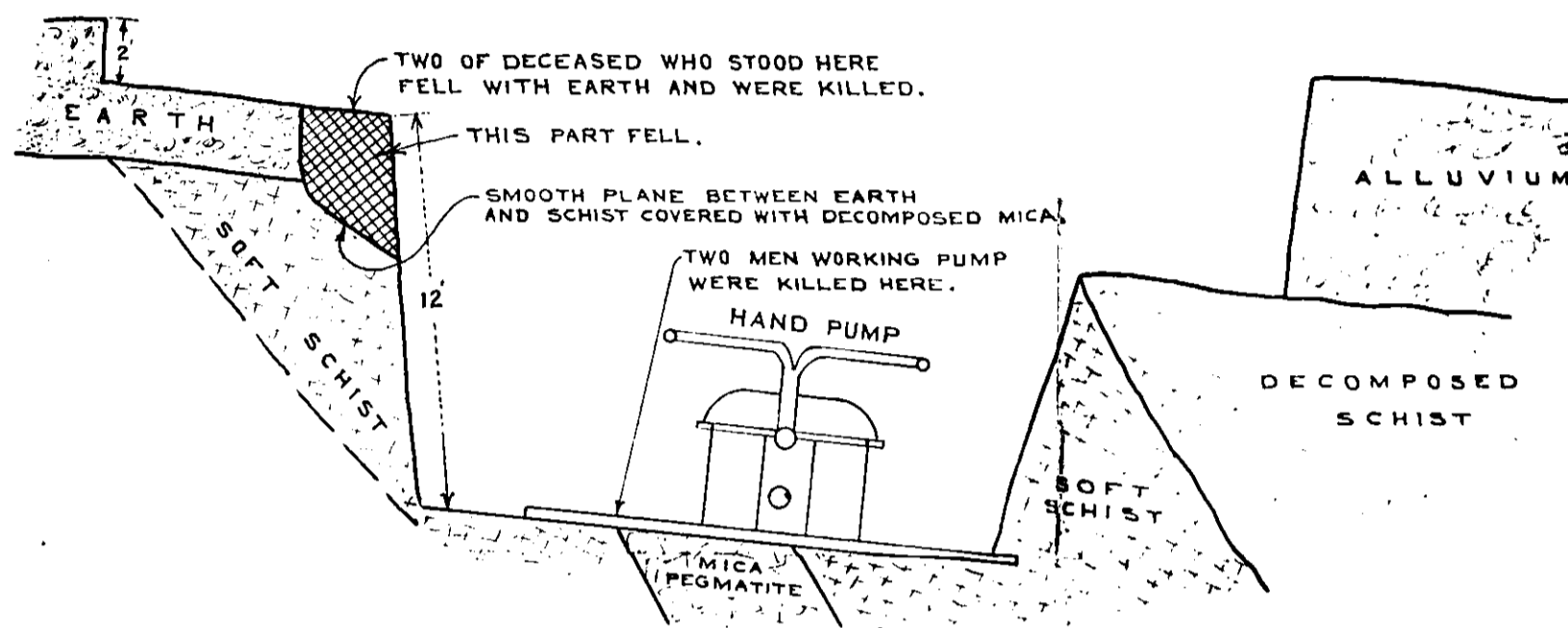
PLAN & SECTIONS ILLUSTRATING REPORT ON
 FATAL ACCIDENT BY FALL OF SIDE
 AT

CHATTURAM HORILRAM LTD'S MATAUNI MICA MINE.

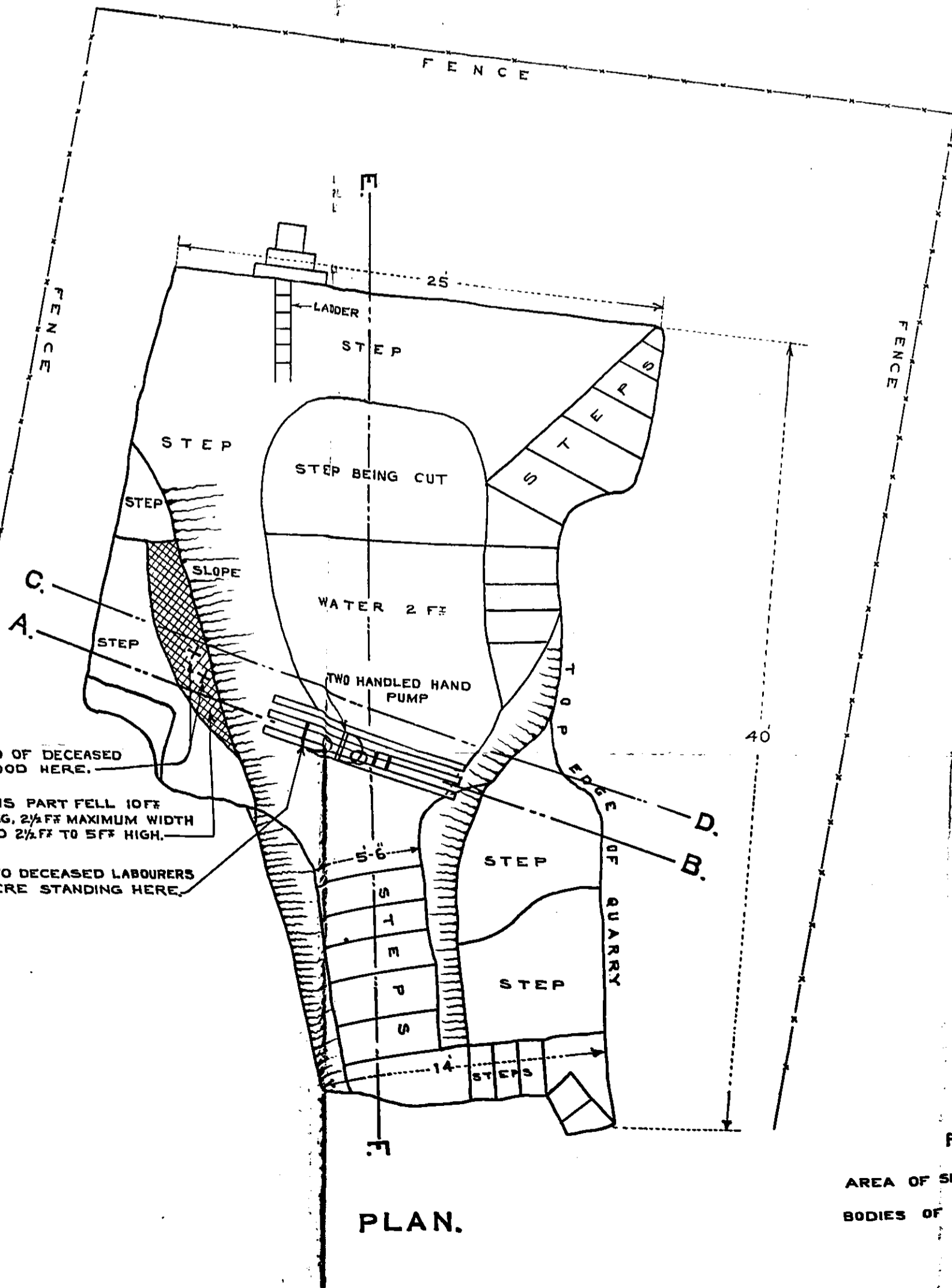
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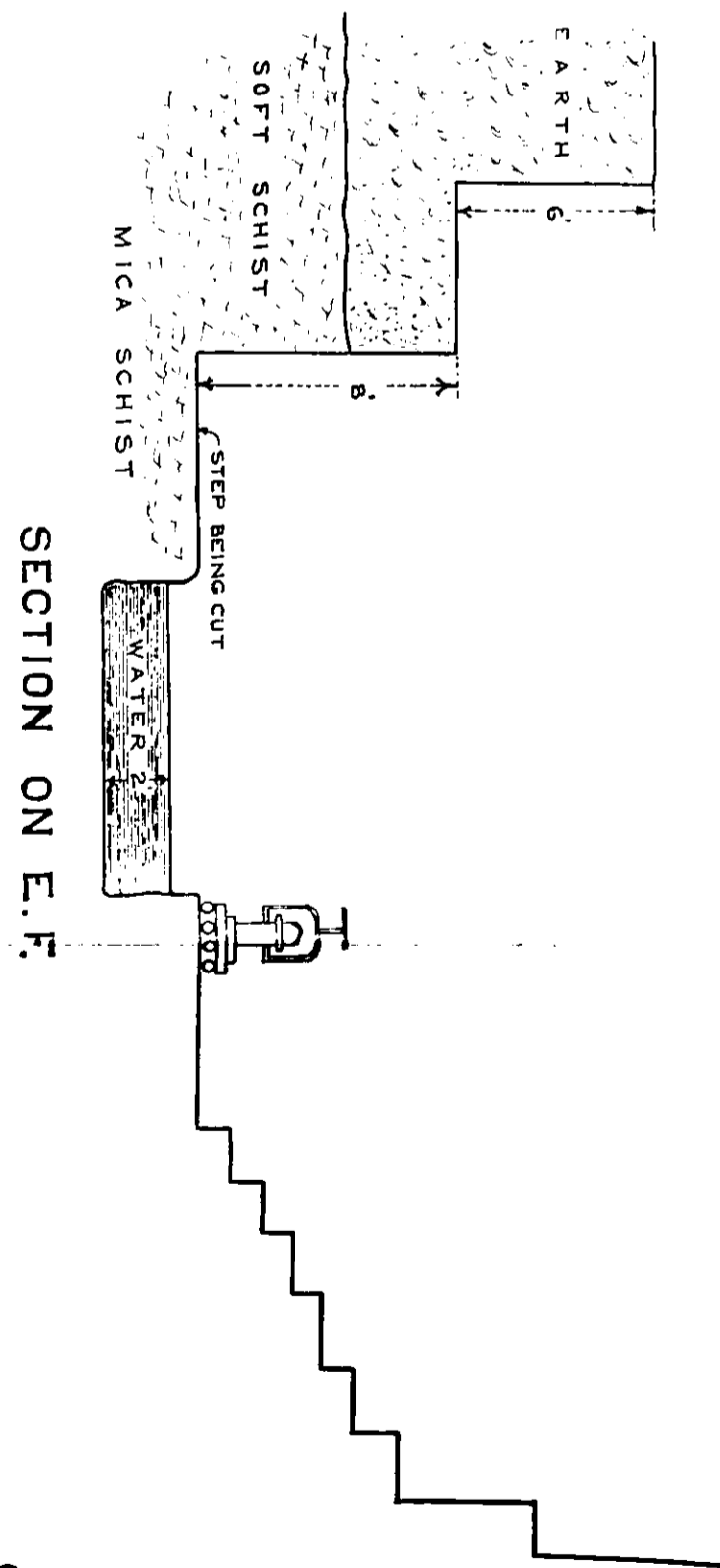
SECTION ON C. D.



SECTION ON A. B.



PLAN.



SECTION ON E. F.

REFERENCES.

- AREA OF SIDE WHICH FELL.....
- BODIES OF DECEASED..... X X

During the year 1,008 mines were inspected, many of them being inspected several times. 2,957 separate inspections were made. The cause and circumstances of nearly all fatal accidents and serious accidents of importance, and all complaints of breaches of regulations and rules were investigated. Many inspections were made at the invitation of mine-owners, superintendents and managers desirous of obtaining advice on safety matters. In the major colfields a large portion of the time of the Inspectors was occupied in investigating cases of actual or threatened damage to dwellings and roads by reason of the underground working of coal mines, in dealing with underground fires and in examining protective works against the risk of inundation. In addition, a large number of inspections of the sanitary conditions at mines were made by medical officers as *Ex-officio* Inspectors of mines.

Orders were issued and withdrawn as follows:—

Section, Regulation or Rules.	Orders issued.	Orders withdrawn.
Under Section 19 (1)	4	..
Under Section 19 (2)	21	7
Under Section 19 (1A)	10	..

Exemptions, partial or complete, and permissions were granted and withdrawn as follows:—

Regulation.	Number of cases.	Number withdrawn.
Under Coal Mines Regulation 53	3	..
Under Coal Mines Regulation 87-H.	2	..
Under Coal Mines Regulation 106	2	..
Under Coal Mines Regulation 116	1	..
Under Coal Mines Regulation 123	1	..
Under Coal Mines Regulation 87-I.	1	..
Under Metalliferous Mines Regulation 74	1	..

Information was received of two outbreaks of fire underground and four on the surface; seven cases of spontaneous heating underground and one irruption of water.

The number of original cases under the Land Acquisition (Mines) Act, 1885, at the end of 1938 stood at 752, fourteen of which were cases dealt with during the year. There were fifteen applications for modifications of restrictions, and one complaint of violations of restrictions, all of which were dealt with. The Act applies to Bengal and Bihar and Orissa only. In other provinces where Government owns the minerals, Provincial Governments were advised as to the restrictions necessary in cases where mine-owners sought permission to work minerals beneath railways, villages, etc.

I have the honour to be,

Sir,

Your most obedient servant,

W. KIRBY,

Chief Inspector of Mines in India.

APPEN
STATISTICS OF MINES

Table
Number of workers and output of minerals during the

Province.	District and Mineral field.	Total Output.	Average number of							
			Underground.							Total Males and Females.
			Males.						Females.	
			Overmen and Sirdars.	Coal-cutters.	Lancers.	Other skilled labour.	Other unskilled labour.	Total Males.		
		Tons							CO	
Assam	Khasi and Jaintia Hills	5,031	3	22	11	4	1	41	61	
	Lakhimpur, Makum Coalfield	232,904	78	203	320	211	271	1,342	1,342	
	Naga Hills, Nazira	28,764	10	20	35	65	24	254	354	
	Total	267,300	91	243	366	381	456	1,637	1,637	
Baluchistan	Quetta-Fishin, Sor Range Coalfield.	7,223	8	24	99	2	—	103	193	
	Fibi, Khusht Coalfield	7,165	12	20	125	2	—	229	229	
	Total	14,388	20	173	224	4	—	432	422	
Bengal	Bankura	4,192	1	7	7	1	1	17	17	
	Birbhum	1,459	2	8	10	—	1	21	21	
	Bardwan	7,730,723	1,045	14,561	2,927	4,907	6,400	20,910	20,910	
	Total	7,546,372	1,048	14,576	2,944	4,908	6,402	20,948	20,948	
Bihar	Manbhum— Banijanj Coalfield (part of)	814,322	127	2,112	906	580	1,180	4,804	4,804	
	Jharis	10,999,172	1,378	12,452	14,070	6,126	10,168	52,107	52,107	
	Hazaribagh— Jharis Coalfield (part of)	146,200	17	122	172	25	44	480	480	
	Bokaro	2,007,016	97	1,025	622	229	619	2,672	2,672	
	Giridih	636,371	124	2,506	727	212	712	4,547	4,547	
	Karanpura	594,006	26	527	424	140	277	1,420	1,420	
	Palamu— Daltonganj	292	2	12	12	2	2	20	22	
	Ranchi— Karanpura Coalfield (part of)	21,209	5	72	55	10	14	156	156	

DIX I
AND MINERALS.

No. 1,
year 1938 at mines under the Indian Mines Act.

persons employed daily in and about the mines.

A.F.	Open workings.							Total Underground and Open workings.	Surface.						Grand Total.
	Males.					Females.	Total Males and Females.		Males.				Females.	Total Males and Females.	
	Overmen and Sidemen.	Coal-cutters.	Leaders.	Other skilled labour.	Other unskilled labour.				Total Males.	Clerical and supervising staff.	Skilled labour.	Unskilled labour.				Total Males.
...	...	...	...	...	...	...	...	41	5	1	22	28	7	35	76
2	2	8	10	5	27	13	39	1,381	46	176	185	407	133	540	1,921
...	...	...	...	...	...	...	...	354	13	35	62	110	...	114	364
3	3	8	10	5	27	13	39	1,676	64	212	266	545	149	695	2,371
...	...	...	...	...	...	...	...	198	...	...	11	11	...	11	204
...	...	4	3	...	6	...	6	245	...	1	7	8	...	8	253
...	...	4	3	...	6	...	6	436	...	1	18	19	...	19	457
1	2	4	...	9	19	28	46	57	11	2	10	23	7	30	67
...	...	...	...	...	...	...	...	21	2	2	1	5	2	7	28
20	69	43	73	816	740	168	905	40,915	1,704	3,541	7,652	12,897	5,537	18,434	59,249
31	92	47	72	525	757	158	915	40,893	1,717	3,545	7,663	12,925	5,546	18,471	59,364
13	120	38	33	108	300	146	446	5,340	232	475	872	1,579	747	2,326	7,666
14	1,094	633	349	1,266	4,212	2,171	6,383	59,491	2,268	5,139	12,933	20,340	8,433	28,773	87,263
3	120	5	16	51	195	149	344	808	60	101	225	386	227	613	1,416
93	2,676	651	350	1,811	5,691	2,535	8,116	10,788	271	627	1,312	2,210	449	2,659	13,447
9	14	...	6	1	23	11	34	4,881	109	187	709	1,005	580	1,585	6,166
1	267	74	208	561	1,310	429	1,739	3,169	66	290	398	753	137	890	4,059
1	3	...	...	1	10	...	10	43	...	9	22	31	23	54	97
2	25	11	2	2	43	20	63	219	12	18	68	88	46	134	353

APPEN
STATISTICS OF MINES

Table
Number of workers and output of minerals during the

Province.	District and Mineral field.	Total Output.	Average number of							Total Males and Females.
			Underground.							
			Males.						Females.	
			Overmen and Sirdars.	Coal-cutters.	Loaders.	Other skilled labour.	Other unskilled labour.	Total Males.		
		Tons							GO	
Bihar—contd.	Sonbhadra Parganas—									
	Jaintia Coalfield . . .	42,900	13	210	115	63	54	460	...	460
	Raniganj Coalfield (part of).	91,218	21	330	85	59	43	407	...	407
	Total . . .	15,362,604	1,948	24,631	18,201	7,469	12,069	67,265	...	67,265
Central Provinces.	Betul	5,288	3	25	13	7	11	57	...	57
	Chanda	279,363	27	880	702	180	380	2,129	...	2,129
	Chhindwara, Peneh Valley Coalfield.	1,380,308	148	3,014	1,734	845	933	6,098	...	6,098
	Yeotmal	4,777	3	40	28	25	54	156	...	156
	Total . . .	1,656,626	184	3,969	2,474	1,027	1,377	9,080	...	9,080
Orissa . . .	Sambalpur— Hingir Rampur Coalfield	44,425	4	80	118	38	39	270	...	270
Punjab . . .	Attock . . . . .	...	1	...	...	...	5	6	...	6
	Jhelum	66,808	66	294	217	136	256	971	...	971
	Mianwali	111,924	28	178	190	25	178	802	...	802
	Shahpur	5,295	2	28	...	3	25	64	...	65
	Total . . .	184,028	104	498	387	173	463	1,624	...	1,624
Sind	Dadu . . . . .	...	...	...	...	...	...	...	...	...
	Grand Total (Coal) for 1938	25,276,743	3,297	48,274	30,794	14,006	23,324	120,190	..	120,190
	Grand Total of preceding year.	23,335,528	2,921	41,155	23,829	11,624	19,899	98,409	2,872	102,281
	Difference . . .	+2,941,215	+376	+7,120	+7,965	+2,382	+3,424	+21,781 - 2,872		+7,915

DIX I—*contd.*AND MINERALS—*contd.*No. 1—*contd.*year 1938 at mines under the Indian Mines Act—*contd.*

persons employed daily in and about the mines.

Open workings.								Total Underground and Open workings.	Surface.					Grand Total.	
Males.						Females.	Total Males and Females.		Males.				Females.		Total Males and Females.
Overmen and Bridges.	Coal-walkers.	Loaders.	Other skilled labour.	Other unskilled labour.	Total Males.				Clerical and supervising staff.	Skilled labour.	Unskilled labour.	Total Males.			
...	...	...	...	...	...	...	...	680	26	67	67	180	20	218	678
3	30	10	23	13	78	21	90	806	34	75	90	208	59	267	863
250	5,304	1,328	1,073	3,815	11,768	5,423	17,291	34,400	3,077	6,992	15,730	26,789	10,739	37,528	122,018
...	...	...	...	...	...	...	...	87	12	8	15	25	10	46	103
...	...	...	...	...	...	...	...	2,120	91	100	300	500	108	738	2,857
4	62	57	26	121	300	259	559	7,247	206	924	1,259	2,389	908	3,298	10,545
...	...	...	...	...	...	...	...	156	9	24	65	98	13	111	267
4	62	57	26	121	300	259	559	9,599	215	1,066	1,708	2,063	1,100	4,163	13,771
...	...	...	...	...	...	...	...	270	...	26	31	57	38	95	365
...	...	...	...	...	...	...	...	6	...	...	...	...	...	...	6
...	...	...	...	...	...	...	...	971	72	104	325	501	...	501	1,472
3	...	2	4	20	29	...	29	621	75	66	394	525	11	536	1,157
...	...	...	...	...	...	...	...	55	10	4	43	57	...	57	112
3	...	2	4	20	29	...	29	1,753	157	164	762	1,083	11	1,094	2,847
...	...	...	1	9	10	...	10	10	...	...	...	...	...	...	10
239	5,400	1,441	1,167	4,505	12,882	5,941	18,823	139,019	5,333	11,906	27,171	44,500	17,574	62,074	201,093
227	5,087	1,627	828	3,126	10,747	4,818	15,565	117,846	4,707	10,519	23,887	39,106	14,197	53,303	171,149
+62	+428	-86	+359	+1,379	+2,185	+1,123	+3,258	+21,173	+626	+1,477	+3,294	+5,394	+3,377	+8,771	+29,944

APPEN
STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province.	District and Mineral field.	Total Output.	Average number of persons employed						
			Underground.						
			Males.					Females.	Total Males and Females.
			Foremen and Mates.	Minors.	Other skilled labour.	Other unskilled labour.	Total Males.		
		Tons							IRON
Bihar	Palamau . . .	2,256	..	..	..	..	..	..	..
	Singhbhum . . .	1,418,884	..	..	..	..	..	..	..
	Total (Iron ore) for 1932.	1,421,090	..	..	..	..	..	..	..
	Total of preceding year.	1,587,362	..	..	..	..	..	..	..
	Difference . . .	-166,272	..	..	..	..	..	..	..
									MANGANESE
Bihar	Singhbhum . . .	24,469	..	..	..	..	..	..	..
Bombay . . .	North Kanara . . .	12,204	..	..	..	..	..	..	..
	Panch Mahals . . .	49,394	6	161	6	28	201	..	201
	Total . . .	61,598	6	161	6	28	201	..	201
Central Provinces	Balaghat . . .	368,300	20	459	8	171	653	..	653
	Bhandara . . .	120,630	..	..	..	..	..	..	..
	Chhindwara . . .	4,401	..	..	..	..	..	..	..
	Nagpur . . .	144,134	6	98	4	2	110	..	110
	Total . . .	646,465	26	557	7	173	763	..	763

DIX I—*contd.*AND MINERALS—*contd.*No. 1—*contd.*year 1938 at mines under the Indian Mines Act—*contd.*

daily in and about the mines.

	Open workings.						Total Underground and Open workings.	Surface.						Grand Total.	
	Males.				Females.	Total Males and Females.		Males.				Females.	Total Males and Females.		
	Foremen and Matons.	Miners.	Other skilled labour.	Other unskilled labour.				Total Males.	Clerical and supervising staff.	Skilled labour.	(Unskilled labour.				Total Males.
ORE.															
...	40	...	...	40	15	55	55	...	10	...	10	5	15	70
253	3,305	449	1,257	5,264	2,085	7,349	7,349	252	395	1,028	1,675	572	2,247	9,596	
253	3,345	449	1,257	5,304	2,100	7,404	7,404	252	405	1,028	1,685	577	2,262	9,666	
222	3,557	474	1,439	5,692	2,366	8,058	8,058	220	626	1,342	2,189	660	2,849	10,906	
+31	-212	-25	-162	-268	-266	-654	-654	+32	221	-314	-509	83	-586	-240	
ORE.															
37	403	7	39	463	374	857	857	19	2	24	29	25	134	991	
18	381	12	10	416	164	600	600	7	10	43	60	27	87	687	
20	647	22	11	700	336	1,036	1,237	15	46	325	366	164	550	1,787	
33	1,028	34	21	1,116	820	1,636	1,837	22	56	363	445	191	637	2,474	
251	3,792	57	1,049	5,149	4,477	9,626	10,279	71	78	1,007	1,151	1,425	2,576	12,865	
133	1,581	85	341	2,140	2,006	4,146	4,146	32	36	411	539	317	855	5,001	
16	414	1	38	469	515	984	984	4	2	12	18	14	32	1,016	
146	3,031	67	149	3,398	3,129	6,522	6,632	50	40	318	408	178	586	7,218	
546	8,818	210	1,577	11,151	10,127	21,278	22,041	157	210	1,748	2,115	1,934	4,049	26,09	

APPEN
STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province.	District and Mineral field.	Total Output.	Average number of persons employed							
			Underground.							
			Males.					Total Males.	Females.	Total Males and Females.
			Foremen and Mates.	Miners.	Other skilled labour.	Other unskilled labour.				
			MANGANESE							
Madras	Bellary . . .	Tons 2,000	...	...	...	...	...	...	...
	Vizagapatam . . .	31,809	...	...	...	...	...	...	...
	Total . . .	33,809	...	...	...	...	...	...	...
Grand Total (Manganese Ore) for 1938.		768,341	32	718	13	201	964	...	964	
Grand Total of preceding year.		800,280	25	543	8	152	728	...	728	
Difference . . .		-33,939	+7	+175	+5	+49	+236	...	+236	
Bihar	Manbhum . . .	Oz. 16	...	...	...	...	...	...	GO
	Singhbhum . . .	...	...	4	...	...	4	...	4
	Total . . .	16	...	4	...	...	4	...	4
	Total of preceding year.	Oz. Dwt. 25 6	2	8	1	3	9	...	9	
	Difference . . .	-10 6	-2	+1	-1	-3	-5	...	-5	

LIX I—*contd.*

AND MINERALS—*contd.*

No. 1—*contd.*

year 1938 at mines under the Indian Mines Act—*contd.*

daily in and about the mines.

Open workings.							Total Underground and Open workings.	Surface.						Grand Total.
Males.					Females.	Total Males and Females.		Males.				Females.	Total Males and Females.	
Foremen and Mates.	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.				Clerical and supervising staff.	Skilled labour.	Unskilled labour.	Total Males.			
ORE—<i>contd.</i>														
2	14	4	7	27	10	37	37	1	4	6	13	8	21	58
20	1,594	12	20	1,656	765	2,421	2,421	19	31	48	98	160	258	2,679
83	1,608	16	27	1,683	775	2,458	2,458	20	35	56	111	168	279	2,737
648	11,864	267	1,664	14,433	11,796	26,229	27,193	212	303	2,196	2,711	2,388	5,099	32,292
571	9,544	225	1,554	11,894	9,778	31,672	22,400	175	200	1,655	2,030	1,832	3,862	26,263
+77	+2,310	+42	+110	+2,539	+2,018	+4,557	+4,793	+37	+103	+541	+661	+556	+1,237	+6,030
L.D.														
2	11	2	3	18	...	18	18	3	7	36	46	57	103	121
...	...	...	...	...	...	...	4	...	...	4	4	...	4	8
2	11	2	3	18	...	18	23	3	7	40	50	57	107	129
2	8	3	50	63	29	92	101	6	6	35	47	34	81	162
..	+3	-1	-47	-45	-29	-74	-79	-3	+1	+5	+3	+23	+26	-53

STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province.	District and Mineral field.	Total Output.	Average number of persons employed						Total Males and Females.
			Underground.						
			Males.					Females.	
			Foremen and Matos.	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.		
		Tons						CHROMITE	
Baluchistan	Quetta-Fishin	303	...	...	...	...	...	...
	Zhob	21,589	1	17	...	...	18	18
	Total	21,892	1	17	...	...	18	18
Bihar	Singhbhum	5,194	...	...	...	...	...	...
	Grand Total (Chromite Ore) for 1938.	27,086	1	17	...	...	18	18
	Grand Total of preceding year.	35,387	4	106	...	...	110	110
	Difference	-8,301	-3	-89	...	...	-92	-92
								COPPER	
Bihar	Singhbhum	288,076	3	414	5	1,060	1,492	1,482	
	Total of preceding year.	371,458	9	443	...	1,165	1,617	1,617	
	Difference	-83,382	-6	-29	+5	-105	-135	-135	

DIX I—contd.

AND MINERALS—contd.

No. 1—contd.

year 1938 at mines under the Indian Mines Act—contd.

daily in and about the mines.

F or men and Males.	Open workings.						Total Underground and Open workings.	Surface.						Grand Total.
	Males.				Females.	Total Males and Females.		Males.				Females.	Total Males and Females.	
	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.				Clerical and supervising staff.	Skilled labour.	Unskilled labour.	Total Males.			
ORE.														
1	12	...	...	13	...	13	13	...	...	...	...	...	...	13
8	181	2	12	203	...	203	221	...	4	130	134	...	138	359
9	198	2	12	216	...	216	234	...	4	130	134	...	138	372
45	289	16	25	375	870	745	745	15	2	12	29	8	87	762
54	482	18	37	591	370	961	979	19	6	142	167	8	175	1,154
53	612	37	27	729	428	1,157	1,267	18	12	161	102	11	202	1,469
+1	-180	-19	+10	-186	-58	-196	-268	+1	-6	+81	-24	-8	-27	-315
ORE.														
...	...	...	...	...	...	...	1,482	49	272	626	947	308	1,255	2,737
...	...	...	...	...	...	...	1,617	52	308	838	1,193	402	1,595	3,212
...	...	...	...	...	...	...	-135	-8	-31	-212	-268	-94	-340	-475

APPEN
STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province.	District and Mineral field.	Total Output.	Average number of persons employed						Total Males and Females.
			Underground.						
			Males.					Females.	
			Foremen and Mates.	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.		
		Cwt.						MI	
Bihar	Bhagalpur . . .	118	1	0	1	7	18	...	18
	Gaya	14,700	72	983	346	907	2,206	...	2,206
	Hasaribagh . . .	65,371	702	6,546	1,187	3,140	11,575	...	11,575
	Manbhum	319	...	...	...	...	...	...	..
	Monghyr	3,727	52	377	64	403	896	...	896
	Total	84,235	827	7,915	1,598	4,357	14,697	...	14,697
Madras	Nellore*	22,201	85	592	766	456	1,899	...	1,839
	Nilgiris	77	1	13	2	9	25	...	25
	Salem	638	3	...	29	16	47	...	47
	Total	22,916	89	605	797	480	1,971	...	1,971
Rajputana	Ajmer-Merwara* .	1,654	13	109	3	31	156	...	166
	Grand Total (Mica) for 1933.	108,836	929	8,629	2,896	4,868	16,824	...	16,824
	Grand Total of preceding year.	108,641	901	9,179	2,192	4,652	16,984	...	16,984
	Difference	+5,194	-32	-550	+206	+216	-160	...	-160

* 36,975 cwt. of waste mica useful for

DIX I—*contd.*AND MINERALS—*contd.*No. 1—*contd.*year 1938 at mines under the Indian Mines Act—*contd.*

daily in and about the mines.

Foremen and Mates.	Open workings.						Total Underground and Open workings.	Surface.						Grand Total.	
	Males.				Females.	Total Males and Females.		Males.				Females.	Total Males and Females.		
	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.				Clerical and super- vising staff.	Skilled labour.	Unskilled labour.	Total Males.				
CA.															
7	61	9	46	116	41	157	175	175
22	743	98	237	1,080	30	1,120	3,328	191	125	81	397	58	455	3,783	
170	1,651	238	578	2,633	310	3,342	14,417	663	1,080	757	2,500	456	2,956	17,373	
4	4	15	26	49	18	67	67	3	3	7	18	8	21	59	
26	197	24	183	430	23	453	1,349	65	315	64	444	146	590	1,939	
229	2,656	377	1,055	4,317	322	4,639	19,336	922	1,523	909	3,354	668	4,022	23,358	
59	297	308	526	1,190	834	2,024	3,923	126	456	279	861	1,278	2,139	6,062	
...	...	...	...	...	...	...	25	...	5	5	10	...	10	35
1	...	6	1	8	1	9	56	2	18	5	25	4	29	86	
60	207	314	527	1,198	835	2,033	4,004	128	479	289	896	1,282	2,178	6,182	
23	197	3	23	245	107	352	508	11	91	9	111	...	111	619	
311	3,150	604	1,605	5,760	1,264	7,024	23,848	1,061	2,023	1,207	4,361	1,950	6,311	30,159	
326	3,401	642	1,436	5,605	1,138	6,943	23,927	996	1,608	1,097	3,701	1,635	5,336	29,263	
-15	-251	+52	+169	-45	+126	+81	-79	+65	+485	+110	+660	+315	+975	+896	

splitting was also raised.

DIX I—*contd.*AND MINERALS—*contd.*No. 1—*contd.*year 1938 at mines under the Indian Mines Act—*contd.*

daily in and about the mines.

Foremen and Mates.	Open workings.						Total Underground and Open workings.	Surface.						Grand Total.
	Males.				Females.	Total Males and Females.		Males.				Females.	Total Males and Females.	
	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.				Clerical and supervising staff.	Skilled labour.	Unskilled labour.	Total Males.			
L.T.														
1	..	..	21	22	..	22	691	1	120	220	341	..	341	1,032
..	..	..	..	..	..	..	95	..	..	67	67	..	67	162
..	..	..	..	..	..	..	141	1	10	47	58	..	58	199
1	..	..	21	22	..	22	927	2	180	334	466	..	466	1,393
1	..	11	..	12	..	12	893	2	92	361	367	..	455	1,853
..	..	-11	+31	+10	..	+9	+29	..	+38	-37	+79	..	+11	+40
SITE.														
21	330	..	636	967	592	1,519	1,519	16	..	1	17	..	17	1,536
17	332	..	721	1,070	310	1,380	1,380	19	83	74	176	8	184	1,564
+4	-2	..	-85	-83	+222	+139	+139	-3	-83	-73	-159	-3	-167	-23

DIX I—contd.

AND MINERALS—contd.

No. 1—contd.

year 1938 at mines under the Indian Mines Act—contd.

daily in and about the mines.

Foremen and Mates.	Open workings.						Total Underground and Open workings.	Surface.						Grand Total.
	Males.				Females.	Total Males and Females.		Males.				Females.	Total Males and Females.	
	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.				Clerical and supervising staff.	Skilled labour.	Unskilled labour.	Total Males.			
...	3	9	28	40	23	63	63	...	...	...	...	...	...	63
2	4	...	...	6	6	12	12	1	...	3	4	6	10	22
2	7	9	28	46	29	75	75	1	...	3	4	6	10	85
...	...	...	62	62	23	85	86	2	...	...	2	...	2	88
...	...	...	...	...	...	...	18	...	...	...	...	...	...	18
...	...	31	8	39	...	39	76	...	30	...	30	...	30	106
3	7	40	96	147	52	199	250	3	30	3	36	6	42	292
4	26	39	51	120	80	200	265	4	36	46	86	68	154	419
-2	-19	+1	+47	+27	-28	-1	-15	-1	-6	-43	-50	-62	-112	-127
TE.	2	8	22	27	59	7	66	66	...	...	...	...	...	66

DIX I—*contd.*AND MINERALS—*contd.*No. 1—*contd.*year 1938 at mines under the Indian Mines Act—*contd.*

daily in and about the mines.

Open workings.							Total Underground and Open workings.	Surface.						Grand Total.
Males.					Females.	Total Males and Females.		Males.				Females.	Total Males and Females.	
Foremen and Mates.	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.				Clerical and supervis- ing staff.	Skilled labour.	Unskilled labour.	Total Males.			
TE—<i>contd.</i>														
6	19	27	23	76	...	75	75	1	...	2	3	...	3	78
61	131	62	128	402	...	402	402	2	2	2	6	...	6	408
67	150	109	151	477	...	477	477	3	2	4	9	...	9	486
69	158	131	178	536	7	543	543	3	2	4	9	...	9	562
68	205	127	178	575	5	580	580	8	2	4	14	...	14	594
+1	-47	+4	+3	-39	+2	-37	-37	-5	...	...	-5	...	-5	-42
STONE.														
1	75	1	12	89	15	104	104	3	9	8	20	9	29	133
155	662	264	896	1,977	545	2,522	2,522	232	163	200	615	28	643	3,165
156	737	265	908	2,066	560	2,626	2,626	235	192	208	635	37	672	3,299
18	117	237	27	394	163	557	557	7	48	30	85	80	165	722
58	618	62	1,165	1,903	2,964	4,867	4,867	36	12	184	232	20	252	5,119
71	735	299	1,192	2,297	3,127	5,424	5,424	43	60	214	317	100	417	5,841
2	...	...	225	227	232	449	449	3	...	...	3	...	3	452

APPEN
STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province.	District and Mineral field.	Total Output.	Average number of persons employed						Total Males and Females.
			Underground.						
			Males.					Females.	
			Foremen and Mates.	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.		
Punjab	Attock	Tons. 218,947	LIME
	Jhelum	8,889	...	...	...	...	...	...
	Mianwali	34,400	...	...	...	...	...	...
	Total	262,236	...	...	...	...	...	...
	Grand Total (Limestone) for 1938	1,582,058	...	...	...	...	...	...
Grand Total of preceding year.	1,318,598	...	...	...	...	...	...
	Difference	+263,460	...	...	...	...	...	...
Bengal	Birbhum	Tons. 73,066	STONE (CHIEFLY IGNEOUS)
	Gaya	93,619	...	...	...	...	...	...
Bihar	Monghyr	49,656	...	...	...	...	...	...
	Sonthal Parganas	379,006	...	...	...	...	...	...
	Shahabad	48,376	...	...	...	...	...	...
	Singhbhum	46,338	...	...	...	...	...	...
	Total	616,995	...	...	...	...	...	...
Bombay	Bombay	330,030	...	...	...	...	...	...
	Bombay Suburban	31,545	...	...	...	...	...	...
	Kaira	16,787	...	...	...	...	...	...
	Surat	83,091	...	...	...	...	...	...
	Thana	27,863	...	...	...	...	...	...
Total	379,316	...	...	...	...	...	...

DIX I—*contd.*AND MINERALS—*contd.*No. 1—*contd.*year 1938 at mines under the Indian Mines Act—*contd.*

daily in and about the mines.

Open workings.							Total Underground and Open workings.	Surface.						Grand Total.
Males.					Females.	Total Males and Females.		Males.				Females.	Total Males and Females.	
Foremen and Mates.	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.				Clerical and supervisor- ing staff.	Skilled labour.	Unskilled labour.	Total Males.			
STONE—<i>contd.</i>														
4	46	1	985	416	...	416	416	...	...	10	14	...	...	416
...	39	...	...	39	...	39	39	4	...	...	...	...	...	58
6	200	...	...	206	5	211	211	...	...	...	...	...	...	211
10	285	1	865	661	5	666	666	4	...	10	14	...	14	680
239	1,757	565	2,690	5,251	3,914	9,165	9,165	238	252	432	969	137	1,106	10,271
236	1,107	534	2,503	4,384	2,640	7,024	7,024	234	259	698	1,186	239	1,425	8,449
+8	+650	+29	+185	+867	+1,274	+2,141	+2,141	+51	-7	-261	-217	-103	-319	+1,322
ROCK).														
1	282	6	81	370	...	370	370	37	52	271	360	145	505	875
15	252	65	185	517	215	732	732	...	...	...	...	...	...	732
6	...	120	79	205	100	305	305	5	1	58	64	...	64	369
101	588	519	155	1,363	217	1,580	1,580	106	262	394	702	373	1,135	2,715
...	...	...	214	214	25	239	239	...	...	...	...	...	...	239
9	340	37	871	757	474	1,231	1,231	6	34	37	77	17	91	1,325
131	1,180	741	1,004	3,056	1,031	4,087	4,087	117	297	469	903	390	1,293	5,380
12	131	100	198	441	28	469	469	27	...	1	28	32	60	529
...	...	...	55	55	...	55	55	2	33	66	101	...	101	156
2	...	21	...	23	...	23	23	8	4	15	22	...	22	48
13	84	66	231	334	257	591	591	10	4	16	33	...	32	623
5	...	...	107	112	70	182	182	5	...	...	5	...	5	187
32	165	187	581	965	355	1,320	1,320	47	41	100	188	32	220	1,540

APPEN
STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province.	District and Mineral field.	Total Output.	Average number of persons employed						
			Underground.						
			Males.					Females.	Total Males and Females.
			Foremen and Mates.	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.		
LIME									
Punjab	Attock	Tons. 218,947	...	...	...	...	...	...
	Jhelum	8,889	...	...	...	...	...	...
	Mianwali	34,400	...	...	...	...	...	...
	Total	262,236	...	...	...	...	...	...
Grand Total (Limestone) for 1938		1,682,058	...	...	...	...	...	...
Grand Total of preceding year.		1,318,598	...	...	...	...	...	...
Difference		+263,460	...	...	...	...	...	...
STONE (CHIEFLY IGNEOUS)									
Bengal	Birbhum	Tons. 73,066	...	...	...	...	...	...
Bihar	Gaya	93,619	...	...	...	...	...	...
	Monghyr	49,656	...	...	...	...	...	...
	Sonthal Parganas	379,006	...	...	...	...	...	...
	Shahabad	48,376	...	...	...	...	...	...
	Singhbhum	46,838	...	...	...	...	...	...
Total	616,995	...	...	...	...	...	...
Bombay	Bombay	230,030	...	...	...	...	...	...
	Bombay Suburban	31,546	...	...	...	...	...	...
	Kaira	16,787	...	...	...	...	...	...
	Surat	88,091	...	...	...	...	...	...
	Thana	27,868	...	...	...	...	...	...
Total	379,316	...	...	...	...	...	...

DIX I—contd.

AND MINERALS—contd.

No. 1—contd.

year 1938 at mines under the Indian Mines Act—contd.

daily in and about the mines.

Open workings.							Total Underground and Open workings.	Surface.						Grand Total.	
Males.					Females.	Total Males and Females.		Males.				Females.	Total Males and Females.		
Foremen and Mates.	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.				Total Underground and Open workings.	Clerical and supervis- ing staff.	Skilled labour.	Unskilled labour.				Total Males.
STONE—contd.															
4	46	1	265	416	..	416	416	..	..	..	..	..	416	
..	39	..	..	39	..	39	39	..	..	..	..	..	53	
6	200	..	..	206	5	211	211	..	..	..	..	..	211	
10	285	1	365	661	5	666	666	4	..	10	14	..	14	680	
239	1,757	565	4,690	5,251	3,914	9,165	9,165	285	252	432	969	137	1,106	10,271	
236	1,107	536	2,505	4,384	2,640	7,024	7,024	234	259	698	1,186	239	1,425	8,449	
+3	+650	+29	+185	+867	+1,274	+2,141	+2,141	+51	-7	-261	-217	-102	-319	+1,822	
ROCK).															
1	282	6	81	370	..	370	370	37	52	271	360	145	505	875	
15	252	65	185	517	215	732	732	..	..	..	..	..	..	732
6	..	120	79	205	100	305	305	5	1	58	64	..	64	369	
101	588	519	155	1,863	217	1,580	1,580	106	262	394	762	373	1,135	2,715	
..	..	..	214	214	25	239	239	..	..	..	..	..	..	239
9	340	37	371	757	474	1,231	1,231	6	34	37	77	17	94	1,325	
131	1,180	741	1,004	3,056	1,031	4,037	4,037	117	297	469	903	390	1,293	5,330	
12	131	100	198	441	28	469	469	27	..	1	28	32	60	529	
..	..	..	55	55	..	55	55	2	33	66	101	..	101	156
2	..	21	..	23	..	23	23	3	4	15	22	..	22	46	
13	34	66	221	334	257	591	591	10	4	15	33	..	32	623	
5	..	..	107	112	70	182	182	6	..	..	5	..	5	187
32	105	187	581	965	355	1,320	1,320	47	41	100	188	32	220	1,540	

DIX I—*contd.*AND MINERALS—*contd.*No. 1—*contd.*year 1938 at mines under the Indian Mines Act—*contd.*

daily in and about the mines.

Open workings.							Total Underground and Open workings.	Surface.						Grand Total.
Males.					Females.	Total Males and Females.		Males.				Females.	Total Males and Females.	
Foremen and Males.	Minors.	Other skilled labour.	Other unskilled labour.	Total Males.				Clerical and supervis- ing staff.	Skilled labour.	Unskilled labour.	Total Males.			
ROCK)— <i>contd.</i>														
2	...	...	88	40	32	72	73	2	...	...	2	...	2	74
4	...	...	50	54	25	79	79	1	...	...	1	...	1	80
3	...	...	50	53	50	103	103	1	...	...	1	...	1	104
9	...	...	188	147	107	254	254	4	...	...	4	...	4	258
...	84	80	45	109	5	114	114	4	...	...	4	...	4	118
...	...	563	41	604	473	1,077	1,077	20	...	102	122	62	184	1,261
...	...	66	...	66	16	82	82	...	...	...	...	...	...	82
...	25	4	106	135	21	156	156	...	...	12	12	...	12	168
...	69	...	...	69	...	69	69	3	...	34	37	8	45	114
...	94	633	147	874	510	1,384	1,384	23	...	148	171	70	241	1,625
5	40	1	74	120	...	120	120	...	...	30	30	...	30	150
5	96	...	135	236	8	244	244	3	5	16	24	...	24	268
...	...	...	...	...	...	...	...	...	23	...	...	...	23	23
10	136	1	209	356	8	364	364	3	28	46	54	...	77	441

APPEN
STATISTICS OF MINES

Table
Number of workers and output of minerals during the

Province.	District and Mineral field.	Total Output.	Average number of persons employed						
			Underground.						
			Males.					Females.	Total Males and Females.
			Foremen and Mates.	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.		
Rajputana	Ajmer-Merwara	Tons. 9	STONE (CHIEFLY Figures included in						
Sindh	Sukkur	30,303	...	...	...	...	...	...
United Provinces.	Allahabad	74,923	...	...	...	...	...	...
	Banda	1,104	...	...	...	...	...	...
	Jhansi	21,974	...	...	...	...	...	...
	Total	98,001	...	...	...	...	...	...
	Grand Total (Stone) for 1938.	1,456,771	...	...	...	...	...	...
	Grand Total of preceding year.	1,205,756	...	...	...	...	...	...
	Difference	+251,015	...	...	...	...	...	...
Bihar	Shahabad	18,612	...	...	...	...	...	SANI ...
	Total of preceding year.	39,414	...	...	...	...	...	...
	Difference	-20,802	...	...	...	...	...	...

DIX I—*contd.*

AND MINERALS—*contd.*

No. 1—*contd.*

year 1938 at mines under the Indian Mines Act—*contd.*

daily in and about the mines.

Open workings.					Total Males and Females.	Total Males and Females.	Total Underground and Open workings.	Surface.					Total Males and Females.	Grand Total.
Males.				Females.				Males.				Females.		
Foremen and Mates.	Miners.	Other skilled labour.	Other unskilled labour.					Total Males.	Clerical and supervising staff.	Skilled labour.	Unskilled labour.				Total Males.
IGNEOUS ROCK—<i>contd.</i>														
these for mica.														
8	60	62	...	190	15	145	145	1	...	1	2	...	2	147
19	...	107	359	485	128	613	613	13	4	2	18	...	18	631
...	...	5	15	20	18	38	38	...	1	...	1	...	1	39
23	144	102	32	301	38	339	339	6	48	46	100	60	160	499
42	144	214	406	806	184	990	990	18	58	48	119	60	179	1,169
238	2,096	1,874	2,611	6,813	2,215	9,028	9,028	254	471	1,108	1,828	697	2,525	11,553
204	2,041	1,633	2,095	5,972	1,904	7,876	7,876	225	357	1,062	1,644	544	2,188	10,064
+29	+54	+242	+516	+841	+311	+1,152	+1,152	+29	+114	+41	+184	+133	+337	+1,469
STONE.														
8	...	19	55	77	26	103	103	8	...	19	22	8	30	193
12	42	39	51	138	57	195	195	...	28	15	43	9	52	247
-9	-42	-14	+4	-61	-31	-92	-92	+8	-28	+4	-21	-1	-22	-114

DIX I—*contd.*

AND MINERALS—*contd.*

No. 1—*contd.*

year 1938 at mines under the Indian Mines Act—*contd.*

daily in and about the mines.

Open workings.							Total Underground and Open workings.	Surface.					Grand Total.	
Males.				Females.	Total Males and Females.	Males.			Females.	Total Males and Females.				
Foremen and Mates.	Miners.	Other skilled labour.	Other unskilled labour.			Total Males.		Clerical and supervising staff.			Skilled labour.	Unskilled labour.		Total Males.
VEL.														
for those for Stone.														
in those for Murum.														
in those for Stone.														
in those for Murum and Stone.														
in those for Stone.														
in those for Murum and Stone.														
in those for Stone.														
...
RUM.														
in those for Stone.														
6	81	87	19	106	106	2	...	27	29	58	87	193
in those for Stone.														
6	81	87	19	106	106	2	...	27	29	58	87	193
in those for Stone.														
6	81	87	19	106	106	2	...	27	29	58	87	193
...
+6	+81	+87	+19	+106	+106	+2	...	+27	+29	+58	+87	+193

APPEN
STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province.	District and Mineral field.	Total Output.	Average number of persons employed						
			Underground.						
			Males.					Females.	Total Males and Females.
			Foremen and Mates.	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.		
		Tons.							
Bengal . . .	Birbhum . . .	2,700	...	...	...	...	...	...	FIRE
	Burdwan . . .	7,184	...	...	12	6	18	...	18
	Total . . .	9,884	...	...	12	6	18	...	18
Bihar . . .	Bhagalpur . . .	2,108	1	10	...	26	37	...	37
	Manbhum . . .	6,763	...	20	...	...	20	...	20
	Total . . .	8,871	1	30	...	26	37	...	37
Central Provinces.	Jubbulpore . . .	27,652	...	...	...	...	...	...	...
	Grand Total (Fire-clay) for 1938.	46,407	1	30	12	32	75	...	75
	Grand Total of preceding year.	33,332	...	...	...	...	...	...	...
	Difference . . .	+13,075	+1	+30	+12	+32	+75	...	+75
Bihar . . .		Tons.							CHINA
	Bhagalpur . . .	1,211	1	22	...	27	50	...	50
	Singhbhum . . .	6,282	...	...	...	...	...	...	...
	Total . . .	7,493	1	22	...	27	50	...	50
Central Provinces.	Jubbulpore . . .	250	...	...	...	...	...	...	...
Delhi . . .	Delhi . . .	3,264	2	58	7	...	62	...	62

APPEN
STATISTICS OF MINES

Table
Number of workers and output of minerals during the

Province.	District and Mineral field.	Total Output.	Average number of persons employed						
			Underground.						
			Males.					Females.	Total Males and Females.
			Foremen and Mates.	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.		
		Tons.							CL
Punjab . . .	Jhelum . . .	..	1	8	..	..	4	..	4
	Grand Total (China Clay) for 1938.	11,007	4	78	7	27	116	..	116
	Grand Total of preceding year.	11,024	6	46	9	45	106	..	106
	Difference	-17	-2	+32	-2	-18	+10	..	+10
Bengal . . .	Burdwan . . .	10,422	..	..	..	..	..	..	..
Punjab . . .	Attock . . .	51,128							
									Figures included in those
	Grand Total (Clay) for 1938.	61,565	..	..	..	..	..	..	..
	Grand Total of preceding year.	89,068	..	..	..	..	..	..	..
	Difference	-27,493	..	..	..	..	..	..	..
		Tons.							BARY
Madras . . .	Cuddapah	3,080	..	..	..	..	..	..	..
	Kurnool . . .	200	1	8	..	2	11	..	11
	Grand Total (Barytes) for 1938.	3,280	1	8	..	2	11	..	11
	Grand Total of preceding year.	7,591	1	5	..	..	6	..	6
	Difference	-4,311	..	+3	..	+2	+5	..	+5

DIX I—contd.

AND MINERALS—contd.

No. 1—contd.

year 1938 at mines under the Indian Mines Act—contd.

daily in and about the mines.

Open workings.							Total Underground and Open workings.	Surface.						Grand Total.	
Males.					Females.	Total Males and Females.		Males.				Females.	Total Males and Females.		
Foremen and Mates.	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.				Clerical and supervis- ing staff.	Skilled labour.	Unskilled labour.	Total Males.				
AY.	..	...	...	...	...	...	4	...	...	..	...	...	...	4
24	168	2	162	371	422	793	909	32	30	149	211	202	413	1,322	
16	119	5	155	295	363	660	766	29	25	127	181	207	388	1,154	
+8	+44	-3	+27	+76	+57	+133	+143	+3	+5	+22	+30	-5	+25	+168	
2	50	20	9	81	21	102	102	...	3	...	3	...	3	105	
for Limestone.															
2	50	20	9	81	21	102	102	...	3	...	3	...	3	105	
3	38	...	9	50	22	72	72	...	3	...	3	...	3	75	
-1	+12	+20	...	+31	-1	+30	+30	...	...	...	...	...	...	+30
TES.	1	15	12	13	41	26	67	67	1	1	..	1	68
...	...	...	...	...	...	...	11	...	...	2	2	11	13	24
1	15	12	13	41	26	67	78	1	...	2	3	11	14	92	
...	28	15	35	78	71	149	155	5	...	13	18	10	28	163	
+1	-13	-3	-22	-37	-43	-82	-87	-4	...	-11	-15	+1	-14	-91	

APPEN
STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Provinces.	District and Mineral field.	Total Output.	Average number of persons employed						
			Underground.						
			Males.					Females.	Total Males and Females.
			Foremen and Matos.	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.		
Bihar . . .	Singhbhum . . .	T. ns. 830	..	..	..	..	..	..	KYA
Rajputana . . .	Ajmer-Merwara . . .	2	..	..	..	..	..	..	Figures included
	Grand Total (Kyanite) for 1938.	832	..	..	..	..	..	..	..
	Grand Total of preceding year.	805	..	..	..	..	..	..	..
	Difference . . .	+27	..	..	..	..	..	..	..
Madras . . .	Trichinopoly . . .	Tons. 9,456	..	..	..	..	..	..	GYP
Punjab . . .	Jhelum . . .	13,686	..	..	..	..	..	..	Figures included in
	Grand Total (Gypsum) for 1938.	23,242	..	..	..	..	..	..	..
	Grand Total of preceding year.	18,932	..	..	..	..	..	..	..
	Difference . . .	+9,310	..	..	..	..	..	..	..
Bombay . . .	Kaira . . .	Tons. ..	..	..	..	..	..	..	BAU
Central Provinces.	Jubbulpur . . .	10,184	..	..	..	..	..	..	..
	Grand Total (Bauxite) for 1938.	10,184	..	..	..	..	..	..	..
	Grand Total of preceding year.	15,180	..	..	..	..	..	..	..
	Difference . . .	-5,016	..	..	..	..	..	..	..

DIX I—*contd.*AND MINERALS—*contd.*No. I—*contd.*year 1938 at mines under the Indian Mines Act—*contd.*

daily in and about the mines.

Open workings.							Total Underground and Open workings.	Surface.						Grand Total.	
Males.					Females.	Total Males and Females.		Males.				Females.	Total Males and Females.		
Foremen and Mates.	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.				Clerical and supervis- ing staff.	Skilled labour.	Unskilled labour.	Total Males.				
NITE.	4	76	...	...	...	80	79	159	159	2	...	...	2	2	161
in those asbestos.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	4	76	...	...	80	79	159	159	2	...	...	2	...	2	161
	3	...	...	53	55	62	117	117	1	...	20	21	...	21	138
	+1	+76	...	-53	+35	+17	+42	+42	+1	..	-20	-19	...	-19	+23
SUM.	...	...	...	101	101	86	187	187	16	...	60	70	33	106	295
those for Salt.	...	...	...	101	101	86	187	187	10	...	60	70	33	106	295
	...	...	...	19	19	22	41	41	1	5	11	17	36	53	94
	...	...	...	+82	+82	+64	+146	+146	+9	-5	+49	+53	+2	+55	+201
XITE.	1	10	...	...	11	2	13	13	...	...	5	5	1	6	19
	2	7	...	22	31	63	84	84	1	...	5	6	...	6	90
	3	17	...	23	42	55	97	97	1	...	10	11	1	12	109
	7	128	20	84	184	156	340	340	2	1	20	23	1	24	364
	-6	-106	-20	-12	-146	-101	-243	-243	+1	-1	-10	-12	...	-12	-251

APPEN
STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Provinces.	District and Mineral field.	Total Output.	Average number of persons employed							Total Males and Females.
			Underground.							
			Males.					Females.		
			Foremen and Mates.	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.			
Central Provinces.	Betul	Tons. 30	...	..	..	..	..	..	GRAPH
	Total of preceding year.	10	..	..	..	..	..	..	..
	Difference .	+10	..	..	..	..	..	..	..
Madras . . .	Salem . . .	Cwts. 10	...	...	...	...	...	...	CORUM
	Grand Total (Metal-liferous Mines) for 1938.	...	1,006	10,534	2,490	6,426	20,455	...	20,455	
	Grand Total of preceding year.	...	1,148	10,947	2,264	6,232	20,511	15	20,526	
	Difference	...	-142	-413	+206	+193	-56	-15	-71	
	Grand Total (All Minerals) for 1938.	...	...	...	...	...	140,661	...	140,651
	Grand Total of preceding year.	...	...	...	...	...	118,920	3,687	122,607
Difference .	...	...	...	...	...	+21,731	3,687	+17,844	

DIX I—*concl.*

AND MINERALS—*concl.*

No. 1—*concl.*

year 1938 at mines under the Indian Mines Act—*concl.*

daily in and about the mines.

ITEM	Open workings.							Total Underground and Open workings.	Surface.					Grand Total.	
	Males.					Females.	Total Males and Females.		Males.				Females.		Total Males and Females.
	Foremen and Mates.	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.				Clerical and supervising staff.	Skilled labour.	Unskilled labour.	Total Males.			
1	2	...	4	7	...	7	7	...	...	...	...	...	...	7
...	...	...	2	2	5	7	7	...	...	2	2	5	7	14
+1	+2	...	+2	+5	-5	...	...	...	...	-2	-2	-6	-7	-7
DUM.	...	...	2	...	2	12	14	14	...	...	...	...	...	14
1,894	23,749	4,144	11,452	41,239	23,271	64,510	84,965	2,236	4,007	7,456	18,699	6,503	20,202	106,167	
1,762	21,341	3,882	10,586	37,521	19,661	57,182	77,706	2,007	3,649	7,625	18,281	5,720	19,001	96,709	
+132	+2,408	+312	+866	+3,718	+3,610	+7,288	+7,257	+229	+358	-169	+418	+783	+1,901	+8,458	
...	...	...	...	54,121	29,212	83,333	223,964	...	...	...	58,199	24,077	82,276	306,260
...	...	...	...	48,268	24,479	72,747	195,554	...	...	...	52,387	19,917	72,304	267,858
...	...	...	...	+5,858	+4,739	+10,586	+28,430	...	...	...	+5,812	+4,160	+9,972	+38,402

Table

Statement of total mining population in Coal Mines in British India

Name of Province.	Name of Coalfield or District.	Total number attending work.							Total Males and Females.
		Males.				Females.			
		Under-ground.	Open work- ing.	Surface.	Total.	Open working.	Surface.	Total.	
		Tons.							
Assam	Khasi and Jaintia.	43	...	71	114	...	41	41	155
	Makum . . .	1,546	47	443	2,036	23	125	148	2,184
	Nazira . . .	272	...	166	438	...	...	...	438
	Total . . .	1,861	47	680	2,588	23	166	189	2,777
Baluchistan	Sor Range . .	129	2	2	133	...	...	...	133
	Khost . . .	90	...	3	93	...	...	...	93
	Total . . .	219	2	5	226	...	...	...	226
Bengal . . .	Raniganj . . .	51,303	301	12,378	63,982	165	6,654	6,809	70,791
Bihar . . .	Raniganj . . .	8,450	270	1,707	10,427	190	1,092	1,282	11,709
	Jharia . . .	71,957	2,604	20,420	94,981	2,250	10,487	12,737	107,718
	Bokaro . . .	4,000	5,805	1,925	11,430	3,125	560	3,685	15,115
	Giridih . . .	6,741	7	1,037	7,785	8	541	549	8,334
	Karanpura . .	2,301	1,432	950	4,683	517	292	809	5,492
	Jainty . . .	636	...	198	834	...	32	32	866
	Daltonganj . .	119	...	50	169	...	10	10	179
Total . . .	94,204	9,818	26,347	130,369	6,090	13,014	19,104	149,473	
Central Provinces	Betul . . .	53	...	52	105	...	22	22	127
	Wardha Valley	2,471	...	519	2,990	...	171	171	3,161
	Pench Valley .	8,305	678	2,485	11,468	654	1,208	1,862	13,330
	Yeotmal . . .	273	...	102	375	...	20	20	395
	Total . . .	11,102	678	3,158	14,938	654	1,421	2,075	17,013
Orissa . . .	Hingir-Rampur	378	...	59	467	...	73	73	540
Punjab . . .	Salt Range . .	2,156	37	996	3,189	...	22	22	3,211
	Grand Total . .	161,223	10,883	43,853	215,759	6,922	21,350	28,272	244,031

DIX I—contd.

No. 1-A.

on a day in the selected week in February 1939.

Total number prevented from attending.								Grand Total.
Males.				Females.			Total Males and Females.	
Under ground.	Open work- ing.	Surface.	Total.	Open work- ing.	Surface.	Total.		
18	...	18	36	...	8	8	44	199
946	16	86	1,048	17	57	74	1,122	3,306
72	...	47	119	...	...	...	119	557
1,038	16	151	1,203	17	65	82	1,285	4,062
...	...	...	...	...	...	...	...	133
...	...	...	...	...	...	...	...	93
...	...	...	...	...	...	...	...	226
4,874	10	781	5,665	9	614	623	6,288	77,079
290	33	155	478	30	65	95	573	12,342
2,668	78	498	3,239	47	368	415	3,654	111,372
154	540	308	1,002	261	28	289	1,291	16,406
4,186	...	167	4,353	...	90	90	4,443	12,777
447	229	58	729	52	15	67	796	6,288
41	...	...	41	...	...	...	41	907
26	...	13	39	...	...	2	41	220
7,812	875	1,194	9,881	300	568	868	10,839	160,312
6	...	2	8	...	...	...	8	135
115	...	13	128	...	7	7	135	3,296
661	34	173	828	29	86	117	945	14,275
14	...	2	16	...	3	3	19	414
796	34	150	980	29	98	127	1,107	18,120
...	...	...	...	...	...	...	...	540
143	...	70	213	...	...	...	213	3,424
14,661	935	2,946	17,942	445	1,345	1,790	19,732	263,763

Table

Average hours worked per week in

Mineral Field.	Underground.				
	Overmen and Sirdars. — Foremen and Matees.	Miners.	Loaders.	Skilled Labour.	Unskilled Labour.
Jnarra Coalfield (Bihar)	48	45	45	47	47
Baniganj „ (Bengal)	50	46	46	48	46
Giridih „ (Bihar)	44	48	42	46	46
Assam Coalfields	47	46	48	46	48
Punjab „	45	49	43	43	44
Baluchistan „	38	38	38	40	...
Pench Valley Coalfield (Central Provinces) .	50	46	49	50	50
Bihar Mica	46	45	...	47	46
Madras Mica	47	46	...	46	46
Central Provinces Manganese	49	48	...	49	49
Central Provinces Limestone . . . . .	...	...	...	...	...
Bihar Iron . . . . .	...	...	...	...	...
Punjab Salt	39	48	...	51	48
Bihar China Clay	40	36	...	...	30
Punjab Slate . . . . .	...	...	...	...	...

DIX I—*contd.*

No. 2.

each important mining field during the year 1938.

Overmen and Sirdars. — Foremen and Mates.	Open workings.					Surface.			
	Miners.	Loaders.	Skilled Labour.	Un- skilled Labour.	Females.	Clerical and Supervising Staff.	Skilled Labour.	Un- skilled Labour.	Females.
48	46	47	48	48	47	53	50	50	49
50	46	46	48	48	48	52	50	50	49
50	51	...	49	48	44	49	48	48	47
46	52	46	46	52	46	50	51	51	51
48	...	48	48	48	...	50	47	44	48
...	...	48	48	...	...	...	48	44	...
50	51	51	51	51	51	52	50	51	50
48	48	...	45	45	43	46	47	48	49
46	45	...	47	47	47	46	46	46	46
47	46	...	49	44	45	49	47	48	44
49	49	...	51	49	47	49	50	49	48
48	48	...	48	48	48	49	48	48	46
54	...	...	...	54	...	51	48	49	...
46	44	...	45	44	44	44	44	43	42
41	39	...	41	43	...	48	48	48	...

Table

Analysis of figures relating to

PROVINCE.	Coalfield.	Coal.					
		Opening stocks.	Raisings.	Total.	Despatches.	Colliery consumption.	Coal delivered for coking.
		Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Assam	Khasi & Jaintia Hills. Makum Nasira	1,637	5,632	7,269	5,632	...	...
		...	232,904	232,904	219,788	10,827	2,289
		...	28,764	28,764	28,183	445	...
Baluchistan	Baluchistan	518	14,388	14,906	13,538	87	...
Bengal (and part of Bihar).	Raniganj	151,675	8,650,990	8,802,595	7,770,566	521,330	60,453
Bihar	Jharra Dokaro Karanpura Giridih Jainty Daltonganj	558,010	11,144,462	11,702,472	8,026,794	696,900	1,340,906
		3,994	2,007,016	2,011,010	1,920,098	53,679	17,137
		17,566	625,914	643,480	582,201	19,860	...
		79,438	636,371	715,909	679,964	33,023	...
		3,711	42,800	46,511	34,460	6,027	...
		...	393	393	...	225	...
Central Provinces.	Betul Pench Valley Wardha Valley Yeotmal	1,057	5,288	6,345	3,423	2,735	...
		12,590	1,369,208	1,381,798	1,283,482	72,525	...
		677	279,353	280,030	260,604	16,717	...
		...	4,777	4,777	1,953	2,822	...
Orissa	Hingir-Rampur	2,278	44,425	46,698	40,301	8,677	...
Punjab	Salt Range	3,345	184,028	187,373	176,400	4,295	...
	Total 1933	836,491	25,276,748	26,118,234	21,056,367	1,442,573	1,420,784

DIX I—contd.

No. 3.

the output of Coal and Coke, 1938.

		Coke.									
Coal despatched to coke factories.	Closing stocks.	Opening stocks.		Coke made.		Despatches.		Colliery consumption.		Closing stocks.	
		Hard.	Soft.	Hard.	Soft.	Hard.	Soft.	Hard.	Soft.	Hard.	Soft.
Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
...	1,637	...	...	...	...	...	...	...	...	...	...
...	...	...	...	492	...	448	...	49	...	...	...
...	166	...	...	...	...	...	...	...	...	...	...
...	1,286	...	...	...	...	...	...	...	...	...	...
68,548	456,247	149	899	2,900	28,588	2,624	28,285	20	452	205	745
1,490,438	1,638,548	3,576	18,171	94,432	857,571	89,092	846,612	648	3,933	8,552	20,107
2,560	11,101	41	6	5,030	4,769	4,317	4,774	54	...	700	1
...	41,419	...	...	...	...	...	...	...	...	...	...
65,536	3,823	...	...	...	...	...	...	...	...	...	...
...	6,124	...	...	...	...	...	...	...	...	...	...
...	168	...	...	...	...	...	...	...	...	...	...
...	187	...	...	...	...	...	...	...	...	...	...
...	25,791	...	...	...	...	...	...	...	...	...	...
...	8,619	...	...	...	...	...	...	...	...	...	...
...	?
...	2,720	...	...	...	...	...	...	...	...	...	...
...	6,678	...	...	...	...	...	...	...	...	...	...
1,627,077	2,193,511	4,060	14,076	108,844	900,923	97,676	889,671	771	4,385	9,457	20,943

APPENDIX I—contd.

Table No. 4.

Number of mines opened, closed and inspected, during the year 1938.

PROVINCE.	District and Mineral field.	Number of mines under the scope of the Act.	NUMBER OF MINES.				INSPECTIONS.	
			Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
			COAL					
Assam	Khasi and Jaintia Hills	1	..	1	..	..	1	1
	Lakhimpur—Makum Coalfield	5	5	..	1	..	3	17
	Naga Hills—Nazira Coalfield	1	..	1	..	..	1	9
Baluchistan	Baluchistan Coalfield	21	..	21	10	8	9	12
Bengal (and part of Bihar).	Raniganj Coalfield	241	163	79	31	33	252	929
Bihar	Jharia Coalfield	272	175	97	34	31	277	1,408
	Bokaro Coalfield	9	5	4	4	..	5	20
	Karapura Coalfield	7	4	3	2	2	3	7
	Giridih Coalfield	7	3	4	2	1	6	20
	Jainty Coalfield	9	1	8	3	4	7	7
	Daltonganj Coalfield	1	1	..	1	..	..	..
Central Provinces.	Betul	1	1	..	..	..	1	2
	Pench Valley Coalfield	27	22	5	1	2	25	59
	Wardha Valley Coalfield	7	7	..	1	1	6	12
	Yeotmal	1	1	..	1	..	1	1
Orissa	Hingir-Bampur Coalfield	1	1	..	..	..	1	1

APPENDIX I—contd.

Table No. 4—contd.

Number of mines opened, closed and inspected, during the year 1938—contd.

PROVINCE.	District and Mineral field.	Number of mines under the scope of the Act.	NUMBER OF MINES.				INSPECTIONS.	
			Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
COAL—contd.								
Punjab	Attock	1	...	1	1	1	..	..
	Salt Range Coalfield	52	...	52	23	28	20	31
Sind	Dadu	1	...	1	...	1	..	..
	Grand Total (Coal) for 1938	665	338	277	115	112	618	2,546
	Grand Total of preceding year	604	368	236	146	55	604	2,566
	Difference	+61	+20	+41	-31	+57	+14	-20
IRON ORE.								
Bihar	Singhbhum	7	...	7	2	...	2	3
	Palamau	1	...	1	...	1	...	...
	Grand Total (Iron Ore) for 1938	8	...	8	2	1	2	3
	Grand Total of preceding year	5	...	5	1	...	3	8
	Difference	+3	...	+3	+1	+1	-1	-5
MANGANESE ORE.								
Bihar	Singhbhum	16	...	16	1	3	...	...
Bombay	North Kanara	3	...	6	1	...	...	...
	Panch Mahals	2	2	...	...	...	...	...

APPENDIX I—contd.

Table No. 4—contd.

Number of mines opened, closed and inspected, during the year 1938—contd.

PROVINCE.	District and Mineral field.	Number of mines under the scope of the Act.	- NUMBERS OF MINES.				INSPECTIONS.	
			Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
MANGANESE ORE—contd.								
Central Provinces.	...	91	3	88	25	22	49	51
Madras	...	14	1	13	3	7	6	6
	Grand Total (Manganese Ore) for 1938.	126	6	100	30	42	55	57
	Grand Total of preceding year.	98	6	92	46	6	56	58
	Difference	+28	—	+28	—16	+36	—1	—1
GOLD.								
Bihar	...	3	...	3	1	1	...	...
	Total of preceding year	3	...	3	1	1	1	3
	Difference	...	...	...	...	...	—1	—2
CHROMITE ORE.								
Baluchistan	...	39	...	39	...	...	7	7
Bihar	...	13	...	13	1	...	4	4
	Grand Total (Chromite Ore) for 1938.	52	...	52	1	...	11	11
	Grand Total of preceding year	53	...	53	4	...	19	19
	Difference	—1	...	—1	—3	...	—8	—8

APPENDIX I—contd.

Table No. 4—contd.

Number of mines opened, closed and inspected, during the year 1938—contd.

PROVINCE.	District and mineral field.	Number of mines under the scope of the Act.	NUMBER OF MINES.				INSPECTIONS.	
			Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
COPPER ORE								
Bihar	Singhbhum	5	5	—	—	1	8	8
	Total of preceding year	5	—	5	3	—	3	6
	Difference	—	+5	-5	-3	+1	+1	-1
MICA.								
Bihar	...	639	26	663	241	206	98	93
Madras	...	119	14	105	89	29	72	72
Rajputana	...	31	—	31	20	19	—	—
	Grand Total (Mica) for 1938	639	40	799	300	254	160	165
	Grand Total of preceding year	909	47	862	451	324	244	254
	Difference	-70	-7	-63	-151	-70	-84	-89
SALT.								
Punjab	...	3	1	2	—	—	3	6
	Total of preceding year	3	1	2	—	—	3	6
	Difference	—	—	—	—	—	—	-2

APPENDIX I—*contd.*Table No. 4—*contd.*Number of mines opened, closed and inspected, during the year 1938—*contd.*

PROVINCE.	District and Mineral field.	Number of mines under the scope of the Act.	NUMBER OF MINES.				INSPECTIONS.	
			Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
Madras	Salem	3	—	3	1	—	2	2
	Total of preceding year	3	...	3	...	1	2	3
	Difference	...	...	—	+1	—1	...	—1
Bihar		3	...	3	...	1	...	...
Central Provinces		2	...	2	...	1	3	4
Madras		1	...	1	...	...	1	1
United Provinces		13	...	13	7	13	18	15
	Grand Total (Steatite) for 1938	19	...	19	7	15	17	18
	Grand Total of preceding year	23	...	23	10	9	24	25
	Difference	—4	...	—4	—3	+6	—7	—7

APPENDIX I—contd.

Table No. 4—contd.

Number of mines opened, closed and inspected, during the year 1938—contd.

PROVINCE.	District and Mineral field.	Number of mines under the scope of the Act.	NUMBER OF MINES.				INSPECTIONS.	
			Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
SLATE								
Bihar	Monghyr	3	..	3	1	2	..	..
Panjab . . . . .	... . . . .	11	...	11	...	3	14	14
	Grand Total (Slate) for 1938 .	14	...	14	1	5	14	14
	Grand Total of preceding year .	19	...	19	3	3	20	20
	Difference	-5	...	-5	-2	+2	-6	-6
LIMESTONE								
Bihar . . . . .	... . . . .	16	...	16	2	..	11	12
Central Provinces.	... . . . .	17	1	16	...	5	8	8
Madras . . . . .	... . . . .	1	...	1	...	...	2	2
Punjab . . . . .	... . . . .	3	1	2	...	...	4	4
	Grand Total (Limestone) for 1938.	37	2	35	2	5	25	26
	Grand Total of preceding year .	37	3	34	6	5	38	43
	Difference . . . . .	...	-1	+1	-4	...	-13	-17

APPENDIX I—contd.

Table No. 4—contd.

Number of mines opened, closed and inspected, during the year 1938—contd.

PROVINCE.	District and Mineral field.	Number of mines under the scope of the Act.	NUMBER OF MINES.				INSPECTIONS.	
			Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
STONE.								
Bengal	...	3	...	3	...	...	...	...
Bihar	...	60	...	60	9	2	8	8
Bombay	...	23	1	21	2	4	33	33
Central Provinces	...	3	...	3	...	...	...	...
Delhi	Delhi	1	...	1	...	...	4	5
Madras	...	12	1	11	3	...	33	25
Punjab	...	5	...	5	1	1	6	6
Sindh	...	1	...	1	...	...	...	...
United Provinces	...	16	...	16	3	4	...	...
Grand Total (Stone) for 1938		128	2	121	18	11	74	77
Grand Total of preceding year		108	3	105	21	10	169	171
Difference		+18	-1	+16	-3	+1	-85	-94

APPENDIX I—*contd.*Table No. 4—*contd.*Number of mines opened, closed and inspected, during the year 1938—*contd.*

PROVINCE.	District and Mineral field.	Number of mines under the scope of the Act.	NUMBER OF MINES.				INSPECTIONS.	
			Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
SANDSTONE.								
Bihar	Shahabad	2	...	2	...	...	...	...
	Grand Total of preceding year.	2	...	2	...	...	8	8
	Difference	...	...	...	...	...	-6	-6
FIRE CLAY.								
Bengal	... . . . .	5	...	5	1	2	2	2
Bihar	... . . . .	9	...	9	4	3	6	7
Central Provinces.	... . . . .	3	1	2	...	...	2	2
	Grand Total (Fire Clay) for 1938	17	1	16	5	5	10	11
	Grand Total of preceding year.	10	2	8	1	...	11	13
	Difference	+7	-1	+8	+4	+5	-1	-2

APPENDIX I—*contd.*Table No. 4—*contd.*Number of mines opened, closed and inspected, during the year 1938—*contd.*

PROVINCE.	District and Mineral field.	Number of mines under the scope of the Act.	NUMBER OF MINES.				INSPECTIONS.	
			Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
Madras	...	1	...	1	1	...	...	...
	CORUNDUM.							
	Total of preceding year	...	...	...	...	...	...	...
	Difference	+1	...	+1	+1	...	...	...
Rajputana	...	1	...	1	...	...	...	...
	ASBESTOS.							
	Total of preceding year	1	...	1	1	...	...	...
	Difference	...	...	...	-1	...	...	...
Central Provinces.	...	1	...	1	...	...	...	...
	OCHRE.							
	Total of preceding year	1	...	1	1	...	...	...
	Difference	...	...	...	-1	...	...	...

APPENDIX I—contd.

Table No. 4—contd.

Number of mines opened, closed and inspected, during the year 1938—contd.

PROVINCE.	District and Mineral field.	Number of mines under the scope of the Act.	NUMBER OF MINES.				INSPECTIONS.	
			Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
Madras . . . . .	... . . . .	2	...	2	...	...	...	...
	Total of preceding year	4	...	4	1	1	...	...
	Difference	-2	...	-2	-1	-1	...	...
Rajputana . . . . .	... . . . .	3	...	2	...	1	...	...
	Total of preceding year	3	...	3	1	1	2	3
	Difference	-1	...	-1	-1	...	-2	-2
Central Provinces.	... . . . .	1	...	1	1	1	...	...
	Madras	1	...	1	...	...	...	...
	Grand Total (Graphite) for 1938	2	...	2	1	1	...	...
	Grand Total of preceding year	1	...	1	...	...	1	1
	Difference	+1	...	+1	+1	+1	-1	-1
Bombay . . . . .	... . . . .	1	...	1	...	...	...	...
	Central Provinces.	2	...	2	...	...	...	...
	Grand Total (Bauxite) for 1938	3	...	3	...	...	...	...
	Grand Total of preceding year	3	...	3	1	...	5	5
	Difference . . . . .	...	...	...	-1	...	-5	-5

APPENDIX I—*concl.*Table No. 4—*concl.*Number of mines opened, closed and inspected, during the year 1938—*concl.*

PROVINCE.	District and Mineral field.	Number of mines under the scope of the Act.	NUMBER OF MINES.				INSPECTIONS.	
			Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
Rajputana	...	2	...	2	...	...	2	2
	Total of preceding year	3	...	3	1	1	2	2
	Difference	-1	...	-1	-1	-1	..	...
Bihar	...	1	...	1	...	...	...	...
	Total of preceding year	1	...	1	1	...	...	...
	Difference	...	...	...	-1	...	...	...
Bombay	...	1	...	1	...	...	...	...
	Total of preceding year	...	...	...	...	...	...	...
	Difference	+1	...	+1	...	...	...	...
	Grand Total (Metalliferous Mines) for 1938.	1,238	58	1,230	378	349	390	411
	Grand Total of preceding year	1,321	63	1,258	564	371	626	680
	Difference	-33	-5	-28	-186	-22	-236	-269
	Grand Total (All Minerals) for 1938.	1,953	446	1,507	493	461	1,008	2,957
	Grand Total of preceding year	1,925	431	1,494	710	426	1,290	3,246
	Difference	+28	+15	+13	-217	+35	-222	-289

APPENDIX I—*contd.*

Table No. 5.

The following table shows the fluctuations in the output of the principal minerals raised from mines classed under the Indian Mines Act. The other minerals raised are apatite, asbestos, barytes, bauxite, beryl, chinaclay, clay, felspar, fireclay, fuller's earth, graphite, gypsum, kyanite, magnesite, ochre, slate, stone, and stentite.

Year.	Coal.	Manga- nese ore.	Nica.	Lime- stone.	SaR.	Gold.	Copper ore.	Wolfram ore.	Iron ore.	Chro- mite ore.	Tin ore.	Lead ore.	Silver.
	Tons.	Tons.	Owts.	Tons.	Tons.	Troy ozs.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Troy ozs.
1929	22,308,174	750,908	69,437	1,313,647	148,498	80	78,831	1,061	1,436,395	31,054	2,384	464,561	7,260,517
1930	22,683,861	623,078	82,519	1,148,312	147,376	89	123,749	1,809	1,123,893	30,498	2,001	530,119	7,064,306
1931	20,514,597	847,373	45,177	863,736	134,916	..	153,636	899	500,178	14,938	2,552	397,679	5,900,409
1932	18,719,587	83,119	32,043	725,378	120,389	80	175,375	848	673,434	7,266	2,957	372,586	5,905,946
1933	18,160,681	63,240	41,936	1,129,110	145,838	267	201,723	636	658,239	9,770	2,309	454,791	6,044,089
1934	20,243,977	221,222	55,545	943,800	154,955	656	338,676	1,333	834,477	9,356	2,690	443,499	5,792,299
1935	21,014,469	421,847	59,553	1,000,308	150,515	1,265	350,801	2,549	1,179,080	19,039	4,369	461,986	5,825,989
1936	20,583,982	634,930	62,077	1,007,967	151,323	1,378	367,194	2,140	1,401,530	22,143	4,964	468,942	5,963,000
1937	22,335,528	800,290	94,811	1,218,898	163,612	26	371,458	...*	1,287,368	24,387	...*	...*	...*
1938	25,276,743	780,341	101,633	1,282,046	164,674	18	298,079	...*	1,421,080	27,086	...*	...*	...*

* The production in previous years was from Burma.

Table No. 6.

The following table shows the amount of coal raised, the average number of persons working daily and the death-rates during the years 1929-1938 in respect of coal mines under the Indian Mines Act :—

Year.	Amount of coal raised.	Average number of persons work- ing daily below and above ground.	Number of deaths below and above ground.	Death-rates.	
				Per 1,000,000 tons raised.	Per 1,000 per- sons working daily below and above ground.
1929	22,308,174	165,658	194	8.70	1.17
1930	22,683,861	169,001	211	9.30	1.25
1931	20,514,597	158,287	185	9.02	1.17
1932	18,719,587	148,489	151	8.07	1.02
1933	18,160,681	144,707	124	6.83	0.86
1934	20,243,977	151,375	157	7.76	1.04
1935	21,014,469	159,254	264	12.56	1.66
1936	20,583,982	162,917	420	20.40	2.58
1937	22,335,528	171,149	200	8.95	1.17
1938	25,276,743	201,093	248	9.81	1.23

APPENDIX I—contd.

Table No. 7.

Aggregate horse power and purpose for use of electric motors installed both on surface and underground at Coal Mines under the Indian Mines Act.

Coalfield.	Horse power on surface.					Horse power below ground.					Total horse power of motors installed.	
	Winding.	Ventilation.	Haulage.	Coal washing or cleaning.	Miscellaneous.	Total.	Haulage.	Pumping.	Portable machinery.	Miscellaneous.		Total.
Assam . . . . .	...	117	125	7	245	494	180	...	...	...	180	674
Bokaro	300	195	498	88	1,174	2,149	365	702	140	...	1,207	3,356
Central Provinces . . . . .	...	103	100	25	168	396	331	1,180	291	50	1,852	2,248
Girdih	165	338	...	270	448	1,271	779	4,208	160	2	5,149	6,420
Jharia	3,123	1,220	2,347	1,160	2,053	9,903	8,833	23,865	3,303	2,224	38,231	48,134
Karanpura . . . . .	...	75	735	95	377	1,532	85	410	100	...	595	1,927
Punjab . . . . .	...	...	180	...	23	143	...	...	...	...	...	143
Raniganj	2,455	1,962	526	1,327	1,771	8,041	8,479	13,680	4,565	390	27,134	35,175
Total	5,943	4,062	4,498	2,969	6,357	23,729	19,053	44,045	8,579	2,666	74,348	98,077

Table No. 8.

Number of Mines under the Indian Mines Act, where electric power is used and the aggregate horse power of electric motors installed.

Province.	Minerals worked.				Total horse power of motors installed.
	Coal.		Sundry Minerals.		
	Number of mines.	Horse power.	Number of mines.	Horse power.	
Assam	2	674	...	...	674
Bengal	40	30,038	1	58	30,146
Bihar	74	64,934	9	4,546	69,470
Bombay . . . . .	...	...	1	166	166
Central Provinces and Berar	10	2,248	4	564	2,812
Madras . . . . .	...	...	4	596	596
Punjab	1	143	2	1,821	1,964
Total	186	98,077	21	7,751	105,828

APPENDIX I—*contd.*

Table No. 9.

Number and type of coal-cutting machines at work in Coal Mines under the Indian Mines Act.

Name of machine.	Chain.	Bar.	Percussive.	Power.		Total number of machines.
				A. C.	D. C.	
Diamond	1	..	..	1	..	1
Goodman	86	..	..	79	14	86
Hardy . . . . .	..	..	3	3	..	3
Mavor and Coulson	49	38	..	86	1	87
Siskol . . . . .	..	..	4	4	..	4
Sullivan	5	..	..	5	..	5
Total	141	88	7	171	15	186

Jharia coalfield	53	machines	} Total number of square feet undercut—8,827,200.
Raniganj coalfield	115	"	
Giridih coalfield	2	"	
Karanpura coalfield	3	"	
Bokaro coalfield	3	"	
Central Provinces coalfield	10	"	

Table No. 10.

Number of mechanical ventilators in use at Coal Mines under the Indian Mines Act in 1938.

Assam.	Baluchistan.	Bengal.	Bihar.	Central Provinces.	Orissa.	Punjab.	Total.
9	..	41	65	11	..	2	128

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APPENDIX I—*conold.*

Table No. 11.

Safety lamps in use at Coal Mines under the Indian Mines Act.

Name of manufacturer.	Number in use in							Total.
	Assam.	Baluchistan.	Bengal.	Bihar.	Central Provinces.	Orissa.	Punjab.	
			Electric.					
Coag	344	...	963	2,620	...	...	...	3,947
Concordia . . . . .	...	...	2,564	1,102	...	...	...	3,666
			Flame type.					
Davies	392	...	5,063	4,640	8	...	5	10,107
Hallwood	1,139	...	1,900	12,367	...	...	...	15,346
Naylor . . . . .	...	...	1	241	...	...	...	242
Patterson . . . . .	...	...	89	945	...	...	...	1,034
Premier . . . . .	...	...	8	1,017	...	...	3	1,028
Thomas Williams . . . . .	...	...	6,090	5,052	...	...	...	11,142
Wolfe . . . . .	...	8	...	...	...	...	...	8
Total	1,875	8	16,697	27,924	8	...	8	46,520

5,240 were locked by lead rivets and 41,280 by magnetic means.

Table No. 12.

Statement of explosives used during the year 1938 at mines under the Indian Mines Act.

Name of explosive.	Quantity of explosives used, in lb., in						Total.
	Coal mines.	Mica mines.	Mangane- nese mines.	Lime- stone mines.	Stone mines.	Other mines.	
Dynamite	4,714	19,076	28,798	50	3,948	489	56,485
Gelignite	89,074	248,360	82,119	7,655	4,007	362,499	793,714
Monobel . . . . .	...	...	...	2,190	...	...	2,190
Monobel A-2	58,833	...	...	...	...	...	58,833
Stonobel	204,836	...	...	...	...	...	204,836
Dynobel	749	...	...	...	...	...	749
Raunkol	25,718	...	...	...	...	...	25,718
Liquid Oxygen	125,346	...	...	...	...	...	125,346
Gunpowder	3,479,853	9,938	140,057	479,079	184,938	420,511	4,714,401
Picric Powder . . . . .	...	...	...	...	3,090	...	3,090
Number of detonators used	1,085,923	1,919,067	619,763	8,025	34,693	637,463	4,304,936

APPENDIX II
ACCIDENTS IN MINES.

Table No. 1.
Fatal Accidents during the year 1938.

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
FALLS OF ROOF AND SIDES.						
(a) Falls of roof—(104 deaths).						
1	1st January, 11-30 A.M.	Chowrasie mine, Dishergarh P. O., Bihar.	Equitable Coal Co., Ltd.	Mangal Kora, (m.), 35, <i>Coal-cutter.</i>	Coal	Two miners left their appointed working place, broke down a fence, and entered a goaf to extract some fallen coal, when a mass of stone, 8' x 4' x 1', fell from the roof. One of them was killed instantly and the other sustained slight injuries. Inspection and inquiry made.
2	2nd January, 8-30 A.M.	Banksimula mine, Charanpur P. O., Bengal	Bengal Coal Co., Ltd.	Hira Kahar, (m.), 40, <i>Coal-cutter.</i> Newal Koiri, (m.), 33, <i>Loader.</i>	Coal	In a depillaring area a gang of miners and loaders was at work in a gallery 15 feet high, when a mass of roof-stone, about 15' x 2' thick, suddenly fell, killing two of them and seriously injuring two others. A pronounced cleat in the roof was exposed after the fall. Inspection and inquiry made.
3	2nd January, 3 P.M.	Makerwal mine, Trag P. O., Punjab.	B. S. Lala Isher Das Kapur and Mr. C. Bevan- Petman.	Abizar, (m.), 25, <i>Coal-cutter.</i>	Coal	A miner was working at the face of gallery, when a small piece of stone fell from the roof from a height of 6 feet. He sustained slight injuries to his right foot and died of tetanus 15 days after the accident. Inspection and inquiry made.
4	3rd January, 12-15 P.M.	Ghorawari mine, Junnardeo P. O., Central Provinces.	Hirdagarh Collieries, Ltd.	Abdulla, (m.), 23, <i>Coal-cutter.</i>	Coal	Deceased passed through a fence to cut coal in a gallery, when he was killed by a mass of coal, about 8' x 1'-6" x 1'-6", which fell from a "slip" in the roof at a height of 8 feet. Inspection and inquiry made.
5	4th January, 1-45 P.M.	Jamuria mine, Charanpur P. O., Bengal.	Equitable Coal Co., Ltd.	Ramjoo Meah, (m.), 45, <i>Labourer.</i>	Coal	While deceased was assisting in resetting a bar in a gallery, 9 feet high, a piece of coal fell from the roof and struck his left leg. He sustained injuries which proved fatal 24 hours later. Inspection and inquiry made.

6	7th January, 8-20 A.M.	Bejdih mine, Dishergarh P.O., Bengal.	Equitable Coal Co., Ltd.	Gopal Chamar, (m.), 35, Tilak Roy; (m.), 36, <i>Coal-cutters.</i>	Coal	A sudden bump occurred in the neighbourhood of a goaf, causing an extensive fall of roof and side coal. Two miners were killed instantly and five others were seriously injured by the falling coal. Inspection and inquiry made.
7	17th January, 11-30 P.M.	Baragolai mine, Margherita P. O., Assam.	Assam Railways and Trading Co., Ltd.	Omar Pathan, (m.), 24, <i>Labourer.</i>	Coal	Deceased was one of five persons employed in pulling coal from an "Opening", when the roof came on "weight" and the sirdar ordered all the men out. Deceased, however, tried to make for a road to the rise of the "opening" when he was struck and fatally injured by a mass of coal which fell from the roof at a height of 10 feet. Inspection and inquiry made.
8	1st February, 8 P.M.	Methani mine, Sitarampur P. O., Bengal.	Aldih Coal Co., Ltd.	Sitabi Singh, (m.), 35, <i>Coal-cutter.</i>	Coal	Immediately after dressing some roof coal in a seam 15 feet thick, a miner was struck by a piece of roof stone, 5' x 2'-6" x 2'. He was fatally injured. Inspection and inquiry made.
9	2nd February, 7-45 P.M.	Bejdih mine, Sunderchak P. O., Bengal.	Equitable Coal Co., Ltd.	(1) Takon Meah, (m.), 35, (2) Jhari Meah, (m.), 25, (3) Sann Meah, (m.), 28, <i>Coal-cutters.</i>	Coal	While loading coal in a level, three miners were struck by a mass of roof coal, 24' x 4'-6" x 2', which fell from a height of 9 feet. Two of the miners were killed instantly while a third was fatally injured. Inspection and inquiry made.
10	3rd February, 9 A.M.	East Gopalichuk mine, Jharia P. O., Bihar.	Gopalichuk Col- lieries Ltd.	Lochna Barhi, (m.), 20, <i>Timberman.</i>	Coal	Deceased with others was moving a small pump along a level gallery when a wedge shaped mass of roof stone, 12' x 8' x 8'-2', from beneath which supports had been removed, fell and killed deceased on the spot. Another person was seriously injured. Inspection and inquiry made.
11	5th February, 5 A.M.	Bakh Gandhala No. 1 mine, Dandot P. O., Punjab.	Wah Stone and Lime Quarries, Ltd., and Pandit Gias Chand.	Biru, (m.), 30, <i>Coal-cutter.</i>	Coal	While working at a longwall face deceased was killed by a mass of stone which fell from concealed "slips" in the roof. Inspection and inquiry made.
12	5th February, 1-30 A.M.	Simlabahal mine, Jharia P. O., Bihar.	Bhargora Coal Co., Ltd.	Bekaroo Kora, (m.), 35, <i>Coal-carrier.</i>	Coal	While deceased was assisting to dress down roof coal in a gallery after blasting, a mass of stone, 2' x 2' x 3', fell from between two "slips" in the roof at a height of 14 feet. He sustained serious injuries to which he succumbed three weeks later. Inspection and inquiry made.
13	8th February, 2-30 A.M.	Sripur (Nos. 1, 2 and 3 Pits) mine, Kalipahari P. O., Bengal.	Lodna Colliery Co., (1920), Ltd.	Bhagwandin Passi, (m.), 50, <i>Coal-cutter.</i>	Coal	After blasting, a gang of miners resumed work in a gallery before it had been thoroughly examined. A mass of shale roof, about 6' x 3' x 6" thick, suddenly fell on deceased from a height of 12 feet. He succumbed to his injuries four hours later. Inspection and inquiry made.

APPENDIX II--*contd.*

Fatal Accidents during the year 1938--*contd.*

Serial number	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
FALLS OF ROOF AND SIDES--<i>contd.</i>						
(a) Falls of roof--<i>contd.</i>						
14	11th February, 4 A.M.	Saltore mine, Neturia P. O., Bihar.	Burrakur Coal Co., Ltd.	(1) Akloo Boy, (m.), 32, (2) Bhagi Boy, (m.), 30, <i>Coal-cutters.</i>	Coal	While a number of miners and loaders were "robbing" coal in a fenced-off gallery, they released a mass of coal, 43' x 16' x 1'-8", which fell from the roof at a height of 12 feet. Two of the miners were struck by the falling coal and killed instantly. Inspection and inquiry made.
15	18th February, 1 A.M.	Jambad Selected mine, Kajoragram P. O., Bengal.	Devji Ghelabhai & Bros.	Barkoo Majhi, (m.), 30, <i>Coal-cutter.</i>	Coal	While cutting floor-coal in a gallery, a miner was fatally injured by a piece of shale, about 1'-6" x 1' x 4" thick, which fell on his head from the roof at a height of 10 feet. Inspection and inquiry made.
16	19th February, 12-30 P.M.	Kustore mine, Kusunda P. O., Bihar.	Baneegunge Coal Association, Ltd.	Prasadi Kandu, (m.), 30, <i>Labourer.</i>	Coal	In a depillaring area a mass of coal, 3' x 2'-6" x 1'-6", fell from the roof at a height of 14' high, and rolled on to deceased, pressing him against the pointed end of a crowbar with which he was working. The crowbar pierced his body, inflicting injuries which proved fatal shortly after. Inspection and inquiry made.
17	20th February, 8 A.M.	Doeli mine, Dishergarh P. O., Bihar.	Doeli Coal Co., Ltd.	Gambhu Mallik, (m.), 36, <i>Coal-cutter.</i>	Coal	While a miner was cutting roof-coal from a gallery 11 feet high, a mass of coal, about 12' x 6' x 3' thick, fell from between two parallel slips in the roof and killed him instantly. Inspection and inquiry made.
18	1st March, 7 A.M.	Jamuria mine, Charanpur P. O., Bengal.	Equitable Coal Co., Ltd.	Hemon Chamar, (m.), 44, <i>Coal-cutter.</i>	Coal	While some miners were engaged in depillaring operations, a mass of coal, 10' x 8' x 1', fell just inside the goaf and dislodged several props, two of which struck one of the miners, causing fatal injuries. Inspection and inquiry made.
19	7th March, 12 noon.	Mosaboni mine, Ghatsila P.O., Bihar.	Indian Copper Corporation, Ltd.	Namsingh Thappa, (m.), 35, <i>Siderer.</i>	Copper	While a gang of persons was engaged in cleaning the floor of a stope in order to set props, a mass of stone, 4' x 3' x 6', fell from the hanging wall at a height of 5 feet and struck deceased, inflicting serious injuries to which he succumbed about three days later. Inspection and inquiry made.

20	9th March, 2 P.M.	Saltoze mine, Neturia P. O., Bihar.	Burrakur Coal Co., Ltd.	(1) Panchu Meah, (m.), 30, (2) Tipan Pandey, (m.), 25, (3) Mahabir Chowdhury, (m.), 23, <i>Coal-cutters.</i>	Coal	While eight miners and loaders were engaged in cutting floor coal preparatory to commencing the extraction of a pillar, a "bump" occurred and caused a large mass of coal, 33 feet in length, to fall from a "slip" in the side of a pillar. Two miners were killed instantly and a third fatally injured, while a fourth was seriously injured. Inspection and inquiry made.
21	15th March, 2 A.M.	Sodepur (Nos. 9 & 10 Pits) mine, Sundarohak P. O., Bengal.	Bengal Coal Co., Ltd.	Doman Doss, (m.), 38, <i>Labourer.</i>	Coal	While a gang of workers was withdrawing props in a depillaring area, a mass of roof-stone, about 50' x 20' x 2'-6", fell without warning from a height of 13 feet. Deceased was killed instantly and three others were seriously injured. Inspection and inquiry made.
22	23rd March, 2-45 P.M.	Kustore mine, Kusunda P. O., Bihar.	Raneegunge Coal Association, Ltd.	Khadon Shaw, (m.), 30, <i>Coal-carrier.</i>	Coal	While filling coal in a depillaring area, deceased was killed by a fall of roof, about 12' x 8' x 3', which suddenly became dislodged from between two concealed "slips" at a height of 10 feet. Inspection and inquiry made.
23	24th March, 7 A.M.	Dishergarh west mine, Dishergarh P. O., Bengal.	Equitable Coal Co., Ltd.	(1) Thakur Mondal, (m.), 28, (2) Babulal Mondal, (m.), 25, <i>Coal-cutters.</i>	Coal	While five miners were at work in a depillaring area a "bump" occurred and caused a mass of roof stone, 12' x 8' x 6", to fall from a height of 7 feet. Two were killed instantly, one was seriously injured and a fourth sustained slight injuries. Inspection and inquiry made.
24	25th March, 2-30 P.M.	Chasnalla mine, Pathardihi P. O., Bihar.	Chasnalla Coal Company.	Sona Majhi, (m.), 35, <i>Coal-cutter.</i>	Coal	While filling a basket with coal in an underground gallery deceased was fatally injured by a wedge-shaped mass of coal, 2' x 2'-3" x 3', which fell from a concealed smooth bedding place at a height of 7 feet. Inspection and inquiry made.
25	31st March, 8-45 P.M.	Sripur (Nos. 1, 2 and 3 Pits) mine, Kalipahari P. O., Bengal.	Lodna Colliery Co., (1920), Ltd.	Chandrika Passi, (m.), 38, <i>Coal-cutter.</i>	Coal	A gang of miners was at work in a depillaring section when a "bump" occurred and a mass of shale-roof, about 8' x 6' x 6" thick, fell from a height of 13 feet killing one of them instantly. Inspection and inquiry made.
26	31st March, 11 A.M.	Damna mine, Bamhanwara P. O., Central Provinces.	Kanhan Valley Coal Co., Ltd.	Moji, (m.), 36, <i>Pitler.</i>	Coal	A pipe was being moved in an underground gallery, when it struck a prop, causing a piece of roof coal to fall on deceased who sustained serious injuries. He died a few days after being discharged from hospital three weeks after the accident.
27	2nd April, 11 P.M.	Makerwal mine, Trag P. O., Punjab.	E. S. Lala Ishar Das Kapur and Mr. C. Bavan-Set- man.	Mirmast, (m.), 46, <i>Coal-cutter.</i>	Coal	While working at the face of a gallery, the left leg of deceased was injured by a mass of stone weighing about 2 cwts. which fell from the roof from a height of 5 feet. Gangrene set in and his leg was amputated eleven days later and he died of septicemia and exhaustion 19 days after the accident. Inspection and inquiry made.

APPENDIX II—contd.

Fatal Accidents during the year 1938—contd.

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
FALLS OF ROOF AND SIDES—contd.						
(a) Falls of roof—contd.						
28	3rd April, 5-45 A.M.	Barmondia mine, Sitarampur P. O., Bengal.	New Beerbhun Coal Co., Ltd.	Munahi Meah, (m.), 40, Coal-cutter.	Coal	Deceased was engaged in cutting down roof coal in a gallery 10 feet high, when he dislodged about 3 cwt. of coal. A piece of coal struck him on the head, causing fatal injuries. Inspection and inquiry made.
29	4th April, 2 P.M.	Jamuria mine, Charanpur P. O., Bengal.	Equitable Coal Company, Ltd.	Huru Meah, (m.), 41, Coal-cutter.	Coal	While a miner was leaving his working gallery he was killed by a mass of shale, about 11' x 2'-5" x 1' thick, which fell on him from the roof at a height of 8 feet. Inspection and inquiry made.
30	6th April, 4 A.M.	Sripur mine, Kalipahari P. O., Bengal.	Lodna Colliery Co. (1920), Ltd.	Ramnath Chamar, (m.), 35, Coal-cutter.	Coal	While deceased was lying near the corner of a pillar, a piece of coal, weighing about 1 cwt., fell on his head from a height of 7 feet. He sustained serious injuries to which he succumbed three days later. Inspection and inquiry made.
31	12th April, 5-30 P.M.	Kalithan Gurgaon mine, Bhojndih P. O., Bihar.	K. B. Seal & Sons	Sripati Deswali, (m.), 40, Coal-cutter.	Coal	While working in a gallery deceased was struck and seriously injured by a wedge-shaped mass of coal and shale, 4' x 2' x 1'-3", which fell from a slip in the roof at a height of 6 feet. He succumbed to his injuries two days later. Inspection and inquiry made.
32	22nd April, 9-15 A.M.	Ledo Valley mine, Ledo P. O., Assam.	Assam Railways and Trading Co., Ltd.	Biraha Munda, (m.), 25, Coal-cutter.	Coal	Deceased was working in an "opening" when he was struck by a mass of roof coal, 4' x 4' x 1'-6", which fell on him from a height of 6 feet. He was killed instantly. Inspection and inquiry made.
33	23rd April, 12 NOON.	Sripur (Nos. 1, 2 & 3 Pits) mine, Kalipahari P. O., Bengal.	Lodna Colliery Co., (1920), Ltd.	Suleman Meah, (m.), 42, Timberman.	Coal	Prior to firing shots in the roof coal of a gallery, 7 feet high, a timberman was withdrawing the supports when a mass of coal, 20' x 16' x 6' thick, fell away from the roof and pinned him to the floor. He was killed instantly. Inspection and inquiry made.

34	25th April, 1-45 P.M.	Sripur mine, Kalipahari P. O., Bengal.	Lodna Colliery Co., (1920), Ltd.	Najir Meah, (m.), 45, <i>Loader.</i>	Coal	While at work in a gallery which had been stopped owing to dangerous conditions, a loader was fatally injured and another seriously injured by a mass of coal, 12' x 12' x 3', which fell from the roof at a height of 9 feet. Had the sirdar carried out his instructions, the accident would not have occurred. Inspection and inquiry made.
35	7th May, 8 A.M.	Palachauri mine, Junnordeo P. O., Central Provinces.	N. H. Ojha & Co., Ltd.	(1) Ramaniobu, (m.), 30, (2) Ganga Singh, (m.), 52, (3) Amal Lal, (m.), 20, <i>Loaders.</i>	Coal	While a gang of loaders was at work in a depillaring area, a mass of roof stone, 8' x 4' x 2', fell without warning from two converging "slips" in the roof. Two of the men were killed instantly and a third was fatally injured. Inspection and inquiry made.
36	17th May, 5 A.M.	Eklehra mine, Parasia P. O., Central Provinces.	Amalgamated Coal- fields, Ltd.	Sadhu Koiri, (m.), 85, <i>Coal-utter.</i>	Coal	Deceased entered an underground working place in which the roof was unsafe, and was struck by a mass of roof shale, 8'-9" x 3'-6" x 1'-6", which fell from a height of 8 feet. He was killed instantly. He had been told not to enter the place, but no fence had been erected to prevent access. Inspection and inquiry made.
37	17th May, 5-15 P.M.	Jeenagora (East Bararee) mine, Jharis P. O., Bihar.	Jeenagora (East Bararee) Colliery Co., Ltd.	Mathura Gope, (m.), 40, <i>Labourer.</i>	Coal	While erecting a fence in a gallery adjoining a goaf deceased was struck by a piece of coal which fell from the roof at a height of about 27 feet. He sustained injuries which proved fatal 9 days later. Inspection and inquiry made.
38	20th May, 2 A.M.	Jharis Khas mine, Jharis P. O., Bihar.	Standard Coal Co., Ltd.	Rameswar Pasi, (m.), 38, <i>Coal-utter.</i>	Coal	A miner was fatally injured when a mass of roof-stone, weighing about a ton, fell from a height of 7 feet. A slip was exposed after the fall. Inspection and inquiry made.
39	27th May, 3 A.M.	Jogta mine, Sijua P. O., Bihar.	Agabeg Brothers, Ltd.	Akul Teli, (m.), 35, Nann Shao, (m.), 52, <i>Shaft Stakers.</i>	Coal	From a gallery 26 feet high a staple-pit 8 feet in diameter had been sunk to a depth of 50 feet. While 6 men were drilling holes at the bottom of the shaft, stone fell from the roof of the gallery and four pieces rolled into the shaft. Three men were struck and seriously injured, two of whom subsequently died. Inspection and inquiry made.
40	27th May, 12 NOON.	North East Angarpe- thra mine, Katrasgarh P. O., Bihar.	A. R. Sen Gupta.	Mohna Chamar, (m.), 36, <i>Coal-utter.</i>	Coal	A coal-utter passed through a fence and was loading coal from a goaf when a mass of stone, 5' x 3' x 1' 6", fell from the roof from a height of about 7 feet and killed him on the spot. Inspection and inquiry made.
41	5th June, 5-50 A.M.	Jamuria mine, Charanpur P. O., Bengal.	Equitable Coal Co., Ltd.	Utatali Meah, (m.), 40, <i>Coal-utter.</i>	Coal	A miner was standing on a ladder dressing down roof coal in a depillaring area, when a lump of coal struck and displaced the ladder, causing him to fall to the floor. Before he could recover himself he was struck and killed instantly by a mass of coal, 2' x 1' x 1', which fell from a height of 13 feet. Inspection and inquiry made.

APPENDIX II—contd.

Fatal Accidents during the year 1938—contd.

Serial Number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
FALLS OF ROOF AND SIDES—contd.						
(a) Falls of roof—contd.						
43	8th June, 1-30 P.M.	Bhamori mine, Parasia P. O., Central Provinces.	Amalgamated Coal- fields, Ltd.	Jugal Kishore, (m.), 28, Tramway.	Coal	While clearing a fall of roof stone deceased was killed by a slab of roof-stone, 4'-6" x 1'-6" x 1'-6", which fell unexpectedly from a concealed "slip" at a height of 5 feet. Inspection and inquiry made.
43	9th June, 5 P.M.	Toposi mine, Toposi P. O., Bengal.	Banara Coal Co., Ltd.	Rameswar Koiri, (m.), 25, Labourer.	Coal	Deceased raised one end of a prop, which had been withdrawn from a gallery 6 feet high, when a mass of shale, 4' x 2' x 8", suddenly fell from the roof on the other end, causing the prop to strike his body. He received serious internal injuries which proved fatal 7½ hours later. Inspection and inquiry made.
44	24th June, 6 P.M.	Barmoudia mine, Sitarampur P. O., Bengal.	New Beerbhoom Coal Co., Ltd.	Jogi Kann, (m.), Roof-dresser.	Coal	Deceased was levering down roof coal in a machinecut gallery after blasting, when a mass of coal, 2' x 2' x 1'-9", fell on him from a height of 4 feet. He was killed instantly. Inspection and inquiry made.
45	29th June, 2 P.M.	Bejdih mine, Sunderchak P. O., Bengal.	Equitable Coal Co., Ltd.	(1) Budhan Barhi, (m.), 38, Timberman. (2) Thanu Gope, (m.), 39, Labourer.	Coal	The deceased were knocking out props with a long wooden pole instead of using the prop withdrawer as instructed when a mass of coal, 15' x 7' x 8", fell on them from the roof at a height of 7½ feet. They were killed instantly. Inspection and inquiry made.
46	5th July, 6 P.M.	Lodna mine, Jharia P. O., Bihar.	Lodna Colliery Co., (1920), Ltd.	Joychand Kora, (m.), 55, Loader.	Coal	In a gallery 16 feet wide and 9 feet high where tubs were being loaded a mass of coal, 5' x 4' x 3', fell from the roof. One loader was killed instantly by the falling coal and another was struck and seriously injured. Inspection and inquiry made.
47	7th July, 4 P.M.	Kubera mine, Gudur P. O., Madras.	S. V. Subba Reddy	Malli Balagurava- du, (m.), 20, Labourer.	Mica	While deceased was passing through a "drive" 7 feet high a mass of rock, 3' x 2' x 1', fell on him from the roof and killed him instantly. Inspection and inquiry made.

48	9th July, 9 A.M.	Eklehra mine, Parasia P. O., Central Provinces.	Amalgamated Coal- fields, Ltd.	Atmaran, (m.), 30, <i>Coal-cutter.</i>	Coal	Deceased was struck and fatally injured by a mass of roof shale, 4'-6" x 1'-8" x 9", which fell without warning from a height of 6 feet. Inspection and inquiry made.
49	12th July, 12-30 P.M.	Falachauri mine, Junnordeo P. O., Central Provinces.	N. H. Ojha & Co., Ltd.	Maniram, (m.), 30, <i>Timberman.</i>	Coal	While deceased was preparing to set a prop in a gallery a mass of stone, 3' x 1'-6" x 6", fell on him from the roof at a height of 8 feet. He sustained serious injuries to which he succumbed about a day later. Inspection and inquiry made.
50	29th July, 4-30 A.M.	Madhuband mine, Nudkharuki P. O., Bihar.	Karamchand Tha- par & Bros., Ltd.	Ganesh Bauri, (m.), 27, <i>Coal-cutter.</i>	Coal	While a miner was sitting at the side of a gallery 20 feet high, a piece of coal, weighing 2 lbs., fell on his head from a slip in the roof. He sustained injuries to which he succumbed two months later. Inspection and inquiry made.
51	12th August, 5-30 P.M.	Bhalgora mine, Jharis P. O., Bihar.	Bhalgora Coal Co., Ltd.	Gazi Pasi, (m.), 37, <i>Coal-cutter.</i>	Coal	After a shot had been fired in the roof coal in a gallery 8 feet high a miner stood on a barrel to dress the roof. A piece of coal which he dislodged struck and overturned the barrel and after falling to the floor another piece of coal fell on his left leg, inflicting serious injuries. He died 5½ hours later. Inspection and inquiry made.
52	21st August, 2-30 P.M.	Malkera Choitodih mine, Katraagarh P. O., Bihar.	Tata Iron & Steel Co., Ltd.	Bhuvan Rajwar, (m.), 34; Tulsi Chamar, (m.), 34; <i>Coal-cutters.</i>	Coal	While the last portion of a pillar was being extracted in a seam 6 feet thick, the roof stone in the adjoining goaf collapsed with little warning. The stock of coal collapsed and 20 props in its vicinity were dislodged. Two of the miners present in the area were unable to escape and were killed instantly. Inspection and inquiry made.
53	31st August, 3-30 P.M.	Bejdih mine, Sunderohak P. O., Bengal.	Equitable Coal Co., Ltd.	Jhari Singh, (m.), 31, <i>Coal-cutter.</i>	Coal	While deceased was filling coal in a depillaring area a "bump" occurred, when a mass of coal, weighing about 7 cwt., fell from the roof at a height of 10 feet. He sustained injuries to which he succumbed two and a half hours later. Inspection and inquiry made.
54	4th September, 11 A.M.	Kargali mine, Bokaro P. O., Bihar.	State Railways' Coal Department.	Baghunath Majhi, (m.), 30, <i>Coal-cutter.</i>	Coal	Deceased was fatally injured while cutting roof coal in a gallery. It is presumed that he was struck by a mass of roof coal which he dislodged from a height of about 7 feet. Inspection and inquiry made.
55	4th September, 1 A.M.	Nandi mine, Charanpur P. O., Bengal.	Mondal Brothers	Sitaram Majhi, (m.), 35, <i>Coal-cutter.</i>	Coal	While loading coal in a depillaring area deceased was struck by a piece of stone, 10' x 2'-6" x 1'-6", which fell from the roof at a height of 14 feet, and killed him instantly. Inspection and inquiry made.

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APPENDIX II—*contd.*

Fatal Accidents during the year 1938—*contd.*

Serial number	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
FALLS OF ROOF AND SIDES—<i>contd.</i>						
(a) Falls of roof.—<i>contd.</i>						
56	6th September, 10 P.M.	Dhemo Main mine, Sitarampur P. O., Bengal.	Dhemo Main Collieries, Ltd.	(1) Rajali Meah, (m.), 35. (2) Sarjoo Singh, (m.), 23, (3) Tribhuj Singh, (m.), 30, (4) Robi Mahato, (m.), 29, (5) Chancoo Mahato, (m.), 26, (6) Akloo Mahato, (m.), 27, (7) Sabi Shaw, (m.), 33, (8) Dhanraj Mahato, (m.), 34, (9) Hulash Mahato, (m.), 32. <i>Coal-cutters.</i>	Coal	While nine miners were engaged in depillaring operations in a seam 12 feet thick, a mass of stone, 57' x 88' x 8' fell from the roof. All were buried by the falling mass and killed instantly. Inspection and inquiry made.
57	13th September, 11-15 A.M.	Mundalpur mine, Charanpur P. O., Bengal.	Mundalpur Co., Ltd.	(1) Prolhad Bauri, (m.), 40, <i>Coal-cutter.</i> (2) Panchu Kamar, (m.), 42, <i>Timberman.</i> (3) Pankhi Bauri, (m.), 40, <i>Labourer.</i>	Coal	While a number of persons were engaged in depillaring operations in a seam 8'-6" thick, a mass of sandstone, 40' x 14' x 3', suddenly fell from the roof. The deceased were killed instantly while two other miners were seriously injured. Inspection and inquiry made.
58	17th September, 4-30 A.M.	Lodna (Nos. 4 & 5 Pits) mine, Jharia P. O., Bihar.	Lodna Colliery Co. (1920), Ltd.	Somai Majhi, (m.), 30, <i>Coal-cutter.</i>	Coal	While a miner was resting by the side of a tram-line, a mass of roof-stone, 20' x 12' x 9" thick, fell from a height of 7 feet. He was struck by one of the falling pieces of stone and received injuries which proved fatal three hours later. Inspection and inquiry made.

59	28th September, 10-45 P.M.	Banksimula mine, Charanpur P. O., Bengal.	Bengal Coal Co., Ltd.	Netaji Meah, (m.), 45, <i>Coal-cutter.</i>	Coal	While breaking coal for loading in a gallery deceased was struck by a piece of shale, 9' x 5' x 1 1/2', which fell from the roof at a height of 16 feet. He was fatally injured. Inspection and inquiry made.
60	30th September, 3-30 P.M.	Namdang mine, Margherita P. O., Assam.	Assam Railways and Trading Co., Ltd.	(1) Chaunay Kami, (m.), 48, <i>Head Timberman.</i> (2) Tulairam Sonar, (m.), 48, <i>Asst. Timberman.</i>	Coal	While supports were being set on a loading level near the entrance to an 'opening', a mass of roof coal, 28' x 10' x 5', fell from a 'slip' in the roof at a height of 5 ft. The deceased were killed on the spot and two other persons were seriously injured. Inspection and inquiry made.
61	3rd October, 2 P.M.	Datia mine, Junnordeo P. O., Central Provinces.	Amalgamated Coal fields, Ltd.	Chindhya, (m.), 27, <i>Loader.</i>	Coal	While deceased was filling his basket with coal in a gallery he was killed by a mass of roof-stone, 4' x 3' x 1', which fell through some old roof supports at a height of 10 feet. If the old time bring had been properly secured the accident would have been avoided. Inspection and inquiry made.
63	18th October, 4-30 P.M.	Bararee mine, Jeaikora P. O., Bihar.	East Indian Coal Co., Ltd.	Etware Bhuiya, (m.), 22, <i>Loader.</i>	Coal	Deceased was assisting to load coal which had been blasted from the roof of a gallery 16 feet high, when he was struck by a mass of coal, weighing about half a cwt., which fell from the roof. He sustained serious injuries to which he succumbed about ten hours later. Inspection and inquiry made.
63	14th October, 9-30 A.M.	Dharmaband mine, Katragarh P. O., Bihar.	New Teturya Coal Co., Ltd.	(1) Sadhu Bewani, (m.), 26, (2) Gangu Bewani, (m.), 22, <i>Stone-cutters.</i>	Coal	In a gallery 12' feet wide and 5'-6" high roof coal 2 feet thick and a band of shale 1'-3" thick had become unsafe and a gang of roof dressers was engaged to take down the coal and shale. Two of them went under the dangerous roof, probably to remove a prop, and they were killed instantly when an area of the roof .15 feet long and 10 feet wide, suddenly collapsed. Inspection and inquiry made.
64	14th October, 7 P.M.	Akhalpur mine, Charanpur P. O., Bengal.	Hurriladh Coal Co., Ltd.	Nathoo Bouri, (m.), 30, <i>Coal-cutter.</i>	Coal	While deceased was passing under roof coal from which props had been withdrawn, a mass of coal, 9' x 5' x 1'-6", fell on him from a height of 8 feet, inflicting fatal injuries. Inspection and inquiry made.
65	22nd October, 6 A.M.	Banksimula mine, Charanpur P. O., Bengal.	Bengal Coal Co., Ltd.	Gayadin Pasi, (m.), 39, <i>Coal-cutter.</i>	Coal	Deceased was assisting to dress coal from the roof of a gallery after blasting, when a mass of roof coal, 12' x 2' x 2', unexpectedly fell on him from a height of 17 feet. He succumbed to his injuries about 1 1/2 days later. Inspection and inquiry made.
66	26th October, 3 A.M.	Central Kirkend mine, Kusnuda P. O., Bihar.	Central Kirkend Coal Co., Ltd.	Baran Dhobi, (m.), 45, <i>Coal-cutter.</i>	Coal	In a depillaring area in a seam 12 feet in thickness in which the bottom 8 feet only of the seam was being extracted, a mass of roof coal, 9' x 5' x 4', collapsed, dislodging three props. A miner was struck and killed instantly by the falling coal. Inspection and inquiry made.

APPENDIX II—contd.

Fatal Accidents during the year 1938—contd.

Serial number	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of persons killed.	Name of mineral worked.	Cause of accident and remarks.
FALLS OF ROOF AND SIDES—contd.						
(a) Falls of roof—contd.						
67	31st October, 10 A.M.	Banksimula mine, Charaupur P. O., Bengal.	Bengal Coal Co., Ltd.	Dukhan Singh, (m.), 34, Timberman.	Coal	While deceased was tightening a prop in a gallery 17 feet high by wedging at the bottom, a mass of stone, measuring 6' x 1' x 6", fell from the roof and killed him instantly. Inspection and inquiry made.
68	3rd November, 5 A.M.	Bhalgora mine, Jharra P. O., Bihar.	Bhalgora Coal Co., Ltd.	Bachha Singh, (m.), 38, Coal-cutter.	Coal	While dressing down roof coal in a gallery with a crow-bar after blasting, a miner dislodged a mass of coal, 3' x 4' x 1' thick, which struck a drum on which he was standing, causing it to overturn. He lost his balance and fell on the fallen coal, sustaining internal injuries which proved fatal. Inspection and inquiry made.
69	14th November, 5 A.M.	Gandhala (No. 4) mine, Daudot P. O., Punjab.	Wah Stone and Lime Quarries, Ltd. and Pandit Gian Chand.	Rooba, (m.), 40, Coal-cutter.	Coal	While working at a longwall face a miner was fatally injured by a mass of stone which fell from concealed "slips" in the roof at a height of 2 feet. Inspection and inquiry made.
70	16th November, 4-30 A.M.	Palachauri mine, Junnordeo P. O., Central Provinces.	N. H. Ojha & Co., Ltd.	Girdhari, (m.), 30, Coal-cutter.	Coal	Deceased was dressing down roof coal after blasting in a depillaring area, when about 1 ton of coal fell on him from a height of 8 feet. He sustained serious injuries to which he succumbed a few hours later.
71	17th November, 3-30 P.M.	Sestulpore mine, Dishergarh P. O., Bengal.	Bengal Coal Co., Ltd.	Mahadeb Turi, (m.), 46, Loader.	Coal	While deceased was carrying coal on a loading level in a depillaring area, a "bump" occurred, causing a mass of roof coal, 8' x 6' x 2', to fall and upset an empty tub which struck deceased, injuring him fatally. Inspection and inquiry made.
72	18th November, 2-30 P.M.	Kustore mine, Kusnuda P. O., Bihar.	Raniganj Coal Association, Ltd.	Parash Teji, (m.), 30, Coal-cutter.	Coal	While dressing down roof coal after blasting in a gallery 12 feet high, a miner dislodged a mass of coal, 6' x 3' x 3' thick, which struck deceased, killing him instantly. Inspection and inquiry made.

73	29th November, 9 P.M.	Banksimula mine, Charanpur P. O., Bengal.	Bengal Coal Co., Ltd.	(1) Ram Narayan Kurmi, (m.), 30, (2) Ram Sukh Pasi, (m.), 31, Coal-cutter.	Coal	After two shots had been fired in some roof coal in a gallery and while a miner was making an examination from a ladder, a mass of coal, 16'x8'x1'-6", fell from the roof. The deceased, who endeavoured to make good their escape, ran in the wrong direction, and were struck by the falling mass and killed instantly. Inspection and inquiry made.
74	8th December, About 10-30 A.M.	Bhamori mine, Parasia P. O., Central Provinces.	Amalgamated Coal- fields, Ltd.	(1) Haribar Bramhin, (m.), 17, Labourer. (2) Nandram, (m.), 25, Sirdar.	Coal	The roof of a stone drift was being dressed after blasting, when a mass of roof suddenly fell on the deceased killing them on the spot.
75	8th December, 12-30 P.M.	Bodepore (Nos. 9 & 10 Pits) mine, Sunderohak P. O., Bengal.	Bengal Coal Co., Ltd.	Ramasram Kurmi, (m.), 38, Assistant Timber- man.	Coal	While a timberman and his two assistants were preparing to build a platform for dressing down roof coal, preparatory to depillaring operations, a mass of coal, 1'x9'x6", fell on deceased from a height of 13 feet. He sustained serious injuries to which he succumbed 4 days later. Inspection and inquiry made.
76	24th December, 4 A.M.	South Bulliary Kend- wadih mine, Kueunda P. O., Bihar.	East Indian Coal Co., Ltd.	Charan Majhi, (m.), 32, Coal-cutter.	Coal	While working in a depillaring area deceased was killed by a mass of coal 18'x5'x3', which fell from a "slip" at a height of 7 feet. Inspection and inquiry made.
77	30th December, 9 P.M.	Bhalgora mine, Jharia P. O., Bihar.	Bhalgora Coal Co., Ltd.	Sakhi Barhi, (m.), 39, Loader.	Coal	In a gallery 20 feet high in which C. P. miners were taking down roof coal, about 1 cwt. of coal fell from the roof. A loader who was holding a ladder for a miner engaged in drilling a shot hole ran under the falling coal and was killed instantly. If the roof had been thoroughly tested by the sirdar after a shot was fired three hours earlier the accident would have been avoided. Inspection and inquiry made.
(b) Falls of sides—(62 deaths).						
78	8th January, 5-49 A.M.	Bararee mine, Jalgora P. O., Bihar.	East Indian Coal Co., Ltd.	Bishahoo Pashi, (m.), 35, Coal-cutter.	Coal	While working in a depillaring area a miner was seriously injured by a mass of coal, weighing about 10 cwt., which fell from the side from a height of 12 feet. He succumbed to his injuries three days after the accident. Inspection and inquiry made.
79	10th January, 5-30 P.M.	Korapathal (Sq. No. 20e) mine, Kodarma P. O., Bihar.	E. K. Sahana & Sons.	Mangra Chamar, (m.), 34, Miner.	Mica	While three persons were working on the floor of an excavation, 20 feet deep, a fall of side occurred, measuring about 5'x5'x1'-6", from a height of 5 feet. One of the gang was killed instantly, and another was seriously injured. Inspection and inquiry made.

APPENDIX II—*contd.*

Fatal Accidents during the year 1938—*contd.*

Serial number	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
FALLS OF ROOF AND SIDES—<i>contd.</i>						
(b) Falls of sides—<i>contd.</i>						
80	27th January, 4-30 A.M.	Dishergarh West mine, Dishergarh P.O., Bengal.	Equitable Coal Co., Ltd.	Bagal Roy, (m.), 38, <i>Coal-sutter.</i>	Coal	While sitting at the side of a level deceased was struck by a mass of coal, 8' x 8' x 8', which fell from the side at a height of 7 feet. He was killed instantly. Inspection and inquiry made.
81	5th February, 12-30 P.M.	Lodna (Nos. 4 & 5 Pits) mine, Jharia P. O., Bihar.	Lodna Colliery Co., (1920), Ltd.	Jagannath Shaw, (m.), 40, <i>Loader.</i>	Coal	While loading coal in a gallery a coal-carrier was injured seriously by a mass of coal weighing about one cwt. which fell from the side of a pillar. He died about 5 months after the accident. Inspection and inquiry made.
82	7th February, 4-30 P.M.	Botejheri mine, Ramrama P. O. Central Provinces.	Dewan Chand Jiwar	Mangaria Gond, (m.), 25, <i>Miner.</i>	Manganese	While at working an open excavation 6 feet deep, deceased was partially buried by a mass of earth which fell from the side of the excavation. He sustained injuries which proved fatal four hours later. Had the sides been properly sloped or stepped back the accident would have been avoided. Inspection and inquiry made.
83	12th February, 10 A.M.	Bhamori mine, Parasia P. O., Central Provinces.	Amalgamated Coal-fields, Ltd.	Nazar Khan, (m.), 55, <i>Timberman.</i>	Coal	While deceased was dressing the corner of a pillar which had become insecure, a mass of coal, 2' x 1'-6" x 1', suddenly broke away from the corner and struck him on his left foot. He sustained injuries to which he succumbed 36 hours later. Inspection and inquiry made.
84	27th February, 4-45 P.M.	Hindubagh mine, Hindubagh P. O., Baluchistan.	Baluchistan Chrome Co., Ltd.	Sadojan, (m.), 27, <i>Miner.</i>	Chromite	Several persons were employed in an opencast working when a mass of stone fell from a concealed slip in the side at a height of 9 feet and killed deceased on the spot and another was seriously injured. Inspection and inquiry made.
85	28th February, 8-30 P.M.	Dhemo Main Mine, Sitarampur P. O., Bengal.	Dhemo Main Coal Co., Ltd.	Kailu Mahato, (m.), 45, <i>Loader.</i>	Coal	While deceased was resting on a level gallery in a depillaring area a "bump" occurred and caused a mass of coal weighing about ½ cwt. to fall from the side. He was struck by the falling coal and fatally injured. Inspection and inquiry made.

86	1st March, 1 P.M.	Katras-Choitodih mine, Katrasgarh P. O., Bihar.	Burrakur Coal Co., Ltd.	Punit Turi, (m.), 25, <i>Coal-cutter.</i>	Coal	A shot was fired in the side of a pillar and while deceased was loading coal before the side was dressed, a mass of coal, 8' x 3' x 2', fell on him from a height of 7 feet. He sustained serious injuries to which he succumbed about three weeks later. Inspection and inquiry made.
87	8th March, 2-30 A.M.	South Fulliari-Kend- wadih mine, Kusunda P. O., Bihar.	East Indian Coal Co., Ltd.	Mohesh Singh, (m.), 37, <i>Coal-cutter.</i>	Coal	Deceased, who was sitting 8 feet from the side of a pillar in a depillaring area, was struck and fatally injured by a mass of coal weighing about 10 cwts. which fell from a "slip" in the side at a height of 6 feet. Inspection and inquiry made.
88	12th March, 2 P.M.	Kusunda-Nayadeo mine, Kusunda P. O., Bihar.	Kusunda and Nayadeo Lieries Co. Col.	Baija Rama, (m.), 35, <i>Labourer.</i>	Coal	While deceased was at work in a depillaring area in a seam 28 feet thick, he was struck by a mass of coal, 8' x 4' x 2'-6", which fell from a pronounced cleat in the corner of a pillar and fatally injured. Inspection and inquiry made.
89	15th March, 10 P.M.	No. 1 Gandhala mine, Choa-Saidan-Shah P. O., Punjab.	Messrs. Sant Ram, Amarnath and Lekh Raj.	Baga, (m.), 30, <i>Coal-cutter.</i>	Coal	While working in a gateway deceased was killed by a mass of stone, 4'-6" x 3' x 1'-6", which fell from the side from a height of 4 feet. Inspection and inquiry made.
90	28th March, 12-30 P.M.	Domarkhar mine, Darigaon P. O., Bihar.	Stone Suppliers, Ltd.	Ganga Kole, (m.), 60, <i>Miner.</i>	Limestone	Deceased was undercutting the side of a quarry 8 feet deep, when a mass of over-burden fell and killed him instantly. Inspection and inquiry made.
91	30th March, 11 A.M.	Bara-Golai mine, Margherita P. O., Assam.	Assam Railways and Trading Co., Ltd.	Gobinda Bauri, (m.), 24, <i>Loader.</i>	Coal	While filling coal in a depillaring area two loaders were struck by a mass of coal, weighing about 2 tons, which fell from the side at a height of 8 feet. Deceased succumbed to his injuries shortly after the accident and his companion was seriously injured. Inspection and inquiry made.
92	2nd April, 8 P.M.	Bhalua mine, Chakai P. O., Bihar.	Kedar Nath Mar- wari.	Ram Manjhi, (m.), 35, <i>Miner.</i>	Mica	While two miners were at work in an excavation 25 feet deep, a mass of schist, 6' x 6' x 2'-3", fell from the hanging wall from a height of 8 feet. Both were seriously injured and one of them subsequently died. Inspection and inquiry made.
93	2nd April, 9 A.M.	Lodna mine, Jharia P. O., Bihar.	New Standard Coal Co., Ltd.	Mihar Meah, (m.), 30, <i>Sinker.</i>	Coal	While at work in a sinking shaft deceased was struck and fatally injured by a piece of coal weighing 6 lbs. which fell off a cleat in the side from a height of 35 feet. Inspection and inquiry made.
94	4th April, 1-45 P. M.	Chandametta mine, Parasia P. O., Central Provinces.	Pench Valley Coal Co., Ltd.	Dhantali Dhimar, (m.), 45, <i>Coal-cutter.</i>	Coal	Deceased and another miner were undercutting the side of a pillar, when a mass of coal, 5'-6" x 3'-9" x 1', suddenly fell from a well-defined "cleat" in the side, killing deceased instantly. Inspection and inquiry made.

APPENDIX II—*contd.*

Fatal Accidents during the year 1938—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
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FALLS OF ROOF AND SIDES—*contd.*

(b) Falls of sides—*contd.*

95	10th April, 7-30 A.M.	Bojdih mine, Sundarohak P. O., Bengal.	Equitable Coal Co., Ltd.	Rajna Kora, (m.), 28, <i>Coal-cutter.</i>	Coal	Deceased passed through a fence and was loading fallen coal at the side of a pillar when a mass of coal fell on him from the side. He sustained injuries which proved fatal two days later. Inspection and inquiry made.
96	5th May, 10-30 A.M.	Loyabad mine, Bansjora P. O., Bihar.	Burrakur Coal Co., Ltd.	Harku Banri, (m.), 42, <i>Coal-cutter.</i>	Coal	A miner was cutting coal under a stone band at the corner of a pillar, when a portion of the band, 4' x 3' x 2' thick, fell from a height of 4 feet, fracturing his spine. He succumbed to his injuries 24 days later. Inspection and inquiry made.
97	24th May, 11-30 A.M.	Namdang mine, Margherita P. O., Assam.	Assam Railways and Trading Co., Ltd.	Khanasherin Pathan, (m.), 87, <i>Coal-dresser.</i>	Coal	While shovelling coal from a gallery, 5' x 5', a piece of coal, measuring 1'-6" x 1'-6" x 1'-6", fell from the side and struck deceased on the head, inflicting serious injuries which proved fatal an hour later. Inspection and inquiry made.
98	17th June, 5-30 P.M.	Upper Kajora mine, Kajorngram P. O., Bengal.	C. Bhowisinga	Dhansai Bilaspuri, (m.), 28, <i>Coal-cutter.</i>	Coal	Contrary to orders two miners were engaged in loading coal after partly dressing down some overhanging side in a gallery, 13 feet high, when a mass of coal, 4' x 3' x 1', suddenly fell and struck one of them inflicting serious injuries which proved fatal 27 hours later. Inspection and inquiry made.
99	1st July, 2-30 A.M.	Sendra mine, Bansjora P. O., Bihar.	Sendra Coal Co., Ltd.	Mahadev Roy, (m.), 45, <i>Loader.</i>	Coal	A mass of coal, weighing about 6 cwt., fell from the side of a pillar and dislodged a prop 20 feet long. The prop struck a loader on his head and killed him instantly. Inspection and inquiry made.
100	4th July, 11 P.M.	Kustore mine, Kusunda P. O., Bihar.	Banssegunge Coal Association, Ltd.	Amin Meah, (m.), 35, <i>Coal-cutter.</i>	Coal	While a miner was removing fallen coal from a fenced-off gallery, a mass of side coal, weighing about 3 tons, fell from a height of 15 feet. Some of the falling pieces struck him, inflicting injuries which proved fatal four hours later. Inspection and inquiry made.

101	11th July, 5 P.M.	Damus mine, Bambanwara P. O., Central Provinces.	Kanhan Valley Coal Co., Ltd.	Tulsi Kole, (m.), 30, <i>Coal-cutter.</i>	Coal	Deceased was killed by a mass of coal, 4' x 3' x 2', which fell from the side of a pillar under extraction. Inspection and inquiry made.
102	23rd July, 1-30 P.M.	Lodna (Nos. 4 & 5 Pits) mine, Jharra P. O., Bihar.	Lodna Colliery Co. (1920), Ltd.	Mallo Jaswara, (m.), 42, <i>Coal-cutter.</i>	Coal	Deceased went into fenced-off disused workings and was killed by a mass of coal which fell from the side from a height of 14 feet. Inspection and inquiry made.
103	2nd August, 4-45 P.M.	Bhurkhunda mine, Bhurkhunda P. O., Bihar.	State Railways' Coal Department.	Dhanuki, (m.), 30, <i>Coal-cutter.</i>	Coal	While dressing coal from the side of a pillar after blasting, deceased was struck and fatally injured by a mass of coal which fell from a height of 7 feet. Inspection and inquiry made.
104	4th August, 1 A.M.	Serampur mine, Giridih P. O., Bihar.	State Railways' Coal Department.	Bhado Majhi, (m.), 40, <i>Coal-cutter.</i>	Coal	A "bump" in a neighboring coal caused a piece of coal, 2' x 1' x 6" thick, to burst off the side of a pillar from a height of 7 feet. Deceased was struck by the falling coal and fatally injured. Inspection and inquiry made.
105	7th August, 12-10 A.M.	Baragolai mine, Margherita P. O., Assam.	Assam Railways and Trading Co., Ltd.	Ibrahim Pathan, (m.), 25, <i>Loader.</i>	Coal	While at work in an "opening" a loader was struck by a mass of coal weighing about 4 tons, which fell from a concealed "slip" at a height of 9 feet. He was killed instantly. Inspection and inquiry made.
106	13th August, 7-30 P.M.	Jamadoba mine, Jealgora P. O., Bihar.	Tata Iron & Steel Co., Ltd.	Jhari Bhuiya, (m.), 30, <i>Loader.</i>	Coal	While loading coal, deceased was struck and killed instantly by a mass of coal measuring about 10' x 5' x 2-6", which fell from two converging cleats in the side of a pillar at a height of 12 feet. Inspection and inquiry made.
107	14th August, 1 A.M.	Charanpur mine, Charanpur P. O., Bengal.	Apcar Collieries, Ltd.	Japhar Kole, (m.), 30, <i>Loader.</i>	Coal	While carrying a basket of coal a miner was slightly injured by a piece of coal 8 to 10 lbs. in weight which fell from the side of a pillar, and rolled on to his foot, causing him to fall. He expired about three days later, the cause of death being obscure. Inspection and inquiry made.
108	23rd August, 2 A.M.	Methani mine, Sitarampur P. O., Bengal.	Aldih Coal Co., Ltd.	Lukmon Meah, (m.), 47, <i>Coal-cutter.</i>	Coal	Deceased was resting in a gallery, 7½' high, when a mass of coal, 6' x 5' x 2', fell from the side and killed him instantly. Inspection and inquiry made.
109	24th August, 10 P.M.	Sodepore (Nos. 9 and 10 Pits) mine, Sunderchak P. O., Bengal.	Bengal Coal Co., Ltd.	Chigoo Meah, (m.), 31, <i>Coal-cutter.</i>	Coal	While two miners were taking down roof coal in a gallery 9½ feet high, a mass of coal fell from the roof and both sides of the gallery, causing the platform on which they were working, to collapse. Both miners escaped, but a miner, who was loading a basket of coal on the floor of the gallery, was struck by a falling prop which had formed part of the platform, and was fatally injured. Inspection and inquiry made.

APPENDIX II—contd.

Fatal Accidents during the year 1938—contd.

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of persons killed.	Name of mineral worked.	Cause of accident and remarks.
FALLS OF ROOF AND SIDES—contd.						
<i>(b) Falls of sides—contd.</i>						
110	26th August, 2 A.M.	Fishergarh West mine, Dishergarh P. O., Bengal.	Equitable Coal Co., Ltd.	Mahinda Bauri, (m.), 48, <i>Coal-cutter.</i>	Coal	Deceased left his working place and was robbing coal from the overhanging side of a pillar which had been fenced when a mass of coal, 8' x 2' x 2', fell on him from a height of 10 feet. He sustained serious injuries to which he succumbed three days later. Inspection and inquiry made.
111	2nd September, 5 A.M.	Sripore (1, 2 & 3 Pits) mine, Kalipahar P. O., Bengal.	Lodna Colliery Co. (1920), Ltd.	Dilchand Hasam, (m.), 15, <i>Loader.</i>	Coal	While deceased was filling coal in a depillaring area a "hump" occurred and a mass of coal fell on him from a height of 14 feet. He was killed instantly. Inspection and inquiry made.
112	7th September, 5-30 A.M.	Damodarpur mine, Nandi P. O., Bengal.	Bengal Coal Co., Ltd.	Sujon Kole, (m.), 34, <i>Coal-cutter.</i>	Coal	A miner was sitting at the side of a "stook" in course of extraction, when he was struck by a mass of coal which fell from the side and was fatally injured. Inspection and inquiry made.
113	15th September 6 A.M.	Pretoria mine, Charanpur P. O., Bengal.	Seebpore Coal Co., Ltd.	Budhu Keet, (m.), 48, <i>Coal-cutter.</i>	Coal	Contrary to instructions a miner was undercutting the side of a gallery when he released a mass of coal, 7' x 3'-3" x 1'-6", from a cleat in the side. He was struck by the falling mass and killed instantly. Inspection and inquiry made.
114	21st September 8 A.M.	Banadeopur mine, Kusunda P. O., Bihar.	New Banadeopur Coal Co., Ltd.	Bhatu Rai, (m.), 33, <i>Coal-cutter.</i>	Coal	While a miner was robbing coal from the corner of a pillar, a piece of coal, 3' x 2' x 1' thick, fell on him from a "slip" at a height of 8 feet. He sustained serious injuries to which he succumbed shortly afterwards. Inspection and inquiry made.
115	30th September 9-30 P.M.	Lodna (Nos. 4 & 5 Pits) mine, Jharia P. O., Bihar.	Lodna Colliery Co., (1920), Ltd.	Feranta Buhidas, (m.), 25, <i>Loader.</i>	Coal	A loader was engaged with others in loading coal which had been "robbed" from the side of a loading level, when a mass of coal, weighing about one ton, fell from the side from a height of 8 feet. He was struck and killed instantly. Inspection and inquiry made.

116	3rd October, 5 P.M.	Barkui mine, Parasia P. O., Central Provinces.	Pench Valley Coal Co., Ltd.	Birja Gond, (m.), 55, Loader.	Coal	While deceased was loading coal in a depillaring area, a mass of coal, 3' x 2'-6" x 1'-6", fell on him from the side from a height of 6 feet. He sustained serious injuries to which he succumbed three days later. Inspection and inquiry made.
117	11th October, 1 A.M.	Dishergarh West mine, Dishergarh P. O., Bengal.	Equitable Coal Co. Ltd.	(1) Lokhu Meah, (m.) 38; (2) Boushi Roy, (m.) 30; Coal-cutters.	Coal	Contrary to instructions a number of persons entered a gallery which had not been dressed after blasting to load coal, when a mass of coal, 10' x 3' x 1'-6", suddenly fell from the side, killing the deceased instantly. Inspection and inquiry made.
118	15th October, 12-30 A.M.	Lodna mine, Jharia P. O., Bihar.	Lodna Colliery Co. (1920), Ltd.	Kese Fhuiya, (m.), 33, Loader.	Coal	While coal was being loaded in a depillaring area in a seam 24 feet thick two hours after shots had been fired, a mass of coal, 15' x 6' x 12", fell from the corner of an adjoining pillar. A loader was struck and killed instantly by the falling coal. Inspection and inquiry made.
119	25th October, 5 P.M.	Jamadoba mine, Jaligora P. O., Bihar.	Tata Iron & Steel Co., Ltd.	Nakohbar Bilaspuri, (m.), 32, Loader.	Coal	In a depillaring area in a seam 12 feet thick while a miner was "robbing" coal from a rib at the side of a goaf a mass of coal, weighing about one ton, fell from the rib and dislodged a prop. The top end of the falling prop struck a loader and killed him instantly. Inspection and inquiry made.
120	1st November, 1 P.M.	Jamadoba mine, Jaligora P. O., Bihar.	Tata Iron & Steel Co., Ltd.	Matroo Bilaspuri, (m.), 40, Coal-cutter.	Coal	In a depillaring area in a seam 12 feet thick a mass of coal, 12' x 7' x 1'-3", fell from a pronounced cleavage plane parallel to the face on to a miner. He sustained fatal injuries. Inspection and inquiry made.
121	9th November, 5 P.M.	Kajora mine, Kajora P. O., Bengal.	Boy Dutta & Co.	Ramdhari Ahir, (m.), 35, Coal-cutter.	Coal	Deceased was standing on a lump of coal, levering down loose coal after blasting, when he lost his balance and fell down. The coal, which he was attempting to bring down, also fell with him, inflicting serious spinal injuries which proved fatal 8 days later. Inspection and inquiry made.
122	11th November, 4 P.M.	Dabor mine, Samdi P. O., Bengal.	B. B. Chakraborty and N. K. Tewari.	Malati Meham (f.), 40, Loader.	Coal	While deceased was at work in a quarry she was partially buried by a mass of earth which fell from the side. She sustained injuries which proved fatal five days later. If the overburden had been properly sloped or stepped this accident would not have occurred. Inspection and inquiry made.
123	16th November, 5-30 P.M.	Kuzharbaroo mine, Giridih P. O., Bihar.	State Railway's Coal Department.	Suker Turi, (m.), 24, Coal-cutter.	Coal	While cutting coal from the side of a pillar deceased dislodged a mass of coal, 6' x 2' x 1'-3", which fell on him from a height of 6 feet. He was killed instantly. Inspection and inquiry made.

APPENDIX II—contd.

Fatal Accidents during the year 1938—contd.

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
FALLS OF ROOF AND SIDES—concl'd.						
(b) Falls of sides—concl'd.						
124	16th November, 7-30 A.M.	Pipuljuri mine, Pakur P. O., Bihar.	G. C. Pande .	Karim Sheikh, (m.), 36, Labourer.	Stone	Deceased was at work in an open excavation when a mass of earth fell on him, inflicting fatal injuries.
125	18th November, 4-15 A.M.	Jharia Khas mine, Jharia P. O., Bihar.	Standard Coal Co., Ltd.	Jaa Mohammad, (m.), 45, Coal-cutter.	Coal	While walking along a loading level, a miner was killed by a mass of coal, 4' x 3' x 1'-6" thick, which fell from a cleat in a pillar at a height of 8 feet. Inspection and inquiry made.
126	30th November, 10 A.M.	Kriahna (No. 3) mine, Khehra P. O., Punjab.	Bhai Hazura Mall and Bakshi Guru Datta.	(1) Muhammad Khan, (m.), 29; (3) Sher Moham- mad, (m.), 50; Coal-cutters.	Coal	While working at a long wall face, the deceased were buried by a fall of side, 4' x 2'-6" x 1'-6", in a seam 2'-3" in thickness. They were suffocated before being recovered. Inspection and inquiry made.
127	4th December, 4-30 P.M.	Mahsudpur mine, Mahpalpur P. O., Delhi.	Duli Chand .	(1) Sheo Chand, (m.), 19; (2) Chutan, (m.), 19; Miners.	China clay.	While waiting at the bottom of a small shaft 50 feet deep, the deceased were fatally injured by a mass of kaoline, 3' x 4' x 3', which fell from the side at a height of 20 feet. Inspection and inquiry made.
128	9th December, 2 P.M.	Bararee mine, Jealgora P. O., Bihar.	East Indian Coal Co., Ltd.	Bhairu Keot, (m.), 22, Loader.	Coal	While a loader was at work in a gallery 25' high adjacent to a depillaring area, a piece of coal weighing about 5 cwts., fell from the side near the roof. He was struck and killed instantly. Inspection and inquiry made.
129	10th December, 9-15 A.M.	Bansdeopur mine, Kusunda P. O., Bihar.	New Bansdeopur Coal Co., Ltd.	Bhuska Ruhidas, (m.), 50, Coal-cutter.	Coal	While a miner was at work in a quarry a mass of stone, weighing about ½ ton, fell from a slip in the side from a height of 9 feet. He was struck by the falling stone and received fatal injuries. Inspection and inquiry made.
130	11th December, 0-45 A.M.	Seetalpore mine, Dishergarh P. O., Bengal.	Bengal Coal Co., Ltd.	Rabi Hauri, (m.), 35, Coal-cutter.	Coal	Deceased was cutting coal from the thin end of a "stook", when a mass of coal, 4' x 2' x 1'-6", fell from the side. He sustained fatal injuries and died shortly afterwards. Inspection and inquiry made.

131	14th December, 4 P.M.	East Gopalichuck mine, Jharia P. O., Bihar.	Gopalichuck Collieries, Ltd.	Puna Bhuiya, (m.), 41, <i>Coal-cutter.</i>	Coal	Deceased undercut the side of a pillar and a mass of coal, weighing about 10 cwt., fell from a height of 8 feet. He sustained serious injuries to which he succumbed 36 days later. Inspection and inquiry made.
132	22nd December, 4 P.M.	Matauni mine, Jainagar P. O., Bihar.	Chatturam Horilram, Ltd.	(1) Bain Singh, (m.), 35, <i>Car driver.</i> (2) Dil Bahadur, (m.), 20, <i>Car cleaner.</i> (3) Bhatu Gope, (m.), 20; (4) Nuni Gope, (m.), 29; <i>Labourers.</i>	Mica	A mass of earth weighing about 3½ tons fell from the side of an excavation for mica 16 feet deep. A car driver and a car cleaner who were standing on the edge of the excavation and two labourers who were at work in the excavation were involved. They were buried under the fallen material and were suffocated before they could be released. Inspection and inquiry made.
133	10th December, about 9 A.M.	Tinpahar mine, Tinpahar P. O., Bihar.	Chatterjee, Shaw & Co.	Ishra Chamar, (m.), 22, <i>Labourer.</i>	Stone	Deceased was working in an open excavation when a mass of side fell on him, inflicting fatal injuries.

IN SHAFTS (OVERWINDING)—(1 death).

134	2nd May, 8 A.M.	Khas Searsole mine, Searsole Rajbari P. O., Bengal.	Searsole Raj Wards Estate.	Ram Kisen Dasadh, (m.), 45, <i>Winding Engine Khalasi.</i>	Coal	While raising a bucket from a trolley over a shaft from which water was being raised, deceased, instead of raising the usual 3-4 feet, over-wound the engine to such an extent that the bucket was pulled over the sheave in the head gear. The bucket fell in front of the temporary engine house, and the rope pulled off the roof, which fell on deceased resulting in fatal injuries. Inspection and inquiry made.
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IN SHAFTS (ROPES AND CHAINS BREAKING)—(1 death).

135	23rd September, 5 A.M.	Ghogri mine, Jannordeo P. O., Central Provinces.	Sial Coal Company	Chedda, (m.), 26, <i>Pump-attendant.</i>	Coal	While deceased was being raised in a bucket in a shaft, 116 feet deep, the rope broke and the bucket fell to the bottom of the shaft. Deceased sustained injuries which proved fatal 5 hours later. Inspection and inquiry made.
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IN SHAFTS (WHILST ASCENDING OR DESCENDING BY MACHINERY)—(5 deaths).

136	2nd June, 11-10 P.M.	Lodna (Nos. 4 and 5 Pits) mine, Jharia P. O., Bihar.	Lodna Colliery Co. (1920), Ltd.	Ram Kumar Pasi, (m.), 40, <i>Coal-cutter.</i>	Coal	While ascending a shaft 350 feet deep a miner fell from near the middle of the shaft to the bottom and was killed instantly. The cage in which he was ascending was provided with rigid gates which were closed. Inspection and inquiry made.
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APPENDIX II—contd.

Fatal Accidents during the year 1938—contd.

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
IN SHAFTS (WHILST ASCENDING OR DESCENDING BY MACHINERY)—(5 deaths)—contd.						
137	18th June, 9-30 P.M.	Khas Kenda mine, Chora P. O., Bengal.	Khas Kenda Col- liery, Ltd.	Pashu Bauri, (m.), 35, Loader.	Coal	While six persons were descending a shaft, 174 feet deep, a loader fell off the cage to the bottom of the shaft and was killed instantly. If a gate of the cage had not been left open this accident would not have happened. Inspection and inquiry made.
138	5th September, 4-15 P.M.	Bararee mine, Jealgora P. O., Bihar.	East Indian Coal Co., Ltd.	Bhagbat Kori, (m.), 33, Trolleyman.	Coal	In the absence of an onsetter at the bottom of a shaft, 466 feet deep, an underground trammer gave the signal to ascend but after entering the cage he did not lower the rigid gates. He fell out of the cage while ascending and was killed instantly. He was not authorised to give signals. Inspection and inquiry made.
139	6th September, 4-30 P.M.	Poniat Baraboni mine, Charanpur P. O., Bengal.	H. K. Nag	Suku Majhi, (m.), 36, Coal-cutter.	Coal	While descending a shaft, 203 feet deep deceased fell off the cage to the bottom of the shaft and was killed instantly. Inspection and inquiry made.
140	17th October, 2-15 P.M.	Pure Dishergarh mine, Sitarampur P. O., Bengal.	Pure Dishergarh Colliery Company.	Rupsi Kora, (m.), 20, Coal-cutter.	Coal	While four miners were being lowered in a shaft 185 feet deep, the cage was suddenly stopped. Deceased who was at the end of the cage lost his balance and fell to the bottom of the shaft, a distance of 20 feet. He received injuries which proved fatal 8 hours later. If the gates provided at the ends of the cage had been closed the accident would not have occurred. Inspection and inquiry made.
IN SHAFTS (FALLING DOWN SHAFT)—(6 deaths).						
141	3rd January, 12-30 P.M.	Upper Kajora mine, Kajoragram P. O., Bengal.	C. Bhowlinga.	Raghunandan Dharkar, (m.), 32, Timberman.	Coal	Deceased was standing in a cage in which a prop 23 feet long was lowered to the bottom of a shaft 103 feet deep. To remove the prop a signal to raise the cage a few feet was given, but it was raised to the shaft top. When the cage was 30 feet from the bottom of the shaft deceased with the prop fell to the bottom of the shaft. He sustained serious injuries to which he succumbed two and a half months later. Inspection and inquiry made.

143	24th January, between 12-30 P.M. to 1 P.M.	Bankeimula mine, Charanpur P. O., Bengal.	Bengal Coal Co., Ltd.	Bomjan Sheikh, (m.), 32, <i>Pumpman.</i>	Coal	During a temporary stoppage of the winding engine, deceased attempted to enter a mine by climbing down an electrical cable hung in a shaft 925 feet deep. After reaching a point estimated at from 200 to 250 feet from the shaft bottom, he apparently lost his grip and fell, being killed instantly. Inspection and inquiry made.	
143	4th April, 11-10 P.M.	Akhalpur mine, Charanpur P. O., Bengal.	Hurriladih Co., Ltd.	Coal	Gopal Chandra Das Gupta, (m.), 32, <i>Tub-checker.</i>	Coal	When a cage arrived at the top of a shaft 209 feet deep, the injured person stepped out of the cage on the wrong side, climbed a fence and fell a distance of 124' down the shaft. He sustained a fracture of the spine and died 3 months later. Inspection and inquiry made.
144	16th June, 11 30 P.M.	Surangi mine, Tieri P. O., Bihar.	Christian Mining Co., Ltd.	Karu Sandy, (m.), 25, <i>Labourer</i>	Mica	While at work on a scaffold in a shaft some of the planks forming the platform of the scaffold were displaced and two men fell through the scaffold to the bottom of the shaft, a distance of about 66 feet. One was killed instantly and the other was seriously injured. Inspection and inquiry made.	
145	18th August, 9-30 A.M.	Faguni mine, Rajauli P. O., Bihar.	Chaturam Darsan- ram.	Rupan Rai, (m.), 26, <i>Driller.</i>	Mica	While lifting a cover from the top of a stag's pit 80 feet deep, deceased slipped and fell to the bottom of the pit. He was killed instantly. Inspection and inquiry made.	
146	7th September, 3 P.M.	Jogianath mine, Tieri P. O., Bihar.	Indian Mica Supply Co., Ltd.	Lochan Gope, (m.), 33, <i>Labourer.</i>	Mica	While loading the bucket at a mid inset in a shaft, deceased slipped from the platform and fell to the bottom of the shaft a distance of 50 feet. He was fatally injured. Inspection and inquiry made.	

IN SHAFTS (THINGS FALLING DOWN SHAFT)—(2 deaths.)

147	15th March, 11-30 A.M.	Lodna mine, Jharis P. O., Bihar.	Lodna Colliery Co. (1929), Ltd.	Bolhi Mondal, (m.), 28, <i>Stone cutter.</i>	Coal	While three stone cutters were detaching a kibble at the bottom of a newly sunk shaft a mass of stone weighing about 10 cwts fell from the side from a point 50 feet above the bottom. They were seriously injured and one of them died four hours later. Inspection and inquiry made.
148	28th August, 12 NOON.	Sarda Mine, Rajauli P. O., Bihar.	Chatturam Hovilram Ltd.	Hulas Singh, (m.), 30, <i>Labourer.</i>	Mica	A basket of debris was being hoisted by a windlass up a shaft 60 feet deep, when it became disconnected from the hoisting rope and fell a distance of 15 feet to the bottom of the shaft. Deceased sustained serious injuries which proved fatal shortly after. Inspection and inquiry made.

BY EXPLOSIVES—(10 deaths.)

149	1st January, 2-45 P	Munear mine, Kandri P. O., Central Provinces	Central Provinces Manganese Ore Co., Ltd.	Dalla, (m.), 27, <i>Driller.</i>	M a n- ganese.	Three men were drilling a hole in a winze when it appears that a misfired shot was pierced and exploded. One of the men was killed instantly and the others were seriously injured. Inspection and inquiry made.
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APPENDIX II—contd.

Fatal Accidents during the year 1938—contd.

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
BY EXPLOSIVES—(11 deaths)—contd.						
150	18th January, 12 NOON.	New Satgram mine, Searsol Rajbari P. O., Bengal.	New Satgram Coal Co., Ltd.	Behari Gope (m.), 35, Shot-firer.	Coal	While deceased was firing five shots in a gallery, one of them prematurely exploded. He sustained serious injuries to which he succumbed the following day. Inspection and inquiry made.
151	1st February, 5 P.M.	Samanbank mine, Jhumri-Telaia P. O., Bihar.	Manji Bechar.	Sukar Rai, (m.), 30, Driller.	Mica	Two men were drilling a hole in the bottom of a winze, when their drill struck an unexploded charge of gelignite and an explosion occurred. One of the men was fatally injured and the other received minor injuries. Inspection and inquiry made.
152	29th March, 2 P.M.	Kargali mine, Bokaro P. O., Bihar.	State Railways' Coal Department.	Madho Singh, (m.), 45, Labourer.	Coal	Deceased failed to take proper shelter during blasting operations and he was struck and fatally injured by a projected piece of stone. Inspection and inquiry made.
153	10th May, 1-45 P.M.	Borai Buru mine, Bara Janda P. O., Bihar.	Pacific Minerals, Ltd.	Raya Ho, (m.), 28, Shot-firer.	M a n-ganese.	While preparing a charge of gunpowder deceased was seriously burnt by an ignition of 3 lbs. of gunpowder in a powder case. He succumbed to his injuries 16 days after the accident. It is presumed that he attempted to smoke and thus caused the ignition of the gunpowder. Inspection and inquiry made.
154	20th June, 4 P.M.	Moda Harda mine, Sanod P. O., Rajputana.	Kanahiyalal & Company.	Harji Gujar, (m.), 16, Miner.	Mica	A miner was struck and fatally injured by stones projected a distance of 50 feet by blasting operations in an open working. Inspection and inquiry made.
155	26th June, 6-30 A.M.	Banksimula mine, Charanpur P. O., Bengal.	Bengal Coal Co., Ltd.	Hari Muchi, (m.), 35, Line Mistry.	Coal	Three shots, which were fired in a deep gallery, blew through into a rise gallery, and deceased, who had unexpectedly entered the latter gallery, was fatally injured by pieces of coal projected by the shots. Inspection and inquiry made.
156	22nd August, 7-15 A.M.	Jogta mine, Sijua P. O., Bihar.	Agabeg Brothers, Ltd.	Meghoo Chamar, (m.), 43, Coal-cutter.	Coal	A miner took a canister containing 4 lbs. of gunpowder to his quarters and suspended it on a nail in the wall of the verandah. The canister fell to the floor and the gunpowder was ignited by an open fire burning in one corner of the verandah. His father was seriously burned and died five days later. Inspection and inquiry made.

157	22nd September, 2-30 P.M.	Basaria mine, Tisri P. O., Bihar.	Chrestien Mining Co., Ltd.	Turabali Meah, (m.), 25, <i>Driller.</i>	Mica	Deceased and another driller were cleaning out an old prospecting pit when apparently a misfired charge was struck and exploded. Deceased sustained fatal injuries and his companion was seriously injured. Inspection and inquiry made.
158	27th November, 5-30 A.M.	Jamuria mine, Charanpur P. O., Bengal.	Equitable Co., Ltd.	Durga Das Chatteraj, (m.), 34, <i>Shot-firer.</i>	Coal	During blasting operations deceased, who had taken shelter behind the train of tubs, at a point about 70 feet away, was struck on the head by a piece of coal, which was projected by the shot. He sustained injuries to which he succumbed six days later. If a longer shot firing cable had been used, and deceased had taken adequate shelter, the accident would not have occurred. Inspection and inquiry made.
IRRUPTIONS OF WATER—(2 deaths).						
159	6th May, 4 P.M.	Sitanala mine, Bhojudih P. O., Bihar.	Mohatta Brothers	(1) Hapna Majhi, (m.), 38, <i>Coal-cutter.</i> (2) Hingul Muchi, (m.), 24, <i>Trammer.</i>	Coal	A miner passed through a fence and was cutting the side of a main heading when a thin rib of coal between the heading and a water-logged dip gallery collapsed and the gallery was inundated. He and a trammer were carried away by the inrush of water and sustained fatal injuries. Inspection and inquiry made.
HAULAGE—(40 deaths).						
160	3rd February, 10-30 A.M.	Bhagaband mine, Jharia P. O., Bihar.	Borra Coal Co., Ltd.	Jion Roy, (m.), 35, <i>Trammer.</i>	Coal	While deceased was guiding a set of empty tubs at a crossing, one of the tubs became derailed, causing him to slip and fall between the tubs. He sustained serious injuries to which he succumbed three days later. Inspection and inquiry made.
161	7th February, 4-15 P.M.	Isabella mine, Nudkharkee P. O., Bihar.	Kumar Sarat Kumar Roy.	Nehala Gope, (m.), 30, <i>Trammer.</i>	Coal	A loaded tub, which had been left standing on a tram-line dipping at 1 in 70 by placing slack coal in front of the wheels, gravitated and ran wild. A trammer, who was walking on the tram-line was struck and seriously injured by the tub. He succumbed to his injuries 21 days after the accident. If a proper sprag had been inserted in one of the wheels of the tubs the accident could have been avoided. Inspection and inquiry made.
162	12th February, 7 A.M.	Siduli mine, Ukhara P. O., Bengal.	Siduli Colliery Company.	Mithoo Mahato, (m.), 36, <i>Trammer.</i>	Coal	Three trammers were pushing with their heads a loaded tub which collided with another loaded tub gravitating down the tram line in the opposite direction. Deceased sustained internal injuries and died half an hour later. Inspection and inquiry made.

APPENDIX II—contd.

Fatal Accidents during the year 1938—contd.

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
HAULAGE—(40 deaths)—contd.						
163	16th February, 3 P.M.	Barkui mine, Papasia P. O., Central Provinces.	Pench Valley Coal Co., Ltd.	Sheoparsan, (m.), 30, Tramman.	Coal	Two loaded tubs became detached from an endless haulage rope while they were being lowered down a road dipping at 1 in 85. Deceased, who was working on the road, became confused stopped in front of the runaway tubs, was knocked down and dragged a distance of 50 feet. He sustained injuries to which he succumbed 12½ hours later. Inspection and inquiry made.
164	25th February, 4-40 P.M.	Sirka mine, Argada P. O., Bihar.	South Karanpura Coal Co., Ltd.	Sobar Bhuiya, (m.), 35, Coal-walker.	Coal	A loaded side-tipping tub was being hand trammed down a gradient of 1 in 100, when it accidentally derailed and overturned on to deceased who was passing by the side of the tub. He was seriously injured and succumbed to his injuries 33 days after the accident. Inspection and inquiry made.
165	26th February, 9-20 P.M.	Victoria mine, Kulti P. O., Bengal.	New Beerbhoom Coal Co., Ltd.	Rabindra Nath Banerjee, (m.), 38, Pump man.	Coal	A pump attendant was fatally injured when an empty tub ran wild from the top of a drift dipping at 1 in 12. The accident would not have occurred if the attendants at the top of the drift had not lowered the tub below the automatic catch. Inspection and inquiry made.
166	8th March, 8-30 P.M.	Dishergarh West mine, Dishergarh P. O., Bengal.	Equitable Coal Co., Ltd.	Jhari Posman, (m.), 48, Trolley-man.	Coal	Deceased was attempting to re-rail a loaded tub when he slipped, and one of the wheels fell on his right foot. He sustained injuries to which he succumbed three days later. Inspection and inquiry made.
167	25th March, 4-30 A.M.	Barmondia mine, Sitarampur P. O., Bengal.	New Beerbhoom Coal Co., Ltd.	Bhola Nath Boy, (m.), 28, Tramman.	Coal	While a set of six loaded tubs was about to be lowered down a haulage road, dipping at about 1 in 80, the first four tubs, which had not been coupled to the last two, ran amain. After having travelled a distance of about 700 feet, they struck deceased and killed him instantly. Inspection and inquiry made.
168	26th March 10-30 A.M.	Ajita mine, Manoharpur P. O., Bihar.	Bengal Iron Co., Ltd.	Mansuk Munda, (m.), 38, Trolley-man.	Iron ore	Deceased attempted to cross a tram line in front of a loaded tub which was being hand trammed down a gradient of 1 in 70, when his left foot was run over and seriously injured. He died 9 days later. Inspection and inquiry made.

169	8th April, 10-30 P.M.	West Jamuria mine, Charanpur P. O., Bengal.	West Jamuria Coal Co., Ltd.	Hira Singh, (m.), 58, <i>Pump-man.</i>	Coal	A pump attendant was walking up a haulage road with a gradient of 1 in 15 when he was struck and killed instantly by the loaded tubs which had run away from the top of the road. Inspection and inquiry made.
170	9th April, 5-15 P.M.	Ekra mine, Bansjora P. O., Bihar.	Maharaja S. C	Bannu Meah, (m.), 24, <i>Trolleyman.</i>	Coal	While a haulage hand was guiding a rake of four full tubs round a curve at the junction of a level roadway and a haulage road dipping at 1 in 7, three tubs became detached and ran back. He was crushed against the side of the level roadway when the tubs over-turned and was fatally injured. The accident would not have occurred if (a) an efficient drag or back-stay had been used, or (b) if the pin of a drawbar "D" link had been rivetted in position. Inspection and inquiry made.
171	13th April, 10-30 P.M.	Harkui mine, Farasia P. O., Central Provinces.	Pench Valley Coal Co., Ltd.	Jetheo Gond, (m.), 20, <i>Tramman.</i>	Coal	Deceased was struck and fatally injured by a tub which ran wild on an underground haulage plane. A runaway switch was provided but it was closed at time of accident. Inspection and inquiry made.
172	6th May, 8-30 A.M.	Katrae-Choitodih mine, Katraegarh P. O., Bihar.	Barrakar Coal Co., Ltd.	Shyama Rajwar, (m.), 24, <i>Tramman.</i>	Coal	Deceased was attempting to re-rail a loaded tub in a set of four while the set was in motion. The third and fourth tubs overturned, crushing him under the third one. He was killed instantly. Inspection and inquiry made.
172	7th May, 10-3 P.M.	Newton Chickli mine, Farasia P. O., Central Provinces.	Newton Chickli Collieries, Ltd.	Raja Ram Kumbi, (m.), 38, <i>Labourer.</i>	Coal	While a set of loaded tubs was being lowered down a shaft level, deceased walked unobserved on to the level and was crushed between the tubs and the side of a pillar. The injuries proved fatal six days later. If he had used the travelling road provided the accident would not have occurred. Inspection and inquiry made.
174	20th May, 2-30 P.M.	Ballarpur mine, Ballarpur P. O., Central Provinces.	Sir Bisossardas Daga and Sir M. B. Dadabhoy	Sakura Malloe, (m.), 42, <i>Door-attendant.</i>	Coal	Deceased was knocked down and run over by a loaded tub on a main shaft level. He sustained injuries to which he succumbed one hour later. Inspection and inquiry made.
175	21st May, 8 A.M.	Mahakali mine, Chanda P. O., Central Provinces.	Abbobakar Abdul- rehman & Co.	Mallaya Lingaya, (m.), 25, <i>Loader</i>	Coal	While a loader was sleeping on an underground tramline, he was run over and seriously injured by two loaded tubs which were being pushed along the level. He died 2½ months later. Inspection and inquiry made.
176	5th June, 8-30 A.M.	Dishergarh West mine, Dishergarh P. O., Bengal.	Equitable Coal Co., Ltd.	Kain Boy, (m.), 38, <i>Trolleyman.</i>	Coal	After giving the signal to haul in—by a train of 12 empty tubs from a shaft level a trolleyman stepped to one side of the road. The rear tub of the train became derailed and struck him inflicting internal injuries to which he succumbed a few hours later. Inspection and inquiry made.

APPENDIX II—contd.

Fatal Accidents during the year 1938—contd.

Serial number	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
HAULAGE—(40 deaths)—contd.						
177	10th June, 5 A.M.	Methani mine, Sitarampur P. O., Bengal.	Aldih Coal Co., Ltd.	Sadhram Keot, (m.), 29, Tramway strider.	Coal	Deceased and his mate were attempting to re-rail three loaded tubs, when the second tub turned over and fell on deceased. He sustained injuries to which he succumbed five days later. Inspection and inquiry made.
178	11th June, 12 NOON.	Damus mine, Bamhanwara P. O., Central Provinces.	Kanhan Valley Coal Co., Ltd.	Bhao Singh, (m.), 23, Tramway.	Coal	An empty tub ran away on a haulage incline, dipping at 1 in 3, and struck deceased, causing injuries to which he succumbed eleven hours later. If the stop-block, which was provided at the top of the incline, had been closed, the accident would have been avoided. Inspection and inquiry made.
179	16th June, 6 P.M.	Datia mine, Junnordeo P. O., Central Provinces.	Amalgamated Coal- fields, Ltd.	Mukandi, (m.), 26, Tramway.	Coal	Deceased was illegally riding on a train of tubs which was being drawn up a haulage slope, when he fell and was fatally injured. Inspection and inquiry made.
180	16th June, 1-30 A.M.	Ekra Khas mine, Bansjora P. O., Bihar.	Maharaja S. C. Nandy.	Logan Majhi, (m.), 35, Loader.	Coal	While a rake of 9 empty tubs was being lowered round a curve off a haulage road into a tramming level four tubs became derailed. A loader who was waiting for an empty tub was pinned between one of the derailed tubs and the side of the roadway and was fatally injured. He had been warned not to approach the curve. Inspection and inquiry made.
181	21st June, 2-15 A.M.	Sodepur (Nos. 9 & 10 Pits) mine, Sunderchak P. O., Bengal.	Bengal Coal Co., Ltd.	Sankar Bauri, (m.), 30, Set-rider.	Coal	Deceased was riding on a train of tubs which was being drawn up an underground haulage road, when he fell off and was run over. He was killed instantly. Inspection and inquiry made.
182	2nd July, 5 P.M.	Ashakuty mine, Katragarh P. O., Bihar.	Chandanmull Indra- kumar.	Imaman Meah, (m.), 30, Tramway.	Coal	While a set of 4 full tubs was being hauled up a gradient of 1 in 4, the haulage rope broke and the set ran again for a distance of about 40 feet before overturning. A trammer was struck and fatally injured by the runaway tubs. The breakage of the rope was due to wear and corrosion fatigue. Inspection and inquiry made.

183	15th July, 2-10 P.M.	Amlabad mine, Jeaigora P. O., Bihar.	Eastern Coal Co., Ltd.	Rohan Kumar, (m.), 32, <i>Trammer.</i>	Coal	While a set of six loaded tubs was being drawn up a haulage road rising at 1 in 6, the rope broke and the tubs ran amain, at a distance of about 700 feet down the road and struck deceased. He sustained serious injuries to which he succumbed shortly afterwards. Inspection and inquiry made.
184	23rd July, 7 A.M.	Sodepur (9 & 10 Pits) mine, Sunderchak P. O., Bengal.	Bengal Coal Co., Ltd.	Langi Mahato, (m.), 36, <i>Trammer.</i>	Coal	While a trammer was removing the haulage clip from a set of loaded tubs near a shaft bottom, the first tub struck him on the head, causing injuries to which he succumbed shortly afterwards. Inspection and inquiry made.
185	16th August, 4 P.M.	Burradhemo mine, Sitarampur P. O., Bengal.	Burradhemo Coal Co., Ltd.	Dadhilal Singh, (m.), 28, <i>Trammer.</i>	Coal	A set of tubs ran down a slope of 1 in 14 on to a self-acting incline brow, colliding with the haulage rope which dislodged a prop. Deceased was struck by the prop and sustained fatal injuries. Inspection and inquiry made.
186	26th August, 7 A.M.	Sodepur (9 & 10 Pits) mine, Sunderchak P. O., Bengal.	Bengal Coal Co., Ltd.	Babidutt Misair, (m.), 53, <i>Sirdar.</i>	Coal	Deceased was riding on an empty set of tubs which was being raised up an incline, when the set ran into a ventilation door. He sustained fatal injuries. Inspection and inquiry made.
187	5th September, 11-30 P.M.	Baragolai mine, Margherita P. O., Assam.	Assam Railways and Trading Co., Ltd.	Ashbahadur Rai, (m.), 35, <i>Contractor's Sirdar.</i>	Coal	A tub, which was being trammed, suddenly forced open a door which struck deceased. He sustained serious injuries and died from shock 5 hours later. Inspection and inquiry made.
188	8th September, 11 A.M.	Perbelia mine, Neturia P. O., Bihar.	Bengal Coal Co., Ltd.	Dil Mohammad, (m.), 44, <i>Mechanical fitter.</i>	Coal	While deceased was watching the re-railing of a mine truck carrying a part of a machine trolley on a haulage road the haulage engine was suddenly started. He was struck by the machine trolley and fatally injured. Inspection and inquiry made.
189	9th September, 8 A.M.	Sripur mine, Kalipahari P. O., Bengal.	Lodna Colliery Co., (1920), Ltd.	Madan Gararia, <i>alias</i> Sukdeo Gararia, (m.), 52, <i>Coal-cutter.</i>	Coal	Deceased was travelling on an endless haulage road when he was knocked down and run over by a set of loaded tubs. He sustained serious injuries to which he succumbed 35 hours later. Inspection and inquiry made.
190	10th September, 5 P.M.	Jeaigora-Govindpur mine, Katrasgarh P. O., Bihar.	Jeaigora-Govindpur Colliery Co.	Sardar Koiri, (m.), 25, <i>Shot-firer.</i>	Coal	While a tub was being lowered down a haulage road, dipping at 1 in 10, deceased, whose light had been extinguished, became confused and attempted to cross the line. He was knocked down by the moving tub and fatally injured. Inspection and inquiry made.
191	21st September, 5-40 P.M.	Footkee mine, Kusunda P. O., Bihar.	Eastern Coal Co., Ltd.	Ali Hossain Miah, (m.), 37, <i>Trammer's sirdar.</i>	Coal	While two empty tubs were being hauled up a drift rising at 1 in 2, deceased attempted from a mid point in the drift to get on the front tub with the intention of riding up the drift. As the roadway was only 5 feet high his head struck the roof and he was killed instantly. He was not authorised to ride. Inspection and inquiry made.

APPENDIX II—*contd.*

Fatal Accidents during the year 1938—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
HAULAGE—(40 deaths)—<i>concl'd.</i>						
192	27th September, 6 P.M.	Murhidih mine, Aohuda P. O., Bihar.	Bengal Coal Co., Ltd.	Basu Mahali, (m.), 32, Coal-cutter.	Coal	While three full tubs were being lowered by hand along a tram line dipping at 1 in 30 a miner crossed the line in front of the tubs. He was knocked down and fatally injured by the tubs. Inspection and inquiry made.
193	22nd October, 4.0 A.M.	Digwardih mine, Jesigora P. O., Bihar.	Tata Iron & Steel Co., Ltd.	Nathu Rajwar, (m.), 35, Trolleyman.	Coal	While a full tub was being re-railed on a haulage road it overturned and fell on to a trolleyman who sustained fatal injuries. Inspection and inquiry made.
194	1st November, 9-30 A.M.	Banksimula mine, Craranpur P. O., Bengal.	Bengal Coal Co., Ltd.	Sukra Baniya, (m.), 46, Tramman.	Coal	While a set of twelve loaded tubs was being lowered to a shaft level, the leading tub got derailed and ran into a set of empty tubs which were being coupled by deceased on the empty line. He was caught between two empty tubs and fatally injured. Inspection and inquiry made.
195	12th November, 10 A.M.	Bejdih mine, Sunderchak P. O., Bengal.	Equitable Coal Co., Ltd.	Adhar Mondal, (m.), 28, Coal-cutter.	Coal	Owing to the breaking of a coupling three loaded tubs ran amain down a haulage road dipping at 1 in 5, and became derailed at a crossing 30 feet below. A miner who was crossing the haulage road was struck and fatally injured. Inspection and inquiry made.
196	16th December, 6 P.M.	Chandametta mine, Parasia P. O., Central Provinces.	Pench Valley Coal Co., Ltd.	Gorelal, (m.), 30, Loader.	Coal	Deceased was sitting near a tram line while four loaded tubs were being pushed by tramman. The first tub derailed and overturned on to deceased, fatally injuring him.
197	20th December, 2-45 P.M.	Chasnalla mine, Pathardihi P. O., Bihar.	Indian Iron & Steel Co., Ltd.	Debu Rajwar, (m.), 32, Labourer.	Coal	The three front tubs of a set of ten empty tubs were not properly coupled to the remainder and when the set was started over the brow of a haulage incline, dipping at 1 in 3, the three tubs ran amain. The bankman became confused and closed the runaway switch and the tubs struck a haulage line attendant some 300 feet lower down the incline, causing fatal injuries. If an intercoupled stop block and runaway switch had been in use the accident would have been avoided. Inspection and inquiry made.

118	21st December, 4 A.M.	Banksimula mine, Charanpur P. O., Bengal	Bengal Coal Co., Ltd.	Achyndananda Banerjee, (m.), 27, <i>Pumpman.</i>	Coal	It is presumed that while deceased was attending to a pump, situated near to a haulage road, he fell asleep and his right foot was run over by a set of loaded tubs. Tetanus supervened and he died 18 days later. Inspection and inquiry made.
199	28th December.	Dhemo Main mine, Sitarampur P. O., Bengal.	Dhemo Main Coal Co., Ltd.	Sonaw Bilaspuri, (m.), 29, <i>Coal-cutter.</i>	Coal	While a train of seven loaded tubs was being hauled up a haulage road, a coupling broke, allowing six tubs to run back and be overturned by the drag. Three miners, who were walking on the road, were seriously injured by coal thrown off the tubs and one of them died seven hours later. Inspection and inquiry made.

BY UNDERGROUND MACHINERY—(2 deaths).

200	6th February, 2 A.M.	Toposi mine, Toposi P. O., Bengal.	Bansra Coal Co., Ltd.	Sirdar Meah, (m.), 32, <i>Labourer.</i>	Coal	Deceased was moving the "anchor post" of a coal cutting machine, when his foot slipped beneath the chain which was in motion. He sustained serious injuries to which he succumbed almost immediately. Inspection and inquiry made.
201	8th September, 4 P.M.	Bankola mine, Ukhra P. O., Bengal.	Burrakur Coal Co., Ltd.	Radhu Bauri, (m.), 36, <i>Machineman.</i>	Coal	While a coal cutting machine was being moved in to a gallery, the gib jammed on the floor, and as deceased was trying to lever the jib up, the chain guide was thrown round and struck him causing serious injuries. He died four and half months later, gangrene having supervened. Inspection and inquiry made.

SUNDRIES UNDERGROUND—(24 deaths).

202	7th January, 9-45 A.M.	South Bulliari mine, Kusunda P. O., Bihar.	East Indian Coal Co., Ltd.	Manu Majhi, (m.), 45, <i>Sirdar.</i>	Coal	While withdrawing props from a depillaring area of a seam 21 feet thick, a prop struck deceased on his head and killed him instantly. Inspection and inquiry made.
203	13th January, 5-30 P.M.	Ghorawari mine, Ghorawari P. O., Central Provinces.	Hirdagarh Collieries, Ltd.	Bhadoli, (f.), 48, <i>Surface loader.</i>	Coal	While deceased was cutting earth in a quarry, close to the exposed walling of an old shaft, a portion of the walling collapsed, and struck her on her right leg. She sustained injuries which caused her death 2½ months later. Inspection and inquiry made.
204	25th January, 7 A.M.	Kargali mine, Bokaro P. O., Bihar.	State Railways' Coal Department.	Pardeshi, (m.), 38, <i>Coal-cutter.</i>	Coal	While removing coal from a bench 23 feet wide in a quarry deceased went too close to the edge of the bench and fell a distance of 34 feet. He sustained injuries which proved fatal shortly afterwards. Inspection and inquiry made.
205	3rd February, 2 P.M.	Devada mine, Chipurupalle P. O., Madras.	Visianagram Mining Co., Ltd.	Nadipena Soorayah, (m.), 20, <i>Labourer.</i>	Manganese.	While carrying a basket of earth up a pathway sloping at 1 in 10 in a quarry, deceased lost his balance and fell a distance of 10 feet. He sustained internal injuries which proved fatal 14 hours later. Inspection and inquiry made.

APPENDIX II—*contd.*

Fatal Accidents during the year 1938—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
SUNDRIES UNDERGROUND—(24 deaths)—<i>contd.</i>						
206	9th February, 6 A.M.	Ekra Khas mine, Bansjora P. O., Bihar.	Maharaja S. C. Nundy.	Rushtom Chamar, (m.), 55, <i>Coal-cutter.</i>	Coal	After blasting in a depillaring area three miners began to load coal before the place was examined by a competent person when a prop became dislodged and knocked another prop out in falling. One of the miners was struck by the latter prop and killed instantly. Inspection and inquiry made.
207	1st March, 3 P.M.	Jogta mine, Sijua P. O., Bihar.	Agabeg Brothers, Ltd.	Budhu Rewani, (m.), 37, <i>Shot-firer.</i>	Coal	While dressing down overburden in a quarry deceased fell from a ladder from a height of about 20 feet and sustained injuries which proved fatal one day later. Inspection and inquiry made.
208	4th March, 8 A.M.	MacLellan mine, Manoharpur P. O., Bihar.	Bengal Iron Co., Ltd.	Sona Ho, (m.), 34, <i>Miner.</i>	Iron ore.	While levering down a big boulder from a bench of an open working, deceased lost his balance and fell a distance of 20 feet. He sustained serious injuries to which he succumbed a few hours later. Inspection and inquiry made.
209	25th March, 6 A.M.	Bhalgora mine, Jharis P. O., Bihar.	Bhalgora Coal Co., Ltd.	Dhanna Dasod, (m.), 25, <i>Loader.</i>	Coal	While a loader was hurriedly leaving a depillaring area in which the roof was 'weighting', he ran into a tub standing on a tram line and sustained injuries to which he succumbed 5½ hours later. Inspection and inquiry made.
210	6th April, 2-30 A.M.	Bhulanbararee mine, Pathardih P. O., Bihar.	Bhulanbararee Coal Co., Ltd.	(1) Akloo Singh, (m.), 30; (2) Iswar Gorai, (m.), 32; <i>Stone-cutters.</i>	Coal	While water was being used to transport coal down a narrow gallery dipping at 1 in 1¼ two miners went into the gallery to release a stoppage. They were washed down the gallery at a distance of 70 feet and buried in the coal. They died from suffocation before they could be released. Inspection and inquiry made.
211	23rd April, 5-30 P.M.	Banksimula mine, Charanpur P. O., Bengal.	Bengal Coal Co., Ltd.	Baku Meah, (m.), 35, <i>Labourer.</i>	Coal	While a coal-cutting machine was being fitted on a trolley, along a roadway dipping at 1 in 8, it got out of control, and after running a distance of 75 feet the machine fell off the trolley on to deceased, killing him instantly. Inspection and inquiry made.

212	16th May, 11-30 A. M.	Jharia Khas mine, Sijua P. O., Bihar.	Trigunait Brothers (Receiver—Mr. S. C. Mazumdar).	Ramuli Bhuiya, (w.), 35, <i>Loader.</i>	Coal	While a loader was filling a basket with coal in a depillaring area in a seam, 30 feet thick, a large piece of stone fell in the adjoining goaf and dislodged a prop. The loader was struck by the top end of the prop and fatally injured. Inspection and inquiry made.
213	1st July, 10-45 P. M.	Satpukuria mine, Asansol P. O., Bengal.	Satpukuria and Asansol Collieries, Ltd.	Saukar Bauri, (w.), 30, <i>Onsetter.</i>	Coal	Deceased, while at work near a shaft bottom, presumably fainted and struck his head on a rail, receiving fatal injuries. Inspection and inquiry made.
214	8th July, 9-15 A. M.	North Tirodi mine, Tirodi P. O., Central Provinces.	Central Provinces Manganese Ore Co., Ltd.	Manbhothi, (f.), 32, <i>Labourer.</i>	Manganese	Deceased was working in an open excavation when a tree, which was being cut down, fell on her inflicting fatal injuries. Inspection and inquiry made.
215	8th July, 12 noon.	Jharia Khas (Angar- pathra) mine, Sijua P. O., Bihar.	Trigunait Brothers, Sirish Chandra Mazumdar (Receiver).	Narsain Beldar, (w.), 25, <i>Quarryman.</i>	Coal	Pillars of coal at the outcrop of a seam, 24 feet thick, which had been formed by underground mining, were being extracted by quarrying. While a quarryman was removing overburden the roof of a gallery collapsed and he fell with the stone—4 feet in thickness, into the gallery and was killed instantly. Inspection and inquiry made.
216	23rd July, 1-45 P. M.	Banksimula mine, Charanpur P. O., Bengal.	Bengal Coal Co., Ltd.	Sahadeb Singh, (w.), 34, <i>Timberman.</i>	Coal	Deceased was walking along a gallery to dress down some unsound roof coal. When he reached the place a mass of coal, weighing about 1 cwt., fell in front of him from a height of 13 feet. In avoiding the falling coal he tripped and struck his head against a rail, sustaining fatal injuries. Inspection and inquiry made.
217	2nd August, 8 P. M.	Guzdar Kajora mine, Kajoragram P. O., Bengal.	Amritlal Ojha & Co., Ltd.	Bansi Sonar, (w.), 25, <i>Coal-cutter.</i>	Coal	While levering down loose coal with a crowbar after blasting, a piece of coal fell on the crowbar which struck deceased, inflicting serious injuries to which he succumbed 3½ days later. Inspection and inquiry made.
218	10th August, 1 A. M.	Kurhurbaree mine, Giridih P. O., Bihar.	State Railways' Coal Department.	Balo Chamar, (w.), 38, <i>Coal-cutter.</i>	Coal	While some stone was being thrown into a goaf a piece of stone struck a prop 18 feet long and displaced it. The prop fell on deceased, killing him instantly. Inspection and inquiry made.
219	15th August, 5 P. M.	Domarkhar mine, Darigaon P. O., Bihar.	Stone Suppliers, Ltd.	Kaila Bax, (w.), 25, <i>Miner.</i>	Lime- stone	While removing overburden on the edge of a quarry 25 feet deep, deceased slipped and fell into the quarry, and was killed instantly. Inspection and inquiry made.
220	15th September, 1 A. M.	Angarpathra mine, Katraagarh P. O., Bihar.	National Coal Co., Ltd.	Ram Sarup Keet, (w.), 45, <i>Coal-cutter.</i>	Coal	While working in a depillaring area deceased was struck by a dislodged prop, 26 feet in length. He sustained serious injuries and died 42 hours later. Inspection and inquiry made.

APPENDIX II—contd.

Fatal Accidents during the year 1938—contd.

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
SUNDRIES UNDERGROUND—(24 deaths)—concl'd.						
221	27th October, 11 P.M.	Bhowra mine, Jealgora P. O., Bihar.	Eastern Coal Co., Ltd.	Gobinda Bauri, (m.), 30, Coal-cutter.	Coal	A connection between a gallery dipping at 1 in 2 and a level gallery had been effected by a hole 3 ft. high and 1'-8" wide near the roof of the level gallery. While a miner was at work in the dip gallery he slipped through and fell 3 ft. to the floor of the level gallery. He sustained injuries to which he succumbed 7 days later. Inspection and inquiry made.
222	2nd November, 2 P.M.	Bararee mine, Jealgora P. O., Bihar.	East Indian Coal Co., Ltd.	Ram Balak Mnohi, (m.), 50, Trammer.	Coal	While a trammer was removing a sprag from the wheels of a stationary full tub, a second full tub bumped into it. He overbalanced and fell on a lump of coal lying at the side of the line and sustained internal injuries which proved fatal a few hours later. Inspection and inquiry made.
223	10th November, 2-30 P.M.	Badjua mine, Nirshachati P. O., Bihar.	Oriental Coal Co., Ltd.	Bhogsing Rajwar, (m.), 30, Leader	Coal	Deceased was filling his basket with coal in a gallery 16 feet high, when a ladder which was standing against the side, suddenly fell on him. He sustained injuries which proved fatal one month later. Inspection and inquiry made.
224	10th November, 10-30 P.M.	Lodna (Nos. 4 & 5 Pits) mine, Jharis P. O., Bihar.	Lodna Colliery Co., (1920), Ltd.	Birju Ruhidas, (m.), 35, Coal-carrier.	Coal	As a result of movement in a neighbouring goaf, a mass of overhanging coal, 3' x 2'-6" x 1', fell from the corner of a pillar 24 ft. high. The falling coal dislodged a prop which struck deceased, inflicting injuries to which he succumbed 37 days later. Inspection and inquiry made.
BY SURFACE MACHINERY—(1 death).						
225	3rd May, 4-50 P.M.	Barmondia mine, Sitarampur P. O., Bengal.	New Beerbhoom Coal Co., Ltd.	Gubiram Mondal, (m.), 25, Labourer.	Coal	Deceased was assisting a ball mill attendant to put the belt on the fly-wheel, when the fly-wheel reversed. He was caught, dragged under the fly-wheel, and was fatally injured. Inspection and inquiry made.
ON SURFACE RAILWAYS AND TRAMWAYS BELONGING TO THE MINE—(17 deaths).						
226	1st January, 6-15 P.M.	Newton Chickli mine, Parasia P. O., Central Provinces.	Newton Chickli Collieries, Ltd.	Zadoo Mehra, (m.), 16, Wagon-loader.	Coal	While attempting to cross the railway line between two wagons at the colliery siding, deceased was crushed between the buffers as one of the wagons suddenly moved forward. He was killed instantly. Inspection and inquiry made.

227	6th February, 11 A.M.	Tawa Valley mine, Ghoradongri P. O., Central Provinces.	Walji Bhimji & Sons.	Andrew Abraham, (m.), 57, <i>Locomotive-driver.</i>	Coal	While a locomotive was hauling a train of empty tubs on a surface railway, it accidentally became derailed and fell into a cutting 9 feet deep. Deceased was killed instantly. Inspection and inquiry made.
228	24th March, 5-30 P.M.	Pansira mine, Manoharpur P. O., Bihar.	Bengal Iron Co., Ltd.	Fadung Ho, (m.), 28, <i>Trammer.</i>	Iron ore	While a set of three loaded tubs was being lowered on a self-acting incline dipping 1 in 2, the last tub became uncoupled and ran wild. A trammer who was working at the bottom of the incline was struck by the tub and killed instantly. Inspection and inquiry made.
229	31st March, 7 A.M.	Sripur mine, Kalipahari P. O., Bengal.	Lodna Colliery Co. (1920), Ltd.	Jhuraj Ahir, (m.), 30, <i>Coal-cutter.</i>	Coal	While wagons were being hand-shunted on a colliery siding, deceased attempted to cross the line between two of the wagons. He was crushed between the buffers and succumbed to his injuries an hour later. Inspection and inquiry made.
230	4th May, 11-30 A.M.	Kargali mine, Bokaro P. O., Bihar.	State Railways' Coal Department.	Niamat, (m.), 30, <i>Trolleyman.</i>	Coal	While a set of four loaded tubs was being lowered by hand on a tramline dipping at about 1 in 50, deceased tried to brake the second tub from the rear. He slipped and the rear tub ran over his leg inflicting injuries to which he succumbed a few hours later. Inspection and inquiry made.
231	7th June, 7-30 A.M.	Ghorawari mine, Ghorawari P. O., Central Provinces.	Hirdagarh Collieries, Ltd.	Shekh Kaloo, (m.), 50, <i>Locomotive-driver.</i>	Coal	On a surface tramline two locomotives collided in a cutting when one of them was derailed. The driver of this locomotive sustained injuries which proved fatal five hours later. Inspection and inquiry made.
232	8th June, 9-30 P.M.	Jamadoba mine, Jalgora P. O., Bihar.	Tata Iron & Steel Co., Ltd.	Jagadish Bouth, (m.), 22, <i>Shale-plater.</i>	Coal	While two railway wagons were being moved by hand in colliery siding deceased was crushed between the buffers of the wagons and was killed instantly. Inspection and inquiry made.
233	18th June, 11-30 A.M.	Central Salanpur mine, Katragarh P. O., Bihar.	Central Salanpur Coal Concern.	Phulmoni Bauria, (f.), 22, <i>Labourer.</i>	Coal	While a female surface worker was helping to push an empty wagon along a level siding she slipped and her right leg was cut by the rear wheel of the wagon. She died from septicemia five weeks afterwards. Inspection and inquiry made.
234	20th June, 4-30 P.M.	Kajora mine, Kajoram P. O., Bengal.	K. C. Pal Chow- dhury.	Kubja Bauria, (f.), 16, <i>Labourer.</i>	Coal	While crossing a colliery siding deceased was crushed between the buffers of two loaded wagons and killed instantly. Inspection and inquiry made.
235	8th July, 11-45 A.M.	Munsar mine, Kandri P. O., Central Provinces.	Central Provinces Manganese Ore Co., Ltd.	Mahadev Mahar, (m.), 25, <i>Trammer.</i>	Manga- nese.	Deceased and his companion were riding on a loaded tub which was gravitating along a tramline with a gradient of 1 in 75. On attempting to brake the tub due to some obstruction on the line, the tub derailed and turned over. Deceased sustained injuries which proved fatal shortly afterwards. Inspection and inquiry made.

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APPENDIX II—contd.

Fatal Accidents during the year 1938—contd.

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
ON SURFACE RAILWAYS AND TRAMWAYS BELONGING TO THE MINE—(17 deaths)—contd.						
236	31st July, 10-15 P.M.	Domarkhar mine, Darigaon P. O., Bihar.	Stone Suppliers, Ltd.	Ganesh, (m.), 20, <i>Shunting porter.</i>	Lime- stone.	Eight loaded trucks of limestone were shunted off a main line into a siding which dipped towards the main line at 1 in 100. After the locomotive had been detached from the trucks and was returning on the main line, the loaded trucks ran back and struck the locomotive. Deceased, who was riding on the step board of the locomotive, was fatally injured. Inspection and inquiry made.
237	23rd August, 10-30 A.M.	Bhulanbararee mine, Pathardih P. O., Bihar.	Bhulanbararee Coal Co., Ltd.	Anath Bandhu Bhawas, (m.), 42, <i>Loading Super- visor.</i>	Coal	While attempting to lift in position the door of a wagon which was in motion, deceased was crushed between the moving wagon and a wharf wall. He died an hour later as the result of his injuries. Inspection and inquiry made.
238	26th September, 11 A.M.	Khas Joyramdih mine, Nawagarh P. O., Bihar.	Khas Joyramdih Coal Company.	Andhi Bhuiya, (m.), 46, <i>Trammer.</i>	Coal	Two full tubs about 4 feet apart were each being pushed by three trammers along a surface tramline rising at about 1 in 50. The front tub was arrested by a piece of stone on the line and the second tub overtook the first. One of the trammers who was pushing the front tub was crushed between the tubs and fatally injured. Inspection and inquiry made.
239	22nd November, 5-30 A.M.	Ganeshpur mine, Nawagarh P. O., Bihar.	H. M. Jaini & Sons	Panchu Mahato, (m.), 30, <i>Bankman.</i>	Coal	In the absence of the authorised engine-driver an attendance clerk attempted to operate a haulage engine at the top of an incline the rope of which was attached to a tub. When the engine was suddenly started the bankman at the top of the incline was knocked down by the tub and sustained fatal injuries. Inspection and inquiry made.
240	23rd November, 4-35 P.M.	Gua mine, Gua P. O., Bihar.	Indian Iron and Steel Co., Ltd.	Ramo Tatin, (f.), 23, <i>Labourer.</i>	Iron Ore	While walking on a gravity haulage incline deceased was run over by a loaded skip. She sustained injuries which proved fatal a few hours later. Inspection and inquiry made.

241	25th November, 6-45 P.M.	Chandametta mine, Parasia P. O., Central Provinces.	Penoh Valley Coal Co., Ltd.	Vidushi, (m.), 35, Trammer.	Coal	While assisting to push a wagon on a railway siding deceased collapsed and expired within a few minutes.
242	2nd December, 5-30 A.M.	Victoria West mine, Barakar P. O., Bengal.	New Beerboom Coal Co., Ltd.	Babu Lal Roy, (m.), 45, Trammer.	Coal	While pulling a tub off a cage, deceased slipped, and his toe was injured by a wheel of the tub. He received medical attention but died as a result of tetanus eleven days later. Inspection and inquiry made.

MISCELLANEOUS ON SURFACE—(6 deaths.)

243	27th February, 9-30 A.M.	Tellabodu mine, Sydapuram P. O., Madras.	Tellabodu Co., Ltd.	Potturi China Naraini Gadu, (m.), 26, Labourer.	Mica	Deceased with four others was carrying a long wooden beam on his shoulder. While attempting to place the beam on the ground he was knocked down and struck by it. He sustained serious injuries to which he succumbed about a month later. Inspection and inquiry made.
244	12th October, 8-45 A.M.	Makerwal mine, Tras P. O., Punjab.	R. S. Lala Ishar Das Kapur and Mr. C. Bevan- Patman.	Sakhar Khan, (m.), 33, Labourer.	Coal	Deceased along with several other work-people was engaged in moving a heavy pulley, 6 feet in diameter, when the pulley fell to one side and fractured his right leg. He developed pneumonia and died 9 days after the accident. Inspection and inquiry made.
245	10th November, 8 A.M.	East Bhuggutdih mine, Jharia P. O., Bihar.	East Bhuggutdih Colliery Co., Ltd.	Ram Deo Bhuiya, (m.), 23, Trammer.	Coal	A full tub was overturned by three trammers at the top of a slope 18 feet high at a loading depot. The tub slipped 4 feet down the slope and a trammer attempted to push it to the bottom. When the tub started to move the loose coal on the slope slipped and the trammer rolled to the bottom of the slope where the tub fell on him. He was fatally injured. Inspection and inquiry made.
246	23rd November, 10-30 A.M.	Parbelia mine, Neturia P. O., Bihar.	Bengal Coal Co., Ltd.	Marwari Dome, (m.), 33, Labourer.	Coal	While grease was being heated in a drum it accidentally took fire. Deceased threw a bucket of water on the burning grease to extinguish it, when it splashed on him. He received severe burns from which he died four days later. Inspection and inquiry made.
247	27th November, 4 A.M.	Angarpathra mine, Katrasgarh P. O., Bihar.	National Coal Co., Ltd.	Bhagis Bhuiyas, (f.), 52, Trammer.	Coal	A haulage engine was placed at right angles to the centre line of an inclined haulage road on the surface and the rope passed round two pulleys. While a rake of 10 full tubs was being hauled up the incline one pulley was dislodged and the flying rope struck two female trammers killing one instantly and seriously injuring the other. If a suitable pulley had been used and it had been properly installed the accident would not have occurred. Inspection and inquiry made.
248	27th November, 10-30 A.M.	Chunhatta mine, Japla P. O., Bihar.	Sone Valley Port- land Cement Co., Ltd.	Bhulen Kamdu, (m.), 30, Labourer.	Limestone	Deceased was breaking stone, when a piece struck his leg. He died from septicemia three weeks later. Inspection and inquiry made.

APPENDIX II—contd.

Fatal Accidents during the year 1938—contd.

Serial Number	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Reason for exclusion.	Cause of accident and remarks.
FATAL ACCIDENTS NOT INCLUDED IN THE STATISTICS—(26 deaths).							
1	20th January, 11 A.M.	Datla Mine, Junardeo P. O., Central Pro- vinces.	Amalgamated Coal- fields, Ltd.	Nabli Lohari, (f.), 50, <i>Not employed.</i>	Coal	Not em- ployed.	While deceased was crossing a surface endless haulage she fell over the rope and was struck on her right leg by a slowly moving tub. She sustained injuries to which she succumbed nine days later. Inspection and inquiry made.
2	7th March, 9-30 A.M.	Jamuria Mine, Charanpur P. O., Bengal.	Equitable Coal Co., Ltd.	Alladatta. (m.), 38, <i>Driller.</i>	Coal	Not a mining acci- dent.	A driller accidentally fell from a loading wharf on to a siding 3' 9" below and sustained internal injuries to which he succumbed 3 hours later. Inspection and inquiry made.
3	13th March, 7 A.M.	Lodna Mine, Jharia P. O., Bihar.	North Burrakur Coal Co., Ltd.	Bhiku Mahato, (m.), 50, <i>Labourer.</i>	Coal	Not a mining accident.	Deceased was cutting earth from an embankment for brick making when a mass of earth, measuring 6' x 4' x 9' thick, fell on him from a height of 8 feet. He was killed instantly. Inspection and inquiry made.
4	17th March, 11-30 A.M.	Pure Bhuggatdih Mine, Jharia P. O., Bihar.	Pure Bhuggatdih Colliery Company.	Firtu Raj- waria. (f.), 25, <i>Not em- ployed.</i>	Coal	Not em- ployed.	Deceased was drowned in an abandoned water-logged quarry which was adequately fenced. Inspection and inquiry made.
5	20th March, 6-36 P.M.	Methani Mine, Sitarampur P. O., Bengal.	Aldih Coal Co., Ltd.	Juban Majhi, (m.), 50, <i>Miners' Str- der.</i>	Coal	Not a mining acci- dent.	Deceased was run over and fatally injured by a train of loaded wagons on a railway siding. Inspection and inquiry made.
6	1st April, 11 A.M.	Alkusa-Nyadee Mine, Kusunda P. O., Bihar.	Alkusa-Nyadee Collieries Com- pany.	Lajjit Bhakta, (m.), 47, <i>Trolleyman.</i>	Coal	Not a mining acci- dent.	Deceased was found drowned in a boiler feed tank which was adequately fenced. Inspection and inquiry made.
7	2nd April, 12 noon.	Dandot Mine, Dandot P. O., Punjab.	Executors of the Estate of late Lala Shankar Dass.	Not known, (m.), 40, <i>Not employed.</i>	Coal	Not em- ployed.	While walking along a surface tramline, deceased was over- taken and run over by a train of loaded tubs. Inspection and inquiry made.

8	5th April, 10 A.M.	Dohari Mine, Jharia P. O., Bihar.	S. B. Banerjee	Nanki Beldarin, (f.), 30, <i>Not employed.</i>	Coal	Not employed.	Deceased was found drowned in an abandoned water logged quarry. Inspection and inquiry made.
9	29th April, 9 A.M.	Ghorawari Mine, Gorawari P. O., Central Provinces.	Hirdagarh Collieries, Ltd.	Gariba, (m.), 30, <i>Carter.</i>	Coal	Not a mining accident.	A cart filled with coal was being drawn up a hill by two bullocks when they took fright. The cart became detached and ran down the hill into an old subsidence. Deceased hung on to the cart and was fatally injured. Inspection and inquiry made.
10	4th May, 8 P.M.	Bejdih Mine, Sundarchak P. O., Bengal.	Equitable Coal Co., Ltd.	Nuni Mejhian, (f.), 20, <i>Not employed.</i>	Coal	Not a mining accident.	While a woman was walking along a colliery siding, she fell and struck her face on the rail, and sustained injuries to which she succumbed almost immediately. Inspection and inquiry made.
11	11th May, 6 A.M.	Eklehra Mine, Parasia P. O., Central Provinces.	Amalgamated Coal-fields, Ltd.	Sarbadi Nandani, (f.), 30, <i>Not employed.</i>	Coal	Not a mining accident.	Deceased was collecting coal for her own use from the colliery siding when the loading wharf collapsed, injuring her fatally. Inspection and inquiry made.
12	7th June, 11 A.M.	Godhar Mine, Kuennda P. O., Bihar.	B. K. Roy	Chedu Mahato, (m.), 33, <i>Not employed.</i>	Coal	Not a mining accident.	While taking a bath, deceased was drowned in a tank regularly used for bathing purposes. Inspection and inquiry made.
13	27th June, 9-30 A.M.	Banksimula Mine, Charanpur P. O., Bengal.	The Bengal Coal Co., Ltd.	Chandi Charan Banerjee, (m.), 53, <i>Colliery Doctor.</i>	Coal	Not a mining accident.	Deceased was knocked down by a motor car and sustained fatal injuries.
14	14th July, 11 A.M.	Khas Govindpur Mine, Katraagarh P. O., Bihar.	Khas Govindpur Coal Co.	Chaman Bhuiya, (m.), 45, <i>Coal-cutter.</i>	Coal	Not a mining accident.	Deceased died in the mine as the result of heart failure. Inspection and inquiry made.
15	14th July, 6-35 A.M.	Bokaro Mine, Bokaro P. O., Bihar.	East Indian Railway and Bengal Nagpur Railway.	Jethoo Gorb, (m.), 37, <i>Coal-cutter.</i>	Coal	Not a mining accident.	Deceased feeling ill was walking from his working place in a quarry when he collapsed and died. Inspection and inquiry made.
16	25th July, about 4 P.M.	Mudidih (Teetulmuri), Sijua P. O., Bihar.	Burrakur Coal Co., Ltd., [Owner of H. T. Transmission line—Sijua (Jherriah) Electric Supply Co., Ltd.].	Name not known, (m.), about 35, <i>Not employed.</i>	Coal	Not a mining accident.	Deceased climbed a tower, presumably to remove young birds from a nest at the top of the tower. He came into contact with a living conductor, received a severe shock at about 3500 volts to earth and fell to the ground. The pressure of the system was 6,600 volts A. C. with the neutral earthed. Inspection and inquiry made.

APPENDIX II—*contd.*

Fatal Accidents during the year 1938—*concl'd.*

Serial Number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Reason for exclusion.	Cause of accident and remarks.
FATAL ACCIDENTS NOT INCLUDED IN THE STATISTICS—(24 deaths)—<i>cont'd.</i>							
17	29th July, 3-45 P.M.	Burra Golai Mine, Margherita P. O., Assam.	Assam Railways and Trading Co., Ltd.	Ramlakhen Barai, (m.), 19, <i>Trammer.</i>	Coal	Not a mining accident.	While at work underground a trammer was struck by a fellow workman and knocked down. He collapsed almost immediately and died from shock two hours later. Inspection and inquiry made.
18	8th August.	Kurhurbaree Mine, Giridih P. O., Bihar.	State Railways' Coal Department.	Kani Bhuiya, (m.), 60, <i>Not employed.</i>	Coal	Not employed.	Deceased who was intoxicated fell into a water-logged quarry and was drowned. The quarry was properly fenced. Inspection and inquiry made.
19	26th September, 6-15 A.M.	Kargali Mine, Bokaro P. O., Bihar.	State Railways' Coal Department	Kasawa, (m.), 30, <i>Coal-cutter.</i>	Coal	Not a mining accident.	While crossing a railway line deceased was knocked down by an empty wagon which was being pushed back by a locomotive. He sustained serious internal injuries and died shortly afterwards. Inspection and inquiry made.
20	28th September, 1-30 P.M.	Newton Chiekli Mine, Parasin P. O., Central Provinces.	Newton Chiekli Collieries, Ltd.	Sarto Goulin, (f.), 70, <i>Not employed.</i>	Coal	Not a mining accident.	Deceased was run over and fatally injured by a set of full tube while crossing a surface endless haulage road. Inspection and inquiry made.
21	20th December, 11-30 A.M.	South Kajora mine, Ondal P. O., Bengal.	Western India Coal Syndicate, Ltd.	Cherra Gara, (m.), 3, <i>Not employed.</i>	Coal	Not a mining accident.	While sleeping in a closed up room a woman and her son, aged 3 years, were poisoned by carbon monoxide fumes given off from a coal fire burning inside the room. The child succumbed to the effects of the fumes but the woman recovered after artificial respiration had been given. Inspection and inquiry made.
22	31st December, 1 P.M.	Bararee Mine, Jaigora P. O., Bihar.	East Indian Coal Co., Ltd.	Balgobind Bhuiya, (m.), 50, <i>Not employed.</i>	Coal	Not a mining accident.	Deceased who was subject to epileptic fits, was drowned while bathing in a tank containing 3 feet of water. Inspection and inquiry made.

23	21st Decem- ber, 4-30 A.M.	Junnordeo No. 2 Mine, Junnordeo P. O., Central Pro- vinces.	R. S. H. Verma & M. Kanhalal.	Mulchand So- nar, (m.), 40, <i>Not employed.</i>	Coal	Not em- ployed.	Deceased was run over by a locomotive which was approach- ing a siding with loaded tubs. He sustained fatal injuries.
24	25th Decem- ber, 4 P.M.	Datta Mine, Junnordeo P. O., Central Pro- vinces.	Amalgamated Coal- fields, Ltd.	Nawarkhan, (m.), 26, <i>Surface Trans- porter.</i>	Coal	Not a mining accident.	Deceased was asleep, when his clothing caught fire, and he sustained burns to which he succumbed about three months later.

Table

Statement of fatal and serious accidents in and about Mines

Province.	District and Mineral field.	Number of separate fatal accidents.	Number of deaths.						Total.
			Under-ground.		Open workings.		Surface.		
			Males.	Females.	Males.	Females.	Males.	Females.	
			CO						
Assam	Lakhimpur—M a k u m coalfield.	7	8	...	...	...	...	...	6
Bengal (and part of Bihar).	Raniganj coalfield	88	108	...	...	1	4	1	109
Bihar	Jharis coalfield	78	72	...	2	...	7	2	83
	Bokaro "	1	2	...	1	...	1	...	4
	Karanpura "	2	1	...	1	...	...	...	3
	Giridih "	3	3	...	...	...	...	...	3
Central Provinces	Betul	1	...	...	...	...	1	...	1
	Chanda	2	2	...	...	...	...	...	2
	Chhindwara—Pench Valley coalfield.	25	24	...	...	1	3	...	26
	Yeotmal	..	...	...	...	...	...	...	...
Orissa	Sambalpur—Hingir-Rampur coalfield.	..	...	...	...	...	...	...	...
Punjab	Salt Range coalfield	7	7	...	...	1	...	...	8
Total (Coal)		217	222	...	4	2	17	3	248

DIX II—contd.

No. 2.

regulated by the Indian Mines Act, during the year 1938.

ACCIDENTS.				SERIOUS ACCIDENTS.													
Death rate per 1,000 persons employed.				Number of separate serious accidents.	Number of persons seriously injured.							Serious injury rate per 1,000 persons employed.					
Underground.	Open workings.	Surface.	Underground, Open workings and Surface.		Underground.		Open workings.		Surface.			Underground.	Open workings.	Surface.	Underground, Open workings and Surface.		
					Males.	Females.	Males.	Females.	Males.	Females.	Total.						
AL																	
5.96	...	...	4.16	90	83	...	...	...	6	1	90	61.85	...	12.96	46.85		
2.27	0.67	0.24	1.61	289	222	...	...	...	37	9	268	4.90	...	3.18	3.95		
1.37	0.30	0.31	0.94	403	334	...	1	2	71	7	415	6.33	0.45	2.66	4.68		
0.76	0.12	0.38	0.67	31	10	...	10	7	7	...	34	3.74	2.00	2.63	2.53		
0.63	0.55	...	0.45	10	3	...	1	1	5	...	10	1.69	1.11	4.66	2.27		
0.66	...	...	0.49	68	66	...	...	...	1	2	69	14.62	...	1.69	11.19		
...	...	22.22	9.80	1	...	...	...	...	1	...	1	...	...	22.22	9.80		
0.94	...	...	0.70	24	21	...	...	...	2	...	24	9.66	...	4.12	8.40		
8.59	1.79	0.91	2.66	48	31	...	3	...	9	...	43	4.64	5.37	2.73	4.38		
...	...	...	...	1	1	...	...	...	...	...	1	6.41	...	...	3.75		
...	...	...	...	2	2	...	...	...	...	...	2	7.41	...	...	5.46		
4.31	...	0.91	2.81	15	10	...	...	...	5	...	15	6.16	...	4.57	5.27		
1.86	0.82	0.92	1.28	948	783	...	15	10	145	19	972	6.51	7.35	2.64	4.83		

Table

Statement of fatal and serious accidents in and about Mines

Province.	District and Mineral field.	Number of separate fatal accidents.	FATAL							Total.
			Number of deaths.							
			Under-ground.		Open workings.		Surface.			
			Males.	Females.	Males.	Females.	Males.	Females.		
Bihar	Singhbhum	4	—	—	2	—	1	1	4	IRON
Bihar	Singhbhum	1	—	—	1	—	—	—	1	MANJA
Bombay	Panch Mahals	—	—	—	—	—	—	—	—	
Central Provinces	Balaghat	2	—	—	1	1	—	—	2	
	Bhandara	—	—	—	—	—	—	—	—	
	Nagpur	2	1	—	—	—	1	—	2	
Madras	Visagapatam	1	—	—	1	—	—	—	1	
	Total (Manganese Ore)	6	1	—	3	1	1	—	6	
Baluchistan	Upper Zhob	1	—	—	1	—	—	—	1	CHROMITE

DIX II—contd.

No. 2—contd.

regulated by the Indian Mines Act, during the year 1938—contd.

ACCIDENTS.					SERIOUS ACCIDENTS.										
Death rate per 1,000 persons employed.				Number of separate serious accidents.	Number of persons seriously injured.							Serious injury rate per 1,000 persons employed.			
Underground.	Open workings.	Surface.	Underground, Open workings and Surface.		Underground.		Open workings.		Surface.		Total.	Underground.	Open workings.	Surface.	Underground, Open workings and Surface.
					Males.	Females.	Males.	Females.	Males.	Females.					
ORE															
...	0.27	0.89	0.42	19	...	...	10	2	6	1	19	...	1.62	2.12	1.98
NESE ORE															
...	1.17	...	1.01	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	12	4	...	...	6	2	12	19.90	...	14.55	6.72	...
...	0.21	...	0.16	12	...	...	2	2	4	2	12	...	0.62	2.22	0.98
...	...	...	...	14	...	...	2	2	6	2	14	...	1.21	10.52	2.60
0.09	...	1.71	0.28	6	2	...	4	2	...	...	8	16.12	0.91	...	1.11
...	0.41	...	0.27	...	...	...	...	...	...	...	...	...	...	...	...
1.04	0.15	0.20	0.19	44	6	...	10	7	16	7	46	6.22	0.65	4.51	1.42
ORE															
...	4.98	...	2.79	1	2	...	...	...	...	...	1	55.56	...	...	2.79

DIX II—*contd.*

No. 2—*contd.*

regulated by the Indian Mines Act, during the year 1938—*contd.*

ACCIDENTS.				SERIOUS ACCIDENTS.											
Death rate per 1,000 persons employed.				Number of separate serious accidents.	Number of persons seriously injured.							Serious injury rate per 1,000 persons employed.			
Underground.	Open workings.	Surface.	Underground, Open workings and Surface.		Underground.		Open workings.		Surface.		Total.	Underground.	Open workings.	Surface.	Underground, Open workings and Surface.
					Males.	Females.	Males.	Females.	Males.	Females.					
ORE															
0.67	...	...	0.87	84	76	...	...	...	7	1	84	51.28	...	6.37	30.69
CA															
0.45	...	...	0.28	5	5	...	...	...	...	...	5	2.96	...	...	1.32
0.43	1.76	...	0.58	14	14	...	...	...	1	...	15	1.21	...	0.34	0.86
...	...	...	...	1	...	...	1	...	...	...	1	...	14.92	...	11.26
...	2.21	...	0.52	...	...	...	...	...	...	...	...	...	...	...	...
0.52	...	0.47	0.83	5	5	...	...	...	2	...	7	2.63	...	0.94	1.75
...	2.84	...	1.62	...	...	...	...	...	...	...	...	...	...	...	...
0.42	1.00	0.16	0.50	25	24	...	1	...	3	...	28	1.43	0.14	0.43	0.93
LT															
...	...	...	...	6	5	...	...	...	1	...	6	7.47	...	2.93	5.81
...	...	...	...	1	1	...	...	...	...	...	1	10.53	...	...	6.17
...	...	...	...	2	2	...	...	...	...	...	2	14.16	...	...	10.05
...	...	...	...	9	8	...	...	...	1	...	9	8.84	...	2.15	6.46

Table

Statement of fatal and serious accidents in and about Mines

Province.	District and Mineral field.	FATAL								
		Number of separate fatal accidents.	Number of deaths.						Total.	
			Under-ground.		Open workings.		Surface.			
			Males.	Females.	Males.	Females.	Males.	Females.		
Bengal	Birbhum . . . . .	...	...	...	...	...	...	...	...	STO
Bihar	Santal Parganas	2	...	...	2	...	...	...	...	2
	Singhbhum . . . . .	...	...	...	...	...	...	...	...	...
Bombay	Surat . . . . .	...	...	...	...	...	...	...	...	...
Madras	Chingleput . . . . .	...	...	...	...	...	...	...	...	...
	Total (Stone)	2	...	...	2	...	...	...	...	2
LIME										
Bihar	Shahabad	4	...	...	2	...	2	...	...	4
Central Provinces	Bilaspur . . . . .	...	...	...	...	...	...	...	...	...
	Jubbulpore . . . . .	...	...	...	...	...	...	...	...	...
Madras	Coimbatore . . . . .	...	...	...	...	...	...	...	...	...
Punjab	Attock . . . . .	...	...	...	...	...	...	...	...	...
	Total (Limestone)	4	...	...	2	...	2	...	...	4

DIX II—*contd.*No. 2—*contd.*regulated by the Indian Mines Act, during the year 1938—*contd.*

ACCIDENTS.				SERIOUS ACCIDENTS.											
Death rate per 1,000 persons employed.				Number of separate serious accidents.	Number of persons seriously injured.							Serious injury rate per 1,000 persons employed.			
Underground.	Open workings.	Surface.	Underground, Open workings and Surface.		Underground.		Open workings.		Surface.		Total.	Underground.	Open workings.	Surface.	Underground, Open workings and Surface.
					Males.	Females.	Males.	Females.	Males.	Females.					
NE															
...	...	...	...	1	...	...	...	...	1	...	1	...	...	1.98	1.14
...	1.27	...	0.73	2	...	...	2	...	...	...	2	...	1.27	...	0.73
...	...	...	...	1	...	...	1	...	...	...	1	...	0.81	...	0.75
...	...	...	...	3	...	...	3	...	...	...	3	...	5.06	...	4.83
...	...	...	...	10	...	...	1	1	6	2	10	...	1.86	43.48	7.93
...	0.23	...	0.17	17	...	...	7	1	7	2	17	...	0.89	3.56	1.47
STONE															
...	0.79	3.11	1.26	5	...	...	1	...	4	...	5	...	0.39	0.22	1.58
...	...	...	...	1	...	...	...	...	1	...	1	...	...	6.06	1.38
...	...	...	...	7	...	...	5	1	1	...	7	...	1.23	3.97	1.37
...	...	...	...	3	...	...	3	...	...	...	3	...	6.66	...	6.64
...	...	...	...	2	...	...	2	...	...	...	2	...	4.81	...	4.81
...	0.23	1.81	0.39	18	...	...	11	1	6	...	18	...	1.31	5.42	1.75

Table

Statement of fatal and serious accidents in and about Mines

Province.	District and Mineral field.	FATAL									
		Number of separate fatal accidents.	Number of deaths.						Total.		
			Under-ground.		Open workings.		Surface.				
			Males.	Females.	Males.	Females.	Males.	Females.			
Madras	Salem . . . .	..	...	...	..	...	...	..	1	...	MAG
Delhi	Delhi	1	2	...	...	...	...	...	...	2	CHINA
Central Provinces	Jubbulpore . . . .	...	...	...	...	...	...	...	...	...	FIRE
Grand Total (All minerals).		248	233	...	21	3	22	4	283		

DIX II—*contd.*

No. 2—*contd.*

regulated by the Indian Mines Act, during the year 1938—*contd.*

ACCIDENTS.				SERIOUS ACCIDENTS.											
Death rate per 1,000 persons employed.				Number of separate serious accidents.	Number of persons seriously injured.							Serious injury rate per 1,000 persons employed.			
Underground.	Open workings.	Surface.	Underground, Open workings and Surface.		Underground.		Open workings.		Surface.		Total.	Underground.	Open workings.	Surface.	Underground, Open workings and Surface.
					Males.	Females.	Males.	Females.	Males.	Females.					
NESITE				1	...	...	1	...	...	...	1	...	0.65	...	0.64
...
CLAY				1	...	...	...	...	...	...	...	...	...	...
82.26	...	...	26.67		...	...	...	...	...	...	...	...	...	...	...
CLAY				1	...	...	...	...	1	...	1	...	...	28.57	2.55
...
1.64	0.29	0.32	0.92	1,165	898	...	65	21	192	30	1,196	6.38	0.91	2.70	3.91

APPENDIX II—*conold.*

Table No. 3.

Statement of fatal accidents in Mines regulated by the Indian Mines Act, during the year 1938, classified according to cause of accident.

Mineral worked.	Number of separate accidents.	Number of persons killed.											Death rate per 1,000 persons employed.				
		Explosions and ignitions of fire-damp and coal dust.	Falls of roof.	Falls of sides.	In shafts.	Suffocation by gases.	By explosives.	By Irruptions of water.	Haulage.	Miscellaneous underground.	Electricity.	Surface.	Total accidents.	Underground.	Open workings.	Surface.	Underground, Open workings and Surface.
Coal . . .	217	...	102	49	11	...	5	2	20	12	...	18	245	1.25	0.32	0.32	1.23
Iron Ore . . .	4	...	...	...	...	...	...	1	1	...	...	2	4	...	0.37	0.89	0.42
Manganese Ore	6	...	...	1	...	...	2	...	2	...	...	1	6	1.04	0.15	0.20	0.19
Chromite Ore .	1	...	...	1	...	...	...	...	...	...	...	...	1	...	1.04	...	0.87
Copper Ore . .	1	...	1	...	...	...	...	...	...	...	...	...	1	0.67	...	...	0.37
Mica . . .	12	...	1	6	4	...	3	...	...	...	...	1	15	0.42	1.00	0.16	0.50
Stone . . .	2	...	...	2	...	...	...	...	...	...	...	...	2	...	0.28	...	0.17
Limestone . .	4	...	...	1	...	...	...	...	1	...	...	2	4	...	0.22	1.81	0.29
China Clay . .	1	...	...	2	...	...	...	...	...	...	...	...	2	32.26	...	...	3.67
Total for 1938	248	...	104	62	15	...	10	2	40	26	...	24	243	1.66	0.29	0.32	0.92
Total for pre- ceding year.	209	2	78	70	12	2	15	...	33	22	2	12	248	1.62	0.48	0.19	0.23
Difference	+40	-2	+26	-8	+3	-2	-5	+2	+7	+4	-2	+12	+35	+0.04	-0.19	+0.13	-0.01

APPENDIX III.

Statement of prosecutions under the Indian Mines Act, during the year 1938.

Province.	District.	Number of prosecutions.	Number of persons prosecuted.	Number of persons convicted.	Number of Regulations, Bye-laws and Rules and Sections of the Act contravened.	REMARKS.
Bengal	Bardwan	1	2	2	Section 22-C(1) of the Indian Mines Act, 1923 and Regulation 149 of the Indian Coal Mines Regulations, 1926 and Bye-law 95 made under Section 337 of the Indian Mines Act, 1923.	
	Do.	1	1	...	Regulation 146 of the Indian Coal Mines Regulations, 1926.	Accused could not be traced.
	Do.	2	6	...	Regulations 39 and 40 of the Indian Coal Mines Regulations, 1926.	Four of the accused were acquitted and the other two could not be traced.
	Do.	1	2	1	Regulation 69 (2) of the Indian Coal Mines Regulations, 1926.	One of the accused died.
	Hazaribagh	2	4	3	Section 22-C(1) of the Indian Mines Act, 1923, read with Rule 9 of the Rules made by the Bihar Government under Section 30 of the Indian Mines Act, 1923, and Regulation 16 of the Indian Metalliferous Mines Regulations, 1926.	One of the accused was acquitted.
Bihar	Do.	1	2	...	Regulations 36 and 40 of the Indian Metalliferous Mines Regulations, 1926.	The case was dropped as the accused could not be traced.
	Do.	1	1	1	Regulation 3 (1) of the Indian Metalliferous Mines Regulations, 1926.	
	Manbhum	1	2	2	Rule 9 of the Rules made by the Bihar Government under Section 30 of the Indian Mines Act, 1923 and Regulations 15 and 139 of the Indian Coal Mines Regulations, 1926.	

APPENDIX III—*contd.*Statement of Prosecutions under the Indian Mines Act, during the year 1938—*contd.*

Province.	District.	Number of prosecutions.	Number of persons prosecuted.	Number of persons convicted.	Number of Regulations, Bye-laws and Rules and Sections of the Act contravened.	Remarks.
Bihar— <i>contd.</i>	Muzaffarpur	1	1	1	Regulations 9, 137 and 139 of the Indian Coal Mines Regulations, 1926.	
	Do.	1	3	3	Rules 9, 8 and 15 of the rules made by the Bihar Government under Section 30 of the Indian Mines Act, 1923.	
	Do.	1	2	2	Section 39 (j) of the Indian Mines Act, 1923, read with Notification No. 1005, dated the 17th June 1937, issued by the Government of India, Department of Industries and Labour and Press Commisariat, dated the 10th September 1937.	
	Do.	1	2	1	Rule 17 of the rules made by the Bihar Government under Section 30 of the Indian Mines Act, 1923 and Regulations 58 (1), 92, 137 and 88 of the Indian Coal Mines Regulations, 1926.	One of the accused was acquitted.
	Do.	1	2	2	Rule 9-A of the rules made by the Bihar Government under Section 30 of the Indian Mines Act, 1923 and Regulations 71 (3) and 149 of the Indian Coal Mines Regulations, 1926.	
	Do.	1	1	1	Section 35 (e) of the Indian Mines Act, 1923.	
	Do.	1	3	2	Regulations 15 (4) and 70 (2) of the Indian Coal Mines Regulations, 1926, read with Regulations 137 and 149 of the Indian Coal Mines Regulations, 1926 and Rule 9-A of the Rules made by the Bihar Government	The case against one of the accused was withdrawn.

APPENDIX III—contd.

Statement of Prosecutions under the Indian Mines Act, during the year 1938—contd.

Province.	District.	Number of prosecutions.	Number of persons prohibited.	Number of persons convicted.	Number of Regulations, Bye-laws and Rules and Sections of the Act contravened.	REMARKS.
	Manbhum—contd.				under Section 30 of the Mines Act, 1923 read with Section 28(4) of the Indian Mines Act, 1923.	
	Do.	1	1	...	Regulation 3 (2) of the Indian Coal Mines Regulations, 1926.	The case was withdrawn as the accused could not be traced.
	Do.	1	4	3	Regulations 82 and 84 of the Indian Coal Mines Regulations, 1926.	One of the accused could not be traced.
	Do.	1	1	...	Regulations 83 and 146 of the Indian Coal Mines Regulations, 1926.	The accused could not be traced.
	Do.	1	2	2	Section 35 (e) of the Indian Mines Act, 1923 read with Section 109 of the Indian Penal Code.	
Bihar—contd.	Do.	1	8	...	Regulations and 147 of the Indian Coal Mines Regulations 1926 and Bye-law 8 of the Bye-laws made under Section 33 of the Indian Mines Act, 1923.	The case is still pending.
	Do.	1	1	1	Bye-law 14 of the Bye-laws made under Section 32 of the Indian Mines Act, 1923, and Regulation 146 of the Indian Coal Mines Regulations, 1926.	
	Do.	1	5	5	Regulations 77 and 81 (1) (e) of the Indian Coal Mines Regulations, 1926.	
	Do.	1	3	2	Rules 12 and 15 of the Rules made by the Bihar Government under Section 30 of the Indian Mines Act, 1923.	
	Do.	1	1	1	Section 35 (e) of the Indian Mines Act, 1923.	

APPENDIX III—*concl'd.*Statement of Prosecutions under the Indian Mines Act, during the year 1938—*concl'd.*

Province.	District.	Number of prosecutions.	Number of persons prosecuted.	Number of persons convicted.	Number of Regulations, Bye-laws and Rules and Sections of the Act contravened.	REMARKS.
Bihar— <i>concl'd.</i>	Manbhurn	1	2	...	Regulations 37, 38, 42 and 47 of the Indian Coal Mines Regulations, 1926.	The case was withdrawn.
	Chhindwara	1	2	1	Regulations 146 and 95 (1) of the Indian Coal Mines Regulations, 1926 and Bye-law 86 of the Bye-laws made under Section 83 of the Indian Mines Act, 1923.	The case against one of the accused was dropped.
Central Provinces.	Do.	1	1	1	Regulations 101 and 106 of the Indian Coal Mines Regulations, 1926.	
	Do.	1	1	1	Regulation 95 (2) of the Indian Coal Mines Regulations 1926.	
	Do.	1	1	...	Regulations 143 and 146 of the Indian Coal Mines Regulations, 1926 and 304 A of the Indian Penal Code.	The case is still pending.
	Do.	1	1	1	Regulations 101 and 146 of the Indian Coal Mines Regulations, 1926.	
	Do.	1	1	1	Regulations 143 and 146 of the Indian Coal Mines Regulations, 1926.	
	Do.	1	1	1	Regulation 106 of the Indian Coal Mines Regulations, 1926.	
	Do.	2	4	4	Regulation 95 of the Indian Coal Mines Regulations, 1926.	
	Jubbulpore	1	1	1	Regulation 3 (1) of the Indian Metalliferous Mines Regulations, 1926.	
		37	74	46		

APPENDIX IV.

Miscellaneous.

Statement No. 1.

LIST OF INSPECTION CIRCLE.

No. 1 Circle.	No. 2 Circle.
1. All mines in Baluchistan.	1. All mines in Assam.
2. All mines in Bihar except mines in the District of the Santhal Parganas and such mines in the District of Manbhum as lie east of a line drawn from mile 175 on the Bengal Nagpur Railway to mile 169 on the Grand Trunk Road and continued in a straight line across the District.	2. All mines in Bengal.
3. All mines in Orissa.	3. Such mines in Bihar as lie in the District of the Santhal Parganas and in the District of Manbhum east of a line drawn from mile 175 on the Bengal Nagpur Railway to mile 169 on the Grand Trunk Road and continued in a straight line across the District.
4. All mines in the North-West Frontier Province.	4. All mines in Bombay.
5. All mines in the Punjab.	5. All mines in the Central Provinces.
6. All mines in Rajputana.	6. All mines in Madras.
7. All mines in the United Provinces.	

Statement No. 2.

Names of persons to whom first and second class coal mine managers' certificates of competency and surveyors' certificates of competency were granted during the year 1938.

Certificates granted to holders of British certificates of competency.

(a) FIRST CLASS.

Name.	Number of Indian certificate.	Date of Indian certificate.	Number of British certificate.	Date of British certificate.
Carty, John Edward Winters .	393	5th January, 1938.	2232	2nd August, 1928.
Watson, Alex Alexander Baird .	394	Ditto.	1312	3rd February, 1923.
Young, Andrew	395	26th April, 1938 .	1254	Ditto.
Legg, Robert John	396	Ditto.	2968	30th July, 1937.
Arnold, Raoul Roberts	397	Ditto.	2780	26th January, 1934.
Butler, William	398	9th November, 1938	3031	18th February, 1938.

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 2—*contd.*

Names of persons to whom first and second class coal mine managers' certificates of competency and surveyors' certificates of competency were granted during the year 1938—*contd.*

Certificate granted to holders of British certificates of competency—contd.

(a) FIRST CLASS—*contd.*

Name.	Number of Indian certificate.	Date of Indian certificate.	Number of British certificate	Date of British Certificate.
Contra, Alexander Erskine . . .	390	9th November, 1938	2920	30th July, 1936.
Hogg, George William . . .	400	Ditto.	2542	8th February, 1935.
Mukherjee, Smahaneswar . . .	401	Ditto.	3044	16th February, 1936.
Barrowman, Hamilton Campbell . . .	402	Ditto.	3030	Ditto.
Wightman, David Hyslop . . .	403	Ditto.	2246	2nd August, 1928.
Soo; Mithir Kumar . . .	404	Ditto.	3012	16th February, 1936.
Wilson, Herbert Gladstone . . .	400	Ditto.	2588	24th July, 1931.

INDIAN CERTIFICATES.

(a) FIRST CLASS.

Name.	Number of certificate.	Date of certificate.	Remarks.
Pai, Heggurbet Ramchandra	262	26th April, 1938	
Roy, Shakti Pada	263	Ditto.	
Dickinson, Reginald William	264	Ditto.	
Dey, Kishori Ballav	265	Ditto.	
Roy, Suresh Chandra	266	Ditto.	
Ballock, William James	267	Ditto.	

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statistical No. 8—*contd.*

Names of persons to whom first and second class coal mine managers' certificates of competency and surveyors' certificates of competency were granted during the year 1938—*contd.*

INDIAN CERTIFICATES—*contd.*

(b) SECOND CLASS.

Name.	Number of Certificate.	Date of Certificate.	Remarks.
Guisa, Paul Elmore Colin	552	26th April, 1938.	
Garge, Daya Parkash	553	Ditto.	
Jain, Indra Sain	554	Ditto.	
Srinivasan, V.	555	Ditto.	
Krishnan, M. S	556	Ditto.	
Hussain, Syed Hammed	557	Ditto.	
Mukherjee, Bhudhar Chandra	558	Ditto.	
Sen, Nalini Ranjan	559	Ditto.	
Mukherjee, Shyama Pada	560	Ditto.	
Sarkar, Bada Ramon	561	Ditto.	
Ghatak, Robati Mohan	562	Ditto.	

Certificates granted to holders of British certificates of competency.

(c) SURVEYORS' CERTIFICATES.

Name.	Number of British certificate.	Date of British certificate.	Number of Indian certificate.	Date of Indian certificate.
Beard, Arthur Andrew	539	12th February, 1921	5	11th November, 1938.
Wilson, Herbert Gladstone	743	8th August, 1924 .	6	Ditto.

INDIAN CERTIFICATES.

Name.	No of certificate.	Date of certificate.	Remarks.
Bahllok, Shiv Ram	100	10th January, 1939.	
Krishnaswamy, S.	101	Ditto.	
Marwaha, Babu Ram	102	Ditto.	
Singh, Iqbal	103	Ditto.	
Batra, Waahisht Nath	104	Ditto.	
Chatterjee, Dharna Das	105	Ditto.	
Ramathan, S. N.	106	Ditto.	
De, Bhagabati Charan	107	Ditto.	
Ganguly, Kala Chand	108	Ditto.	

APPENDIX IV—*contd.*Miscellaneous—*contd.*

Statement No. 3.

NOTIFICATION.

New Delhi, the 20th January 1938.

No. M.-1051.—In exercise of the powers conferred by section 46 of the Indian Mines Act, 1923 (IV of 1923), and in supersession of the notification of the Government of India in the late Department of Industries and Labour No. M.-1051, dated the 1st October 1935, the Central Government is pleased to exempt the mines, groups of mines, classes of mines, parts of mines, and classes of persons specified in the first column of the annexed Schedule from the operation of those provisions of the said Act, which are specified in the corresponding entry in the second column thereof, subject to the conditions, if any, specified in the corresponding entry in the third column thereof.

SCHEDULE.

1 Mines and classes exempted.	2 Provisions from which exemption is granted.	3 Conditions attached to exemption.
<p>1. Mines of <i>laskar surum</i>, laterite, gravel, sand, clay (not including kaolin, china clay or white clay), fire-clay, ochre, stone, earth, fuller's earth, barytes, bauxite, slate and lime-stone :</p> <p>Provided that this exemption shall not apply to—</p> <p>(a) The mines specified in Appendix I to this Schedule.</p> <p>(b) Slate mines in the Province of the Punjab and in the Monghyr district of the Province of Bihar.</p> <p>(c) Limestone mines in the districts of Shahabad and Jubulpore.</p> <p>(d) Mines of soapstone or steatite</p> <p>(e) Stone mines in the Town and Island of Bombay.</p>	<p>All</p>	<p>(1) The owner, agent or manager of every mine so exempted, whether existing or new, shall forward to the Chief Inspector and the District Magistrate a report in the form contained in Appendix II to this Schedule as soon as—</p> <p>(i) the depth of the mine measured from its highest to its lowest point reaches 20 feet ; or</p> <p>(ii) the number of persons employed in the mine on any day is more than 50 ;</p> <p>and at such times thereafter as the District Magistrate may direct.</p> <p>(2) The owner, agent and manager shall permit the Chief Inspector or any person exercising the powers of an Inspector or a person duly authorised in writing in this behalf by a person exercising the powers of an Inspector to enter, inspect and examine any mine so exempted at any reasonable time.</p> <p>(3) The owner, agent or manager of any mine so exempted shall not permit any female to enter for purposes of employment, or be employed in the underground workings, if any, of the mine.</p>

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 3—*contd.*SCHEDULE—*contd.*

1 Mines and classes exempted.	2 Provisions from which exemption is granted.	3 Conditions attached to exemption.
1. Borings and oil wells in the making or operation of which no person is employed beneath the superjacent ground.	All.	
2. Mines or parts of mines in which excavation is being carried out for prospecting purposes only and not for the purpose of obtaining minerals for use or sale ; Provided that— (i) not more than 20 persons are employed in or about such excavation ; (ii) no part of the excavation extends beneath the superjacent ground ; and (iii) the depth of the excavation measured from its highest to its lowest point nowhere exceeds 20 feet or, in the case of an excavation for coal, 50 feet.	All.	
6. Iron-ore mines worked without mechanical power, the whole of the ore from which is supplied locally to village smelters and blacksmiths.	All	The owner, agent or manager of any mine so exempted shall not permit any female to enter for purposes of employment, or be employed in, the underground workings, if any, of the mine.
5. The following mines in the Province of Bihar, namely :— (i) The coke factory of the Bura-kur Coal Company, Ltd., at Loyabad in the Manbhum district. (ii) The coke factory of the Barari Coke Company, Ltd., at Kendwadih in the Manbhum district. (iii) The coke factory of the Eastern Coal Company, Ltd., at Bhowra in the Manbhum district. (iv) The coke factory of the Lodna Colliery Company, Ltd., at Lodna in the Manbhum district.	All. All. All. All.	

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 3—*contd.*SCHEDULE—*contd.*

1 Mines and classes exempted.	2 Provisions from which exemption is granted.	3 Conditions attached to exemption.
5.— <i>contd.</i>		
(v) The coke factory of the East Indian Railway at Guridih in the Hazaribagh district.	All.	
(vi) Open excavations for coal in the Rajmahal coalfields in the district of the Sonthal Pargana, provided that not more than 20 persons are employed in or about the mine at any one time.	All.	
6. The following mines in the Province of Bombay, namely:— Stone crushing plants forming part of the mines included in Appendix I or situated in the Town and Island of Bombay.	All.	
7. The following mines in the Province of Madras, namely:— Stone mines in the Mangalgiri sub-division of the Guntur district specified in Appendix I.	The provisions contained in section 28.	The owner, agent or manager of any mine so exempted shall not permit any female to enter for purposes of employment, or be employed in, the underground workings, if any, of the mine.
8. The following mines in the North-West Frontier Province, namely:— (i) Salt mines in the Kohat district. (ii) Carbonaceous clay pits in the Hazara district.	All.	
9. Persons employed in the loading of wagons, tubs or carts on the surface and cartmen on the surface.	The provisions contained in sections 23-B and 28(3).	
10. Firemen, winding enginemen, pumpmen and horsekeepers.	The provisions of section 22-A.	
11. Winding enginemen, Engine and power-house attendants, Banksmen, Boiler Firemen, Trolley-men and Trammers. Persons working on mechanical screening and loading plants; and Fan Attendants.	The provisions contained in sections 22-B(2) and 28(2).	(1) The period of work of these workers shall not exceed eight hours in any one day. (2) The entries in the register prescribed by section 28(1) shall be such that workers working in accordance therewith are not working in contravention of any of the provisions of Chapter VI of the Act other than those from which exemption is given, or in contravention of condition (1).

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 3—*contd.*SCHEDULE—*contd.*

APPENDIX I.

[See Clause (a) of proviso to entry 1 in first column of Schedule.]

No.	Name of mine.	Name of owner.	SITUATION.		
			Village.	Sub-division.	District.
BENGAL.					
STONE MINES.					
1	Maharaja's stone	Maharaja of Kasimbazar	Bahadurpur . Chandannagar. Lakshmanpur.	Rampurhat	Birbhum.
2	Gopalpur	S. G. Bose	Rajgaon	Do.	Do.
CLAY MINES.					
1	Gopinathpur	Nirode Baran Roy	Durgapur	Asansol	Burdwan.
2	Raniganj No. 1	Burn and Company Ltd.	Ranaj	Do.	Do.
3	Raniganj No. 2	Do.	Baktarnagar	Do.	Do.
4	Raniganj No. 3	Do.	Ronai	Do.	Do.
FIRECLAY MINES.					
1	Churulia	The Churulia Coal Co., Ltd.	Churulia	Asansol	Burdwan.
2	Danapabari	Danapahat Fireclay Con- cern.	Bonjamuri	Do.	Do.
3	Dendua	D. N. Chowdhury	Dendua	Do.	Do.
4	Dabor	Do.	Dabor	Do.	Do.
5	Sabanpur	Burn and Company, Ltd.	Sabanpur	Do.	Do.
6	Sangramgarh	Kalyanji Lalji	Sangramgarh	Do.	Do.
7	Ranganakali	Somewar Ojha	Ranganakali	Do.	Do.
8	Lalbazar	Mandal, Khandait and Company.	Lalbazar	Do.	Do.
9	Pahargora	Do.	Pahargora	Do.	Do.
10	Digari	Burn and Company, Limit- ed.	Digari	Do.	Do.
11	Bhadulia	D. N. Roy and Others	Bhadulia	Suri	Birbhum.
12	Bassa	Do.	..	Do.	Do.
13	Barhra	Do.	Barhra	Do.	Do.

APPENDIX IV—contd.

Miscellaneous—contd.

Statement No. 3—contd.

SCHEDULE—contd.

APPENDIX I—contd.

[See Clause (a) of proviso to entry 1 in first column of Schedule—contd.]

No.	Name of mine.	Name of owner.	SITUATION.		
			Village.	Sub-division.	District.
		BIHAR.			
		STONE MINES.			
1	Kendadih . . .	Tata Iron and Steel Company, Limited.	Galudih . . .	..	Singbhum.
2	Bhairabpur Quarry No. 2.	A. N. Mukherjee . . .	Bhairabpur . . .	Jamshedpur	Do.
3	Bhairabpur . . .	L. Hartley and Company	Narsinghar . . .	Do. . .	Do.
4	Pawrah Narsinghar . . .	K. B. Dass	Do.	Do.	Do.
5	Dhaodandh . . .	Government of Bihar, P. W. Department (Irrigation Branch).	Dhaodandh . . .	Seerampur . . .	Shahabad.
6	Barhaibagh . . .	East Indian Railway . . .	Barhaibagh . . .	Do.	Do.
7	Tarachandi . . .	Seth Iswar Das	Tarachandi (Sikaria).	Do.	Do.
8	Ramaila	G. W. Powell and A. Ghani.	Gaya	Gaya	Gaya.
9	Araji-khapra jola and Kolhajora.	Seth Lilaram	Araji-khapra jola and Kolhajora.	Pakur	Sonthal Parganas.
10	Baghajuli and Manjuroola.	J. N. Banerjee and Company.	Baghajuli	Do.	Do.
11	Baghajuli	Eastern Stone Company.	Baghajuli	Do.	Do.
12	Baghajuli	K. D. Gupta	Do.	Do.	Do.
13	Baghajuli and Ghorapahari.	H. K. Mukherjee	Baghajuli and Ghorapahari.	Do.	Do.
14	Baghajuli	Pakurjam Stone Company	Baghajuli	Do.	Do.
15	Baghajuli and Manjuroola.	Raghubir Prasad and Bros.	Baghajuli and Manjuroola.	Do.	Do.
16	Baghajuli	Maharaja of Kassimbazar Stone Works.	Baghajuli	Do.	Do.
17	Baghajuli	A. Sarker & Co.	Do.	Do.	Do.
18	Ghorapahari	All India Stone Company	Ghorapahari	Do.	Do.
19	Ghorapahari	Pakur Stone Supply Co.	Do.	Do.	Do.
20	Ghorapahari	Cunliffe & Martin	Do.	Do.	Do.

APPENDIX IV—contd.

Miscellaneous—contd.

Statement No. 3—contd.

SCHEDULE—contd.

APPENDIX I—contd.

[See Clause (a) of proviso to entry 1 in first column of Schedule—contd.]

No.	Name of mine.	Name of owner.	SITUATION.		
			Village.	Sub-division.	District.
		BIHAR—contd.			
		STONE MINES—contd.			
21	Baghajuli . . .	Lalji Ram Raghunandan Prasad.	Ghorapahari .	Pakur	Santhal Parganas.
22	Ghorapahari . . .	Pakur Stone Co. . .	Do. . .	Do. . .	Do.
23	Ghorapahari . . .	Pakurjam Stone Co. . .	Do. . .	Do. . .	Do.
24	Ghorapahari . . .	Raghubir Prasad & Bros.	Do. . .	Do. . .	Do.
25	Ghorapahari . . .	Seth Teomall . . .	Do. . .	Do. . .	Do.
26	Jharnatola . . .	H. K. Mukherjee . . .	Jharnatola . . .	Do. . .	Do.
27	Kolajora . . .	Do. . .	Kolajora . . .	Do. . .	Do.
28	Mahulan . . .	Kumar G. C. Pande . . .	Mahulan . . .	Do. . .	Do.
29	Mahadebpur . . .	H. K. Mukherjee . . .	Mahadebpur . . .	Do. . .	Do.
30	Malpahari . . .	B. N. Pal and M. N. Dey	Malpahari . . .	Do. . .	Do.
31	Malpahari . . .	Behar Stone and Supply Company.	Do. . .	Do. . .	Do.
32	Malpahari . . .	Gyanendra Nath Banerjee	Do. . .	Do. . .	Do.
33	Malpahari . . .	B. B. Chatterjee & Sons . . .	Do. . .	Do. . .	Do.
34	Malpahari . . .	Chatterjee Shaw & Co. . .	Do. . .	Do. . .	Do.
35	Malpahari . . .	K. C. Ghosh & Co. . .	Do. . .	Do. . .	Do.
36	Malpahari . . .	H. K. Mukherjee . . .	Do. . .	Do. . .	Do.
37	Malpahari . . .	Netram Sagarmall . . .	Do. . .	Do. . .	Do.
38	Malpahari . . .	Pakur Stone Co. . .	Do. . .	Do. . .	Do.
39	Mungalpara . . .	Do. . .	Mungalpara . . .	Do. . .	Do.
40	Manjuroola . . .	B. B. Chatterjee & Son . . .	Manjuroola . . .	Do. . .	Do.
41	Manjuroola . . .	Chatterjee Chakravarty . . .	Do. . .	Do. . .	Do.
42	Manjuroola . . .	Netram Sagarmall . . .	Do. . .	Do. . .	Do.
43	Baghajuli and Manjuroola.	Seth Khia Mall . . .	Baghajuli Manjuroola.	Do. . .	Do.
44	Matiara . . .	Netram Sagarmall . . .	Matiara . . .	Do. . .	Do.
45	Murgadanga . . .	Ramananda Raghunath Misir . . .	Murgadanga . . .	Do. . .	Do.

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 3—*contd.*SCHEDULE—*contd.*APPENDIX I—*contd.*[See Clause (a) of proviso to entry 1 in first column of Schedule—*contd.*]

No.	Name of mine.	Name of owner.	SITUATION		
			Village.	Sub-division.	District.
BIHAR—<i>contd.</i>					
STONE MINES—<i>contd.</i>					
46	Pathrapara . . .	H. K. Mukherjee . . .	Pathrapara . . .	Pakur . . .	Sonthal Parganas.
47	Pipuljhuri . . .	Pakur Stone Co. . . .	Pipuljhuri . . .	Do. . . .	Do.
48	Pipuljhuri and Araji-khaprajola.	Kumar G. C. Pandey . . .	Pipuljhuri and Araji-khaprajola.	Do. . . .	Do.
49	Ranicoola . . .	H. K. Mukherjee . . .	Ranicoola . . .	Do. . . .	Do.
50	Sonajuri . . .	S. K. Mukherjee . . .	Sonajuri . . .	Do. . . .	Do.
51	Bankdih . . .	She Muhammad Biswas . . .	Bakudia . . .	Rajmahal . . .	Do.
52	Bankdih Chota Bonapara.	Gurudeo Singh . . .	Do. . . .	Do. . . .	Do.
53	Bindubasini hill . . .	Calcutta Cindr Railway Company.	Jhumarbag . . .	Do. . . .	Do.
54	Bara Bonapara . . .	Unsettled . . . .	.. . .	.. . .	.. . .
55	Bogapahar . . .	Birendra Nath Sha . . .	Bogapahar . . .	Rajmahal . . .	Sonthal Parganas.
56	Bornaphar . . .	Unsettled . . . .	.. . .	.. . .	.. . .
57	Bara Betona . . .	Birendra Nath Sha . . .	Bara Betona . . .	Rajmahal . . .	Sonthal Parganas.
58	Belbhadri . . .	Unsettled . . . .	.. . .	.. . .	.. . .
59	Chalpahar Paktori Pahar.	E. B. Railway . . .	Paktori Pahar.	Rajmahal . . .	Sonthal Parganas.
60	Chowki Pahar. . .	A. S. Apcar	Chowki Pahar.	Do. . . .	Do.
61	Gadaitongi . . .	Seth Sunder Prasad . . .	Gadaitongi . . .	Do. . . .	Do.
62	Gumapahar . . .	Gurudeo Singh . . .	Gumapahar . . .	Do. . . .	Do.
63	Gangu-para . . .	Keshab Chandra Banerjee . . .	Gangu-para . . .	Do. . . .	Do.
64	Madia . . .	Harinath Das	Madia	Do. . . .	Do.
65	Maharajpur Harinkole.	T. S. Samanta	Dudhkole . . .	Do. . . .	Do.
66	Malitoke . . .	E. B. Railway	Malitoke . . .	Do. . . .	Do.
67	Pathria Balapokhar.	J. N. Mukherjee . . .	Pathria Balapokhar.	Do. . . .	Do.

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 2—*contd.*SCHEDULE—*contd.*APPENDIX I—*contd.*[See Clause (a) of proviso to entry 1 in first column of Schedule—*contd.*]

No.	Name of mine.	Name of owner.	SITUATION.		
			Village.	Sub-division.	District.
		BIHAR—<i>contd.</i>			
		STONE MINES—<i>contd.</i>			
68	Rangatola, Harinkole and Sarwapur.	K. K. Mukharji Brothers.	Rangatola Harinkole.	Rajmahal .	Sonthal Parganas.
69	Sahibganj Block No. I.	Birendra Nath Shah .	Motijharua .	Do .	Do .
70	Sahibganj Block No. II.	J. N. Mukharji .	Bhagamari .	Do .	Do .
71	Sahibganj Block No. III.	Sital Prasad Marwari .	Adro Bedo .	Do .	Do .
72	Sahibganj Block No. IV.	Sital Prasad Marwari .	Golbandha .	Do .	Do .
73	Sitapahar Patnibona.	Nanji Mowji .	Sitapahar Patnibona.	Do .	Do .
74	Sitapahar Melitoke .	Sardar Kartar Singh .	Malitoke .	Do .	Do .
75	Surjapahar (Malitoke).	Gurudeo Singh .	Do .	Do .	Do .
76	Taljhari old laterite quarry.	Parmanand Marwari .	Khairboni .	Do .	Do .
77	Saleempore .	J. N. Mukherjee .	Saleempore .	Bhagalpur .	Bhagalpur.
78	Manpur .	G. W. Powell and A. Ghany.	Manpur .	Gaya .	Gaya.
79	Manpur .	Maniruddin .	Do .	Do .	Do .
80	Manpur .	Jogeswar Ram .	Do .	Do .	Do .
81	Manpur .	Seth Isser Dass .	Do .	Do .	Do .
82	Manpur .	Azimuddin Basant Lal .	Do .	Do .	Do .
83	Karjura .	Ramlal Basantlal .	Karjura .	Do .	Do .
84	Pirpahar .	Bengal and N. W. Railway	Sukhurpar .	Monghyr .	Monghyr.
85	Girhinda .	Molaram and Basantlal .	Girhinda .	Do .	Do .
86	Bodma .	A. V. Sam .	Bodma .	Jamtera .	Sonthal Parganas.
87	Tinpahar .	Chatterjee, Shaw and Company.	Tinpahar .	Rajmahal .	Do .
88	Maharajpur (locally known as Sahibganj Block No. I).	Birendra Nath Shah .	Matijharua .	Do .	Do .

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 3—*contd.*SCHEDULE—*contd.*APPENDIX I—*contd.*[See Clause (a) of proviso to entry 1 in first column of Schedule—*contd.*]

No.	Name of mine.	Name of owner.	SITUATION.		
			Village.	Sub-division.	District.
BIHAR—<i>contd.</i>					
STONE MINES—<i>contd.</i>					
89	Tinpahar . . .	Seth Teomal . . .	Tinpahar . . .	Rajmahal . . .	Southal Parganas.
90	Pirpahar . . .	Rajshahi Stone and Coal Agency.	Dargadanga . . .	Do. . .	Do.
91	Tinpahar . . .	Do. . . .	Tinpahar . . .	..	Do.
92	Dhanghara . . .	Shivanand Shivamay and Company.	..	Pakur . . .	Do.
93	Durgapur . . .	Do. . . .	..	Do. . .	Do.
94	Ghorapahari . . .	Seth Tewamal . . .	Ghorapahari . . .	Do. . .	Do.
FIRECLAY MINES.					
1	Merrah . . .	Bengal Coal Company, Limited.	Merrah . . .	..	Manbhum.
2	Sangamohal . . .	Bihar Firebricks and Potteries, Limited.	Sangamohal . . .	Dhanbad . . .	Do.
3	Chatabar . . .	Do. . . .	Chatabar . . .	Do. . .	Do.
4	Rangamati . . .	Burn and Company, Limited.	Rangamati . . .	Do. . .	Do.
5	Gulfarbari . . .	Do. . . .	Gulfarbari . . .	Do. . .	Do.
6	Mugma Birsingpur . . .	D. N. Chowdhury . . .	Mugma Birsingpur.	Do. . .	Do.
7	Kapasara . . .	Amir Ahmed Khan . . .	Kapasara . . .	Do. . .	Do.
8	Palasia . . .	Alladad Khan . . .	Palasia . . .	Do. . .	Do.
9	Jograd . . .	Dina Nath Gorai . . .	Jograd . . .	Do. . .	Do.
10	Kethardih . . .	Haripada Goswami . . .	Ketherdih . . .	Do. . .	P
11	Sulanga . . .	D. N. Choudhury . . .	Sulanga . . .	Do. . .	Do.
LIMESTONE MINE.					
1	Ray-Dundu . . .	National Cement, Mines and Industries, Limited.	Ray-Dundu . . .	Ranchi . . .	Ranchi.

APPENDIX IV—contd.

Miscellaneous—contd.

Statement No. 3—contd.

SCHEDULE—contd.

APPENDIX I—contd.

[See Clause (a) of proviso to entry 1 in first column of Schedule—contd.]

No.	Name of mine.	Name of owner.	SITUATION.		
			Village.	Sub-division.	District.
BOMBAY.					
STONE MINES.					
1	Danda	Government of Bombay, Revenue Department.	Danda	Bandra	Bombay Sub- urban.
2	Sevalia	B., B. and C. I. Railway	Sevalia	Thurna	Kaira.
3	Orwad	Walji Bhimji	Orwad	Bulsar	Surat.
4	Khadki	Arjun Mavji	Khadki	Do. . . .	Do.
5	Motiwada	Jaganji Dayabhai Patel	Motiwada	Do. . . .	Do.
6	Ratleo	B., B. and C. I. Railway	Ratleo	Do. . . .	Do.
7	Kachora	G. I. P. Railway	Kachora	Kalyan	Thana.
8	Anik	Bombay Port Trust	Anik and Mohul . . . .	.. . . .	Bombay Sub- urban.
9	Virar	B., B. and C. I. Railway	Virar	Bassein	Thana.
10	Kandivli	Government of Bombay, Public Works Depart- ment.	Kandivli	Salsette	Bombay Suburban.
11	Kandivli	Government of Bombay, Revenue Department.	Do. . . .	Do. . . .	Do.
12	Malad	Do. . . .	Malad	Do. . . .	Do.
13	Gilbert Hill (Andheri)	Government of Bombay	Andheri	Andheri	Do.
14	Danda (No. 1)	Do. . . .	Danda	Bandra	Do.
15	Danda (No. 2)	Do. . . .	Do. . . .	Do. . . .	Do.
16	Sevalia	Tribhubandas Harji	Sevalia	Thurna	Kaira.
17	Dekor (Jalarkhandi)	B., B. and C. I. Railway	Ralohial Jak- bad and Kalsoar . . . .	.. . . .	Do.
BAUXITE MINE.					
1	Taiyabpur Bauxite mine.	Killiock, Nixon and Co. . . .	Taiyabpur	Kapadvanj Taluka	Kaira.
CENTRAL PROVINCES AND BERAR.					
STONE MINES.					
1	Paras	G. I. P. Railway	Paras	Balapur	Ak'ola (Berar).

APPENDIX IV—contd.

Miscellaneous—contd.

Statement No. 2—contd.

SCHEDULE—contd.

APPENDIX I—contd.

[See Clause (a) of proviso to entry 1 in first column of Schedule—contd.]

No.	Name of mine.	Name of owner.	SITUATION.		
			Village.	Sub-division.	District.
CENTRAL PROVINCES AND BERAR—contd.					
STONE MINES—contd.					
2	Katepurna . . .	G. I. P. Railway . . .	Katepurna . . .	Murtinapur . . .	Akola (Berar).
3	Wai	Do.	Wai	Chandur	Amraoti.
4	Konda Nalla . . .	Rajawasta, Contractor . . .	Konda	Bhandak	Chanda.
5	Borkhedi	Do.	Borkhedi . . . . .	.. . . .	Nagpur.
LIMESTONE MINES.					
1	Baraduar	Tate Iron & Steel Co., Ltd.	Damarpara . . . . .	.. . . .	Bilaspur.
2	Paraghat	Jairam Valjee	Parsoda & Khaira . . . . .	.. . . .	Do.
OTHER MINES.					
1	Bhiwkhund	Rashambhoy & Sons	Bhiwkhund . . . . .	.. . . .	Chanda.
2	Haveli Range	Abdul Hussainmulla Hasanally	Haveli Range Forest . . . . .	.. . . .	Do.
FULLER'S EARTH MINES.					
1	Tikuria	G. H. Cook & Sons	Tikuria . . . . .	.. . . .	Jubbulpur.
FIRECLAY MINES.					
1	Hardua	Burn & Co., Limited	Hardua	Katni	Jubbulpur.
2	Pit No. 1	Do.	Shoiteria	Do.	Do.
3	Hardua	Letely owned by Kalyanji Govindji	Hardua	Do.	Do.
4	Polipathar	Perfect Pottery Co., Limited	Polipathar . . . . .	.. . . .	Do.
BAUXITE MINES.					
1	Tikuri	K. P. Pandey	Tikuri	Murwara	Jubbulpur.
2	Tikuri	C. L. Pathak and Sons	Do.	Do.	Do.
3	Tikuri	K. P. Pande	Do.	Jubbulpur	Do.

APPENDIX IV—contd.

Miscellaneous—contd.

Schedule No. 3—contd.

SCHEDULE—contd.

APPENDIX I—contd.

[See Clause (u) of proviso to entry 1 in first column of Schedule—contd.]

No.	Name of mine.	Name of owner.	SITUATION.		
			Village.	Sub-division.	District.
		DELHI.			
		STONE MINES.			
1	Mochibagh . . .	Lala Sedhu Mall . . .	Mochibagh . . .	Delhi . . .	Delhi . . .
		MADRAS.			
		STONE MINES.			
1	Pallavaram . . .	Madras Corporation . . .	Pallavaram . . .	Saidapet Tq. . .	Chingleput . . .
2	Pallavaram No. 3 . . .	Cantonment Authority . . .	St. Thomas' Mount and Pallavaram . . .	Do. . .	Do. . .
3	Pallavaram . . .	Mahdi Hussain Khan . . .	Pallavaram . . .	Do. . .	Do. . .
4	Trisulam . . .	Madras Port Trust . . .	Trisulam . . .	Do. . .	Do. . .
5	Thattankunnu-Moombakam . . .	Garrison Engineer, Military Department, Fort St. George, Madras . . .	Do. . .	Do. . .	Do. . .
6	Agraharam (S. No. 11) . . .	Dorbalapeda Venkata Sastry . . .	Kolankonda . . .	Mangalgiri . . .	Guntur . . .
7	Kolankonda (S. No. 12) . . .	M. & S. M. Railway . . .	Do. . .	Do. . .	Do. . .
8	Kolankonda . . .	Public Works Department, Krishna Western Division Bezwada . . .	Do. . .	Do. . .	Do. . .
9	Kolankonda . . .	District Board, Guntur . . .	Do. . .	Do. . .	Do. . .
10	Tadepalli . . .	Do.	Tadepalli . . .	Do. . .	Do. . .
11	Tadepalli and Sitanagaram . . .	Public Works Department, Krishna Western Division, Bezwada . . .	Tadepalli and Sitanagaram . . .	Do. . .	Do. . .
12	Sitanagaram (S. No. 244/6) . . .	Public Works Department, Krishna Western Division, Bezwada . . .	Sitanagaram . . .	Do. . .	Do. . .
13	Tadepalli . . .	Lately owned by Municipal Council, Tenali . . .	Tadepalli . . .	Do. . .	Do. . .
14	Katheru . . .	A. Lakshamanaswamy Naidu and Others . . .	Katheru . . .	Rajmundry . . .	East Godavari . . .
15	Molagupparai . . .	Military Department . . .	Trichinopoly Town . . .	Trichinopoly . . .	Trichinopoly . . .

APPENDIX IV—contd.

Miscellaneous—contd.

Statement No. 3—contd.

SCHEDULE—contd.

APPENDIX I—contd.

[See Clause (a) of proviso to entry 1 in first column of Schedule—contd.]

No.	Name of mine	Name of owner.	SITUATION.		
			Village.	Sub-division.	District.
		MADRAS—contd.			
		STONE MINES—contd.			
16	Sanipparai . . .	South Indian Railway .	Edamalapet .	Trichinopoly	Trichinopoly.
17	Mogalrajpuram . . .	Government of Madras, Public Works Depart- ment.	Mogalrajpuram	Beswada Taluk.	Kistna.
18	Pakkam . . .	South Indian Railway .	Pakkam .	Maduranta- kam Taluk	Chingleput.
19	Stone quarry . . .	Do. . . .	Paranur, No. 209 of Tirukkoyilur.	..	Aroca.
20	Kodambar quarry . . .	Do. . . .	At Mile T. 380 on the Ma- dura-Tu si- corin Line on a separate siding.	..	Tinnevelly.
21	Veli quarry . . .	Do. . . .	Between miles Q508/10 and Q509/1.	..	Do.
22	Mile Q460/16-17, Q461/0-2, and Q461/16-19.	Do. . . .	Between Ka- tharkara and Ezhukone Stations (Sheneothah —Quilon Sec- tion).	..	Do.
		BARYTES MINES.			
1	Block Nos. 21 and 21/A.	B. P. Seshareddy . . .	Kommemari .	Dhone .	Kurnool.
2	Betamoherla B. F. .	Do. . . .	Kolumalappali	Do. .	Do.
3	Vemula (S. Nos. 981- 5-978 and 979).	A. Krishnappa and Sons.	Vemula .	Pulivendla Taluk.	Cuddapah.
4	Nandipalli . . .	Do. . . .	Kothapalli (S. Nos. 517/2 and 517/3).	Do. .	Do.
5	Vemula (S. No. 981- 4).	Tiffin and Company .	Vemula .	Do. .	Do.
6	Vemula S. No. 1021	Do. . . .	Do. .	Do. .	Do.
7	Kothapalli, No. 288.	Do. . . .	Kothapalli .	Do. .	Do.

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 2—*contd.*SCHEDULE—*contd.*APPENDIX I—*contd.*[See Clause (a) of proviso to entry 1 in first column of Schedule—*contd.*]

No.	Name of mine.	Name of owner.	SITUATION.		
			Village.	Sub-division.	District.
		MADRAS—<i>contd.</i>			
		LIMESTONE MINE.			
1	Madukkarai . . .	Coimbatore Cement Company, Limited.	Madukkarai .	Coimbatore.	Coimbatore.
		SLATE MINE.			
1	Mine east of Nallayani.	Sirasnagandla Subbarayudu and others.	Within the limits of Kethagudi p i Agrahan.	Podili Taluk.	Nellore.
		PUNJAB.			
		STONE MINES.			
1	Taxila	Hukum Chand	Taxila . . . . .	..	Rawalpindi.
2	Taxila	Civil Department c/o Deputy Commissioner, Rawalpindi.	Do. . . . .	..	Do.
3	Sangla Hill	Government of the Punjab, Public Works Department (Irrigation Department.)	Sangla Hill . . . .	..	Sheikhpura.
4	Sangla Hill	N. W. Railway	Do. . . . .	..	Do.
5	Chambal and Chanuwala.	P. W. Department (Irrigation Department).	Chambal and Chanuwala.	Pind Dadan Khan.	Jhelum.
6	Gharibwal (Jutana-quarry).	North Western Railway.	Jutana	Do.	Do.
7	Chiniot	N. W. Railway	Chiniot	Jhang	Jhang.
		LIMESTONE MINES.			
1	Wah	Punjab Portland Cement Ltd.	Wah	Attock	Attock.
2	Uamankhattar . . .	Krishna Lal Malhotra .	Uamankhattar.	Rawalpindi.	Rawalpindi.
3	Sangjani	Sangjani Stone Co., Ltd.	Sangjani	Do.	Do.
4	Tarki	Government of the Punjab, Public Works Department, Buildings and Roads Branch.	Tarki	Jhelum	Jhelum.
5	Paikhel	N. W. Railway	Swance	Mianwali	Mianwali.

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 3—*contd.*SCHEDULE—*contd.*APPENDIX I—*contd.*[See Clause (a) of proviso to entry 1 in first column of Schedule—*concl'd.*]

No.	Name of mine.	Name of owner.	SITUATION.		
			Village.	Sub-division.	District.
		SIND.			
		STONE MINE.			
1	Rohri	N. W. Railway . . .	Rohri . . .	Rohri . . .	Sukkur.
		UNITED PROVINCES.			
		STONE MINE.			
1	Sankergarh . . .	Sheikh Hidayatullah .	Tala . . .	Allahabad .	Allahabad .
2	Sankergarh . . .	Jethanand	Do. . . .	Do. . . .	Do.
3	Sankergarh . . .	Govindram Sindhi . .	Benipur . . .	Do. . . .	Do.
4	Shankergarh . . .	Pars Ram	Shankergarh .	Do. . . .	Do.
5	Hajitola (Sankergarh)	Govindram Sindhi . .	Hajitola . . .	Do. . . .	Do .
6	Lakhanpur (Sankergarh).	L. P. Pandey and Sons .	Lakhanpur . .	Do. . . .	Do.
7	Kulmajra	Pars Ram	Kulmajra . . .	Maw	Banda.
8	Kulmajra	Bhagwandin	Do. . . .	Do. . . .	Do.
9	Sheora	Nazir Hussain	Gulputra . . .	Jhansi-Math	Jhansi.
10	Sheora	Ram Harak	Do. . . .	Do. . . .	Do.
11	Sheora	Ram Charan and Ram Gopal.	Tari	Do. . . .	Do.
12	Sheora	Debi Sahai and Kall Charan.	Do. . . .	Do. . . .	Do.
13	Sheora	Murikdhar and Tek Chand	Do. . . .	Do. . . .	Do.
14	Chandpur Jahazpur .	Randhir Singh	Chandpur Ja- hazpur.	Lalitpur . . .	Do.
15	Chandpur Jahazpur .	Shiam Lal Tara Chand and Company.	Jhilgawan . . .	Do. . . .	Do.
16	Hardari Nos. 1 and 2	Pt. Shiamlal Tarachand and Company.	Hardari	Do. . . .	Do.
17	Sheora Hill	G. I. P. Railway (Contractor--Uma Shankar).	Todi	Jhansi	Do.
		OTHER MINE.			
1	Lakhanpur	R. P. Mustaphy	Lakhanpur	Banda.

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APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 3—*contd.*SCHEDULE—*contd.*

APPENDIX II.

FORM OF REPORT.

[See Condition (1) in third column relating to entry 1 in first column of Schedule.]

1. Name and situation of the mine.
2. Name of mineral worked.
3. Name and postal address of owner.
4. Name and postal address of manager.
5. Depth of the mine measured from its highest to its lowest point.
6. Number of persons employed in the mine.
7. Whether explosives are used in the mine.
8. The general condition of the mine as to safety in working.
9. Whether underground workings have been made or are likely to be made.
10. The date on which the mine was opened (for new mines only).

Date _____

*Signature of owner,
agent or manager.*

A. G. CLOW,
Secy. to the Govt. of India.

APPENDIX IV—*contd.*Miscellaneous—*contd.*

Statement No. 4.

NOTIFICATION.

New Delhi, the 22nd February 1938.

No. M.-1023(1).—In exercise of the powers conferred by section 29 of the Indian Mines Act (IV of 1923), the Central Government is pleased to direct that the following amendments shall be made in the Indian Oil Mines Regulations, 1933, the same having been previously published as required by sub-section (1) of section 31 of the said Act, namely :—

- I. In regulation 1 of the said regulations—
- (a) in sub-regulation (2), for the words and figures "every oil mine other than an oil mine subject to the Lanywa Oil Mine Regulations, 1933", the words "all oil mines" shall be substituted;
 - (b) sub-regulation (3) shall be omitted.
- II. In Regulation 2 of the said Regulations—
- (a) in the proviso to clause (b) for the words "Local Government", the words "Central Government" shall be substituted;
 - (b) clause (c) shall be omitted; and
 - (c) clauses (d) and (e) shall be relettered as clauses (c) and (d) respectively.
- III. Regulation 3 of the said Regulations shall be omitted.
- IV. In regulations 4, 6 and 18 of the said Regulations, the words "and to the Warden" shall be omitted.
- V. In Regulations 5 and 7 of the said Regulations—
- (a) for the words "in triplicate" the words "in duplicate" shall be substituted; and
 - (b) the words "and one copy to the Warden" shall be omitted.
- VI. In regulations 8, 9, 11, 14 and 15 of the said regulations, the words "and the Warden" wherever they occur, shall be omitted.
- VII. In regulation 11 of the said Regulations, for the words "Local Government" wherever they occur, the words "Central Government" shall be substituted.
- VIII. In regulation 19 of the said Regulations the words "or the Warden" shall be omitted.
- IX. In regulation 41 of the said Regulations, for the words "Local Government" wherever they occur, the words "Chief Inspector" shall be substituted.

Statement No. 5.

NOTIFICATION.

New Delhi, the 23rd March 1938.

No. M.-1028(1).—In exercise of the powers conferred by section 29 of the Indian Mines Act, 1923 (IV of 1923), the Central Government is pleased to direct that the following further amendments shall be made with effect from the 1st April 1938 in the Indian Coal Mines Regulations, 1926, the same having been previously published as required by sub-section (1) of section 31 of the said Act, namely :—

1. In the said Regulations, for the words "Governor General in Council", "Government of India" and "Local Government", wherever they occur, the words "Central Government" shall be substituted.

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 5—*contd.*

2. In the second proviso to regulation 23 of the said Regulations, for the words "Province in which the appellant is employed" the words "part of British India in which the mine or part of the same is situated" shall be substituted.
3. In sub-regulation (5) of regulation 31 of the said Regulations, the words "and in such local official gazettes as the Board may direct" shall be omitted.
4. In clause (g) of regulation 48 of the said Regulations, the words "and in the local official gazette" shall be omitted.
5. In sub-regulation (3) of regulation 76 of the said Regulations, for the word "province" the words "part of British India" shall be substituted.

A. G. CLOW,

Secretary to the Government of India.

Statement No. 6.

NOTIFICATION.

New Delhi, the 23rd March 1938.

No. M.-1028(2).—In exercise of the powers conferred by section 29 of the Indian Mines Act, 1923 (IV of 1923), the Central Government is pleased to direct that the following further amendments shall be made with effect from the 1st April 1938 in the Indian Metalliferous Mines Regulations, 1926, the same having been previously published as required by sub-section (1) of section 31 of the said Act, namely:—

1. In regulations 2 and 10 of the said Regulations, for the words "Local Government", wherever they occur, the words "Central Government" shall be substituted.
2. In regulation 15 of the said Regulations, for the words "Governor General in Council" the words "Central Government" shall be substituted.

A. G. CLOW,

Secretary to the Government of India.

Statement No. 7.

NOTIFICATION.

Simla, the 20th May 1938.

No. M.-955.—In exercise of the powers conferred by section 29 of the Indian Mines Act, 1923 (IV of 1923), the Central Government is pleased to direct that the following further amendments shall be made in the Indian Coal Mines Regulations, 1926, the same having been previously published as required by sub-section (1) of section 31 of the said Act, namely:—

In the said Regulations—

I. For regulation 2, the following regulation shall be substituted, namely:—

" 2. In these regulations, unless there is anything repugnant in the subject or context,—

(a) 'the Act' means the Indian Mines Act, 1923;

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 7—*contd.*

(b) 'approved safety lamp', 'approved flame safety lamp' and 'approved electric torch' mean respectively, a safety lamp, a flame safety lamp or an electric torch manufactured by such firm and of such type as the Chief Inspector may from time to time specify by notification in the Gazette of India, and includes any other safety lamp or electric torch approved by the Chief Inspector by an order in writing;

(c) 'the District Magistrate', in relation to any mine, means the District Magistrate of the district in which the mine is situated:

Provided that in the case of a mine which is situated partly in one district and partly in another, the District Magistrate for the purposes of these regulations shall be the District Magistrate authorised in this behalf by the Central Government;

(d) 'Form' means a Form as set out in Schedule I;

(e) 'Permitted Explosive' means an explosive permitted by the Chief Inspector under such definition and subject to such conditions as he may from time to time lay down by notification in the Gazette of India;

(f) 'ventilating district' means such part of a mine as has an independent intake airway commencing from a main intake airway, and an independent return airway terminating at a main return airway".

II. In regulation 13—

(i) after the words "outbreak of fire", the words "or smoke, or other indication of outbreak of fire or an influx of noxious gases" shall be inserted; and

(ii) for the words "the occurrence of such accident, explosion, ignition, outbreak or eruption" the words "any such occurrence" shall be substituted.

III. In regulation 15, after sub-regulation (3) the following sub-regulation shall be inserted, namely:—

"(3A). (i) The owner, agent or manager of every mine shall also keep a separate plan showing the system of ventilation in the mine, and, in particular, the general direction of the air-currents, the points where the quantity of air is measured and the principal devices for the regulation and distribution of the air. So far as practicable the intake airways shall be coloured blue and the return airways red.

(ii) The positions of any underground ambulance stations and telephones shall be indicated on the plan.

(iii) The code of signs set out in Schedule II shall be utilised in plans made under this sub-regulation."

IV. In sub-regulation (2) of regulation 30 after clause (c) the following clause shall be added, namely:—

"(d) certificates of competency to fire shots in a mine (in these regulations referred to as shot-firers' certificates)".

V. After regulation 39 the following regulation shall be inserted, namely:—

"39-A. No person shall be admitted as a candidate at any examination for a shot-firer's certificate unless he has attained the age of 21 years and has satisfied the Board of Examiners that he has had two years' practical experience of underground work in a coal mine of which at least six months shall have been practical experience in connection with shot-firing".

VI. To clause (c) of regulation 40 the following shall be added, namely:—

"as detailed in clause (a) of regulation 40-A".

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 7—*contd.*

VII. After regulation 40 the following regulation shall be inserted, namely:—

"40-A. Examinations for shot-firers' certificates shall be conducted orally in English or in the vernacular language of the district in which the examination is held and shall be designed to test the candidate's knowledge of the following subjects, namely:—

- (a) the charging and firing of shots of gunpowder and high explosives;
- (b) the provisions of the regulations, rules and bye-laws under the Act relating to the handling and use of explosives; and
- (c) the examination of a working place after shot-firing".

VIII. In regulation 42—

(i) to sub-regulation (1) after clause (d) the following clause shall be inserted, namely:—

"(e) in the case of an examination for a shot-firer's certificate.....
.....1."

(ii) for sub-regulation (2) the following sub-regulation shall be substituted, namely:—

"(2) The amount of any fee referred to in sub-regulation (1) less the following amounts shall be returnable to the person by whom it has been paid if the application of such person for admission to the examination is rejected:—

- (a) annas eight in the case of the fee paid for admission to an examination for a shot-firer's certificate;
- (b) Rs. 1 in the case of the fee paid for admission to an examination for a sirdar's certificate;
- (c) Rs. 5 in any other case."

IX. In regulation 44, for the words and figures "a fee of one rupee in the case of a sirdar's certificate and of two rupees in any other case shall be payable in the manner prescribed in regulation 153" the following shall be substituted, namely:—

"the following fees shall be payable in the manner prescribed in regulation 153:—

	Rs.	A.	P.
(a) In the case of a manager's or surveyor's certificate	2	0	0
(b) In the case of a sirdar's certificate	1	0	0
(c) In the case of a shot-firer's certificate	0	8	0

X. In regulation 45, regulation 47 and regulation 49 after the words "sirdar's certificate" wherever they occur, the words "or shot-firer's certificate" shall be inserted.

XI. In regulation 58, to sub-clause (2) of clause (i), the following shall be added, namely:—

"and in particular at all such engines, where electric lighting is used, an additional light having no connection with the electric supply shall be kept burning at night".

XII. In regulation 70—

(i) for sub-regulation (4) the following sub-regulations shall be substituted, namely:—

"(4) The inspection shall be made with an approved looked flame safety lamp and no additional light shall be used other than an approved electric torch or lamp:

Provided that in the case of a mine in which inflammable gas has never been found and is unlikely to be found, the inspection, except in the region of an underground fire or of any stoppings made to control a fire, may be made with any electric torch or lamp if it is used in conjunction with an open light or an approved looked flame safety lamp.

(4A) In any inspection in the region of an underground fire, or of any stoppings made to control a fire, a cage containing small birds or other means of detecting carbon monoxide gas approved by the Chief Inspector shall be carried," and

(ii) sub-regulation (8) shall be omitted.

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 7—*contd.*

XIII. After regulation 70, the following regulation shall be inserted, namely :—

" 70A. (1) The first inspection of a mine or part of a mine which is re-opened after a discontinuance of mining for a period exceeding seven days and of any part of a mine after being dewatered, shall be made by a person possessing the qualifications prescribed in sub-regulation (1) of regulation 71 with an approved locked flame safety lamp.

(2) No additional light shall be used in any such inspection other than an approved electric torch or lamp.

(3) The result of every such inspection shall be reported by the person making it in the manner required by sub-regulation (6) of regulation 70 and shall be recorded in the book maintained in accordance with sub-regulation (2) of regulation 70."

XIV. For regulation 72, the following regulation shall be substituted, namely :—

" 72. (1) If at any time it is found by the person for the time being in charge of a mine or any part thereof that, by reason of any cause whatever, the mine or part is dangerous, every workman shall be withdrawn from the mine or part, and a competent person appointed by the manager for the purpose shall inspect the mine or part.

(2) The person so appointed shall make a full and accurate report of the condition of the mine or part and no workman shall, except in so far as is necessary for enquiring into the cause of the danger or for the removal thereof or for exploration be re-admitted into the mine or part, until the mine or part is reported by the person so appointed not to be dangerous.

(3) Every report made under sub-regulation (2) shall be recorded without delay in a paged book, which shall be kept at the mine for the purpose, and shall be dated and signed by the person who made the inspection :

Provided that—

(i) where the danger arises from the presence of inflammable or noxious gas, the provisions of regulation 72-A shall be followed ;

(ii) where the appearance in any part of a mine of smoke or other sign indicates that fire has or may have broken out, the provisions of regulation 87F shall be followed "

XV. After regulation 72 the following regulations shall be inserted, namely :—

" 72-A. (1) When inflammable gas or any noxious gas is detected in any working place or any part of a mine, all persons shall be withdrawn from the place or part, and the place or part shall be immediately fenced off so as to prevent persons inadvertently entering the same. The official-in-charge of the district in which the gas has been detected shall take steps, without delay, to remove the gas by improving the ventilation and shall also send a report of the occurrence to the manager.

(2) During the removal of such gas no naked light shall be used in the ventilating district in which the gas is detected and all persons, except those necessary for such removal, shall be withdrawn from the return side of the ventilating district unless the quantity of gas is, in the opinion of the manager or other responsible official-in-charge of the mine in the manager's absence, so small that such withdrawal of persons is unnecessary.

(3) No workman shall be readmitted into the place or part referred to in sub-regulation (1) until a competent person appointed by the manager for the purpose has inspected the place or part and has reported that the place or part is free from gas. Every such report shall be in writing and shall be dated and signed by the person who made the report.

(4) The inspection required by sub-regulation (3) shall be made with an approved locked flame safety lamp and in the case of noxious gas, also with a cage containing small birds or other means of detecting carbon monoxide gas approved by the Chief Inspector.

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 7—*contd.*

(5) Particulars of every occurrence referred to in sub-regulation (1) and every report submitted under sub-regulation (3) shall be recorded in a pagod book, which shall be kept at the mine for the purpose, and it shall be stated in the book where and when the gas was found and when it was removed.

72-B. (1) No coal shall be extracted from any spot which lies vertically below—

(a) any part of the bed of any river, tank or reservoir, or

(b) any spot lying within a horizontal distance of 50 feet from either bank of a river or the boundary of a tank or reservoir,

except with the written permission of the Chief Inspector and subject to such conditions as he may specify.

(2) For the purposes of this regulation, where sand or alluvium are lying in the course of a river, or in a tank or reservoir the bed of the river, tank or reservoir at that point shall be deemed to coincide with the surface of the hard strata underlying such sand or alluvium."

XVI. In regulation 81—

(i) in sub-regulation (1)—

(a) for the word "Reasonable" the word "Proper" shall be substituted; and

(b) for the words "to isolate" the words "and adequate steps shall be taken to isolate" shall be substituted.

(ii) for sub-regulation (2), the following sub-regulation shall be substituted, namely:—

"(2) Where in the opinion of an Inspector, the provision made or steps taken for the purposes specified in sub-regulation (1) are inadequate, he may require such additional provision or steps as he shall specify to be made or taken."

XVII. In regulation 85, the words "or an outbreak of fire" shall be omitted.

XVIII. After regulation 86, the following headings shall be inserted, namely:—

"CHAPTER VII A.

SPECIAL PRECAUTIONS AGAINST SPONTANEOUS COMBUSTION AND UNDERGROUND FIRES."

XIX. After regulation 87, the following regulations shall be inserted, namely:—

"87A. (1) All surface structures and supports within a horizontal distance of 25 feet from the perimeter of shafts and the covering of all shafts sealed off or covered for ventilation purposes, and all fan drifts, fan casings and parts of fans within such drifts or casings, shall be of non-inflammable material:

Provided that this sub-regulation shall not apply to—

(a) structures and supports and the covering of shafts, if they are so protected by non-inflammable material as to eliminate the risk of fire;

(b) the small lid or covering of a shaft covering operated by the rope cappel; and

(c) temporary structures, supports and coverings at the top of shafts which are in the course of being sunk:

Provided further that until 30th April 1940 this sub-regulation shall not apply to wooden headgears which were in use on the date on which this sub-regulation came into force.

(2) All air-crossings in main intake or main return airways and all ventilation or separation doors in any fan house or fan drift and in the vicinity of shaft bottoms or air-crossings in main intake or main return airways shall be constructed of non-inflammable material and shall be designed, as far as practicable, to prevent leakage.

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 7—*contd.*

(3) No timber or other inflammable material shall be used in the construction of or in connection with any underground engine-house or electrical sub-station, switch house or motor room."

87 B. No oil, grease, canvas, or other highly inflammable material shall be stored underground in any mine except in a fire-proof receptacle or chamber.

87 C. Adequate means of extinguishing fire shall be provided at any part of a mine where timber, grease or other inflammable material is stored and at all insets where timber is used for the construction of the staging and at every pit-head, pit-bottom engine-room and electrical apparatus room.

87 D. (1) No person shall light a fire or deposit ashes or heated material in any coal quarry, or on any exposed outcrop of coal, or on any ground damaged by the extraction of coal in which open fissures or cavities exist.

(2) No person shall light a fire or permit a fire to be lighted in any underground part of a mine:

Provided that nothing in this sub-regulation shall apply to the use in a mine to which regulation 123 does not apply, of blow lamps or electric repairing apparatus if permitted by a special written order granted by the manager of the mine. The order shall specify the person who shall be in charge of the blow lamp or apparatus and shall require such person to bring it back to the surface when no longer required.

(3) No person shall light a fire or permit a fire to be lighted within a distance of 40 feet from the perimeter of any shaft except in accordance with a written order granted by the manager of the mine and only for a special purpose specified in such order:

Provided that this sub-regulation shall not apply to boilers other than vertical boilers.

(4) All such orders shall be recorded in a pagged book kept in the office of the mine.

(5) No person shall ignite a "feeder" or an accumulation of gas.

87 E. No excavation shall be done in any part of a seam lying under any part of another seam which is on fire or is believed to be on fire or which is connected by a goaf or by broken strata to any fire except by a method which will maintain the strata between the seams *in situ* and intact.

87 F. (1) On the appearance in any part of a mine of smoke or other sign indicating that a fire has or may have broken out all workmen other than those whose presence in the mine is deemed necessary for dealing with the emergency shall be immediately withdrawn from the mine. No workmen, other than the men required for dealing with or damming off the fire, shall be re-admitted until either the fire has been extinguished or the part in which it exists has been effectively dammed off and an examination has been made by the manager and the competent person appointed under regulation 72 and the mine has been reported to be safe. Every such report shall be recorded without delay in a pagged book, which shall be kept at the mine for the purpose and shall be dated and signed by the manager and the competent person who made the inspection:

Provided that, in a mechanically ventilated mine in which the use of safety lamps is not required other than for inspection purposes, this regulation shall apply only to the ventilating district or districts, that may be affected.

(2) The examination required by sub-regulation (1) shall be made with an approved locked flame safety lamp and a cage containing small birds or other means of detecting carbon monoxide gas approved by the Chief Inspector. No additional light shall be used other than an approved electric torch or lamp.

87 G. (1) Approved locked safety lamps or electric torches shall be exclusively used in the work of dealing with or damming off an underground fire:

Provided that where, in the opinion of the manager, it is necessary to take immediate steps to deal with an outbreak of fire, the provisions of the sub-regulation shall be deemed to have been complied with if the workmen engaged in dealing with the fire are provided with approved safety lamps or electric torches as quickly as is reasonably practicable.

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 7—*contd.*

(2) During the work of dealing with or damming off an underground fire a cage or cages containing small birds or other means of detecting carbon monoxide gas approved by the Chief Inspector shall be kept at all places in which persons may be in danger from noxious gases.

87 H. Approved locked safety lamps or electric torches shall be exclusively used in any ventilating district of a mine in which there is an underground fire whether such fire is sealed off by stoppings or not:

Provided that the Chief Inspector may in the case of any mine, grant exemption from this regulation under such conditions as he may impose, if in his opinion, the use of approved safety lamps or electric torches in such mine is not necessary.

87 I. (1) In any ventilating district of a mine which is not naturally wet throughout and—

- (i) in which there is an underground fire, whether sealed off or not, or
- (ii) in which the extraction of pillars is in hand or is about to commence;

the following precautions with respect to danger from dry coal dust shall be taken:—

- (a) All haulage and tramming roads shall be systematically kept clear of accumulations of dry coal dust.
- (b) All such roads shall be systematically treated with water or incombustible dust in such a manner as to prevent an explosion from being initiated or propagated by coal dust. If incombustible dust is used for the purpose, it shall be of a kind which is not likely to be injurious to the health of workmen.

(2) The precautions laid down in sub-regulation (1) shall also be observed at all places within 400 feet of an area—

- (i) which has been or is being sealed off on account of fire; or
- (ii) in which pillars are being extracted.

(3) The Chief Inspector may, by order in writing, grant, subject to such conditions as he may impose, exemption from the provisions of sub-regulation (1) or sub-regulation (2) to any mine or part of a mine on the ground that, on account of the special character of the mine or part, the observance of the precautions laid down therein is not necessary.

87 J. In any working mine in which a fire is known or is believed to exist—

- (a) adequate precautions shall be taken to prevent the passage of air from the mine through any goaf or through broken strata connected with the fire; and
- (b) no work, other than work required by clause (a) of this regulation, shall be done in any part of the mine which is not effectively sealed off from any such goaf or broken strata.

XX. For regulation 93, the following regulation shall be substituted, namely:—

“93. Where a main haulage road extends to a distance of more than 3,000 feet from the shaft or the entrance to the mine, efficient means of telephonic communication shall be provided and maintained between a suitable station near the end of every such main haulage road, the pit-bottom, and the surface, or between a suitable station near the end of every main haulage road and the entrance to the mine:

Provided that the Chief Inspector may by order in writing require the provision of means of telephonic communication where in any mine the main haulage extends to a distance of less than 3,000 feet from the shaft or the entrance to the mine, where travelling is unduly arduous:

Provided further that the Chief Inspector may by order in writing permit the use of other suitable means of communication in cases in which the conditions in the mine are not suitable for telephones.”

XXI. For regulation 95, the following regulation shall be substituted, namely:—

“95. (1) No person shall permit a tub or tubs to run uncontrolled except with the consent of the manager.

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 7—*contd.*

Provided that the Chief Inspector may, by order in writing, prohibit the uncontrolled movement of tubs at any place where, in his opinion, there would be danger of injury to persons.

(2) No person shall ride on any tub, truck or wagon, either underground or aboveground, except with the written permission of the manager."

XXII. In regulation 96-A, the words "in which inflammable gas has been found during the previous twelve months or in which there is a risk of inflammable gases entering the mine from an underground fire" shall be omitted.

XXIII. After regulation 101, the following regulation shall be inserted, namely:—

"101 A. No liquid oxygen explosive shall be used in any underground part of a mine."

XXIV. For regulations 108 and 109, the following regulations shall be substituted, namely:—

"108. (1) No shot shall be stemmed or fired except by or under the personal supervision of a competent person appointed by the manager by order in writing to be a shot-firer.

(2) In any mine in which more than 50 persons are employed underground at any one time, no person shall be so appointed or shall perform the duties of a shot-firer who is responsible for making inspections under sub-regulation (2) of regulation 70.

(3) With effect from the 1st day of April 1940, no person shall be appointed as a shot-firer under sub-regulation (1) unless he holds either a shot-firer's certificate or a sirdar's certificate or a manager's certificate granted under these regulations.

109. Every shot-firer shall, before a shot is fired by him or under his supervision, see that all persons in the vicinity have taken proper shelter at a safe distance, he shall also take suitable steps to prevent any person approaching the shot and shall himself take proper shelter."

XXV. For regulations 115 and 115-A, the following regulation shall be substituted, namely:—

"115. (1) In any place in a mine in which the use of a locked safety lamp is for the time being required by or in pursuance of these regulations—

(a) no shot shall be stemmed or fired by any person who does not hold a sirdar's certificate endorsed for gas testing;

(b) no shot shall be fired until the shot-firer has examined both the place where the shot is to be fired and all accessible places within a radius of 60 feet for the presence of inflammable gas and has found such places free from gas;

(c) no shot of a Permitted Explosive shall be fired except by means of a shot-firing apparatus of a type approved by the Chief Inspector and subject to such conditions as he may from time to time lay down by notification in the *Gazette of India*;

Provided that the Chief Inspector may, in special cases, by order in writing, permit, subject to such conditions as he may specify, the use of any other shot-firing apparatus.

(2) (i) Every approved shot-firing apparatus in use in a mine shall, once at least in every three months, be cleaned and thoroughly overhauled by a competent person appointed in writing by the manager.

(ii) No person shall use or allow to be used any approved apparatus which has become unsafe or defective.

(3) No shot shall be fired at any place underground in a mine unless the place itself and all accessible places within a distance of 60 feet—

(a) are naturally wet, or

(b) have been drenched with water to such an extent that there will be no danger of dry coal-dust being raised into the air by the shot, or

(c) have been thoroughly treated with incombustible dust."

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 7—*contd.*

XXVI. For regulations 116, the following regulation shall be substituted, namely :—

" 116. No explosive other than a Permitted Explosive shall be used—

- (a) in any mine in which inflammable gas has within the previous twelve months been reported to be present or in which safety lamps are required, by or in pursuance of these regulations, to be used for any purpose other than inspections; and
- (b) in any other mine in any main haulage road or main intake or main return airway or any place immediately contiguous to such road, intake, airway or place unless such road, intake, airway or place is naturally wet throughout:

Provided that in the case of any mine or any part of a mine and exemption may be given by the Chief Inspector, subject to such conditions as he may impose, on the ground that, on account of the special character of the mine, the prohibition of the use of explosives other than Permitted Explosives is not necessary."

XXVII. After regulation 116A, the following regulation shall be inserted, namely :—

" 116-B. In any underground part of a mine two or more shots shall not be charged or fired in the same place simultaneously, if the explosive used is not a Permitted Explosive:

Provided that this regulation shall not apply to—

- (a) working places in which the roof, floor and sides within a radius of 100 feet of the place where shots are to be fired are naturally wet; or
- (b) a cross-measure drift in stone if such drift does not contain dry coal-dust; or
- (c) shafts which are in the process of being sunk through or across the strata."

XXVIII. In regulation 117, for the words "person who fired the shot or a" the words "shot-fire appointed under regulation 108 or other" shall be substituted.

XXIX. For regulations 123 to 125, the following regulations shall be substituted, namely :—

" 123. (1) No artificial light other than an approved locked safety lamp shall be allowed or used—

- (a) in any seam in a mine in which an explosion or ignition of inflammable gas has occurred during the previous twelve months:

Provided that the Chief Inspector may, subject to such conditions as he may impose, exempt any mine from the operation of this clause, on the ground that on account of the special character of the mine the use of safety lamps is not necessary;

- (b) in any place in a mine in which there is or is likely to be any such quantity of inflammable gas as to render the use of naked lights dangerous;
- (c) in any working near a place in which there is likely to be an accumulation of inflammable gas; or
- (d) in any ventilating district of a mine in which inflammable gas has been found during the previous twelve months.

(2) If any difference of opinion arises between an Inspector and a manager on the question whether the conditions specified in clauses (b) and (c) of sub-regulation (1) exist in any mine, the question shall be referred to the Chief Inspector whose decision thereon shall be final.

(3) In the case of any mine to which clause (d) of sub-regulation (1) applies the Chief Inspector may, if safety lamps are not immediately available, grant a temporary exemption from the operation of that clause, subject to such conditions as he may specify, until such time as safety lamps can be obtained.

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 7—*contd.*

(4) In any mine or part of a mine in which safety lamps have been in use in compliance with the provisions of sub-regulation (1), no artificial light other than an approved locked safety lamp shall subsequently be allowed or used, except with the written consent of the Chief Inspector.

Explanation.—Where the ventilation in a mine is not mechanically controlled, the ventilating district shall be deemed to include the whole mine. Where the ventilation in part only of a mine is not mechanically controlled, the whole of the part in which ventilation is not mechanically controlled shall be deemed to be a single ventilating district.

124. Notwithstanding anything contained in regulation 123, fixed electric lights from power mains may be used in any part of a mine which is not within 600 feet of any working face, provided such installation complies with the rules made under the Indian Electricity Act, 1910, relating to the use of electric energy in parts of mines in which inflammable gas is likely to occur in quantity sufficient to be indicative of danger.

125. In any mine in which inflammable gas has been found during the previous twelve months no advance gallery shall be driven more than ten feet ahead of the widened gallery and in every such gallery the ventilating current shall be conducted as near to the working face as is practicable."

XXX. In regulation 127—

(i) in clause (a) after the word "appointed" the words "in writing" shall be inserted and for the word "used" the words "issued for use" shall be substituted;

(ii) for clause (b) the following clause shall be substituted, namely:—

"(b) A competent person appointed in writing by the manager for the purpose shall examine every safety lamp at the surface immediately before it is taken underground for use and shall assure himself, as far as practicable, from external observation that each lamp is in safe working order and securely locked. The person so appointed shall not be the bankman except in a mine where the number of persons employed underground is not more than 50 at any one time."

(iii) Clauses (d) and (e) shall be renumbered as clauses (f) and (g), respectively.

(iv) Before clause (f), as renumbered, the following clauses shall be inserted, namely:—

"(d) A competent person appointed in writing by the manager for the purpose shall examine every safety lamp on its being returned, after use underground. If on such examination any lamp is found to be damaged or misused, he shall record the nature of the damage or misuse in a book to be kept at the mine for the purpose. Every new entry in the book shall be shown to the manager without delay.

(e) The manager or a competent official appointed in writing by the manager for the purpose, other than the persons referred to in clauses (a) and (b) of this regulation, shall examine thoroughly all safety lamps in use at a mine at least once in every week, and shall record the result of his examination in a book kept at the mine for the purpose. If any lamp is found to be defective, it shall not be reissued for use until the defect has been remedied."

(v) After clause (g) as renumbered, the following clauses shall be inserted, namely:—

(k) No glass of an approved flame safety lamp shall be replaced except by a flame lamp glass manufactured by such firm and of such type and satisfying such conditions as the Chief Inspector may from time to time specify by notification in the *Gazette of India*.

(i) No bulb of an approved electric safety lamp shall be replaced except by an electric lamp bulb manufactured by such firm and of such type and satisfying such conditions as the Chief Inspector may from time to time specify by notification in the *Gazette of India*."

XXXI. In regulation 133 the words "or fire" shall be omitted.

XXXII. Regulation 135 shall be omitted.

XXXIII. The Schedule appended to the said Regulations shall be numbered as Schedule I, and

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 7—*contd.*

In the said Schedule, as so numbered, for Form IX the following Form shall be substituted, namely:—

FORM IX.

(SEE REGULATION 13.)

Notice of occurrence.

From _____

To

THE CHIEF INSPECTOR OF MINES IN INDIA,

(through the District Magistrate of.....
Sub-Divisional)

Date

19 .

Sir,

I have the honour to furnish the following particulars of an occurrence

a fatal accidenta serious accidentan accidental explosion or ignitionof an outbreak of fire at the..... Mine.smoke or other indication of outbreak of firean influx of noxious gasesan irruption of water1. Situation of the mine. (Village, Station,
District, Province).

2. Name and postal address of owner.

3. Particulars of persons killed and injured, if any—

Name	Sex.	Killed or Injured.	Age.	Occupation.

4. Date and hour of the occurrence.

5. Place of the occurrence.

6. Cause and description.

7. Classification of accident.*

8. Nature of injury, if any, and, if fatal, cause
of death.

I have the honour to be,

SIR,

Your most obedient servant,

Owner.Agent.Manager.

*Under one or other of the following heads, namely:—

(1) Explosions and ignitions of fire damp; (2) explosions of coal-dust; (3) falls of roof; (4) falls of sides; (5) in shafts (overwinding); (6) in shafts (ropes and chains breaking); (7) in shafts (while ascending or descending by machinery); (8) in shafts (falling down shaft); (9) in shafts (things falling down shafts); (10) in shafts (miscellaneous); (11) suffocation by gases; (12) by explosives; (13) irruptions of water; (14) haulage; (15) by underground machinery; (16) sun-dries underground; (17) by surface machinery; (18) boilers or pipes bursting; (19) on surface railways or tramways belonging to the mine; (20) by electricity; and (21) miscellaneous on surface."

APPENDIX IV—*contd.*

Miscellaneous—*contd.*







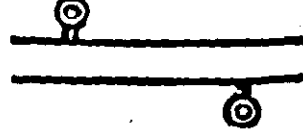


Statement No. 7—*contd.*

XXXIV. After Schedule I, the following Schedule shall be added, namely:—

SCHEDULE II.

[SEE REGULATION 15 (3A).]

Code of Signs.

BRICK, STONE, OR CONCRETE VENTILATION STOPPINGS	
FIRE DAMS OR SEALS	
WATER DAMS	
DOORS	
REGULATORS	
AIR CROSSINGS	
TELEPHONES	
UNDERGROUND AMBULANCE STATION IN RED	
DIRECTION OF AIR CURRENT	

APPENDIX IV—contd.

Miscellaneous—contd.

Statement No. 2.

Dhanbad, the 27th May 1938.

Rules for the conduct of Examinations for Colliery Managers' and Surveyors' certificates of competency made by the Board of Examiners under Regulation 31(4) of the Indian Coal Mines Regulations, 1926.

For Rules (7) and (8) substitute as follows:—

7. The following shall be the maximum number of marks given for each subject:—

Colliery Managers' Certificates.

Subject.	First Class.			Second Class.		
	Papers.	Viva voce.	Total.	Papers.	Viva voce.	Total.
(i) Geology and Mining	100	30	130	100	40	140
(ii) Ventilation, Explosions, Under-ground fires and Inundations.	100	30	130	70	30	100
(iii) Machinery	90	25	115	80	40	120
(iv) Surveying, Levelling and Measurement.	45	15	60	45	15	60
(v) Management and Mining Legislation.	50	15	65	50	30	80
Total .	385	115	500	345	155	500

Surveyors' Certificates.

Written examination 100 marks.

Oral examination 40 marks.

Total . 140 marks.

8. In order to qualify a candidate must obtain 40 per cent. of the maximum marks for each subject of the written examination, 40 per cent. of the maximum marks for each part of the oral examination, and 60 per cent. on the whole examination (written and oral):

Provided that in the case of an examination for a Colliery Manager's certificate.

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 8—*contd.*

(a) A candidate who fails to obtain 40 per cent. of the maximum marks in any one subject in the written examination but who nevertheless obtains 40 per cent. of the maximum marks in the oral examination in that subject and in all the other subjects (written and oral) taken individually and also obtains 60 per cent. or more of the maximum marks in the whole examination (written and oral) shall be eligible to be re-examined at the next succeeding written examination in the subject in which he so failed, and if he then obtains 60 per cent. of the maximum marks in such subject he shall be deemed to have qualified in the examination as a whole.

(b) A candidate who has obtained 40 per cent. of the maximum marks in each subject in the written examination and 60 per cent. or over in the written examination taken as a whole but has failed to secure 40 per cent. in any one or any two subjects of the oral examination but has secured not less than 50 per cent. of the maximum marks for the oral examination taken as a whole shall be eligible to be re-examined at the next succeeding oral examination in the subject or subjects in which he so failed, and if he then obtains 60 per cent. of the maximum marks in such subjects or each of such subjects he shall be deemed to have qualified in the examination as a whole.

(c) Every candidate who becomes eligible to be re-examined in one subject in the written examination or in one or two subjects in the oral examinations under Rule 8(a) or Rule 8(b) will be duly informed by the Chairman of the Board :

Provided further that if a candidate who is eligible under proviso (a) or proviso (b) is unable by reason of illness to attend at the next succeeding examination he may at the discretion of the Board be permitted to attend at the next respective succeeding examination.

W. KIRBY,

Chief Inspector of Mines in India,

and

Chairman of the Board of Examiners.

Statement No. 9.

Dhanbad, the 17th August 1938.

Rules for the conduct of Examinations for underground Shot-firers' certificates made by the Board of Examiners under Regulation 31 (4) of the Indian Coal Mines Regulations, 1926.

1. So far as is practicable the local examiners appointed by the Board shall be one or more colliery managers who shall be the holders of first or second class certificates and have a knowledge of the local vernacular, and an Inspector of Mines who shall also be Secretary.

2. The remuneration of each non-official examiner shall be a capitation fee of annas eight per candidate examined.

3. Examinations shall be held at such times and such places as may be fixed by the Board.

4. Examinations for shot-firers' certificates shall be conducted orally in English or in the vernacular language of the district in which the examination is held and shall be designed to test the candidate's knowledge of the following subjects, namely :—

(a) the charging and firing of shots of gunpowder and high explosives ;

(b) the provisions of the regulations, rules and bye-laws under the Act relating to the handling and use of explosives ; and

(c) the examination of a working place after shot-firing.

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No 9—*contd.*

5. Applications for examination shall be submitted on the prescribed form and with a receipted chalan for the prescribed fee to the Chief Inspector of Mines.

6. At the time of examination every candidate shall hand over to the examiners two unmounted photographs of himself of a size approximately 2 inches \times 2½ inches, and one of the examiners shall endorse the photographs on the back with the name of the person whom they represent.

7. Before examining a candidate the local examiners shall satisfy themselves that—

- (a) the photograph handed over by the candidate is a likeness of the candidate;
- (b) the candidate has attained the age of 21 years;
- (c) the candidate has had not less than two years' practical experience underground in a coal mine, of which at least six months shall have been practical experience in connection with shot-firing;
- (d) the powers of eyesight and hearing of the candidate are such as to enable him to make underground inspections efficiently;
- (e) the prescribed fee has been paid.

8. The local examiners shall record the left thumb impression of successful candidates.

W. KIRBY,

Chief Inspector of Mines in India,
and

Chairman of the Board of Examiners.

Statement No. 10.

NOTIFICATION.

Simla, the 24th August 1938.

No. M.-1055(1).—In exercise of the powers conferred by sub-section (1) of section 10 of the Indian Mines Act, 1923 (IV of 1923); and in supersession of the notification of the Government of Bihar, No. 213-VIIM.-10-Com.R., dated the 18th July 1936, the Central Government is pleased to constitute for the province of Bihar a Mining Board for coal mines and to direct that the said Board shall consist of the following persons, namely:—

- (1) The Commissioner of the Chota Nagpur Division—*Ex-officio* Chairman (nominated by the Central Government);
- (2) The Chief Inspector of Mines in India—*Ex-officio* Member;
- (3) The Additional Deputy Commissioner, Dhaubad—*Ex-officio* Member (nominated by the Central Government);
- (4) Mr. J. E. Phelps, Agent, East Indian Coal Company, Limited—Member (nominated by the Indian Mining Association);
- (5) Mr. A. L. Ojha—Member (nominated as the result of an election between the members of the Indian Mining Federation and the Indian Colliery Owners Association);
- (6) Mr. Shiva Kall Bosa—Member (nominated by the Indian Colliery Labour Union) to represent the interest of miners; and
- (7) Mr. S. B. Sen—Member (nominated by the Central Government) to represent the interest of miners.

M. S. A. HYDARI,

Secretary to the Government of India.

APPENDIX IV—*contd.*Miscellaneous—*contd.*

Statement No. 11.

NOTIFICATION.

Simla, the 24th August 1938.

Na. M. 1055(2).—In exercise of the powers conferred by sub-section (1) of section 10 of the Indian Mines Act, 1923 (IV of 1923), and in supersession of the notification of the Government of Bihar, No. 214-VII-M.-10/38-Com. R., dated the 18th July 1938, the Central Government is pleased to constitute for the province of Bihar a Mining Board for mines other than coal mines and to direct that the said Board shall consist of the following persons, namely :—

- (1) The Commissioner of the Chota Nagpur Division—*Ex-officio* Chairman (nominated by the Central Government);
- (2) The Chief Inspector of Mines in India—*Ex-officio* Member ;
- (3) The Deputy Commissioner of Hazaribagh—*Ex-officio* Member (nominated by the Central Government);
- (4) Mr. J. E. Phelps, Agent, East Indian Coal Company, Limited—Member (nominated by the Indian Mining Association);
- (5) Rao Bahadur D. D. Thacker of Pure Jharis Colliery—Member (nominated as the result of an election between the members of the Indian Mining Federation and the Indian Colliery Owners Association);
- (6) The Deputy Commissioner of Singhbhum—*Ex-officio* Member (nominated by the Central Government) to represent the interest of Miners; and
- (7) The Chief Medical Officer of the Indian Copper Corporation, Limited, Ghatsila—*Ex-officio* Member (nominated by the Central Government) to represent the interest of miners.

M. S. A. HYDARI,

Secretary to the Government of India.

Statement No. 12.

Circular No. 1 of 1938.

Dhanbad, the 3rd January 1938.

Attention of Owners, Agents and Managers of coal mines is drawn to my Notification No. P.-2, dated the 16th December 1937, published in the *Gazette of India*, dated the 25th December 1937, the full text of which is reproduced below.

W. PENMAN,

Chief Inspector of Mines in India.

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 12—*contd.*

NOTIFICATION.

Dhanbad, the 15th December 1937.

No. P-2.—In exercise of the powers conferred by Regulation 2(cc) and Regulation 116-A (b) of the Indian Coal Mines Regulations, as published under Notification No. M-1077, dated the 29th August 1936, and in supersession of Notification No. P-1, dated Dhanbad, the 29th August 1936, the undernoted list of "Permitted" Explosives is hereby published for general information:—

List of "Permitted" Explosives.

Name of Explosive.	Place of manufacture.	Permissible maximum charge.
Monobel No. 1 . . .	{ Ardeer, Ayrshire, Great Britain, and Modderfontein, South Africa. }	28 ounces.
A. 2 Monobel . . .	{ Ardeer, Ayrshire, Great Britain, and Deerpark, Melbourne, Australia. }	28 ounces.
Polar Dynobel No. 2 . . .	Ardeer, Ayrshire, Great Britain.	28 ounces.
Samsonite No. 3 . . .	{ Ardeer, Ayrshire, Great Britain, and Deerpark, Melbourne, Australia. }	28 ounces.
Stonobel . . .	{ Ardeer, Ayrshire, Great Britain, and Deerpark, Melbourne, Australia. }	28 ounces.
Roburite No. 4 . . .	Gathurst, Wigan, Great Britain.	28 ounces.
A. 1 Rounkol . . .	Ardeer, Ayrshire, Great Britain.	18 ounces.

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 12—*contd.*

Provided (a) that each cartridge of explosive shall be marked with the outline of a crown with the letter "P" in the centre and (b) that the explosive when used in any mine or place in which "permitted" explosives are required to be used by any Regulation or order under the Indian Mines Act, shall be fired by one of the following types of approved shot-firing apparatus:—

List of shot-firing apparatus.

Manufactured by.	Name of apparatus.
<i>Magneto Exploders.</i>	
British Insulated Cables, Limited, Prescott, Lancashire	Helsby (1932) L. T.
Ditto	Helsby (1933) L. T.
John Davis & Son (Derby) Limited, All Saints' Works, Derby.	Davis No. 15 X (1932) L. T.
General Electric Co., Ltd., Magnet House, Kingsway, London, W.C. 2.	Magnet (1932) L. T.
<i>Battery Exploders.</i>	
John Davis & Son (Derby) Limited, All Saints' Works, Derby.	Davis (1932) L. T.
General Electric Co., Ltd., Magnet House, Kingsway, London, W.C. 2.	G. E. C. (1633) L. T.
Heyes & Co., Ltd., Wigan	Wigan No. 4 L. T.

Statement No. 13.

Circular No. 2 of 1938.

Dated Dhanbad, the 19th February 1938.

To
The Owner, Agent or Manager of Mines.

In accordance with section 5(2) of the Indian Mines Act, 1923, owners, agents or managers of mines are hereby informed that the following Act received the assent of the Governor General on the 3rd December 1937 and has been published in part IV of the *Gazette of India*, dated the 11th December 1937, copies of which are obtainable by purchase from the Manager of Publications, Civil Lines, Delhi.

D. PENMAN,
Chief Inspector of Mines in India.

APPENDIX IV—contd.

Miscellaneous—contd.

Statement No. 13—contd.

ACT No. XXIX of 1937.

An Act further to amend the Indian Mines Act, 1923, for certain purposes.

Statement No. 14.

Circular No. 3 of 1938.

Dated Dhanbad, the 22nd April 1938.

From

W. KIRBY, Esq., B. Sc., M. I. Min. E.,

To

Chief Inspector of Mines in India.

Sir,

The Owner, Agent or Manager of Mines.

A Labour Enquiry Committee has been appointed by the Government of Bihar to conduct an enquiry into the conditions of industrial labour in Bihar and make recommendations. The Committee will shortly be touring all places concerned with labour and will visit mines to record oral evidence. The undersigned has been requested to ask you kindly to afford the Committee all facilities in carrying out the work entrusted to it.

I have the honour to be,

Srs,

Your most obedient servant,

W. KIRBY,

Chief Inspector of Mines in India.

APPENDIX IV—*consolid.*Miscellaneous—*consolid.*

Statement No. 15.

Circular No. 4 of 1938.

Dated Dhaubad, the 14th June 1938.

To

The Owner, Agent and Manager of Mines.

In accordance with Section 5(2) of the Indian Mines Act, 1923, owners, agents and managers of mines are hereby informed that the following notification has been issued by the Government of India, Department of Labour and published in Part I of the *Gazette of India*, dated the 21st May 1938. Printed copies of the notification may be obtained by purchase from the Manager of Publications, Civil Lines, Delhi.

“Notification No. M-955, dated the 20th May 1938, notifying further amendments to the Indian Coal Mines Regulations, 1926.”

The following notifications (Nos. M-955 (1) and M-955 (2), dated the 7th June 1938) issued by the Government of India, in the Department of Labour, have also been published in Part I of the *Gazette of India*, dated the 11th June 1938. They are reproduced below :—

“No M-955 (1).—In exercise of the powers conferred by sections 29 and 31-A of the Indian Mines Act, 1923 (IV of 1923), the Central Government is pleased to direct that the Supplementary Coal Mines (temporary) Regulations, 1936 and the Coal Mines (Temporary) Regulations, 1937, shall be cancelled.

No. M-955 (2).—In exercise of the powers conferred by sections 29 and 31-A of the Indian Mines Act, 1923 (IV of 1923), the Central Government is pleased to direct that the following amendment shall be made in the Supplementary Coal Mines (Temporary) Regulations, 1937, namely :—

In the said Regulations, regulations 6, 7 and 8 shall be omitted.”

W. KIRBY,

Chief Inspector of Mines in India.