



# INDIAN MINES ACT, 1923

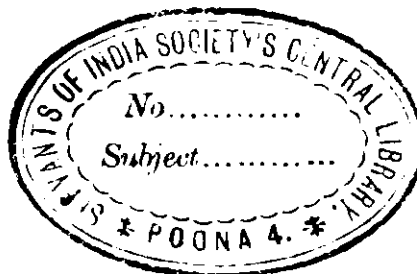
## ANNUAL REPORT

OF THE

# CHIEF INSPECTOR OF MINES IN INDIA

FOR THE YEAR ENDING

31st DECEMBER 1936



DELHI: MANAGER OF PUBLICATIONS  
1937

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FROM

D. PENMAN, Esq., C.I.E., D.Sc., F.R.S.E.,  
CHIEF INSPECTOR OF MINES IN INDIA.

TO

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

*Dated Dhanbad, the 11th May 1937.*

SIR,

I have the honour to submit the report upon the inspection of mines in British India for the year ending 31st December 1936.

#### 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 1936 the daily average number of persons working in and about the mines regulated by the Indian Mines Act was 269,593, as compared with 253,970 in the previous year. The increase was 15,623 persons, or 6.15 per cent. Of these persons 130,724 worked underground, 69,193 in open workings and 69,676 on the surface. The numbers of men

and women, respectively, who worked underground, in open workings and on the surface were as follows :—

	Men.		Women.	
	1936.	1935.	1936.	1935.
Underground . . . .	123,423	119,830	7,301	9,551
In open workings . . . .	52,122	45,689	17,071	14,193
Surface . . . . .	51,413	48,549	18,263	16,159
Total . . . . .	<u>226,958</u>	<u>214,067</u>	<u>42,635</u>	<u>39,903</u>

The number of women employed underground was 7,301, or 5·59 per cent. of the total number of men and women employed underground. The percentage of women employed underground in coal mines was 6·87, as compared with 8·99 per cent. in 1935, 10·94 per cent., in 1934, 13·14 per cent. in 1933 and 14·84 per cent. in 1932. The provincial distribution of the women who worked underground was as follows :—

Provinces.	Number of women employed underground.		
	In coal mines.	In salt mines.	Total.
Bengal . . . . .	2,755	..	2,755
Bihar . . . . .	3,847	..	3,847
Central Provinces . . . . .	658	..	658
Orissa . . . . .	9	..	9
Punjab . . . . .	..	32	32
Total . . . . .	<u>7,269</u>	<u>32</u>	<u>7,301 in 1936,</u> as compared with 9,551 in 1935.

The daily average number of persons employed in coal mines was 162,917, which is 3,663 more than the number employed in 1935. Of these persons, 48,297, were males employed in cutting coal, 23,856 were males employed as loaders of coal and 21,374 were women.

The increase in the daily average number of persons employed in 1936, as compared with 1935, is reflected in the larger quantity of minerals produced, the increases being most marked in iron ore, manganese and mica.

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 1937 the week selected by me was as follows :—

Bengal, Bihar and Orissa . . . . .	14th to 20th.
Assam, Baluchistan, the Central Provinces and the Punjab . . . . .	7th to 13th.

Although these returns are for a day in 1937 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 1937 show that on the day selected 192,174 persons were either at work or were prevented from attending work. This figure is 29,257 more than the average number of persons employed in coal mines during 1936. 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 . . . . .	68,938	77,336	8,398	12.18
Raniganj Coalfield . . . . .	56,671	64,025	7,354	12.98
Central Provinces Coalfield . . . . .	12,731	16,153	3,422	26.88

Some of the percentages of absentees are as follows :—All mines from which returns were received 8.5 ; Jharia 3.3 ; Raniganj 8.8 and the Central Provinces 7.0. 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. It should be pointed out that February is probably the busiest month of the year, *i.e.*, the month in which labour is most plentiful and that the figures for average daily attendance do not include absentees.

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.	
	1936.	1934-35.	1936.	1934-35.
British India . . . . .	180	181	126	128
Bengal and Bihar . . . . .	183	157	128	136
Assam . . . . .	134	162	93	100
Baluchistan . . . . .	44	54	44	58
Central Provinces . . . . .	164	159	118	114
Orissa . . . . .	207	204	158	149
Punjab . . . . .	110	113	71	63

There was a decrease in the average output of coal per person employed. 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 1935 the output of coal per person employed above and below ground in the United Kingdom was 289 tons. In the same year, *i.e.*, 1935 comparative figures in certain other countries were Japan 212 tons; France 203 tons; Germany 353 tons and the United States of America 657 tons.

The number of persons employed in metalliferous (including mica, stone, clay and salt) mines was 106,676, which is 11,960 more than the number employed in 1935. 85,415 were men and 21,261 were women. Of the women, 32 worked underground in salt mines.

*Bengal, Bihar and Orissa.*—For the greater part of 1936 the supply of labour was ample for requirements except, as is the case almost every year, for short intervals during the cultivation and harvest seasons. Towards the end of the year owing to an exceptionally good harvest, labour became scarce. This scarcity led in some instances to an increase of wages paid to the miner. The daily wage rates of miners, loaders and other workers showed little variation from the previous year. Relations between employers and labour continued to be good and there were no industrial disputes of any note to record.

The general health of the mining population in the Jharia and Raniganj Mining Settlements was on the whole satisfactory. The death rate per thousand persons was lower both in the Raniganj Mining Settlement and in the Jharia Mining Settlement. The particulars 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 Boards is being satisfactorily maintained.

In the iron ore mines of Singhbhum district there was a fairly adequate supply of labour, and there was a slight increase in the daily wages of miners. There were no strikes and the general health of the labourers was good.

At the copper mines worked by the Indian Copper Corporation, Limited, in the Singhbhum district, there was an ample supply of labour. A minor strike occurred in October on the question of rates of pay but the grievances were quickly redressed and the strike terminated. There was no outbreak of epidemic disease.

At the mica mines of Chota Nagpur the supply of labour was insufficient at times during the year mainly owing to increased activity in the trade. There were no epidemics or strikes during the year.

*Assam.*—In Assam the supply of labour was sufficient for requirements and there were no strikes or epidemics.

*Central Provinces.*—In the Pench Valley coalfield the supply of labour was adequate, although there was some shortage during pujahs and periods of cultivation. There was a slight reduction in the rate of wages. The prices of food stuffs and clothing remained about the same. Relations between labourers and employers were good. On the whole the health conditions were satisfactory.

At the manganese mines in the Central Provinces, there was an increase in the number of labourers employed and the supply of men suitable for underground work at Balaghat mine was insufficient for requirements. There was no appreciable change in the rate of wages. The relations between employees and employers were good and there were no strikes or stoppages. The health of the workers was satisfactory.

*Punjab.*—There was no change in the labour conditions in the Punjab and the supply of labour continued to be in excess of local requirements. There were no epidemics and the health and well-being of the community was satisfactory. Rainfall during the year was slightly below the average but sufficient supply of water was available throughout the year. Considerable progress was made in building work, layout of streets, etc.

*Madras.*—Labour was plentiful at the mica mines in the Madras Presidency and there were no strikes or epidemics. Relations between employees and employers were amicable.

*Burma.*—At the mines in the Northern Shan States worked by the Burma Corporation, Limited, there was no shortage in the supply of labour at any time of the year. There were no strikes. The anti-malarial measures at Namtu and Bawdwin were continued throughout the year with beneficial results. An epidemic of dysentery occurred at Bawdwin during March but it was soon checked. The average daily number of employees in all departments was 10,869, as compared with 10,432 in the previous year.

On the whole the supply of labour in Tavoy and Mergui districts was sufficient for requirements but in some of the mines a shortage of labour was reported. There were no strikes or lock-outs and the relation between employees and employers was good. There were no serious epidemics.

The statistics furnished in this report show that the number of women employed underground is well below the permissible percentage on 1st July 1936. In many coal mines very few women are now employed.

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 in most cases there was very little change in the wages paid to miners. There was a decrease of 3 pies in the wages of underground miners in the Jharia coalfield, but an increase of the same extent in the wages of miners working in open workings. There were slight variations in the wages of other workers.

Average daily earnings in December 1936.

Mineral Field.	UNDERGROUND.						OPEN WORKINGS.						SURFACE.			
	Overmen and Sirdars — Foremen and Mates.	Miners.	Loaders.	Skilled Labour.	Unskilled Labour.	Females.	Overmen and Sirdars — Foremen and Mates.	Miners.	Loaders.	Skilled Labour.	Unskilled Labour.	Females.	Clerical and Supervising Staff.	Skilled Labour.	Unskilled 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.	R a. p.
Jharia Coalfield (Bihar)	1 0 9	0 7 6	0 6 3	0 9 9	0 6 9	0 5 3	0 13 9	0 8 0	0 7 3	0 6 6	0 5 0	0 4 9	1 2 3	0 9 3	0 5 9	0 4 3
Baniganj Coalfield (Bengal).	0 15 3	0 7 3	0 6 9	0 8 9	0 6 0	0 4 3	0 8 9	0 4 3	0 3 9	0 5 0	0 3 3	0 3 0	0 15 6	0 8 3	0 5 9	0 3 6
Girdih Coalfield . . .	1 11 6	0 9 0	0 7 3	0 12 3	0 8 3	0 7 0	..	..	..	0 6 9	..	0 3 0	1 8 0	0 13 0	0 8 0	0 5 6
Assam Coalfields . . .	1 4 3	1 0 0	0 15 9	1 1 3	0 13 9	..	..	..	..	..	..	..	1 12 9	0 14 6	11 0	0 7 0
Punjab Coalfields . . .	1 0 3	0 13 3	0 10 6	0 11 0	0 7 0	..	1 5 3	1 1 9	0 15 6	..	0 7 3	..	0 14 6	0 12 3	0 9 3	0 2 9
Baluchistan Coalfields .	1 3 6	0 9 3	0 9 3	0 13 6	..	..	..	..	0 8 0	0 5 0	..	..	..	..	..	..
Pench Valley Coalfield (Central Provinces).	1 1 6	0 11 0	0 6 9	0 10 0	0 6 9	0 6 6	0 14 9	0 10 3	0 7 3	0 9 6	0 7 3	0 4 0	1 1 9	0 9 0	0 6 3	0 4 3
Bihar Mica . . .	0 8 9	0 6 0	..	0 6 9	0 4 6	..	0 7 0	0 5 0	..	0 4 9	0 4 0	0 3 3	0 13 6	0 6 9	0 4 3	0 3 6
Madras Mica . . .	0 8 6	0 4 9	..	0 4 6	0 3 9	..	0 7 3	0 4 9	..	0 4 9	0 3 9	0 2 9	0 10 0	0 5 3	0 4 0	0 2 6
Central Provinces Manganese.	1 6 9	0 6 3	..	..	0 5 0	..	0 14 0	0 5 3	..	0 12 0	0 3 6	0 3 6	1 2 3	0 11 0	0 4 3	0 3 3
Central Provinces Limestone.	..	..	..	..	..	..	0 10 3	0 9 0	..	0 6 9	0 3 6	0 2 9	1 1 9	0 5 0	0 4 3	0 3 0
Bihar Iron . . .	..	..	..	..	..	..	0 13 6	0 5 0	..	0 11 0	0 5 0	0 3 0	1 6 6	0 13 3	0 4 9	0 3 0
Burma Lead . . .	14 7 6	2 1 0	..	1 13 6	1 9 6	..	4 12 9	..	..	..	1 4 9	..	2 11 6	2 15 3	1 2 6	..
Burma Tin . . .	4 10 6	1 0 0	..	1 1 0	0 14 3	..	2 12 0	1 2 0	..	1 0 0	1 0 3	0 9 3	2 5 3	1 4 3	0 12 9	0 8 0
Punjab Salt . . .	5 4 6	2 2 3	..	0 15 3	0 7 3	0 7 3	..	..	..	..	..	..	0 12 0	1 0 9	0 8 3	..
Bihar China clay. . .	0 8 0	0 6 9	..	..	0 3 0	..	0 4 3	0 3 3	..	0 4 3	0 3 0	0 2 6	1 3 9	0 6 0	0 3 6	0 2 6
Punjab Slate . . .	..	..	..	..	..	..	0 7 9	0 6 6	..	0 5 0	0 4 0	..	0 14 3	0 3 0	0 10 9	..

## Section II.—Output of Minerals.

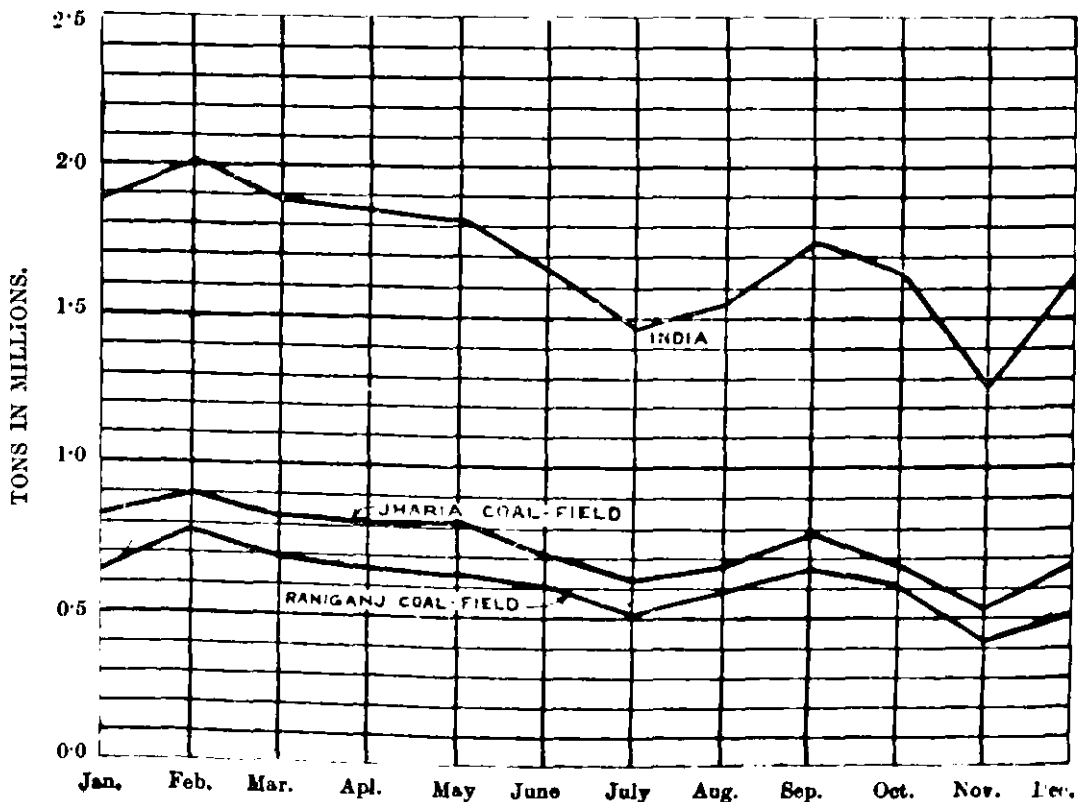
## COAL.

*Output.*—The statement given below shows the output of coal in the various provinces in British India during the years 1935 and 1936 :—

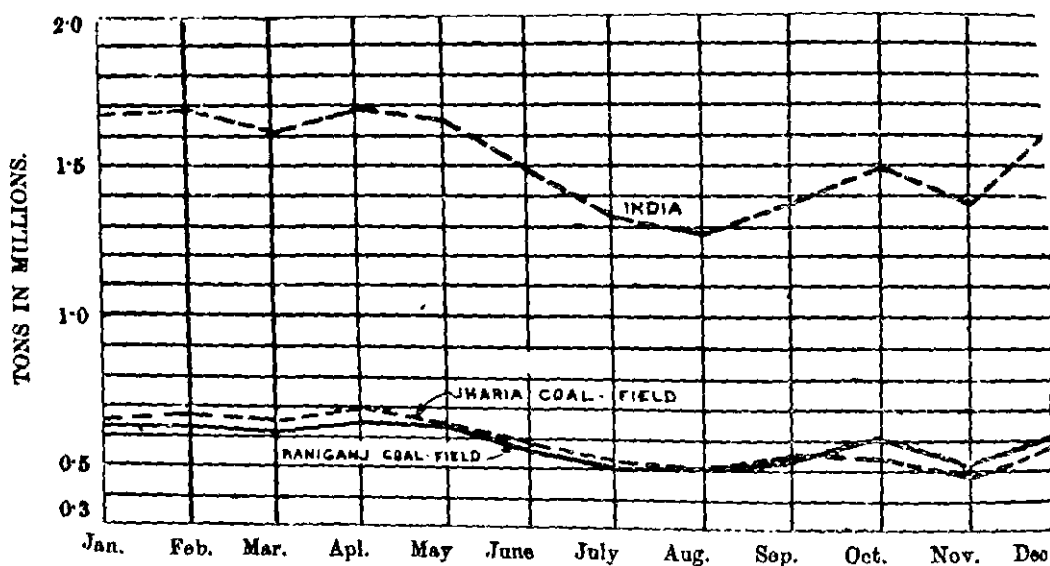
	Output in tons.	
	1936	1935.
Assam . . . . .	201,593	218,830
Baluchistan . . . . .	3,451	4,946
Bengal . . . . .	6,667,841	6,682,752
Bihar . . . . .	12,015,205	12,409,497 (excluding Orissa)
Central Provinces . . . . .	1,507,982	1,526,690
Orissa . . . . .	31,061	27,331
Punjab . . . . .	156,849	144,423
Total . . . . .	<u>20,583,982</u>	<u>21,014,469</u>

The total output in 1936 was 20,583,982 tons of a declared value of Rs. 5,59,84,739. The decrease in the output was 430,487 tons, *i.e.*, 2.05 per cent. and the decrease in the value Rs. 24,39,762, *i.e.*, 4.18 per cent. The opening stocks in 1936 were 1,120,892 tons and the closing stocks 907,630 tons. In the charts which appear below the raisings and despatches of coal are shown month by month :—

RAISINGS OF COAL MONTH BY MONTH IN 1936.



## DESPATCHES OF COAL MONTH BY MONTH IN 1936.



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 November was greater than usual due to a plentiful harvest.

The output in Bihar decreased by 394,292 tons, there was an increase of 3,730 tons in the new province of Orissa ; and in Bengal there was a decrease of 14,911 tons. In the Central Provinces the output decreased from 1,526,690 tons to 1,507,982 tons. There was an increase of 12,426 tons in the Punjab and a decrease of 1,495 tons in Baluchistan. There was a decrease of 17,237 tons in Assam.

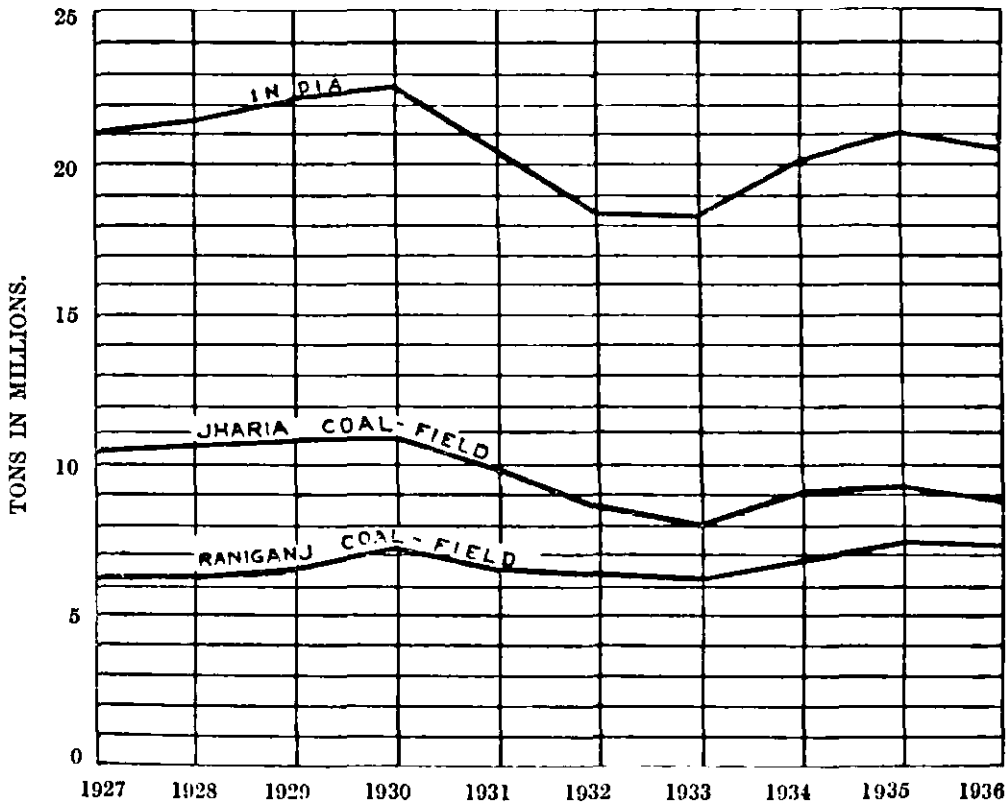
The figures of output for the principal coalfields are as follows :—

Coalfield.	1936.	1935.	Percentage increase + or decrease —.
Jharia . . . . .	8,830,144	9,245,292	—4.49
Raniganj . . . . .	7,305,437	7,348,323	—0.58
Bokaro . . . . .	1,417,227	1,331,272	+6.46
Giridih . . . . .	698,133	708,789	—1.50
Karanpura . . . . .	396,083	424,536	—6.70
Pench Valley . . . . .	1,259,133	1,214,099	+3.72
Assam . . . . .	201,593	218,830	—7.87

The output of the Jharia coalfield decreased by about  $4\frac{1}{2}$  per cent., the Raniganj coalfield by about 0.6 per cent., the Karanpura coalfield by more than 6 per cent., and the output of the Assam coalfield by about 8 per cent. There was an increase in the Pench Valley coalfield of the Central Provinces of over  $3\frac{1}{2}$  per cent. and in the Bokaro coalfield of  $6\frac{1}{2}$  per cent.

In the Giridih coalfield the output fell by  $1\frac{1}{2}$  per cent. The accompanying chart shows the variation of the output of coal during the period 1927-36.

CHART SHOWING OUTPUT OF COAL DURING THE PERIOD 1927-36.



*Despatches.*—The despatches of coal were 18,223,134 tons, and 1,169,393 tons, or 5.68 per cent. of the raisings were consumed on the collieries. The quantity of coal used for coking at the collieries was 1,404,717 tons, and 917,803 tons of soft coke and 97,133 tons of hard coke were made. There was an increase, i.e., 3.06 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 1,834,997 tons of coal were despatched to coke-making plants of this kind in 1936. This quantity is 151,216 tons more than in 1935. 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 less than those for 1935 by 161,594 tons. The stocks of coal at the collieries at the end of the year were less 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 6.5; Baluchistan, Rs. 5 annas 14.9; Bengal, Rs. 2 annas 10.8; Bihar (Jharia coalfield), Rs. 3 annas 2.4; Central Provinces, Rs. 3 annas 9.4; and the Punjab Rs. 3 annas 14.8; There were increases in the average value per ton of coal in Bengal, Bihar and the Central Provinces, of annas 1.4, annas 10.4 and annas 0.3, respectively. In the other provinces there were decreases.

*Trade Conditions.*—The demand for coal was good throughout the year. Towards the end there was a tendency towards shortage of supplies and prices temporarily increased considerably. The export trade was assisted

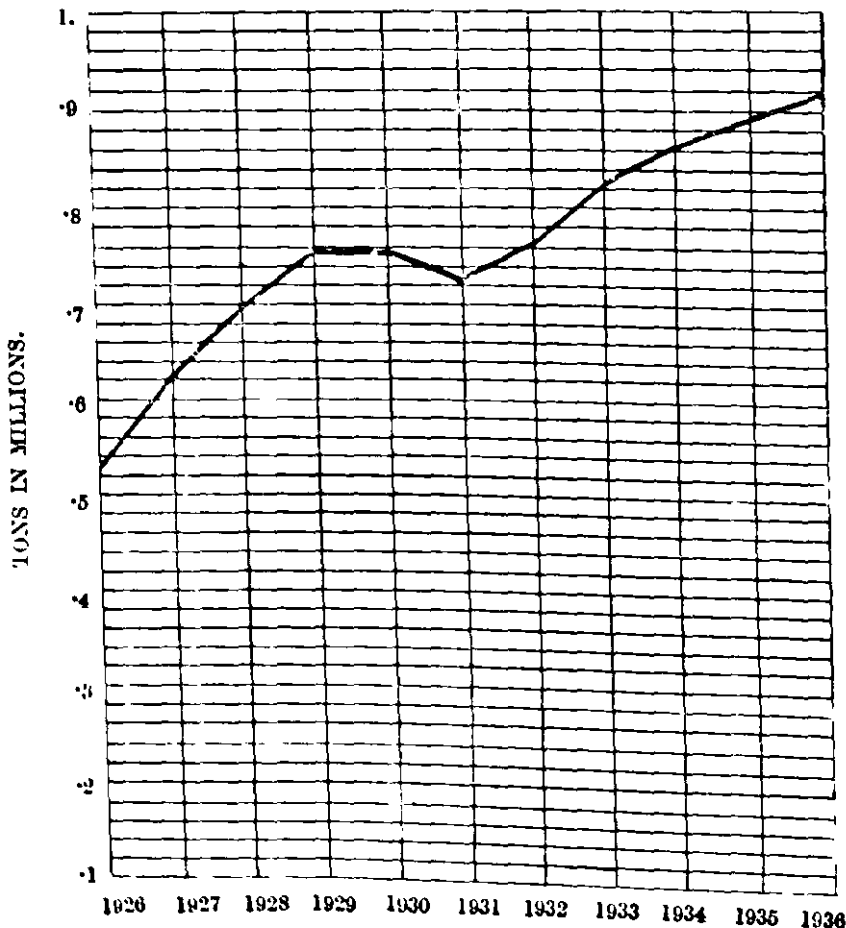
by an additional eight annas rebate for coal exported to ports other than Indian ports and this rebate enabled the Indian coal trade to regain the Railways contract of the Government of Ceylon of over 150,000 tons. The stocks of coal at the collieries at the end of the year were less than at the beginning and have been considerably depleted since, so that it is anticipated that conditions favouring an increase in the price of coal may eventuate during the current year.

*Coal Grading Board and Soft Coke Cess Committee.*—The Indian Coal Grading Board, as in previous years, maintained the same standard of good work during the year 1936 and the quality of export coal was satisfactory. During the year 1,687,357 tons of coal were exported under the supervision of the Board—a reduction of nearly 200,000 tons.

Propaganda with a view to popularising the use of soft coke was carried out vigorously by the Indian Soft Coke Cess Committee. Arrangements have been made to inspect loading at collieries and experiments are being made for manufacturing soft coke by an improved method. During the last two months of the year there was a shortage of soft coke and prices rose temporarily to a high figure.

Approximately 915,719 tons of soft coke were despatched from the coal-fields during the year 1936, as compared with 888,493 tons during 1935. Out of the output for 1936, 866,611 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 1926 TO 1936.





*Use of Electricity both at Coal Mines and at other mines.*—The number of coal mines using electrical energy was 124, as compared with 120 in the previous year, and the aggregate horse power employed at coal mines increased from 82,038 to 84,168, i.e., by 2·6 per cent. The increase was due chiefly to the increased horse power of motors installed in the Jharia, Raniganj and the Central Provinces coalfields. During the year, electrical plant was installed and brought into operation in four additional coal mines and was re-introduced in one mine.

Electricity was used at 31 metalliferous mines, as against 29 mines in 1935, the aggregate horse power employed was 13,479 as against 11,534 in the previous year, showing an increase over last year of 16·8 per cent.

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 J, Tables Nos. 7, 8 and 9.

*Explosives.*—During the year 2,181,106 lb. of gunpowder, 45,237 lb. of high explosives, and 95,078 lb. of “permitted” explosives were used at coal mines. These figures compare with 2,361,124 lb. of gunpowder, 59,588 lb. of high explosives, and 91,245 lb. of “permitted” explosives used in 1935. In addition 50,432 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.

An appendix has been added giving a list of “permitted” explosives.

*Coal Cutting Machines.*—The number of coal cutting machines in use was 110, as compared with 95 in use in 1935, and 106 in 1934. All the machines in use were worked by electricity. 38 machines were at work in the Jharia coalfield, 63 in the Raniganj coalfield, 2 in Karanpura coalfield and 7 in the Central Provinces. Coal cutting machines were in use in 39 mines, as against 36 in 1935, and the total area undercut was 5,357,389 square feet, as compared with 6,634,100 square feet undercut in the previous year.

*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 1936, 104 mechanical ventilators were in use, the number being 91 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. 33,051 safety lamps were in use in 1936, as compared with 26,872 in 1935.

#### IRON ORE.

The production of iron ore was 1,401,530 tons, valued at Rs. 22,84,834, as compared with 1,179,050 tons, valued at Rs. 18,81,439 in 1935.

#### MANGANESE ORE.

There was an increase of 201,983 tons in the output of manganese ore, the figures of production being 624,830 tons, valued at Rs. 49,62,272, as

compared with 122,847 tons, valued at Rs. 40,26,558 in 1935. The average reported value per ton of manganese ore produced fell from Rs. 9.52 in 1935 to Rs. 7.94 in 1936. The corresponding value in 1934 was 6.34. The Central Provinces Manganese Ore Company, Limited, despatched a total of 490,050 tons as follows :—183,405 tons to Calcutta ; 231,057 tons to Vizagapatam ; 40,756 tons to Bombay, and 34,832 tons of other sales on f. o. r. basis. The quantity despatched by the company in 1935 was 636,717 tons so that the despatches in 1936 were appreciably less than those in 1935. The average f. o. b. price realised in 1936 was 6.92 annas per unit. It is somewhat more than the figures of the previous year. The reduction in the amount of ore despatched was to some extent due to a large increase during the year in the freight rate to continental ports. The freight rate has continued to rise and it remains to be seen whether the price of ore will rise sufficiently to balance the increase in freight and enable second grade ore to be shipped.

#### LEAD-SILVER ORE.

The output of lead-silver ore from Bawdwin mine in the Northern Shan States, Burma, was 468,842 tons, as compared with 460,886 tons in 1935. The increase was 1.73 per cent. 71,915 tons of refined lead ; 1,240 tons of refined antimonial lead ; 5,952,000 ounces of refined silver ; 1,294 ounces of refined gold ; 7,500 tons of copper matte ; and 4,325 tons of nickel speiss were produced. The experimental zinc plant at the Namtu mill produced 76,807 tons of zinc concentrates. The average value of metal extracted were as follows :—Refined lead Rs. 234-11-10 per ton ; refined antimonial lead Rs. 279-4-1 per ton ; refined silver Rs. 1-2-6 per troy ounce. The quantities of materials used for the purpose of fluxes were as follows :—Iron ore 18,559 tons ; and lime-stone 15,666 tons.

#### SILVER.

The quantity of refined silver produced at the Bawdwin mine was as mentioned above.

#### GOLD.

The output of gold in 1936 was 82 ounces which was obtained from the Manbhumi district of Bihar in addition to this 1,294 ounces of refined gold were produced at the Bawdwin mine.

#### TIN AND WOLFRAM ORES.

The output of tin ore was 4,664 tons, valued at Rs. 74,70,516, as compared with 4,383 tons, valued at Rs. 75,94,694 in 1935. 3,140 tons of wolfram ore, valued at Rs. 28,16,212 were produced, as compared with 2,549 tons, valued at Rs. 26,21,323 in 1935.

#### CHROMITE ORE.

The production of chromite ore was 28,142 tons, valued at Rs. 3,91,404, as compared with 19,039 tons, valued at Rs. 2,37,374 in 1935.

## COPPER ORE.

The output of copper ore was 357,194 tons, valued at Rs. 40,03,200, as compared with 350,801 tons, valued at Rs. 34,88,808 in 1935. The whole of the production came from the mines belonging to the Indian Copper Corporation, Limited, in the Singbhum district of Bihar. The production of refined copper amounted to 7,200 tons, as compared with 6,900 tons in 1935. The production of yellow metal sheet and circles at the rolling mills was 9,827 tons involving the use of 6,176 tons of copper. Development of the Mosaboni and Dhobani mines is proceeding in depth. As mentioned in an earlier paragraph 7,500 tons of copper matte were produced in the smelting of lead-silver ore in Burma.

## ZINC ORE.

From the composite ore mined at Bawdwin mine in the Northern Shan States, Burma, 76,807 tons of zinc concentrates were produced for shipment. The production in 1935 was 78,590.

## GEMS.

155,381 carats of rubies, valued at Rs. 97,103, and 172 carats of sapphires, valued at Rs. 242 were mined in the Katha district in Burma.

## MICA.

The quantity of mica consigned was 82,077 cwt., valued at Rs. 32,33,396, as compared with 58,553 cwt., valued at Rs. 25,39,442 in 1935. The output of dressed mica in 1936 was 86,504 cwt., as compared with 59,984 cwt. in 1935. In addition, 11,371 cwt. of waste mica fit for splittings valued at Rs. 40,090 were consigned from Nellore district, Madras Presidency and 1,358 cwt., valued at Rs. 386 from Ajmer-Merwara district in Rajputana. The output of this kind of mica was 12,073 cwt.

The quantities of mica and splittings shipped in 1935 and 1936 are as follows :—

	Cwt.	Rs.
1935 . . . . .	76,114	65,85,219
1936 . . . . .	99,491	72,57,054

In addition 58,250 cwt. of " pattern cut " and scrap mica having a value of Rs. 8,45,219 were shipped, as compared with 58,481 cwt. valued at Rs. 6,04,806 of the same stuff in 1935.

## ROCK-SALT.

The production of rock-salt was 151,523 tons, as compared with 150,515 tons in the previous year.

## LIMESTONE.

The reported production of limestone was 1,007,957 tons, valued at Rs. 11,61,005, as compared with 1,000,308 tons, valued at Rs. 11,00,846 in 1935.

## STONE.

Returns were submitted by the owners of one hundred and seven stone mines, and the figures of production were as follows:—1,189,562 tons of igneous rock; 71,833 tons of laterite; 33,734 tons of sandstone; 24,378 tons of gravel; and 18,653 tons of murrum. The total production was 1,338,160 tons, as compared with 1,673,119 tons in 1935.

## CLAYS.

From the nineteen clay mines from which figures were obtained 22,817 tons of fire-clay, 14,268 tons of China clay and 44,435 tons of ordinary clay were produced.

## OTHER MINERALS.

The production of other minerals were as follows:—7,055 tons of slate valued at Rs. 1,30,864; 12,966 tons of magnesite, valued at Rs. 77,248; 7,496 tons of gypsum, valued at Rs. 20,830; 1,252 tons of barytes, valued at Rs. 3,016; 3,195 tons of steatite, valued at Rs. 22,378; 70 tons of ochre, valued at Rs. 420; 686 tons of felspar, valued at Rs. 5,399; 128 tons of apatite, valued at Rs. 1,315 and 30 cwt. of corundum, valued at Rs. 420. Small quantities of antimony, beryl, bismuth, graphite, ilmenite muscovite and tantalite were also produced.

## SECTION III.—Accidents.

During the year 1936 at mines regulated by the Indian Mines Act, 1923, there were 214 fatal accidents which is 12 more than in 1935 and 39 more than the average number in the preceding five years.

In addition to the fatal accidents there were 978 serious accidents involving injuries to 1,011 persons, as compared with 842 serious accidents, involving injuries to 869 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. Four hundred and seventy seven persons were killed and 1,032 persons were seriously injured. The latter figure includes 21 persons injured in fatal accidents. The number of persons killed was 165 more than in 1935. 395 persons killed were men and 82 were women. In one case 209 lives; in one case 35 lives; in one case 7 lives; in two cases 4 lives; in one case 3 lives and in seven cases 2 lives were lost.

The proportion of accidents which occurred to men and women, respectively, underground, 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 .	165	335	79	2.71	10.82	745	715	50	5.79	6.85
Open workings.	28	34	3	0.65	0.18	52	50	10	0.96	0.59
Surface . . .	21	26	..	0.51	..	181	170	16	3.31	0.87

There was an increase in the death rate of men employed underground a decrease in open workings, and an increase in the rate of men employed on the surface. With respect to women there was an increase in the death rate underground and in open workings. There were no deaths 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 . . . . .	147	68.69
Fault of deceased . . . . .	23	10.75
Fault of fellow workmen . . . . .	10	4.67
Fault of subordinate officials . . . . .	28	13.08
Fault of management . . . . .	5	2.34
Faulty material . . . . .	1	0.47
<b>Total . . . . .</b>	<b>214</b>	<b>100.00</b>

The increase in the number of persons killed over the previous year was mainly due to the large number of lives lost in two accidents by an explosion of inflammable gases and coal-dust and by suffocation by gases at Poidih and Loyabad collieries, respectively.

I have analysed the serious accidents and find that out of the total of 1,032 persons seriously injured 2 were permanently and totally disabled; 66 were permanently partially disabled and 964 were only temporarily disabled.

In addition, it was reported that 2,401 persons received minor injuries which necessitated the enforced absence from work for a period exceeding forty-eight hours.

*Fire damp.*—There were two fatal accidents by explosion or ignition of fire-damp and coal-dust involving the death of 213 persons. The accident at Poidih was the most serious that has occurred in the history of mining in India. Two hundred and nine persons lost their lives, of whom all but one were killed below-ground. The explosion was one of unprecedented violence.

In the other explosion Mr. J. H. Lang, Inspector of Mines, No. 2 Circle, Mr. J. G. Cunningham, Chief Mining Engineer, Messrs. Andrew Yule & Company, and two others lost their lives.

*Falls of roof and side.*—Falls of roof and sides caused 128 fatal accidents and 250 serious accidents. As compared with the figures under this head in the previous year the total number of accidents increased from 363 to 378; the number of persons killed decreased from 147 to 141; and the number of persons seriously injured increased from 240 to 266. In one case three persons were killed by a fall of roof in a depillaring area; while in two cases two persons were killed by falls of roof in galleries or depillaring areas. The accidents by falls of sides included one in which seven persons were killed in an open working.

*In Shafts.*—There were 7 fatal accidents and 21 serious accidents in shafts as compared with 10 fatal accidents and 20 serious accidents in the previous year.

*Suffocation by gases.*—There was one fatal accident due to suffocation by gases, involving the death of 35 persons. Several eminent and well known men in mining and engineering circles lost their lives in this accident.

*Explosives.*—There were 11 fatal accidents and 24 serious accidents caused by explosives. In the previous year the figures were 7 and 22, respectively.

*Haulage.*—There were 24 fatal accidents and 189 serious accidents on haulage roads. The accidents due to haulage have been classified as follows:—

Classification.	Fatal.	Serious.	Total.
Haulage rope breaking . . . . .	3	1	4
Coupling chains and hooks breaking . . . . .	..	1	1
Drawbars breaking . . . . .	1	..	1
Couplings becoming detached . . . . .	2	5	7
Riding on sets (authorised) . . . . .	..	5	5
Riding on sets (unauthorised) . . . . .	2	7	9
Allowing tubs to run uncontrolled . . . . .	2	3	5
While hand-tramming tubs . . . . .	2	43	45
While guiding tubs on a curve . . . . .	1	8	9
Following derailments or while re-railing tubs . . . . .	..	26	26
While coupling or uncoupling tubs . . . . .	1	8	9
While resting on or loitering about haulage roads or tramming levels.	5	18	23
Crushed against tubs, sides of roadways, doors, etc.	1	24	25
While spragging moving tubs . . . . .	..	8	8
Unclassified . . . . .	4	32	36
<b>Total</b> . . . . .	<b>24</b>	<b>189</b>	<b>213</b>

There was an increase in the number of accidents due to breakdown in materials, there being 6 in 1936, as compared with 3 in 1935.

The number of accidents due to unauthorised persons riding on sets was 9 in 1936, as compared with 14 in 1935. Although this was a marked improvement, continued vigilance on the part of the supervising staff and disciplinary action by managers against those discovered and risking their lives in this manner are necessary.

There was again a decrease in the number of accidents resulting from tubs being allowed to run uncontrolled.

There was an increase in the number of accidents while tubs were being hand trammed, there being 45 in 1936, as compared with 39 in 1935. There was also an increase in the number of accidents to persons resting or loitering about haulage or trammimg roads, the number being 23 in 1936, as compared with 19 in 1935. Accidents by these causes are due principally to ignorance or carelessness and persons involved in them are usually miners or loaders.

*Underground Machinery.*—Eight serious accidents were caused by underground machinery.

*Sundries Underground.*—Nineteen fatal accidents and 307 serious accidents were due to miscellaneous causes underground.

*Surface Machinery.*—Five fatal accidents and 17 serious accidents were caused by surface machinery.

*Surface Railways and Tramways.*—Eight fatal accidents and 98 serious accidents took place on surface railways and tramways.

*Electricity.*—There were one serious and 3 fatal accidents attributable to the use of electricity.

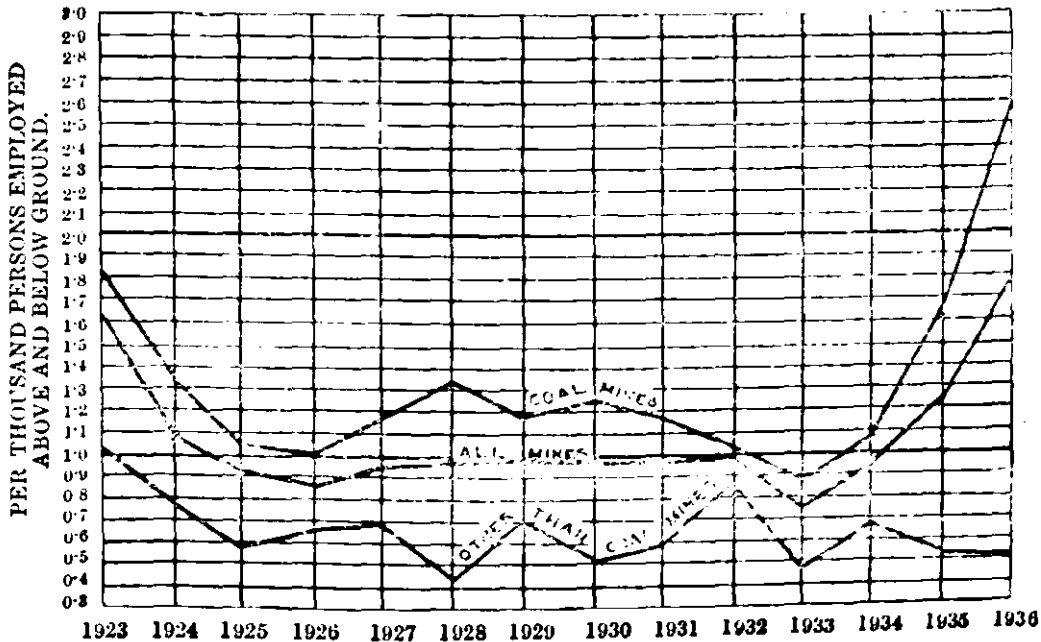
*Miscellaneous on the surface.*—Six fatal accidents and 66 serious accidents of this kind took place on the surface.

*Accidents excluded from the statistics.*—Thirty-six accidents causing 45 deaths 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 1.77 which was more than the rates in 1934 and 1935. The average rate for the preceding five years was 0.97. At coal mines the rate was 2.58, as compared with 1.66 in 1935. At mines other than coal mines the rate was 0.53, as compared with 0.51 in 1935. The death rate for coal mines was regrettably the highest on record, the next highest being in 1923 when the rate was 1.83.

The char. below shows graphically the variation in the death rate during the period 1923-36.

CHART SHOWING THE DEATH RATE  
FROM ACCIDENTS DURING THE PERIOD 1923-1936.



The high rate in 1936 was mainly due to one accident, *viz.*, an explosion of fire-damp and coal-dust at Poidih colliery on 18th December in which 209 persons lost their lives. But for that single accident the death rate per 1,000 persons employed above and below-ground would only have been slightly higher than that for the preceding five years.

The death rate per million tons raised at coal mines was 20·40, while that of the preceding five years was 8·85.

Deaths occurring in each class of mines were as follows:—420 in coal mines, 8 in an iron ore mine, 7 in mica mines, 2 in silver-lead mines, 25 in tin and wolfram mines, one in a limestone mine, 3 in stone mines, 2 in a copper mine, 3 in a chromite ore mine, 3 in clay mines, one in a barytes mine and 2 in manganese mines.

Two hundred and thirteen persons lost their lives due to explosions and ignitions of fire-damp and coal-dust, 67 persons lost their lives by falls of roof; 74 by falls of sides; 7 in shafts; 35 by suffocation by gasses; 12 by explosives; 25 by haulage; 19 by other accidents underground; 3 by electricity and 22 on the surface.

The accompanying charts A and B show the relative importance of the various causes of accidents in coal mines during the year, and for the last ten years, *i.e.*, the period 1927-36.

CHART "A" SHOWING  
DISTRIBUTION OF CAUSES OF PERSONS KILLED IN AND ABOUT COAL MINES  
IN THE YEAR 1936.

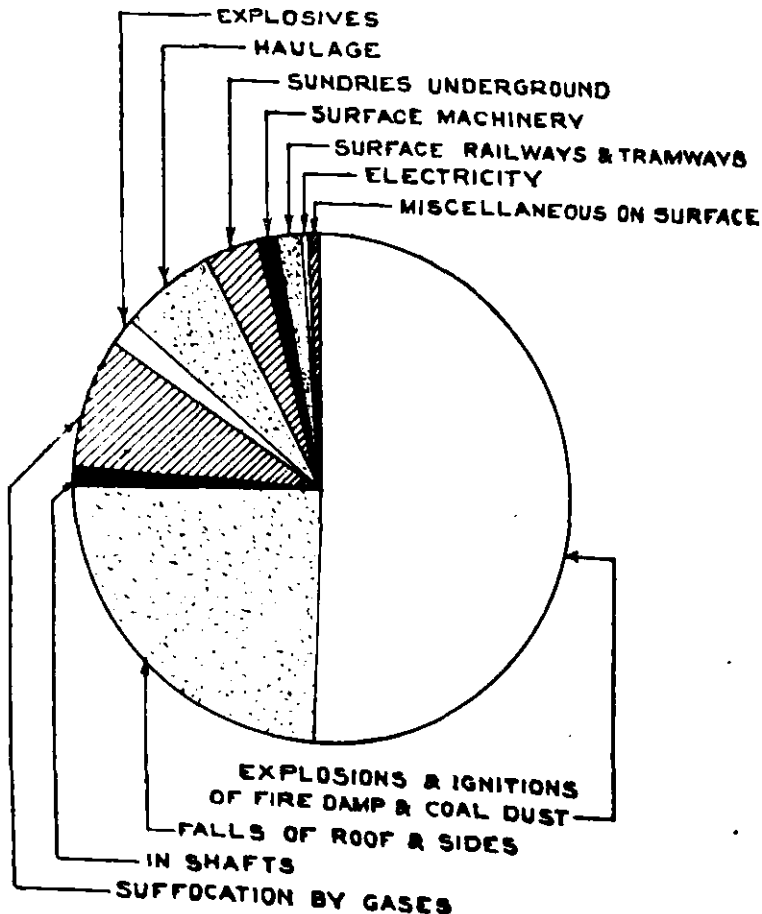
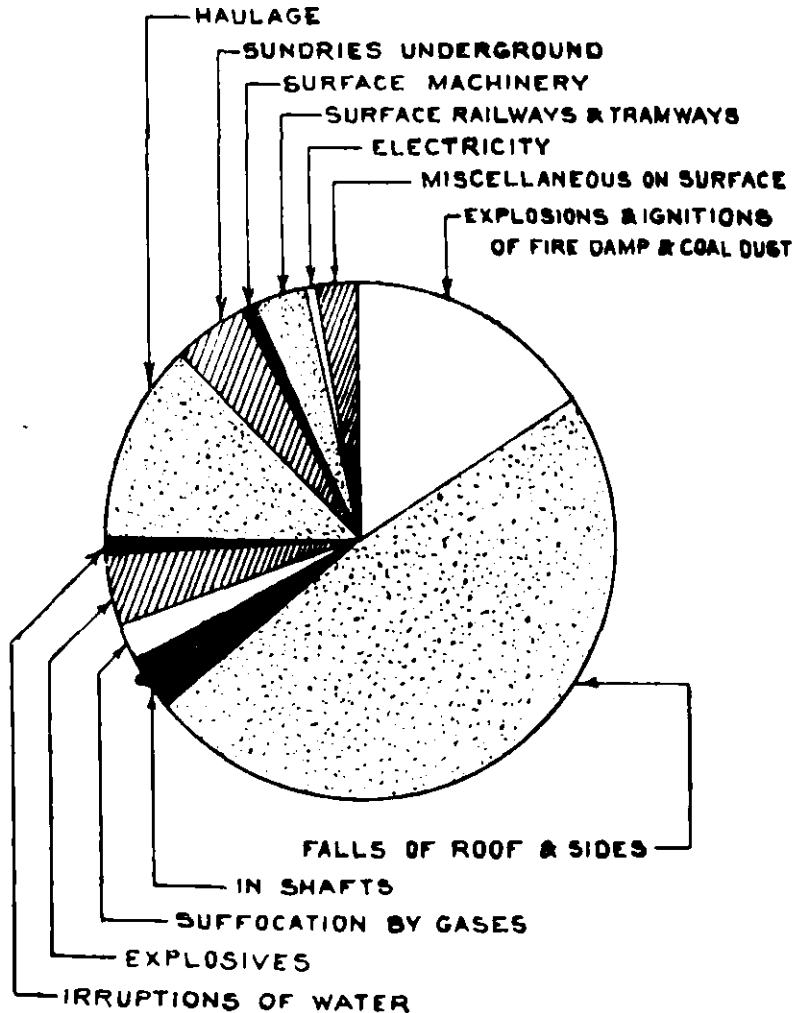




CHART "B" SHOWING  
DISTRIBUTION OF CAUSES OF PERSONS KILLED IN AND ABOUT COAL  
MINES DURING THE PERIOD 1927-1936.



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

#### IGNITIONS OF INFLAMMABLE GAS OR COAL-DUST.

##### *No. 1. The Adjai Collieries, Limited's Adjai Second coal mine.*

(Four deaths and one injured.)

This accident occurred at about 10 a.m. on 14th July. The mine was opened in 1930 and discontinued in 1932. It was re-opened on 6th April 1936. About three months were taken to de-water the mine. The shafts were 660 feet and 650 feet deep, respectively.

On the morning of the 11th July an inspection of the workings was made by Mr. J. G. Cunningham, Chief Mining Engineer, Messrs. Andrew Yule & Company, Mr. J. H. Lang, Inspector of Mines, No. 2 Circle, and Mr. Joyram Sethia, a representative of Messrs. Kalyanji Mavji & Company, Calcutta, who proposed to take over the workings of the mine on contract. They were accompanied by the manager and the overman of the colliery.

They descended one of the shafts and proceeded into the workings, most of which were to the rise of the shaft (see Plan No. 1). Four of the party carried electric torches and one an acetylene lamp. The party had reached the point marked on the plan when an ignition of inflammable gas occurred, as a result of which four of the party were so severely burnt that they afterwards died. The overman who was the only survivor of the party described the occurrence as follows :—

“I was about 8 feet behind Mr. Lang. They were talking. I saw a big flame near where Mr. Lang was. It was a bright red flame. I had not seen any gas, but just then Mr. Joyram Sethia murmured ‘gas’. I was puzzled what to do. Mr. Joyram Sethia began to run. A big flame came towards me and I fell down. I heard Joyram shouting. I threw my torch and my plan away and also my shoes. I fell on my face into the gallery. I didn’t hear anyone going past me. No one shouted to me. I came down to No. 5 pit the way I went up. When I reached the pit bottom the other four had gone up. I came up with the onsetter”.

It would appear from the evidence of the onsetter that Messrs. Cunningham, Lang, Banerjee and Joyram Sethia came down the heading against the solid coal on the east side and thus reached No. 5 pit bottom. All the five injured persons reached the pit bottom unaided in a few minutes.

2. The ignition of inflammable gas appears to have been caused by the open acetylene lamp carried by one of the party. At least two of the electric torches carried were not of the permissible type, but it is not likely that the inflammable gas was ignited by them. The explosion was not accompanied by any violence. Though the injured persons were severely burnt none of them was hurt in any other way. It would, therefore, appear that the accident was due to a considerable accumulation of inflammable gas which existed in the north-east corner of the workings as shown by the portion of the plan coloured light blue. This accumulation was dense and stagnant and was not greatly mixed with air. It was ignited by the flame of the open light at a point at which the mixture of fire-damp and air was between the explosive limits of such a mixture. The only source of the gas is the coal seam and it must have gradually accumulated by slow emission from the seam over the long period during which the mine was under water. The inflammable gas being about half the weight of air would naturally settle out of the stagnant mine atmosphere and gradually accumulate in the highest part of the workings, *i. e.*, the part shown on the plan.

3. It would appear that while the mine was working before discontinuance, no inflammable gas had ever been detected in the mine and except for a very short period when the shafts were being connected naked lights had been used continuously in the workings. None of the party considered,

therefore, that it was likely that inflammable gas would be found in the workings. It was also likely that the Chief Mining Engineer was misled by the reports sent to him by the manager. One report, dated 30th June, sent by the manager to the Chief Mining Engineer, stated that he had been to the mine and travelled along to the main roads. He stated that there was no roof fall, but that some of the ventilation stoppings had fallen down and that the ventilation was sluggish. The Chief Mining Engineer appears to have taken this to be a complete inspection of the mine as in a letter to his Managing Agents, dated 10th July, he stated that "an inspection had been made of the accessible workings which appeared to be in good order". The erection of a few temporary brattices in suitable places would have promoted circulation of the air in the mine and perhaps rendered the atmosphere clear and safe.

4. The report of the manager and the fact that no inflammable gas had ever been found in the mine while it was working appear to have been the factors which the Chief Mining Engineer and the Inspector of Mines relied upon as indicating that inflammable gas was not to be expected in the workings. There is no evidence that any of the inspecting party thought that there was any danger in carrying an acetylene lamp. The overman said that the manager had never taken a safety lamp down the mine. Both the manager and the overman appear to have taken only an electric torch with them when they made inspections. If the manager always took an electric torch it is possible that he may have gone through a part if not all of the "rise" workings—even through part of the accumulation of fire-damp—without suspecting the presence of an inflammable mixture. An electric torch alone is of no use as giving an indication of the condition of the air. As, however, a dense accumulation of fire-damp must necessarily be accompanied by a great deficiency of oxygen I am inclined to the view that the manager had not traversed the galleries in which inflammable gas existed. If he had it is almost certain that he would have experienced difficulty in breathing and perhaps have been overcome.

5. It is clear from the circumstances attending this accident that the fact that no inflammable gas has been found in a mine is no guarantee that it will never be found. In many mines, gassy or non-gassy, there exist from time to time areas of old or discontinued workings which do not form part of the working areas of the mine and in which the atmosphere is stagnant or nearly so. In such places even minute quantities of inflammable gas may in time aggregate into a dangerous accumulation. The case of a mine or part of a mine which is to be re-opened and particularly a mine which has been de-watered calls for special attention in this respect. In such a case the condition of the atmosphere in the mine should be ascertained by careful inspection and this accident has clearly demonstrated the necessity of that inspection being made with a safety lamp even in a mine in which inflammable gas had never previously been encountered.

6. There is another lesson to be learnt from this accident. The condition of the atmosphere cannot be ascertained by an electric torch or an electric safety lamp both of which give a light which is independent of the atmosphere, and the only safe means of examining the condition of the atmosphere in such cases is a locked safety lamp of the flame type. Such a lamp

will not only indicate the presence of inflammable gas, but it will also serve as a valuable indicator of (a) the presence of carbon dioxide which is frequently met with in re-opened mines and discontinued areas; and (b) a deficiency in the oxygen content of the atmosphere. An electric lamp is not only of no use in ascertaining the condition of the atmosphere of a mine, but its use constitutes a decided danger as with it not only will an accumulation of inflammable gas remain undetected but the persons using such lamps may enter unknowingly an irrespirable atmosphere and be overcome.

7. Temporary regulations have been issued since the accident which require a flame safety lamp to be used in the first inspection of workings which have been discontinued for more than seven days and also of workings which are in the process of being de-watered.

*No. 2. The Bengal Coal Company, Limited's Poidih Coal Mine.*

(Two hundred and nine deaths.)

Poidih colliery is situated near Sitarampur, in the Raniganj coalfield in Bengal. The colliery is owned by the Bengal Coal Company, Limited, the managing agents being Messrs. Andrew Yule and Company, Limited. It is served by two shafts 740 and 754 feet deep. The seam worked is the Dishergarh seam. The seam is one of rich quality and of high volatile content. It is about 15 feet thick. Coal raising was commenced in 1931 and since then the mine had been worked continuously. At the time of the accident most of the workings had reached the boundary and in several places the extraction of pillars had been commenced. The extraction of pillars was going on principally near the dip boundary. (See Plan No. 2). The colliery was under the charge of Mr. E. Dobbs, holder of a first class coal mine managers' certificate. There was also a Chief Mining Engineer with two assistants.

2. The accident occurred on the 18th December shortly before 11 o'clock. A loud report was heard on the surface for some considerable distance from the colliery and shortly afterwards large clouds of black smoke and dust were ejected from both of the shafts. The discharge of smoke and dust continued for about fifteen minutes and then subsided. The winding gear of both the shafts was badly damaged. In the downcast shaft one cage had been blown to the top of the headgear where it was held. The winding rope had been detached from the pulley and the over winding bell boxes, with the two heavy girders supporting them had been blown over the pulley wheels. One pulley wheel had been broken. The cage keps and the heavy girders supporting them had been dislodged and left suspended 3 feet above their original position. The wall, 3 feet in thickness, which surrounded the shaft from the ground level to the banking level had been blown down; one block of masonry weighing about a ton having been shifted about 20 feet from the shaft. Empty tubs on the banking level had been smashed and some had been blown off the banking level. The banksman at the top of the pit was killed. At the upcast shaft, the pit top covering had been blown into the headgear. One cage was resting on the keps and the other cage which had been near the bottom of the shaft at the time of the accident

had been blown up the shaft into the headgear, a distance of over 700 feet. The top of the shaft was blocked by a tangled mass of iron work and ropes. Some distance from the shaft there was a body so badly smashed as to be beyond recognition. The bonnets of three safety lamps which had probably been those used at the bottom of the shafts were also found on the surface.

3. The members of the Coal Mining Committee who had been visiting another colliery passed by Poidih colliery at about half past eleven, and noticing an excited crowd of people went at once to the colliery. Mr. Barraclough, a member of the Committee, assumed charge of the situation in his official capacity as Inspector of Mines and sent word to me at Dhanbad. Mr. Barraclough proceeded, in consultation with several mine managers who had arrived at the spot, to make arrangements for descending the downcast shaft. It was obvious that several hours' work was necessary before even temporary arrangements for descent could be made. It was decided that a descent might be attempted in the downcast shaft. The fan, which had been standing, was started at about 1 p. m. I arrived at the mine at about 1-45 p. m. By about 8-45 p. m. a sinking bucket with a non-spinning rope had been fitted and arrangements made for descending the downcast shaft. A programme was drawn up and a party consisting of Mr. Barraclough (leader) and Messrs. Wilkinson, Barron and Rosser descended the shaft in a bucket with safety lamps, electric torches, some light tools and a cage of birds. Descent was necessarily slow owing to obstructions in the shaft and the bottom was reached by 9-30 p. m. The party returned to the surface at about 10-15 p. m.

4. Mr. Barraclough reported that considerable damage had been done at the bottom of the downcast shaft. Such ventilation stoppings as could be examined had been demolished, the bricks broken to small pieces and the own considerable distances; tubs had been over-turned and in some cases thrown on the top of each other. Two bodies in a badly smashed condition were seen. It is likely that they had been thrown a considerable distance by the force of the explosion. Most of the galleries contained thick white smoke and in the rise galleries tests showed a large accumulation of inflammable gas. When the party returned to the surface and reported, a conference was held and it was decided to make a second attempt after the top of the downcast shaft had been further cleared and the loose brick-work removed from the sides of the shaft. This work was carried out during the night. It may be mentioned that the conference held after the report of the exploratory party was unanimous in their opinion that it appeared impossible that any person left underground could have survived.

5. A second exploratory party descended the shaft at 11 a. m. on the following day. It consisted of Messrs. Barraclough, Wilkinson, Barron and A. N. Sen Gupta. The conditions below-ground were worse than on the previous occasion. Further exploratory work was done in the direction of the bottom of the upcast shaft. It was found that considerable destruction had also been caused at the bottom of that shaft. Tests for inflammable gas were made and samples of air were taken. The party returned to the surface at about 12-15 p. m. It was clear from the evidence of destruction on the surface and the reports of the exploratory parties that the explosion had been one of unprecedented violence.

6. A conference was held with the officials of the company, agents and managers of several other collieries and the members of the exploratory party. It appeared that the possibility of anyone being alive underground was out of the question. No sign of life had been noticed by either exploratory party and although shouts had been raised underground no response had been obtained. The whole mine seemed to be full of asphyxiating gases and it was impossible for an exploratory party to proceed for any distance without rescue apparatus. If any person had survived the explosion it seemed practically certain that he must have been asphyxiated. I arranged for Mr. D. Heron, Manager of Sodepur Nos. 9 and 10 pits, to traverse the barrier between his colliery and Poidih colliery and to knock on the coal. The thickness of the barrier was about 150 feet and the coal readily conveys the sound of knocking. This procedure was carried out over the whole length of the accessible barrier, but no response was obtained. There was a considerable body of opinion in favour of closing the mine at once in view of the probable existence of fire in the mine and the danger of another explosion if fresh air continued to be circulated. I was, however, not yet prepared to agree to sealing down the shafts and arranged for another conference on the following day so that I could get the benefit of the opinion of as many experienced mining engineers as possible. I agreed, however, to the temporary stoppage of the fan in order that the gases might come up the upcast shaft in a less diluted form and so could be examined there. The fan was doing little useful work in any case as natural ventilation was causing a circulation of air down the downcast shaft and up the upcast shaft.

7. I held a conference on the 20th December. It was attended by a large number of experienced mining engineers from both the Raniganj and Jharia coalfields. The most experienced mining engineers were of the opinion that the smell at the top of the upcast shaft indicated the presence of fire in the mine. Messrs. Barraclough, Wilkinson and Barron, members of both exploratory parties, had formed the same opinion from the conditions observed by them below-ground. The conference was unanimously of the opinion that there was no possibility of any one being alive in the mine and that the probability was that all were dead shortly after the explosion. Opinion was unanimous that the shaft should be sealed. Although I was extremely reluctant to agree to this I could not see any alternative and accordingly with a heavy heart I agreed to the sealing of the shafts.

8. The Court of Inquiry appointed under Section 21 to enquire into the accident, whose report I have utilised in the above description, were definitely of the opinion that the action taken after the accident was prompt and adequate—considering that no trained rescue team equipped with the necessary apparatus was available—that the exploratory work was well organised, and that the members of the exploratory parties carried out their dangerous and in some cases self-imposed duties with great courage as well as with discretion. Further exploratory work would have been useless and dangerous and the final decision to close the mine was supported by a weighty body of professional opinion.

9. Safety lamps were used throughout the mine. The lamps were magnetically locked. No explosives were in use in the mine at the time of the accident. As the mine could not be examined except for a short distance

round the shafts the actual cause of the disaster has not yet been ascertained. It is clear, however, because of the great violence attained, that the explosion must have been due either to the ignition of a highly explosive atmosphere of inflammable gas existing over a large part of the mine or to a smaller ignition of inflammable gas which was afterwards propagated by coal-dust. It is very likely, I think, that coal-dust played a part in the explosion. The Court of Inquiry in discussing this aspect of the accident stated as follows:—

“ Wherever the explosion originated, and however, it was propagated, it seems probable from its great violence and from the way in which its force was directed from both sides towards No. 1 shaft, that it was not one explosion only, but a series of separate explosions following one another in quick succession from one part of the mine to another. A gas explosion followed by a coal-dust explosion may have been followed again by another gas explosion ”.

“ The main explosion which wrecked the mine probably occurred at some distance from the shafts. No flame was seen coming out of the pit at the time of the explosion, and there was no evidence of flame, in or in the vicinity of, the shafts after the explosion, which forced itself with great violence through both shafts. And from the observations of the exploratory parties, it seems that the force of the blast came towards the downcast shaft almost equally from both sides. Mr. Barraclough has deposed that the exploratory party found soot but no signs of coking. If a coal-dust explosion is assumed, this fact points towards the same conclusion, namely, that the explosion probably originated at some distance from the shaft.

The cause of the ignition may have been one of the following:—

- (a) A defect in, or accidental damage to a safety lamp.
- (b) Misuse of a safety lamp in the presence of gas.
- (c) A light from a match or other apparatus for producing a light.
- (d) A spark from electrical apparatus.
- (e) A spark from some other accidental cause, *e.g.*, a falling stone in a goaf, or a runaway tub ”.

It is more than likely in my opinion that the igniting cause was one of the first three.

10. The mine is one in which inflammable gas had been detected from time to time. In one place gas was given off continually in small quantity, and it is possible that even smaller quantities were given off elsewhere without having been detected. No gas had been detected in the mine from the 27th May 1936. As already stated, the workings had reached the boundaries in practically every part of the mine and at the time of the accident there were only two galleries being driven in solid coal. There remained the possibility of gas having accumulated in one or other of the depillaring areas and being expelled into the workings by a fall in the goaf. The main depillaring area was what was known as the Main West dip district at the extreme dip of the workings. This was where most work was being done and the

goaf already formed covered an area about 500 feet between the barriers and 100 to 250 feet in breadth from the extreme dip upwards. Inspections for gas at the edge of and inside the goaf had been made by the manager and others from time to time but no gas had been found. It is, however, very difficult to examine a goaf for the presence of inflammable gas and practically impossible to do so inside the goaf itself. Inflammable gas being light may easily accumulate in the cavities of a goaf. In addition to the main depillaring area there were three other depillaring areas one of which had been sealed off and from these it is also possible that inflammable gas may have been expelled from falls in the goaf. With reference to the area which had been sealed off it may be mentioned that inflammable gas had been found outside the stoppings. The gas, however, was dispersed by increasing the ventilation. The indication, however, was that there was inflammable gas in the sealed off area behind the stoppings. The Court of Inquiry makes the following comment on the large amount of gas found in the mine after the accident :—

“ A feature of the disaster is the large volume of inflammable unexploded gas found in the mine by the two exploring parties which descended twelve and twenty-four hours after the explosion. The quantity cannot be estimated as only at the edges, at or comparatively near to the shafts, could tests be made. But it was clear that the quantity had increased between the first and second descents, a safety lamp test made by Mr. Barraclough showing a 3 per cent. mixture in the full air current, the fan running at the time. The rise workings, at least, were full of inflammable gas, probably highly concentrated, and doubtless for some distance in the direction of the dip there would be gas, probably less concentrated. Dr. Penman has suggested that this accumulation may have represented the ordinary “ make ” of the mine in 12 or 24 hours with little or no ventilating current passing into the workings, *plus* what may have been ejected from the walled off goaf to the dip of the shafts subsequent to the explosion. In the absence of any exact data, however, we think that there may have been some other source of supply. If an abnormal discharge of gas caused the explosion, this discharge may have continued and may even have increased, after the explosion ”.

11. Bye-laws for the treatment of coal-dust had been established at the colliery early in 1936, and in connection with this aspect of the accident the following comments have been taken from the report of the Court of Inquiry :—

“ Mr. N. G. Chattarjee, Inspector of Mines, reported on 22nd August 1936 that “ water was being allowed to run down the haulage dips to keep them damp. The present manager is not in favour of providing sprays on roadways. The level roads are periodically treated with ashes. The eastern rise section was [found to be naturally wet throughout”. Mr. Chatterjee was generally satisfied that the bye-laws for coal-dust were being complied with. The Chief Inspector was not satisfied, however, with the



watering arrangements and directed another inspection. This was done by Mr. Chatterjee on 6th October 1936. On receiving his report, the Chief Inspector was still not fully satisfied, and informed the Inspector of Mines that adequate watering of the roadways or stone dusting, should be insisted on."

The Inspector wrote to the Agent, who replied that the measures taken at Poidih colliery were of a temporary and experimental nature; that a mill was shortly to be constructed to supply stone dust to Poidih colliery; and that in the meantime watering of the haulage roads and regular sweeping to prevent accumulations of coal-dust was being carried on as the best means available for the present to meet requirements.

As to the actual state of the mine, just before the accident, the evidence of the overman, of Mr. Rosser and of Mr. Hindley, indicates clearly what precautions against coal-dust were being taken.

Overman, Abanindra Nath Sen Gupta, for instance, deposes that since Mr. Chatterjee's last inspection both east and west main haulage roads had been kept dust free. White-washing had been done, and arrangements made for regular watering. The water pipes were kept open continuously to keep the haulage dip roadway wet. The floor throughout the section under this overman (*i. e.*, west dip depillaring section, which was not naturally wet) was kept thoroughly wet and free from dust.

This evidence is corroborated by Mr. Rosser, who inspected the mine on behalf of the Agent a week before the disaster. He considered that the bye-laws relating to coal-dust were being satisfactorily carried out. Mr. Rosser candidly admits, however, that coal-dust may have played some part in the explosion. "I do not think it is likely" he says "that a purely gas explosion could cause such damage".

The Agent, Mr. Hindley, says :—

"When I got the letter from the Inspector of Mines, No. 2 Circle, that he did not consider the method of dealing with coal-dust adequate, I discussed the matter with Mr. Rosser and replied to the Inspector of Mines. Later I talked it over with the manager. We agreed that dry sweeping was of no use. We decided to put stone-dust down as soon as we could."

On this evidence, we think it is clear that bye-laws (1) and (3) were properly observed. As regards bye-law (2) the position was not quite so satisfactory. The watering of the dry parts of the mine was confined to the roadways only, leaving the roof and sides neither sprayed with water nor treated with stone-dust as the bye-law prescribed.

We are satisfied that the Agent and the Company had intended to comply fully with the second bye-law and had made preparations for a supply of stone-dust for Poidih. Unfortunately the supply was not available up to the time of the accident. It should be added that it is by no means certain that the mine would have been completely safeguarded against explosions of coal-dust even if the bye-laws had been fully complied with. The Chief Inspector of Mines has stated in this report that precautions against coal-dust are of comparatively recent origin in Indian mines, and that, while much has been done, chiefly at his instance, much remains to be done. Some groups of collieries prefer watering, and others

stone dusting. There has been doubt in some minds as to whether watering is to be preferred to stone dusting, and also as to what standard of precaution could be considered adequate. The Chief Inspector is of opinion that coal-dust in old galleries may be a danger, although up to the present attention has been paid to the treatment of coal-dust at what has been considered the most dangerous parts of the mine, *viz.*, haulage and tramming roads, travelling roads, airways and working places.

Our conclusions as regards coal-dust precautions in this mine may be summed up as follows :—

- (1) Those responsible for the management and control of the mine did make an honest effort to take adequate precautions against coal-dust but had not, up to the time of the accident, fully complied with bye-law No. 2 to the satisfaction of the Chief Inspector.
- (2) In view of the probability that an explosion of coal-dust played an important part in the accident, it is possible that the precautions taken were not as a matter of fact adequate.
- (3) Even if the existing bye-laws had been fully complied with, the danger of a coal-dust explosion would not have been entirely absent.

The mine was mechanically ventilated. The fan exhausted air from No. 2 shaft (see plan). There were two main "splits"—one towards the rise and one towards the dip. There were also two or three smaller subsidiary "splits". The coursing of the air in the mine is clearly shown on the plan. The fan was kept running for the major part of the year, but it was stopped for short periods in the cold weather on the grounds that the amount of air circulated in the mine from natural causes was sufficient. The fan had been stopped by the manager from the 20th November except for short periods on 26th to 28th November and 2nd December. It was not run at all from the 3rd December to the day of the accident. As far as could be judged the air was being properly coursed round the mine. The evidence that no gas was being found in the working places also pointed to the same conclusion. If one judges from the evidence available, therefore, the ventilation was adequate up to the relay before that on which the accident occurred. In commenting on the stoppage of the fan the report of the Court of Inquiry states :—

"In the light of subsequent events it is a pity that the fan was stopped, for to keep it running would have been an additional precaution, which just possibly might have averted the explosion by preventing an accumulation of gas; but to say that the management were actually at fault in stopping the fan, would be going too far."

12. The arrangements for cleaning, examining and issuing the safety lamps at the colliery appear to have been in order, and there was an ample number of lamps to ensure that they could be cleaned and examined between relays. The arrangements for searching persons before they entered the mine were also in order except that the women were not searched. †

13. A deplorable feature of this accident was the fact that the number of women employed in the mine was greatly in excess of the permissible

percentage under the regulations for the employment of women underground. A system of deception and falsification of the attendance registers had been introduced and practised by the manager. "Under his instructions only a few women were entered in the attendance register. The names of the others were entered in a rough scrap book". Out of a total death roll of 209 persons 63 were women. Only one person was killed on the surface so that 208 persons, including the manager, perished below ground.

14. The Court of Inquiry made the following recommendations:—

- (1) Improvement of the present system of mining, as far as possible, so as to prevent accumulations of gas in goaf cavities, which frequently form reservoirs for the accumulation of inflammable gas. This question, we understand, is at present under the consideration of the Coal Mining Committee.
- (2) The attention of Agents and Managers of gassy mines should be drawn to the necessity of keeping mechanical ventilators working continuously in order to safeguard against any unforeseen accumulation of inflammable gas.

They should be advised to bring to the notice of the Inspector of Mines any prolonged stoppage of such ventilators.

- (3) It is advisable that a regulation should be introduced to make it compulsory that persons entering a gassy mine should be searched. This regulation might be framed on the lines of section 35(2) of the British Coal Mines Act of 1911.
- (4) Regulation 25 should be amended so as to provide that a bound register should be kept at every colliery, showing all appointments or authorisations of competent persons by the manager.
- (5) A regulation should be framed requiring the manager or a competent person appointed by him to examine all the safety lamps in use at the mine at least once a week, and to record the result of such examinations in a book to be kept at the mine for the purpose.
- (6) We think that electric safety lamps are less liable to misuse in the hands of irresponsible persons, and their use by all persons except the supervising and inspecting staff should be encouraged in preference to the flame type of lamp. This is particularly advisable when extraction of pillars is being carried on. We do not advise, however, that the use of electric lamps in place of the flame type should be compulsory.
- (7) Regulation 122 should be amended so as to specify more clearly the points at which the monthly measurements of air shall be made.
- (8) A regulation should be issued requiring old workings in gassy mines, and particularly places in which inflammable gas may accumulate, to be examined once a week by a competent person and the results recorded in a book kept at the mine for the purpose.

- (9) We are impressed with the dangers arising from coal-dust in gassy mines and are of opinion that existing regulations and bye-laws relating to coal-dust should be examined with a view to their consolidation and possibly more stringent application. But in view of the limited scope of the present enquiry, and the controversial nature of the technical questions involved, we do not make any specific recommendations. We understand that the question is one of those engaging the attention of the Coal Mining Committee.
- (10) We invite attention of the fact that in Poidih mine there were goaves isolated by stoppings in such a way as to make it impossible to ascertain whether inflammable gas was accumulating behind these stoppings. It is advisable that in a stopping or series of stoppings there should be arrangements whereby atmospheric conditions behind the stoppings can be readily ascertained.

#### FALLS OF ROOF.

*No. 10. The Burra Dhemo Coal Company, Limited's Burra Dhemo coal mine.*

(Three killed.)

A gang of miners was engaged in taking down roof coal in an area in which a pillar of coal was being extracted. The pillar had been entirely removed except for a stook, 10 feet by 8 feet in cross-sectional area. Some roof coal around the stook remained to be taken down. The manager gave orders for the roof coal to be taken down and for timber to be afterwards set around the stook before it was finally removed. Eight miners—four pick men and four loaders—were instructed to cut down the roof coal and to leave the stook alone. It appears, however, that in the absence of the sirdar in charge of the district the miners had commenced to cut coal from the stook with the result that it collapsed allowing the roof coal also to fall. Three of the gang were killed. The extraction of the last portion of a pillar is frequently an operation requiring great care and close supervision and it is advisable that such an operation should be done under the supervision of a responsible official who is on the spot all the time.

#### SUFFOCATION BY GASES.

*No. 138. The Barrakar Coal Company, Limited's Loyabad coal mine.*

(Thirty-five deaths.)

This accident occurred on 30th January 1936, and was the subject of an enquiry under Section 21 of the Act. The following description of what occurred is summarised from the report of the Court of Inquiry :—

The accident was due to a fire which occurred in No. 15 seam near the bottom of two shafts which are 370 and 380 feet, respectively. The fire occurred in the early morning of Thursday, the 30th January, and appears

to have broken out in an air-crossing (see Plan No. 3). The occurrence was first detected by a trolley-man sirdar. At about 4 or 5 in the morning he noticed some dust in the atmosphere near the haulage and thought one of the doors might be open. When he reached the curve of the main haulage line and the shaft level from No. 10 pit he felt it hot. He waited there for about ten minutes while it got hotter. He saw smoke coming from the east and the shaft level was full of smoke. He went back towards the main dip and told another sirdar to inform the overman who was near the working faces. He warned his trolley-men and went towards No. 9 pit. He reached No. 9 pit bottom and informed the onsetter. There was no sign of fire or smoke at No. 9 pit bottom then. The deputy overman received information of the occurrence at about 5 A.M.

2. Information of the occurrence reached the manager, Mr. Durham, at about ten minutes past five. He went immediately to No. 9 pit and went down it. When he reached the main east level he found signs of fire near the air-crossing. He went through the steel door immediately below the air-crossing. There was no sign of fire on the intake side. He then went to No. 10 pit shaft level where he saw a fair amount of smoke. He was able to get quite close to the rise gallery leading to the air-crossing. There was dense black smoke coming down the road from the air-crossing and it was blowing in towards No. 10 shaft. Tongues of flame were occasionally visible in the smoke. He then went along the return airway and got within about 15 feet of the fire. He could not get closer on account of the heat. The fire was then on the rise side of the crossing and seemed to be burning in the the ramp which was against the side of the crossing. A large current of air was passing over the fire. Having located the fire he returned to the surface by No. 9 pit and issued orders with a view to get the workers out of the mine and to check the fire. He stopped the fan which is at the top of No. 10 shaft as he considered that the action of the fan would increase the fire. He sent information to Mr. Brown, the Chief Mining Engineer, and Mr. Starks Field, the Agent of the colliery, and started arranging for materials to be lowered in the pit for the protective works he was contemplating. He took the Assistant Manager down to the rise side through the return airway and told him to erect a corrugated sheet stopping at the point marked 1 on the plan. He saw the work started and returned to the surface and arranged for materials to be taken down to near point 3 on the travelling road. He deputed the overman to supervise the temporary stopping there. He also sent men and materials down by No. 9 pit for the erection of a stopping at point No. 2. On one occasion he opened the door on 11 seam haulage between Nos. 9 and 10 shafts but there was so much smoke that he could not go through. By this time smoke and flame were shooting out of No. 10 pit.

3. The Chief Mining Engineer and the Agent arrived at No. 9 pit bottom between 7 and 7-30 A.M. Mr. W. Kirby, Inspector of Mines, and I reached the mine about 7-30 A.M. and met the Chief Mining Engineer on the surface. Previously the Chief Mining Engineer had informed me about the occurrence by telephone. While this procedure was going forward all the miners working on the night shift had been withdrawn from the mine and the manager himself went round the workings and assured himself that there was no one else left in them. When temporary stopping No. 3 was nearing completion arrangements were made to put in another stopping at point 3-A. This was

started but had to be discontinued as smoke was backing rather heavily. It was decided to put a stopping higher up in the intake airway but the exact position was not settled then. Meantime pipes were being fitted near the bottom of No. 9 pit, the object being to quench the fire by water if possible. It soon became apparent however that this could not be done and the manager stopped further work on the pipes. Apparently at that time men had been sent down to draw out the dip pumps to supply water for quenching the fire. The manager gave orders to the Mechanical Engineer of the colliery to withdraw the men who had been sent down to start the dip pumps.

4. It was decided to hold a conference to discuss the situation on the surface and it was decided to erect a stopping at or about point 3-B. First of all, an inspection was made by the manager and the manager of another colliery. They came to the surface reporting that the airway near point 3-B was quite clear and there was a good current of air flowing in it. At the conference on the surface it was arranged that the following precautions should be taken :—

- (1) that no men should be underground except those dealing with the fire ;
- (2) that safety lamps should be used near the stoppings ;
- (3) that a correct record should be kept of all entries and exits ;
- (4) that a man with a first class certificate should be in charge of each place where work was going on ;
- (5) that all work-persons should be withdrawn in the event of smoke backing on to the work ; and
- (6) that any change in the conditions should be reported to the Chief Inspector of Mines.

5. Mr. Durham was directed to select a site for a temporary stopping in the intake and he selected point 3-B. He was told to select a permanent site also and left the Sijua-Jharia office with Mr. Lawton and went underground by the incline. He selected the site for 3-B to be built with excess materials from 3-A and marked off the position for the permanent stopping 3-C. He met Mr. Starks Field at the foot of the incline and told him what he had been doing. Mr. Lawton said he would take Mr. Starks Field to show him the position and Mr. Starks Field said that he would take over the supervision of stoppings 3-B and 3-C and Mr. Durham went to supervise stoppings 2-A and 2-B and to arrange for a permanent stopping in the return airway to back up No. 1. He sent Mr. Senior to inspect No. 15 seam return who reported that the whole of the airway was full of smoke which had backed along the return through No. 1 stopping. Mr. Senior first tried to go through from point G to H but could not. So Mr. Durham told him to go as far towards E as he could. Mr. Durham then went to the surface to get masons for site 2-B and on the surface he met the Chief Mining Engineer who said that he had telephoned to the Managing Agents in Calcutta and was going to send a further report about 1-30 when he returned to the colliery. Mr. Durham then returned to No. 9 pit bottom to get on with stopping 2-B and he met Mr. Tarlton, who asked why men had been sent down to the dips and told Mr. Durham and Mr. Barlow to get the men up at once. Mr. Barlow said he would see to it himself. At this time Mr. Senior reported

that he had found a good site for the second stopping in No. 9 pit (15 seam) return, *viz.*, near the air-crossing at point F. Mr. Durham supplied men and materials and Mr. Senior started off accompanied by Mr. Tarlton. Mr. Durham went back to supervise 2-B stopping, withdrawing the men still working at 2-A which was still incomplete. They had just begun the brick-work when a powerful blast of air occurred. The first indication was a sudden reversal of the air which could be felt as well as heard and immediately afterwards temporary stopping No. 2 was blown away. After the stopping was blown away there was a blast towards No. 9 pit and everything seemed to be plunged into darkness. Mr. Durham shouted to the men to follow him and took them to the west of the shaft and waited at the junction of No. 9 pit west level and the drift to the east haulage. Immediately after this Mr. Tarlton's party from the east haulage came out.

6. The cause of the fire is unknown. It appears to have occurred at or near the air-crossing marked on the plan. Against the side of the brick walls forming the air-crossing materials from the shale roof which perhaps also contained some coal had been placed in the form of a sloping ramp. The manager stated that earlier in the week he detected a leak in the air-crossing and orders had been given for patching various leaks in stoppings but the one in the air-crossing had not been patched. Apparently no smell of heating had been noticed previous to the morning of the accident. The Chief Mining Engineer and the Agent of the colliery had been near the air-crossing three days before the accident and did not notice any smell. Other officials had been near the air-crossing a few days before the accident and had noticed nothing, nor particularly anything unusual. The conclusion appears to be that the fire was due either to spontaneous combustion or to some accident such as the upsetting of a lamp or spilling of oil. Open lamps were used in the mine and smoking was permitted. The Court of Inquiry were unable to reach a more definite conclusion than that the fire was almost certainly due either to spontaneous combustion or to accident and they thought the latter more probable than the former.

7. It will be seen from the description already given that what appeared to be an explosion occurred at the time of the accident. The manager, Mr. Durham, who was in the pit at the time says that immediately before it occurred he heard a curious muffled sound. It might have been a fall of the roof at some distance from him but he was sure it was not a fall of roof close to him. Mr. Tarlton thought that the explosion was not, properly speaking, an explosion at all but a fall of roof causing a blast which threw back fire and smoke. The Court of Inquiry stated that they felt certain that in the circumstances a fall of roof inevitably occurred and drove back the unconsumed gases over the fire where they exploded. I am myself of the opinion that a small local explosion of unconsumed gases took place at the time of the accident. It may be mentioned also that subsequently during rescue work and after the rescue work had been abandoned smaller expulsions of gases took place which may have been due to local explosions.

8. A regrettable feature of the accident was the fact that out of 35 persons who lost their lives 21 were employed on work which appears to have had little or nothing to do with the fire. These twenty-one persons had been sent down into the dip workings to remove pumps. This was a disregard of the precautions which had been agreed upon at the early part

of the morning. Orders to remove the pumps were issued under the following circumstances :—

“ Mr. Durham met Mr. Barlow at No. 9 pit bottom. When the work on the pipes was stopped, Mr. Barlow had some superfluous men and he asked Mr. Durham if he could use them for removing the turbo pump which had been uncoupled the previous day. Mr. Durham said that he could not give any such orders but would consult the Chief Mining Engineer and the Agent. About 10 o'clock according to Messrs. Barlow and Durham, he met Mr. Field (and according to Mr. Barlow, Mr. Brown also) and told him what Mr. Barlow wanted to do. Mr. Field asked Mr. Durham his opinion and he said that he did not advise it because the labour available was a good type and could be better employed in lowering materials for stoppings. Mr. Field thought that the pumps ought to be saved if possible and after asking Mr. Barlow how long it would take to get them to the pit bottom and being told between two and three hours, he ordered Mr. Barlow to have the pumps removed, having asked Mr. Durham if he thought it was dangerous to which Mr. Durham replied that he did not think so. The time of “ about 10 o'clock ” given by Mr. Barlow and Mr. Durham must be incorrect, because if such an order had been given, it must have been before the conference which commenced at about 9-30. Mr. Durham further says that on one occasion when he went to the surface (the exact time is not given but it must have been some time after the conference) he met Mr. Brown who said that he had telephoned to Calcutta and was going home to lunch and would return soon after 1-30. (It may be mentioned here that no one knows why Mr. Brown accompanied by Messrs. Lawton and Boscolo went underground again after this). There is no evidence that he gave instructions about the special precautions even then, and it was apparently shortly after this that Mr. Tarlton who had apparently just heard that men were in the dips insisted on the men on the pumps being called out at once. Unfortunately those orders appear to have been issued too late, but had Mr. Barlow gone direct to the dips after receiving the order he might have been able at least to lead the men to safety.

The difficulty is to understand why Mr. Starks Field allowed the men to be sent down to the pumps in the first instance and why they were not recalled earlier. We feel reasonably certain Mr. Brown did not know that they had been sent at all. He had himself seen Dr. Penman stop some men going down and he cannot have failed to realise that Dr. Penman was insistent that no one should be employed underground except for dealing with the fire. Had he realised for a moment that there were other men underground he must have ordered their withdrawal. Mr. Starks Field's permission to withdraw the pumps was certainly given before the conference. According



to Mr. Durham, Mr. Field only gave his orders after being apparently satisfied that there was no special danger. But it was after he had seen Dr. Penman prevent some men going down the dips. It is necessary to emphasise that Mr. Field must have seen what was done because he was very deaf and might not have heard all that was said at the conference. Dr. Penman says that both Mr. Brown and Mr. Starks Field were experienced and cautious men, held in high reputation in the coalfields and in his own estimation, an opinion which we all endorse. All that we feel it necessary to say is that on the rather conflicting evidence before us Mr. Starks Field committed an error of judgment with tragic results which no one would have deplored more than he if he had survived."

9. With regard to the rescue measures the Court of Inquiry stated as follows:—

"The rescue measures also seem to have been as efficient as possible with the equipment available. The rescue parties penetrated to the extreme limits of safety without any protective masks and some of them suffered from gas-poisoning themselves. There is no doubt in our minds that everything that was humanly possible was done and that when the rescue party finally left the mine after the second explosion there was not the faintest possible hope that any one else could have been rescued alive. When so much good work was done it may be invidious to particularize but we believe that the achievements of Messrs. Kirby, Durham and Tarlton under the guidance of Dr. Penman are specially worthy of mention."

10. Shortly after this accident had occurred a conference of representatives of various mining associations was held at Delhi and a code of temporary precautions mainly dealing with fires and also other dangers was agreed upon. These temporary precautions were later issued in the form of temporary regulations and are reproduced on page 211 of the report.

11. In addition to the precautions embodied in the temporary regulations the Court of Inquiry into the accident at Loyabad made the following recommendations:—

"We recommend to the management the advisability of fitting suitable hose connections at convenient intervals on all main delivery columns with lengths of hose pipes kept in readiness or supplies of sand kept in various parts of the mine. It is our opinion that had some such arrangements been available at Loyabad the fire might have been extinguished when the manager first saw the fire as at that time it had not spread to any great extent.

We also recommend that the question of making the installation of a telephone system compulsory in certain mines be considered. We believe it is not practicable to make it compulsory in all mines and realise that it may be difficult to specify to what class or classes of mines such a regulation should apply but we think the matter should be examined and have framed this recommendation accordingly."

## HAULAGE.

*No. 152. The Bhulanbararee Coal Company, Limited's Bhulanbararee coal mine.*

(Two killed.)

This accident occurred on a haulage road having an inclination of 1 in 5. The haulage equipment consisted of a geared electric plant of 75 horse power. The drum was 6 feet in diameter. The haulage served two inclines and for the one on which the accident occurred the rope was led off the drum round an angle of 120 degrees on two 2 feet diameter pulleys and then round a curve of 120 degrees on six pulleys to the straight lines of the haulage plane. A set of one empty tub and five loaded tubs was being pulled up the incline when the rope broke. Two men were struck by the runaway tubs and so severely injured that they afterwards died.

The rope which broke was afterwards examined. The hemp core was tinder dry. The rope had never been greased or oiled while in use. The wires of the rope did not appear to be brittle but some of them were badly corroded and there were broken wires in it at some places. The rope had been examined and passed by the mechanical engineer who stated that although he noticed broken wires at one or two places he thought the rope safe because it was of greater diameter than was really necessary for the load.

The rope was originally 1½ inch diameter and when new would have a very high factor of safety. But it had previously been used for aerial haulage on the surface and then afterwards used for underground haulage purposes. The inspecting officer estimated that even with its reduced size when used on the haulage the rope appeared to have a factor of safety of over 20.

The attention of the Agent of the colliery was drawn by me to the following points :—

1. The drag failed to derail the set of tubs when the rope broke. An improved type of drag was described and illustrated in my Annual Report for the year 1931 and it was recommended that this type of drag should be used.
2. The practice of using ropes discarded from an aerial ropeway for haulage purposes should be stopped. In my opinion a rope used for haulage purposes should be designed for the purpose for which it is intended. A rope which is suitable for one set of conditions may not be suitable for another set of conditions, even though it may still retain most of its original size and strength.

In this case the rope may not have been suitable for the small size of haulage drum used. Besides a rope which has been in use for one purpose for a considerable time must of necessity have deteriorated from corrosion, brittleness and fatigue.

3. Haulage ropes should be oiled or greased at regular intervals.
4. A "history of haulage ropes" should be maintained.
5. The daily report of the person making inspections of ropes should give some indication of the condition of the ropes.

The Agent agreed to adopt these recommendations and I take the opportunity of inviting the attention of owners, agents and managers of mines to the above suggestions.

(NON-STATISTICAL.)

*No. 30. The Niluripathra Coal Company, Limited's Niluripathra coal mine.*

(Four deaths.)

This accident occurred about 5-30 P.M. on 29th September and was due to a collapse of workings. The seam worked was No. 11-12 combined seam having a thickness of about 40 feet. The workings are shallow and served by two shafts—one about 100 feet and the other 135 feet. In some parts of the mine the seam had been worked in two sections, but for the most part it had been worked only in one section, galleries being formed first of all near the roof and the seam excavated in the galleries by the removal of coal in the floor. As a result many of the galleries had been made 30 feet in height or more. The further cutting of coal from the floor was prohibited under an order of the Inspector of Mines, No. 1 Circle, under Section 19(1A) of the Act some weeks before the accident took place, but in the area which collapsed no work had been going on for a considerable time.

The area which collapsed was about 300 feet by 250 feet, and the collapse was accompanied by a severe air-blast which temporarily deranged the winding gear and equipment at both shafts. The collapse on the surface involved one small block of dhowrahs with the result that two persons—a man and a woman—who were in a room of the dhowrah at the time lost their lives. In addition a boy and a woman who were crossing the area which collapsed at the time of the accident were engulfed in the subsidence mainly due to the fact that they had been at or in the vicinity of a tram-line embankment at the time. They were completely engulfed in the ashes and their bodies could not be recovered.

At the time of the collapse twenty-two persons were in the mine and they were unable to get out of the mine owing to the damage done to the winding equipment. Under the charge of officers of this department the work of restoring the winding arrangement was commenced at one of the shafts shortly after the occurrence and within one and a half hours two Inspectors were able to descend one of the shafts. It was found that the persons in the mine had not been injured in any way. They escaped because of the large dimensions of the galleries, the force of the air-blast having only done damage at the shafts. All the persons in the mine were rescued.

It was found that the registration of the persons underground was defective and action was taken against the manager and the register-clerk.

There is no regulation under the Act specifying the minimum sizes of pillars or the maximum dimensions of galleries. As a result in many mines in the past the pillars have often been formed of small dimensions and the galleries have frequently been made to the full height of the seam. It has also been the policy in the past to split or reduce the pillars instead of extracting them in a systematic manner. During the year a new section was introduced in the Indian Mines Act, *vide.*, Section 19(1A) which gives the Inspectors of Mines power to restrict the dimensions of galleries and to prohibit the splitting of pillars, if such operation is likely to cause the crush of the pillars or the premature collapse of any part of the workings. That the introduction of this section was necessary is shown by the fact that since it was made law orders under the section have been issued on over fifty different collieries. It is my view, however, that the sizes of pillars and galleries should be regulated by law and that reduction or splitting of pillars except in the case of the immediately subsequent total extraction of a pillar should be prohibited in the same way. The dimensions of pillars and of galleries should be such as to provide a very large measure of stability to the workings.

*No. 31. The North Barrakar Coal Company, Limited's Lohua coal mine.*

(Three deaths and two injured.)

This accident occurred on the 9th November and was due to the collapse of an area of workings in a seam, 24 feet thick. Depillaring had been proceeding in the area and the roof began to give indications of "weighting". Miners were withdrawn from the mine and the area which appeared likely to be affected by the subsidence was fenced off on the surface. This was done about mid-day on the day of the accident. Later in the day the crush in the area which was on weight became more intensive and some dhowchals which were thought to be in danger were vacated. The collapse actually took place at about 9 o'clock at night and extended over an area larger than was anticipated. As a result a block of houses which was thought to be well outside the danger zone was damaged and partly collapsed. Three persons were killed—one woman and two children—and two women were injured.

The accident indicates that occupied houses may sometimes be endangered even though they are situated outside what appears to be the area which is about to collapse. Unless the galleries are small and the pillars substantial in size occupied buildings which are situated on pillars near a goaf area should always be vacated. A great deal also depends upon the depth from the surface and the nature of the roof but a substantial safety margin should be allowed with regard to dwellings situated above workings near areas in which pillars are being extracted or in which there is sign of crush.

**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 of a coal mine in the Jharia coalfield was prosecuted for failing to keep the side of a working place secure with the result that a miner was seriously injured. He was sentenced to three months rigorous imprisonment and a fine of Rs. 300.

The owner who was also the manager of a coal mine in the Raniganj coalfield and the register-clerk were prosecuted for not examining an incline and for the report books not being countersigned by the manager; for encroaching into the adjacent property in two places and for not entering the attendance of persons employed in the mine in a register. The former was fined Rs. 225, and the latter Rs. 75.

The Agent and managing proprietor of a coal mine in the Jharia coalfield were prosecuted for not appointing a qualified certificated manager within a month from the date that the last permanent manager vacated the post. The agent was fined Rs. 50. The managing proprietor has not been traced.

The attendance clerk of a coal mine in the Raniganj coalfield was prosecuted for failing to keep a correct record of the number of persons going underground daily and for falsifying the entries in the register. He was fined Rs. 60.

The owner of a coal mine in the Raniganj coalfield was prosecuted for working the mine without a qualified manager. He was fined Rs. 50.

The owner, manager and surveyor of a coal mine in the Raniganj coalfield were prosecuted; the first two for permitting galleries to be driven within 25 feet of the boundary of the mine property and all three for failing to maintain an accurate plan of the mine. The owner and manager were fined Rs. 200 each and the surveyor Rs. 100.

The manager, an assistant and the register-keeper of a coal mine in the Jharia coalfield were prosecuted for allowing two female-loaders to be employed underground for more than nine hours and for failing to keep a correct record of the number of persons employed underground. The manager was fined Rs. 200; the assistant manager and the register-keeper Rs. 50 each.

The agent of a coal mine in the Raniganj coalfield was prosecuted for working the mine without a manager; for not keeping the shaft properly fenced and for not keeping a lock on the gate at the incline. He was fined Rs. 50.

The manager of a coal mine in the Raniganj coalfield was prosecuted for employing persons underground to deal with a fire other than those required; for not providing locked safety lamps or electric torches of a type approved; and for not sending intimation of the fire until several days later and even then not on the prescribed form or through the Sub-Divisional Officer. He was fined Rs. 170.

The owner, manager and sirdar of a mica mine in the Hazaribagh District were prosecuted for permitting women to work underground in contravention of the regulations. They were fined Rs. 60, Rs. 30 and Rs. 20, respectively.

The owner, manager and temporary manager of a mica mine were prosecuted for failing to keep the sides of the pumping shaft and an old shaft sloped or secured and for not registering the names of the shot-firers in a book kept for this purpose. They were fined Rs. 20 each.

The owners (two) of a coal mine in the Jharia coalfield were prosecuted for failing to show the top section of a seam on the plan; for not fencing properly certain inclines; and for not keeping a correct record of the number of persons working in the mine. They were fined Rs. 60 each.

A miner of a coal mine in the Jharia coalfield was prosecuted for robbing coal from the side of a loading level which was not the place in which he was authorised to work and thereby being instrumental in causing a fatal accident. He was fined Rs. 100.

The agent and acting manager of a coal mine in the Jharia coalfield were prosecuted for failing to submit a written notice of the appointment of the temporary manager; for failing to make and keep secure the roof at the entrance to the underground workings of an incline and for not recording the attendance of all persons employed in the mine. The former was fined Rs. 40 and the latter Rs. 20.

For the last two offences mentioned above, the agent and manager of the same mine were prosecuted. The agent was fined Rs. 200, and the manager Rs. 50.

The owner of a coal mine in the Jharia coalfield was prosecuted for working the mine without a qualified manager; for failing to keep a correct record of the persons employed underground and for failing to fence properly the incline. He was fined Rs. 30.

The manager of a coal mine in the Raniganj coalfield was prosecuted for failing to see that the explosives unused and left over at the end of a shift were returned to the magazine; for failing to maintain a correct record of the quantity of explosives issued from and returned to the magazine; and for allowing shots to be stemmed by crow-bars. He was fined Rs. 100.

The manager, the winding engineman, and the banksman, of a coal mine in the Raniganj coalfield were prosecuted; the manager for employing a winding engineman and a banksman for a period of twelve hours without any interval of rest and for failing to intimate that he had changed the time of the relays; the winding engineman for raising the cage without receiving the requisite signal, with the result that a woman fell out of the cage and was killed, and the banksman for failing to report to the head fitter or other official of the mine that the keps were not in working order. The manager was fined Rs. 20, and the other two were acquitted.

The owners of two stone mines in the Hamirpur District. were prosecuted for not making secure the loose ground overhanging the workings. One was fined Rs. 20, and the other Rs. 10.

The manager and register-keeper of a coal mine in the Jharia coal field were prosecuted ; the manager for failing to appoint in writing such number of persons as was sufficient to secure a correct and accurate record of the number of persons entering and leaving the underground workings of the mine ; and the register-keeper for failing to keep a correct record of the number of persons entering and leaving the underground workings of the mine. The former was fined Rs. 100, and the latter Rs. 30.

The owner of a coal mine in the Jharia coalfield was prosecuted for violation of an order under Section 19 (2) ; for failing to submit a notice of the appointment of a manager and for allowing a larger percentage of women below ground than was permissible. He was fined Rs. 200.

The manager of a tin mine in the Tavoy District was prosecuted because the sides of open workings were not properly sloped or stepped and because the place was not made safe or kept securely fenced, with the result that a land-slide occurred in which seven persons were killed. He was convicted and fined Rs. 100. The conviction and sentence were later set aside on appeal and the fine refunded.

The owner, agent and manager of a coal mine in the Pench Valley coalfield were prosecuted for failing to make secure the roof in some parts of the travelling road and working places ; and for not properly stepping or sloping the sides of an incline cutting ; for failing to have adequate ventilation and for not properly fencing the tops of a sinking shaft and incline. The owner was fined Rs. 500 on each charge, *i.e.*, Rs. 1,500 in all and the manager Rs. 150. The agent was acquitted.

Eight prosecutions against two managing directors, an agent, five owners and a manager were instituted for failure to submit annual returns within the prescribed date. The agent, three owners and the manager were convicted and fines aggregating Rs. 60 were imposed. The cases against the managing directors were dropped ; one of the owners died and the case against another was withdrawn.

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

A sirdar and a shot-firer of a coal mine in the Pench Valley coalfield were prosecuted for not testing the roof of the mine after three shots had been fired, which resulted in a fatal accident to a miner. The former was fined Rs. 30, and the latter Rs. 25.

An onsetter of a mine in the Raniganj coalfield was prosecuted for failing to close the gates of the cage properly, with the result that a miner fell out and lost his life. The case is still pending as the accused cannot be traced.

A shot-firer of a mine in the Raniganj coalfield was prosecuted for leaving his canister of gunpowder cartridges in charge of his coal-carrier who started to smoke and ignited the gunpowder from which he sustained burns and died. The shot-firer was fined Rs. 30.

- A contractor's writer in a coal mine in the Pench Valley coalfield was prosecuted for not giving warning that full tubs were being lowered before allowing the fillers to push empty tubs. He was fined Rs. 35.
- Two miners in a coal mine in the Pench Valley coalfield were prosecuted for having explosives without authority; for firing shots without authority and for stemming with a steel rammer. One was fined Rs. 15 and the other Rs. 5.
- A contractor's writer in a coal mine in the Pench Valley coalfield was prosecuted for negligently authorising tub fillers to take tubs down a straight gallery without verifying whether tubs were coming down a connecting rise gallery. He was fined Rs. 30.
- A shot-firer and two miners in a coal mine in the Pench Valley coalfield were prosecuted for being in unauthorised possession of explosives and for keeping the explosives openly without their being contained in a canister. The shot-firer was fined Rs. 50, and the miners Rs. 10 each.
- A shot-firer in a coal mine in the Pench Valley coalfield was prosecuted for issuing gunpowder without authority. He was fined Rs. 50.
- A sirdar of a coal mine in the Pench Valley coalfield was prosecuted for sleeping while on duty. He was fined Rs. 20. For the same offence a fitter and a boiler attendant were prosecuted. The fitter was fined Rs. 50, and the boiler attendant Rs. 20.
- A shot-firer of a coal mine in the Pench Valley coalfield was prosecuted for issuing explosives without authority. He was fined Rs. 10. For the same offence another shot-firer of the same coal mine was prosecuted and fined Rs. 15.
- A shot-firer and two miners in a coal mine in the Pench Valley coalfield were prosecuted—the miners for being in possession of gunpowder and the shot-firer for issuing it to them. The miners were fined Rs. 10 each, and the shot-firer could not be traced.
- A peon of a coal mine in the Pench Valley coalfield was prosecuted for forcibly opening a gate at a level crossing and crossing the tub line. He was fined Rs. 10.
- A miner working in a coal mine in the Pench Valley coalfield was prosecuted for drilling holes in the face of a level gallery, charging them with gunpowder and then retreating to the tramline without giving warning, with the result that when the shots exploded a miner was seriously injured. He was fined Rs. 5. The shot-firer of the same mine was prosecuted for wilfully neglecting his duty to supervise shot-firing operations and allowing the miner to do these operations by himself. He was fined Rs. 10.
- A miner working in a coal mine in the Pench Valley coalfield was prosecuted for being in unauthorised possession of explosives and for firing shots, not being a shot-firer. He was fined Rs. 5.
- Five banks-men of a mine in the Pench Valley coalfield were prosecuted for riding on tubs underground. They were fined Rs. 3 each.



For the same offence in four separate prosecutions a surface haulage hand, four trammers, a contractor's mate, two more banksmen and a clipman were prosecuted. They were fined Rs. 15, Rs. 20 each, Rs. 8, Rs. 5 each and Rs. 15, respectively.

A shot-firer of a coal mine in the Pench Valley coalfield was prosecuted for issuing explosives without authority, for allowing an unauthorised man to stem shots and for falling asleep on duty. He was fined Rs. 20.

Three miners of a coal mine in the Pench Valley coalfield were prosecuted for travelling on the haulage road. One was fined Rs. 8, one Rs. 6 and the other Rs. 5.

An onsetter of a coal mine in the Raniganj coalfield was prosecuted for not closing the gate of a cage while raising persons. He was fined Rs. 50.

The certificate of the Manager of a coal mine in the Giridih coalfield was suspended for a period of two years by the Government of Bihar under Regulation 48 (g).

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

In Notification No. P.-1, dated the 29th August 1936, issued by the Government of India, Department of mines, a list of "Permitted" explosives was published. The notification is reproduced in Appendix IV, Statement No. 3.

In Notification No. M-955, dated the 23rd May 1936, issued by the Government of India, Department of Industries and Labour, the Governor General in Council was pleased to publish the Temporary Regulations for coal mines. They are reproduced in Appendix IV, Statement No. 4.

In Notification No. M-1077, dated the 29th August 1936, issued by the Government of India, Department of Industries and Labour, the Governor General in Council was pleased to make certain amendments in the Indian Coal Mines Regulations, 1926. The notification is reproduced in Appendix IV, Statement No. 5.

In Notification No. M-1055, dated the 27th June 1936, issued by the Government of India, Department of Industries and Labour, the Supplementary Coal Mines (Temporary) Regulations, 1936, were published. The notification is reproduced in Appendix IV, Statement No. 6.

In Notification No. M-1055, dated the 5th August 1936, issued by the Government of India, Department of Industries and Labour, the Governor General in Council was pleased to make certain amendments in the above notification. The notification is reproduced in Appendix IV, Statement No. 7.

In Notification No. M-1051, dated the 29th October 1936, issued by the Government of India, Department of Industries and Labour, the Governor General in Council was pleased to direct that the following further amendment shall be made in the Schedule to the Notification of the Government of India, Department of Industries and Labour, No. M-1051, dated the 1st October 1935, namely :—

In the said Schedule in paragraph (2) of the conditions in column 3, against entry 1, for the words " of Inspector " the words " of

an Inspector or a person duly authorised in writing in this behalf by a person exercising the powers of an Inspector" shall be substituted.

In Notification No. M-1051, dated the 29th December 1936, issued by the Government of India, Department of Industries and Labour, the Governor General in Council was pleased to direct that the following further amendment shall be made in the Schedule to the Notification of the Government of India, Department of Industries and Labour, No. M-1051, dated the 1st October 1935, namely :—

In the said Schedule in entry 6, the words "situate in the Town and Island of Bombay" shall be omitted.

In Notifications Nos. 9683-G./28, 4350-Com., 1069/316-C. C./32, 5143-R., 5118-VII. M-23-Com., and 5041-I-&-L-36/36332, dated the 9th April, the 25th June, the 22nd August, the 26th September, the 14th October and the 23rd November 1936, the Governments of Bombay, Bengal, Ajmer-Merwara, Baluchistan, Bihar and the Punjab, respectively, made certain amendments to their Rules. The notifications are reproduced in Appendix IV, Statements Nos. 8—13.

In Notification No. M-955 (1), dated the 14th May 1936, the Governor General in Council was pleased to appoint the 16th May 1936 as the date on which Indian Mines (Amendment) Act, 1936 (XI of 1936), was to come into force. The Act is reproduced in Appendix IV, Statement No. 14.

In Notification No. M-955 (1), dated the 14th May 1936, the Governor General in Council was pleased to declare that sub-section (1-A) of Section 19 of the Indian Mines Act, 1923 (IV of 1923), as amended by the Indian Mines (Amendment) Act, 1936 (XI of 1936), shall apply to the area known as the Jharia coalfield in the districts of Hazaribagh and Manbhum of the province of Bihar.

In Notification No. M-955, dated the 22nd December 1936, the Governor General in Council was pleased to declare that sub-section (1A) of Section 19 of the Indian Mines Act, 1923 (IV of 1923), as amended by the Indian Mines (Amendment) Act, 1936 (XI of 1936), shall apply to the area known as the Raniganj coalfield situated in the provinces of Bengal and Bihar.

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

During the year twelve circular letters were issued to owners, agents and managers of coal mines. They are reproduced in Appendix IV, Statements Nos. 15—26.

## SECTION V—GENERAL REMARKS.

### REGISTRATION OF WORK-PERSONS.

The Registration of work-persons entering and leaving the underground parts of a mine is a matter of great importance. It is essential that the record should show at any time the number of persons below ground. In a

large mine several hundreds, and sometimes as many as over one thousand persons may be employed in one relay. It is obvious that suitable arrangements must be made at the entrance to the mines if the names of all persons entering the mine are to be recorded correctly. At many of the larger mines definite gangways leading to and from the entrance to the mine have been erected and at some, turnstiles are in use, so that only one person can pass at a time. Such an arrangement is shown on the photograph on the next page which shows the arrangement for checking the number of persons entering and leaving the shaft of a large colliery in the Raniganj coalfield. The gangway is divided into two portions and there are also turnstiles—one for persons entering the mine and one for persons leaving the mine. One side is labelled "in" and the other side is labelled "out". There are two register rooms and a register clerk in each. Where three relays are worked in the twenty-four hours persons may be entering the mine at the same time as persons are leaving the mine and such an arrangement as is shown on the photograph is most suitable. Unless some suitable arrangement such as this is made at a large colliery it is extremely difficult to keep a correct record, and I strongly recommend that at all shafts such an arrangement should be made.

#### ORDERS UNDER SECTION 19 OF THE ACT.

During the year one hundred and thirty-four orders under Section 19 of the Act were issued—twenty-nine under Section 19(1), seventy-one under Section 19(2) and thirty-four under Section 19(1-A). Section 19(1-A) came into force on the 16th May 1936 and was made applicable to coal mines in the Jharia coalfield from 16th May 1936 and to the Raniganj coalfield from 22nd December. All the orders issued under this sub-section during the year were on coal mines in the Jharia coalfield, but since the end of the year many other orders have been issued on mines in the Raniganj coalfield as well as the Jharia coalfield. These orders are mainly concerned with the stability of new workings and apply restrictions to the dimensions of galleries, prescribe minimum sizes of pillars and prohibit the reduction or splitting of pillars except immediately prior to systematic extraction of the pillars. The orders under Section 19(2) applied mainly to dangers from irruption of water. In twenty-eight cases the danger existed only during the period of the monsoon.

#### HEALTH AND SANITATION.

The Asansol Mines Board of Health held three special and eleven ordinary meetings during the year. The year 1936 was healthier than the preceding two years. The death rate for all ages and the infant mortality rate were markedly lower. The birth-rate for 1936 showed an upward trend compared with 1935. The death-rate among the colliery population was considerably lower than that of the general population in all months of the year except in June and December. The total number of accidents—major and minor—recorded in colliery dispensaries was 7,728, as against 6,068 in the previous year. Epidemic cholera of a virulent type was practically absent from the mining settlement during

the year. There were 434 attacks and 180 deaths, as against 1,144 attacks and 616 deaths in the previous year. The incidence rate in collieries was about double that in the villages and municipal towns. This is due to the fact that collieries are more exposed to risk of infection owing to the constant migration of labour. Some of the larger collieries have provided their own piped water supply—the pit water being chlorinated with or without previous filtration. Inoculation was carried out in collieries in anticipation of the two seasonal rise of cholera and in certain areas during the course of an epidemic. Altogether 61,157 persons were protected by inoculation.

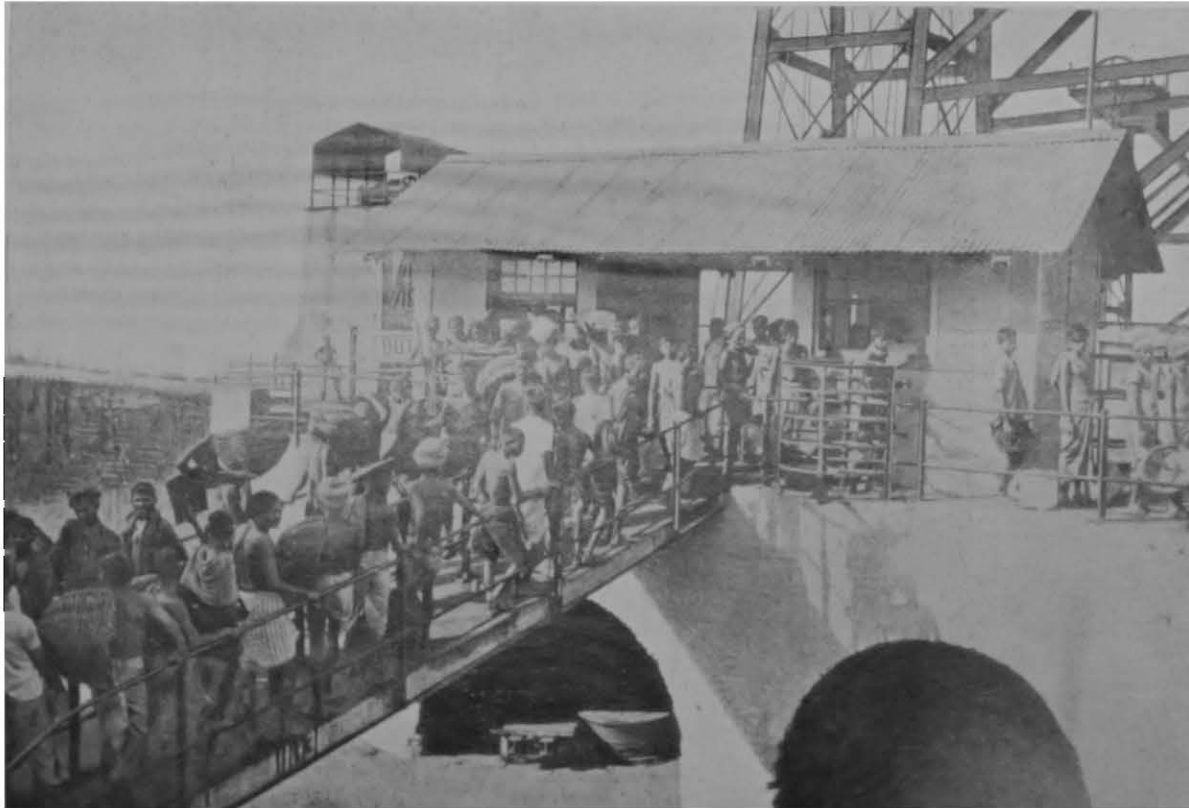
Small-pox took a higher toll during the year. There were 925 attacks and 79 deaths, compared with 123 attacks and 20 deaths in the previous year. The epidemic reached its peak in April and gradually declined during the following months. The vaccinal condition of the mining population was a great asset in meeting the emergency, about three-fourths of the total population having been protected by re-vaccination during the preceding year. The total number of persons vaccinated in 1936 was 156,254 which is 40 per cent. of the total population.

The Board maintains a staff of six Health Visitors for maternity and infant welfare work with a Lady Superintendent to ensure adequate supervision. There are four Infant Welfare Centres situated near important groups of collieries. These were attended by 235 infants and 105 toddlers. 354 expectant mothers were visited by the Health Visitors and 131 cases were confined by them. As many as 1,290 new confinements were followed up by the Health Visitors in the course of their post-natal visits. 55 trained dais were on the roll at the beginning of 1936 and 16 more were trained during the year. The classes for Hygiene and Mother-craft were attended by 103 mothers and 35 girls. A Baby Show was arranged in eight different areas supplemented by a Health Exhibition. Training centres were opened in Boys' and Girls' schools in First-aid, Home-nursing and Mother-craft and were followed by a competitive examination. An inter-school and inter-colliery Ambulance Competition was arranged in order to stimulate training and retraining in ambulance service.

A detailed survey brought the total number of leprosy cases to 4,747 with a percentage incidence of 1.3. Three new Leprosy clinics were opened during the year bringing the total to fourteen. A fourth Leprosy Officer was appointed during the year. A staff of twelve trained Leprosy Health Visitors is maintained by the Leprosy Relief Association for survey, propaganda and home-visiting of lepers. A leper-day was successfully organised by the Association and the total collection by sale of flags, etc., came to Rs. 11,300.

There has been a steady and gradual decline of malaria for the last few years. One area under operation includes a group of collieries where the disease has been kept under control in spite of the presence of a large number of abandoned pits and subsidences which form favourite breeding places of the carrier species of anopheles.

During the year the Jharia Mines Board of Health held twelve ordinary, five special meetings and two joint meetings with the Jharia Water Board. The estimated population of the Settlement was 550,056 persons. The death



Arrangements for registration of underground workers at a large Colliery in the Ranigunj Coalfield.  
Photo-Litho Office, Survey of India.

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rate was 16.10 per thousand, as compared with 20.43 in the previous year. There were 64 cases of suspected cholera with 39 deaths, as compared with 893 cases with 447 deaths in the previous year. The number of deaths on collieries from cholera was 14, as compared with 42 in the previous year. The total number of anti-cholera inoculations performed was 6,350. Along with the rest of the province, the coalfield suffered from an outbreak of small-pox, there being 3,733 cases with 329 deaths, as compared with 1,186 cases with 58 deaths in the previous year. Four hundred and eighty-three samples of food were analysed in the Board's laboratory and prosecutions were ordered in all cases of adulteration. With a view to improve the colliery housing still further, the five years' housing programme of the Board was enforced during the year. Subjects chosen for propaganda work were leprosy, maternity and child welfare, general hygiene and sanitation and ventilation in the mines. Anti-leprosy work received a great stimulus during the year by the decision of the Dhanbad and District Leprosy Relief Association to undertake a sample leprosy survey of the colliery area, to establish a fully equipped hospital and a central clinic at Tetulmari, to appoint a resident assistant leprosy officer for each clinic and to introduce a travelling clinic for patients like purdah women or disabled persons who are not in a position to come to the clinics or the hospital for treatment. Plans and estimates for hospital buildings, etc., estimated to cost Rs. 33,000 have been prepared. Besides various gifts in kind and increased grants from local bodies, the Association was promised donations amounting to Rs. 36,270 out of which Rs. 19,000 was collected before the end of the year. In addition, the Hon'ble Sir Ganesh Datta Singh, Kt., Minister, Local Self-Government, Bihar, who performed the foundation ceremony of the Tetulmari Hospital on the 19th September 1936, sanctioned a Government grant of Rs. 5,000. The Association has appointed Dr. Miss Marie Wardman as its first Chief Leprosy Officer. Dr. Wardman is expected to join in May 1937 when the hospital is likely to start after the completion of the buildings.

The Jharia Water Board continued to function throughout the year. The total quantity of water supplied to the Jharia coalfield during the year 1936 was about 452 million gallons as under :—

	Gallons.
1. Collieries . . . . .	369,294,000
2. Non-colliery premises (domestic and non-domestic supply)	28,914,000
3. Bazars . . . . .	54,168,000
	<hr/>
Total . . . . .	452,376,000
	<hr/>

#### INSPECTIONS MADE BY MEDICAL OFFICERS AS *EX-OFFICIO* INSPECTOR OF MINES.

During the year many reports from provincial and district Medical Officers of Health acting as Inspector of Mines in respect of health and sanitation were received. 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.	
	1936.	1935.
Jharia Coalfield—		
Jealgora . . . . .	61·78	54·35
Topchanchi . . . . .	69·80	47·59
Raniganj Coalfield—		
Asansol . . . . .	59·84	47·90
Dishergarh . . . . .	57·79	31·54
Giridih Coalfield—		
Giridih . . . . .	77·37	40·48

It will be seen that the rainfall in the above areas in 1936 exceeded that in 1935.

## AMBULANCE WORK.

Classes in First-Aid were held at twelve centres in the Jharia coalfield and also in the mining areas of Sambalpur and Hazaribagh. In all 256 students attended these classes and 219 certificates were awarded. In the Raniganj coal-field similar classes were held at seven centres. One hundred and fifty-three students attended the classes and 116 certificates were awarded. An Ambulance Shield competition was held during the year. Twenty-eight teams from eighteen collieries entered for the competition. The Shield was won by a team from Samla Kendra colliery.

I wish to express my thanks to the lecturers and examiners for the work performed by them during the year in the two major coal-fields and also in the other districts.

Instruction in First-Aid was also given in mining centres of importance in other parts of India.

## 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) Bye-laws for the treatment of coal-dust at Kuardi colliery ; (b) certain amendments in the rules for coal mines made by the Government of Bengal ; (c) question of bringing certain clay mines under the scope of the Indian Mines Act ; (d) proposed application of sub-section (1-A) of Section 19 of the Indian Mines Act to the Raniganj coal-field ; (e) the prohibition of the employment of women underground in mines ; (f) the control of coal mining methods ; (g) recommendations regarding the use of locked safety lamps of the flame type in all cases of coal mines which are inspected for the first time after they have been discontinued, re-opened or the workings de-



watered and that Regulations 70 (4) and 72 (2) should be amended to make it clear that the type of locked safety lamp should be of the flame type ; and (b) question regarding precautions in respect of spontaneous combustion and fires in mines. The non-official members of the Board were Messrs. P. S. Keelan, C.I.E., A. L. Ojha and Rai Sahib Upendra Nath Mandal.

The Bihar Mining Board for coal mines did not meet during the year. The subjects dealt with by correspondence were :—(a) certain amendments to the Local Government Rules ; and (b) draft rules prescribing the manner in which nominations should be made by registered trade unions for membership to the Mining Boards. The non-official members of the Board were Messrs. D. M. Archibald, A. L. Ojha, Khetra Nath Sen Gupta and J. Mackie.

The non-official members of the Mining Board for mines other than coal mines in Bihar were Messrs. G. A. Young, F. G. Percival, V. K. B. Pillai and J. W. Kendall.

The Central Provinces Mining Board held no meetings during the year. The subjects dealt with by correspondence were :—(a) draft amendments to the Central Provinces Regulations and Inspections of Mines Rules, 1924 ; and (b) question regarding the use and storage of explosives. The non-official members of the Board were Messrs. D. M. Nargolwalla, L. H. Bartlett, O.B.E., and G. Llewelin.

#### BOARD OF EXAMINERS.

Five meetings of the Board of Examiners were held during the year. The non-official members of the Board were Messrs. J. Mackie, N. N. Sarkar and L. A. Jacobs. The local examiners appointed were Messrs. W. B. Penman and W. D. Robb for coal mine managers' first class certificates ; Messrs. H. F. Haden and S. C. Ghosh for coal mine managers' second class certificates and Mr. 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. A. Young was also an examiner and acted as Secretary for the coal mine surveyors' examination.

Five first class and two second class certificates of competency to manage a coal mine were granted in lieu of British certificates of the same class. At the examinations for coal mine managers' certificates held at Dhanbad in February, 75 candidates sat for first class certificates and 45 for second class certificates. Eight certificates of the first class and fourteen of the second class were granted. Two surveyor's certificates were granted in lieu of British certificates of the same class. At the examination for coal mine surveyors' certificates of competency held at Dhanbad in November, 20 candidates attended the examination. Five of them were successful. During the year one duplicate surveyors' certificate of competency and one duplicate managers' second class Indian certificate of competency were issued.

Three hundred and ninety-three persons were examined for coal mine sirdars' certificates of competency and 289 certificates were granted. Out of 740 holders of sirdars' certificates examined in gas-testing, 472 were successful

and their certificates were duly endorsed to that effect. 767 holders of sirdars' certificates appeared for re-examination in eyesight and hearing, 702 were successful and their certificates were duly endorsed. Under Coal Mines Regulation 49 the certificates of six sirdars were suspended for periods varying from one month to one year. During the year 15 duplicate sirdars' certificates and 63 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 59, as compared with 54 at the beginning of the previous session. The results of the Diploma and Certificate examinations held in July 1936 were as follows :—

Diploma or Certificates.	No. of candidates.	No. of successful candidates.
Diploma of Associateship in Geology . . . . .	2	2 (in class II).
Diploma of Associateship in Mining Engineering . . . . .	5	5 (3 in Class I ; 2 in Class II).
Certificate in Geology . . . . .	3	3
Certificate in Metal Mining . . . . .	4	3
Certificate in Coal Mining . . . . .	6	6

The mine surveying camp was pitched at Katras colliery during the month of November 1936, and 43 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. Five former students obtained the first class coal mine managers' certificates and six obtained the second class certificate. One student obtained the surveyors' certificate of competency. In November 1936 the total number of students on the roll was 69.

In the Department of Mining and Metallurgy at the Benares Hindu University there were 80 students on the roll at the commencement of the session 1936-37. Three students passed the final examination for the degree of B.Sc. in mining and eight in metallurgy. Up-to-date the total number of mining graduates is 28, and the total number of metallurgy graduates 43. During the summer vacation 26 students were sent to various mines and works for practical training.

No advanced classes were held in the Raniganj coalfield. Such classes, however, 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 56, as against 47 in the previous year. Fifteen of the third year students appeared at the final examinations and eight were successful. In both coalfields courses of lectures were delivered in the vernacular to overmen and sirdars—in the Raniganj coalfield in Bengali and in the Jharia coalfield in Hindi. The number of centres in the Raniganj coalfield was eight and 147 enrolled for

this course. In the Jharia coalfield there were six centres with a total enrollment of 316. 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 37 and in the Jharia coalfield 29. Special classes in mine surveying preparatory for the examination for mine surveying certificates of competency were held at Sijua from the middle of August to November.

Evening mining classes were also held at Barkui in the Pench Valley coalfield of the Central Provinces. The number of students enrolled was as follows :—

Advanced classes	. . . . .	11
Elementary classes	. . . . .	11

#### SCIENTIFIC AND TECHNICAL ASSOCIATIONS.

##### (a) *Mining and Geological Institute of India.*

The total membership, including subscribers, of the Mining and Geological Institute of India at the end of the financial year of the Institute, i.e., on the 31st October 1936, was 337. In addition to the annual meeting, four ordinary general meetings were held for the reading and discussion of papers and geological excursions were made to the Barakar Damagaria area of the Raniganj coalfield and to Parasnath hill in the Hazaribagh district. Visits were also paid to Messrs. Burma-Shell Oil Storage and Distributing Company (India), Limited's installations at Budge Budge to the south of Calcutta, to Messrs. Burn & Company, Limited's Pottery works at Raniganj and to the Kari Jore area in the Jharia coalfield to inspect the protective measures that were being carried out to prevent the spreading of underground fires that had occurred in that vicinity. Illustrated lantern lectures were delivered by Professor F. W. Sharpley and Mr. P. Evans on "Popular Astronomy" and "The Quest for Oil", respectively, the latter being a repetition of the lecture delivered by him the previous year at Asansol.

Four parts of the Transactions were published. The Government of India prize and two Institute silver medals were awarded to Dr. J. A. Dunn and Dr. A. K. Dey for their joint paper on "Vanadium-bearing titaniferous iron-ores of Singhbhum and Mayurbhanj, India", and the Institute bronze medal to Dr. J. A. Dunn for his paper on "The Strategic Significance of the World's Mineral Wealth". The Pickering medal presented by the Institute for the best student in mining at the Indian School of Mines was awarded to Mr. G. Srinivasan, and the Hayden medal to the best student in geology was awarded to Mr. K. K. Fatta.

The Subsidence Committee has drawn up a valuable report on their work; this has been published in the Transactions, Volume XXXI, Part 2.

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

This Society was started in 1924. The total membership including subscribers at the close of the session was 178. Besides the annual general

meeting, eight ordinary general meetings were held in the Geological laboratory, Presidency College, Calcutta, and thirteen original papers dealing with various aspects of geology were read and discussed. During the year parts 3 and 4 of volume VII and parts 1 and 2 of volume VIII of the quarterly journal were issued and contained as many as sixteen papers. During the year an excursion under the auspices of the Society was arranged to the West Jamuria colliery (Raniganj coalfield) when the surface arrangements and underground workings were visited by members of the Society.

*(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 94. Some of the subjects dealt with by the Council during the year were :—(1) representation on the Board of Examiners; (2) revision of standard form of mining lease; (3) employment of women underground; (4) Indian Railway (Amendment) Bill; (5) Supplementary Coal Mines (Temporary) Regulations, 1936; (6) mine rescue stations; (7) certificates for shot-firers; (8) Coal conservation scheme; (9) amendment to Mines Act, 1923, registers; and (10) questionnaire from the Coal Mining Committee. Messrs. R. Purdy and J. T. Caldwell represented the Association on the Dhanbad Cemetery Committee; Mr. J. Curley represented the Association on the Asansol Leprosy Relief Committee and Mr. L. S. Buxton on the Jharia Leprosy Relief Committee.

*(d) The Indian Mine Managers' Association.*

The membership of the Indian Mine Managers' Association at the end of the year was 221. Among the subjects dealt with during the year were :—(1) desirability of the re-opening of the Evening Mining Classes in the Raniganj coalfield; (2) draft proposals for establishing rescue stations; (3) draft amendments to Coal Mines Regulations under the Indian Mines Act, 1923; (4) payment of Wages Act; (5) Government Notification regarding the control of mining methods and conservation of coal; (6) total prohibition of women labour from underground; (7) proposal for granting certificates to shot-firers; (8) Cholera and Small-pox regulations in force in the Asansol Mining Settlement; (9) the questionnaire issued by the Coal Mining Committee; (10) representation against the prosecution of colliery managers by the Jharia Mines Board of Health; and (11) helping the collection of funds in response to the appeals for the benefit of Chhitu Mian's family and for the Dhanbad Leprosy Relief Association. Mr. B. K. Bose represented the Association on the Jharia Mines Board of Health, and the Soft Coke Research Committee; Mr. M. M. Mukherjee on the Asansol Mines Board of Health, Mr. J. K. Dholakia on the Mining Education Advisory Board and Dhanbad Leprosy Relief Association, Mr. N. Ghosh on the Asansol Leprosy Relief Association and Mr. K. K. Baksi on the Society for the Prevention of Cruelty to Animals. Mr. S. C. Ghosh acted as President and Mr. K. K. Baksi as the Honorary Secretary of the Railways and Collieries Advisory Board.

(c) *The Railways and Collieries Advisory Board.*

The Railways and Collieries Advisory Board held two meetings in 1936 and dealt with the following subjects :—(1) special reduced freight for soft coke for certain distant stations in order to stimulate its uses; (2) telephone connection for the use of colliery officials at the Pathardih weighbridge; (3) levying of terminal charges in addition to usual railway freight and surcharge on coal *ex*-weighbridge to colliery sidings; (4) local passenger train timings; and (5) supply of suitable wagons for coal and coke loading. Mr. S. C. Ghosh, President of the Indian Mine Managers' Association, acted as the Chairman, and Mr. K. K. Baksi, Honorary Secretary of the Indian Mine Managers' Association, acted as the Honorary Secretary of the Board.

LABOUR ASSOCIATIONS.

(a) *The Indian Colliery Labour Union.*

This Union is registered under the Indian Trade Union Act, 1926, and has its headquarters at Jharia, Bihar. It has on its roll 8,315 members, chiefly miners and skilled and unskilled manual labourers and the clerical staff of collieries and also labourers and the staff of Bye-Product Plants, Power houses and Engineering works attached to collieries. The rate of subscription varies from three pies to four annas per month. The Union claims to have assisted workmen in connection with compensation and wages dispute cases. It has also conducted lantern lectures in various collieries on temperance, hygiene, sanitation, maternity and child welfare scheme. The work of the Union is stated to have been carried out in co-operation with the Tata's Collieries Labour Association.

(b) *The Tata's Collieries Labour Association.*

This Association is also registered under the Indian Trade Union Act, 1926. While its activities are mainly concerned with workers employed at the Tata Iron and Steel Company, Limited's collieries in the Jharia coalfield it works in co-operation with the Indian Colliery Labour Union. It has on its roll 3,317 members, mainly miners and manual workers. The rates of subscription vary from one anna to Rs. 1-8-0 per month.

(c) *The Indian Miners Association.*

This association which is also registered under the Indian Trade Union Act has its head office at Jharia, Bihar. The number of members is stated to be about 3,500. The Association is affiliated with the National Trades Union Federation, Bombay. The rate of subscription is from one anna to four annas per month according to scales of pay and wages. The Association has taken interest in welfare work, rates of wages, the extent of drinking amongst the miners, compensation and wage disputes.

## COAL MINING COMMITTEE.

A Coal Mining Committee was appointed by the Government of India in their Resolution No. M-955, dated the 29th October 1936. The Resolution contained *inter alia* terms of reference as follows:—

“The Government of India have accordingly decided as already announced in the Legislative Assembly to appoint a Committee of experts to enquire into methods of extracting coal underground and to report on the measures which should be taken—

- (i) to secure the safety of those employed on the work ;
- (ii) to prevent avoidable waste of coal.

In connection with part (i) the Committee are asked to consider specially—

- (a) the dangers arising from underground fires ;
- (b) the dangers arising from collapses of workings ; and
- (c) the suitability of the explosives in use, and of the methods of using and storing them.

In connection with part (ii) the Committee are asked to consider specially—

- (a) the control that should be exercised over mining methods to ensure that a substantial proportion of the coal is not rendered incapable of extraction ;
- (b) the extent to which it is desirable and practicable to enforce the partial and complete filling of the space from which coal is removed by incombustible material ; and
- (c) the manner in which the cost of any action that may be recommended should be met.”

The Committee was constituted as follows:—

*Chairman.*

Mr. L. B. Burrows, C. B. E., Commissioner, Burdwan Division.

*Members.*

Sir Jehangir Cooverjee Coyajee, Kt., I.E.S., (retired).

Mr. J. Mackie, Agent, Eastern Coal Company, Limited.

Mr. H. K. Nag, Agent, Chasnalla Coal Company.

Mr. N. Barraclough, Inspector of Mines.

Dr. M. S. Krishnan, Geologist, Geological Survey of India.

*Secretary.*

Mr. M. Ikramullah, I.C.S.

The Committee assembled in Calcutta on the 23rd November 1936. Questionnaires were issued to various Associations, Federations and techni-

cal institutes, railways, iron and steel companies, ropeway companies, technical experts, landlords, etc. Mines were inspected in the Jharia, Raniganj, Giridhi, Bokaro, Pench Valley and Chanda coalfields. It will be seen that the terms of reference covered a wide range of matters dealing with the safety of the mines and the conservation of the coal resources of the country. It is to be hoped that something tangible will emerge from the deliberations of the Committee.

#### VISITORS TO THE COALFIELDS.

The Honourable Mr. Syed Abdul Aziz, Bar-at-law, Minister of Education, Bihar, visited the Jharia coalfield from the 16th to 18th June.

The Honourable Mr. P. C. Tallents, C.S.I., C.I.E., I.C.S., Home Member, Government of Bihar, visited the Jharia coalfield from the 24th to 28th June. His visit was in connection with the Road Cess Bill.

The Hon'ble Sir Frank Noyce, K.C.I.E., O.B.E., I.C.S., Member for the Department of Industries and Labour, accompanied by the Hon'ble Mr. A. G. Clow, C.S.I., C.I.E., I.C.S., Secretary, visited the Jharia coalfield on the 30th June and 1st July. On the 30th June the Hon'ble Member and Mr. Clow inspected the fire areas at Jharia and Kusunda. On the 1st July the Hon'ble Member and Mr. Clow inspected sand-stowing operations at Bhulanbararee and Bhowra collieries.

The Hon'ble Mr. N. N. Sinha, Finance Member, Government of Bihar, visited the Jharia coalfield from the 8th to 10th July. On the 9th July the Hon'ble Member visited Ekra Khas and Kustore collieries in the morning; the Indian School of Mines in the afternoon; and the Jharia fire-area at night.

The sub-committee appointed by the Unemployment Committee, Bihar, visited two mica mines and factories on the 18th July and held meetings with representatives of the mica industry at the hall of the Mica Mining Association and discussed the problems relating to employment in this country (such as facilities for training Biharis for employment in mica mines and factories). On the 20th July the sub-committee visited Bhowra, Chasnalla collieries and the group of collieries of which Rao Bahadur D. D. Thacker is the Agent, and on the next day visited Kustore and Kusunda-Nayadih collieries and examined witnesses.

The Hon'ble Sir Ganesh Dutta Singh, Kt., Minister of Local Self-Government, Bihar, visited the Jharia coalfield on the 18th and 19th August. The Hon'ble Minister visited the Jharia fire-area on the 18th night and again on the 19th morning.

With the concurrence of the Government of India the Controller of Broadcasting arranged for broadcasting a series of talks from the New Delhi Broadcasting Station on different aspects of industrial labour in India. For this purpose, Mr. B. Shiva Rao of the "Hindu" was sent out on a short

tour of various industrial areas. He visited the Jharia coalfield in October. Arrangements were made for him to go down coal mines and to look round the collieries generally.

His Excellency Sir James Sifton, K. C. S. I., K. C. I. E., I. C. S., the Governor of Bihar, visited Dhanbad on 8th December.

#### OFFICIAL DUTIES, 1936.

Dr. D. Penman was Chief Inspector of Mines throughout the year. As a temporary measure he held charge of the post of Principal, Indian School of Mines, until the 31st October when he was relieved of that charge. He held charge of No. 1 Circle in addition to his own duties from 16th October to 5th November.

Mr. J. H. Lang was Inspector of Mines, No. 2 Circle, from 1st January to 14th July when he died as a result of a mine accident. Mr. Lang joined the department on 27th November 1919 as Junior Inspector of Mines. He was promoted to the grade of Inspector on 18th June 1922. On two occasions he officiated as Chief Inspector. He was an able and experienced officer and his untimely death was a great source of grief to his colleagues in the department.

Mr. W. Kirby, Inspector of Mines, held charge of No. 1 Circle, up to 15th October. He was on leave out of India from the 16th October.

Mr. N. Barraclough, Inspector of Mines, was on leave out of India from 8th April to 5th November. He held charge of No. 1 Circle from the 6th to 22nd November and was deputed to the Coal Mining Committee from 23rd November.

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

Mr. G. S. Cameron, Junior Inspector of Mines, was promoted to the grade of Inspector from 15th July and held charge of No. 2 Circle.

Mr. N. G. Chatterjee, Junior Inspector of Mines, was on duty throughout the year. He was promoted to officiate as an Inspector of Mines from 2nd November, *vice* Mr. Kirby granted leave.

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

Mr. A. Young, Junior Inspector of Mines, was on duty throughout the year. He was promoted to officiate as an Inspector of Mines from 23rd November and held charge of No. 1 Circle, *vice* Mr. N. Barraclough deputed to the Coal Mining Committee.

Mr. V. S. Chopra, Assistant Inspector of Mines, was on duty throughout the year.



Mr. S. S. Grewal, Assistant Inspector of Mines, was on duty throughout the year except for a period of leave from 14th to 19th December.

The number of coal mines worked during the year was 504 which is ten more than in the previous year. The number of metalliferous (including stone, etc.) mines at work was 1,469, as compared with 1,318 in 1935.

During the year 1,071 mines were inspected, many of them being inspected several times; 3,378 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 mineowners, superintendents and managers desirous of obtaining advice on safety matters. In the major coal-fields a large proportion of the time of the Inspectors is occupied investigating cases of actual or threatened damage to dwelling houses 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* Inspector of Mines.

Orders were issued and withdrawn as follows:—

Section, Regulation or Rules.	Orders issued.	Orders withdrawn.
Under Section 19 (1) . . . . .	29	..
Under Section 19 (2) . . . . .	71	22
Under Section 19 (1-A) . . . . .	34	..
Under Coal Mines Regulation 23 . . . . .	2	..
Under Coal Mines Regulation 24 (3) (d) . . . . .	1	..

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

Regulation.	Number of cases.	Number withdrawn.
Under Coal Mines Regulation 53 . . . . .	2	1
Under Coal Mines Regulation 88 . . . . .	1	—
Under Coal Mines Regulation 106 . . . . .	2	13
Under Coal Mines Regulation 116 . . . . .	3	1
Under Coal Mines Regulation 123 . . . . .	4	2
Under Temporary Coal Mines Regulation 13 (1) . . . . .	11	—
Under Supplementary Temporary Coal Mines Regulation 3.	8	—
Under Metalliferous Mines Regulation 74 . . . . .	1	—
Under Metalliferous Mines Regulation 96 . . . . .	1	—

In addition to the dangerous occurrences in which lives were lost, information was received of nineteen outbreaks of fire underground and seven on the surface; one subsidence; one irruption of water and two ignitions of inflammable gas.

The number of original cases under the Land Acquisition (Mines) Act, 1885, at the end of 1936 stood at 722, seventeen of which were cases dealt with during the year. There were eight applications for modifications 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. Local Governments were advised as to the restrictions necessary in cases where mineowners sought permission to work minerals beneath railways, villages, etc.

I have the honour to be,

Sir,

Your most obedient servant,

D. PENMAN,

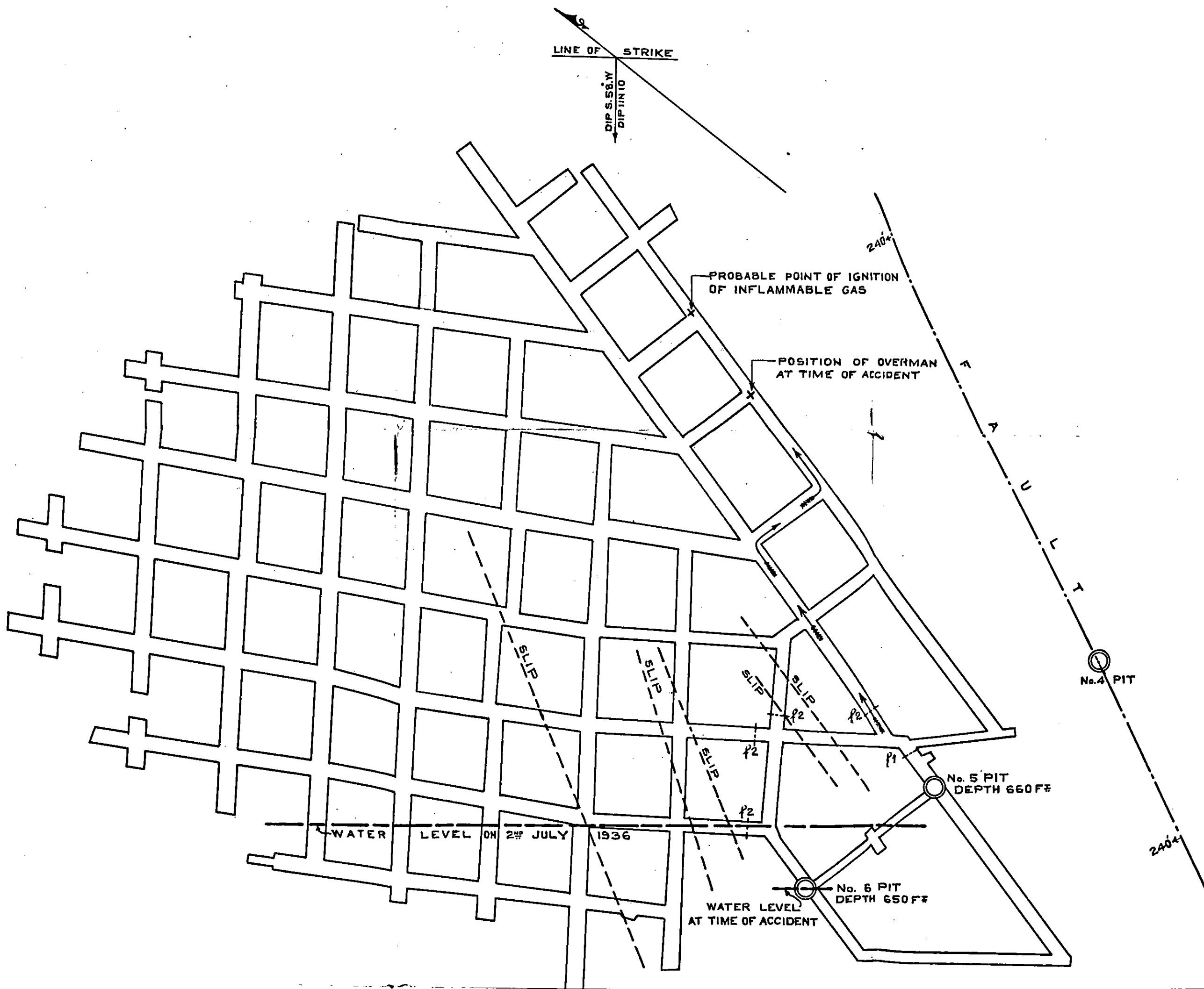
*Chief Inspector of Mines in India.*

# PLAN ILLUSTRATING REPORT ON FATAL ACCIDENT BY IGNITION OF INFLAMMABLE GAS

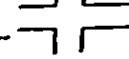
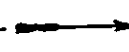
AT

ADJAI COLLIERIES LTD'S. ADJAI SECOND MINE

SCALE-1 INCH=100 FEET



## REFERENCES

- PROBABLE EXTENT OF ACCUMULATION OF INFLAMMABLE GAS..... 
- PATH TAKEN BY INSPECTING PARTY ON 14th JULY 1936..... 
- FENCE SAID TO HAVE BEEN ERECTED BY THE MANAGER..... f1
- FENCES SAID TO HAVE BEEN ERECTED BY OVERMAN FROM 7th TO 9th JULY 1936..... f2
- THICKNESS OF THE SEAM IS 8 FT

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**APPENDIX L**

**Statistics of Mines and Minerals.**

**Table No. 1.**

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## STATISTICS OF MINES

Table  
Number of workers and output of minerals during the

Province.	District and Mineral field.	Average number of								Total Males and Females.
		Total Output.	Underground.						Females	
			Overmen and Sirdars.	Coal-cutters.	Loaders.	Other skilled labour.	Other unskilled labour.	Total Males.		
		Tons.								CO
Assam	Khasi and Jaintia Hills	9,171	5	30	16	1	...	51	...	51
	Lakhimpur, Makum coalfield	172,075	60	185	432	287	324	1,288	...	1,388
	Naga Hills, Nazira ..	30,347		31	34	47	56	167	...	167
	Total	201,593	74	246	471	335	380	1,506	...	1,506
Baluchistan	Quetta-Pishin, Bor Range coalfield.	633	4	5	11	1	...	21	...	21
	Sibi, Khost coalfield	2,918	4	19	29	2	...	54	...	54
	Total	3,451	8	24	40	3	...	75	...	75
Bengal	Bankura	5,032	7	47	19	11	10	94	5	99
	Birbhum	1,368	2	8	8	...	...	18	...	18
	Bardwan	6,661,451	910	15,684	6,776	3,377	6,670	33,406	2,750	36,216
	Total	6,667,851	919	15,680	6,802	3,588	6,680	33,678	2,755	36,333
Bihar	Manbhumi— Raniganj coalfield (part of)	569,676	83	1,785	457	285	540	3,150	230	3,380
	Jharia ..	8,737,713	1,071	17,470	10,371	4,631	7,231	40,774	3,106	43,880
	Hazaribagh— Jharia coalfield (part of)	92,431	16	321	108	29	36	408	33	431
	Bokaro ..	1,417,227	36	1,047	561	147	408	2,190	98	2,297
	Giridih ..	698,133	136	3,433	1,056	207	663	5,485	366	5,751
	Karanpura ..	380,990	15	303	219	42	77	746	68	814
	Ranchi— Karanpura coalfield (part of)	6,064	3	15	11	3	2	34	1	35

## DIX I.

## AND MINERALS.

## No. 1.

year 1936 at mines under the Indian Mines Act.

persons employed daily in and about the mines.

Overmen and Sirdars.	Open workings.					Total Males and Females.	Total Underground and open workings.	Surface.					Total Males and Females.	Grand Total.	
	Males.							Males.							
	Coal-cutters.	Loaders.	Other skilled labour.	Other unskilled labour.	Total Males.			Females.	Clerical and supervising staff.	Skilled labour.	Unskilled labour.	Total Males.			Females.
A.L.															
...	...	...	...	...	...	...	51	4	...	18	23	34	46	97	
...	...	...	...	...	...	...	1,288	38	184	204	426	103	528	1,816	
...	...	...	...	...	...	...	107	12	37	30	85	...	85	262	
...	...	...	...	...	...	...	1,500	54	221	258	533	126	659	2,168	
...	...	...	...	...	...	...	31	...	...	...	...	...	...	21	
...	...	2	1	...	3	...	3	37	...	...	...	...	...	57	
...	...	2	1	...	3	...	8	78	...	...	...	...	...	79	
0	26	3	2	13	44	70	118	217	7	6	11	24	5	29	346
...	...	...	...	...	...	...	...	18	1	2	2	6	3	7	28
9	85	32	32	28	180	32	218	36,434	1,353	2,889	6,355	10,497	3,910	14,398	50,790
16	110	34	34	41	234	102	336	36,660	1,361	3,507	6,268	10,526	3,866	14,392	61,081
9	74	22	13	37	154	73	227	3,616	130	318	380	837	442	1,279	4,896
47	554	139	55	601	1,396	560	1,952	45,862	1,697	4,032	10,800	16,409	6,850	22,259	68,120
...	...	...	...	...	...	...	...	411	37	53	144	224	114	337	768
36	1,008	224	108	981	3,657	984	4,341	6,836	181	454	1,677	2,212	439	2,691	9,528
3	43	10	4	4	64	71	135	5,689	91	167	735	933	262	1,275	7,161
1	500	62	306	241	1,020	364	1,384	2,198	68	179	291	536	111	649	2,947
1	8	3	1	1	8	3	10	45	5	8	25	38	14	52	97

**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.							
			Males.						Females.	Total Males and Females.
			Overmen and Sirdars.	Coal-cutters.	Loaders.	Other skilled labour.	Other unskilled labour.	Total Males.		
		Tons.								CO
Bihar— <i>coal.</i>	Sonthal Parganas—									
	Jainty coalfield . . .	36,023	11	138	87	39	30	306	16	321
	Raniganj coalfield (part of).	67,721	16	303	6	41	49	506	30	536
	Total . . . . .	12,018,206	1,387	24,896	12,874	5,424	9,026	53,606	3,847	57,453
Central Provinces.	Betul . . . . .	1,737	3	13	19	3	13	50	1	51
	Chanda . . . . .	247,132	36	600	476	83	314	1,609	131	1,940
	Chhindwara, Pench Valley coalfield.	1,359,133	121	3,186	1,539	747	809	6,401	528	6,927
	Total . . . . .	1,507,963	180	4,099	2,034	833	1,136	8,260	658	8,918
Orissa . . . . .	Sambalpur— Hingir Rampur coalfield	31,061	2	56	62	13	9	141	9	150
Punjab . . . . .	Jhelum, Salt Range coalfield	61,664	46	280	179	151	239	664	...	664
	Minerwall . . . . .	67,383	18	146	146	18	87	415	...	415
	Shahpur . . . . .	7,813	4	34	...	4	16	58	...	58
	Total . . . . .	136,840	67	430	325	173	343	1,337	...	1,337
Grand Total (Coal) for 1936 . . . . .		20,583,963	2,516	45,438	22,608	10,368	17,573	96,508	7,289	105,771
Grand Total of preceding year . . . . .		21,014,469	2,368	46,153	20,846	9,810	16,751	95,018	9,476	105,394
Difference . . . . .		-430,487	+168	-715	+1,762	+568	+822	+3,586	-2,207	+378

DIX I—*contd.*AND MINERALS—*contd.*No. 1—*contd.*year 1936 at mines under the Indian Mines Act—*contd.*

persons employed daily in and about the mines.

Open workings.						Females.	Total Males and Females.	Total Underground and Open workings.	Surface.					Grand Total.	
Males.					Clerical and supervising staff.				Males.			Females.	Total Males and Females.		
Overmen and Sirdars.	Coal-cutters.	Loaders.	Other skilled labour.	Other unskilled labour.		Total Males.	Total Males.	Skilled labour.	Unskilled labour.	Total Males.	Total Males and Females.				
<i>AL—contd.</i>															
1	9	10	...	10	36	6	40	361	20	66	40	134	20	154	515
...	...	...	..	..	...	...	...	535	26	44	76	145	34	180	715
96	2,681	1,183	496	1,661	6,836	1,784	8,119	66,572	2,191	5,213	14,076	21,580	7,328	28,908	94,477
...	...	...	...	16	15	21	36	67	12	16	256	263	31	314	401
10	5	3	67	36	121	2	123	2,003	52	69	279	420	149	569	2,632
2	13	6	3	63	87	39	126	7,033	184	803	1,027	2,014	631	2,645	9,695
12	18	9	70	114	223	62	285	9,203	248	907	1,562	2,717	811	3,528	12,731
...	...	...	...	...	...	...	...	180	...	18	15	33	14	47	117
6	50	14	...	19	89	...	89	963	63	78	246	387	...	387	1,340
...	...	...	...	...	...	...	...	415	46	34	129	390	18	324	739
...	...	...	...	...	...	...	...	58	9	5	57	71	...	71	129
6	50	14	...	19	89	...	89	1,426	116	117	522	767	16	783	2,208
131	3,859	1,243	591	2,055	6,661	1,048	8,832	114,904	3,972	9,473	22,711	29,156	12,167	41,323	163,917
111	2,786	1,187	481	1,863	6,418	1,613	8,031	113,475	3,719	9,028	21,610	34,367	11,672	46,039	159,514
+10	+83	+61	+110	+172	+466	+328	+801	+1,179	+263	+445	+1,161	+1,799	+655	+2,454	+3,623



**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.
Foremen and Mates	Miners.	Other skilled labour.	Other unskilled labour.						
		Tons	<b>IRON</b>						
Bihar	Singhbhum . . .	1,375,214	...	...	...	...	...	...	...
Barma . . .	Mandalay . . .	...	...	...	...	...	...	...	...
	Northern Shan States.	26,316	...	...	...	...	...	...	...
	Total . . .	26,316	...	...	...	...	...	...	...
		Grand Total (Iron Ore) for 1936.	1,401,530	...	...	...	...	...	...
		Grand Total of preceding year.	1,179,050	...	...	...	...	...	...
		Difference . . .	+222,480	...	...	...	...	...	...
		Tons	<b>MANGANESE</b>						
Bihar	Singhbhum . . .	11,722	...	...	..	...	...	...	...
Bombay . . .	Panch Mahals . . .	28,944	5	63	...	3	71	...	71

DIX I—*contd.*AND MINERALS—*contd.*No. 1—*contd.*year 1936 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.	
	Miners.	Males.				Females.		Total Males and Females.	Clerical and supervising staff.	Males.			Females.		Total Males and Females.
		Other skilled labour.	Other unskilled labour.	Total Males.	Skilled labour.					Unskilled labour.	Total Males.				
<b>ORE</b>															
160	3,016	396	923	4,495	2,002	6,497	6,497	169	1,347	2,804	4,320	1,798	6,118	12,615	
...	...	...	...	...	...	...	...	5	2	27	34	...	34	34	
1	...	1	248	249	6	256	256	1	2	100	104	8	112	368	
1	...	1	248	249	6	256	256	6	5	127	138	8	146	402	
161	3,016	397	1,171	4,745	2,008	6,753	6,753	175	1,352	2,981	4,458	1,806	6,264	13,017	
135	2,562	261	860	4,118	1,656	5,774	5,774	160	362	1,118	1,680	589	2,249	8,023	
+26	+154	+136	+311	+627	+352	+979	+979	-5	+990	+1,813	+2,798	+1,217	+4,015	+4,994	
<b>ORE</b>															
18	202	8	23	246	163	309	309	12	7	27	46	131	177	576	
4	282	6	...	292	140	432	503	6	21	142	169	115	284	787	

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.				
			<b>MANGANESE</b>							
Central Pro- vinces		Tons.								
	Balaghat . . .	313,533	17	370	...	164	551	...	551	
	Bhandara . . .	134,710	...	...	...	...	...	...	...	
	Chhindwara . . .	803	...	...	...	...	...	...	...	
	Nagpur . . .	119,360	...	...	...	...	...	...	...	
	Total . . .	568,806	17	370	..	164	551	...	551	
Madras	Bellary . . .	100	...	...	...	..	...	...	...	
	Vizagapatam . . .	15,258	...	...	..	...	...	...	...	
	Total . . .	15,358	...	...	...	...	..	...	...	
	Grand Total (Manganese Ore) for 1936.	624,830	22	433	..	167	622	...	623	
	Grand Total for preceding year.	422,847	18	413	...	152	683	...	583	
	Difference . . .	+201,983	+4	+20	...	+15	+39	...	+39	

DIX I—*contd.*AND MINERALS—*contd.*No. 1—*contd.*year 1936 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.		Males.					Females.		
	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.	Total Males and Females.			Clerical and supervising staff.	Skilled labour.	Unskilled labour.	Total Males.	Total Males and Females.			
<b>ORE—<i>contd.</i></b>															
123	2,480	20	478	3,101	2,838	5,939	6,490	33	31	493	557	682	1,239	7,729	
50	1,982	...	132	1,464	1,348	2,812	2,812	12	14	219	245	131	376	3,188	
2	30	...	...	32	41	73	73	...	...	...	...	...	...	73	
64	1,565	23	71	1,743	1,667	3,410	3,410	32	19	253	304	130	434	3,844	
259	5,357	43	681	6,340	5,894	12,234	12,785	77	64	965	1,106	943	2,049	14,834	
1	3	4	7	15	3	18	18	1	2	5	8	2	10	28	
18	614	28	9	669	355	1,024	1,024	8	33	20	61	5	66	1,090	
19	617	32	16	684	358	1,042	1,042	9	35	25	60	7	76	1,118	
300	6,458	84	720	7,662	6,515	14,107	14,729	104	127	1,159	1,390	1,190	2,586	17,315	
243	4,214	33	469	4,981	3,922	8,903	9,486	73	136	863	1,072	1,064	2,136	11,622	
+55	+2,244	+51	+231	+2,581	+2,623	+5,204	+5,243	+31	-9	+296	+318	+132	+450	+5,694	





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.		
Burma	Northern Shan States	Tons. 1,240						<b>ANTIMONIAL</b> Figures included	
	Total of preceding year.	1,500	...	...	..	..	...	...	...
	Difference . . .	-260	...	...	..	..	...	...	...
Burma	Northern Shan States	Ounces. 5,952,000						<b>SIL</b> Figures included	
	Total of preceding year.	5,825,929	...	...	...	..	...	...	...
	Difference . . .	+126,071	...	...	...	...	...	...	...
Bihar	Mandhum . . .	Ounces. 82	1	2	1	1	5	...	<b>GO</b> 5
	Singhbhum . . .	...	...	...	...	...	...	...	...
	Total	82	1	2	1	1	5	...	5
Burma	Northern Shan States	1,294						Figures included	
	Grand Total (Gold) for 1936.	1,376	1	2	1	1	5	...	5
	Grand Total of preceding year	1,255	1	5	1	5	12	...	12
	Difference . . .	+121	...	-3	...	-4	-7	...	-7

DIX I—contd.

AND MINERALS—contd.

No. 1—contd.

year 1936 at mines under the Indian Mines Act—contd.

daily in and about the mines.

Open workings.					Total Males and Females.	Total Underground and Open workings.	Surface.					Total Males and Females.	Grand Total.
Males.				Females.			Males.				Females.		
For men and Mates.	Miners.	Other skilled labour.	Other unskilled labour.				Total Males.	Clerical and supervising staff.	Skilled labour.	Unskilled labour.			
<b>LEAD.</b>													
in those for Lead Ore.													
...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...
<b>VEB.</b>													
in those for Lead Ore.													
...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...
<b>LD.</b>													
...	...	...	...	...	...	5	4	3	6	13	14	27	32
...	...	...	...	...	...	...	...	...	3	3	...	3	3
...	...	...	...	...	...	5	4	3	9	16	14	30	35
in those for Lead Ore.													
...	...	...	...	...	...	5	4	3	9	16	14	30	35
...	...	...	...	...	...	12	1	1	10	12	10	22	34
...	...	...	...	...	...	-7	+3	+2	-1	+4	+4	+6	+1



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.					Females.	Total Males and Females.
			Males.						
			Foremen and Mates.	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.		
Burma		Tons.							TIN
	Amherst . . . .	27	...	...	...	...	...	...	...
	Mergui . . . .	1,897	6	45	14	34	99	...	99
	Tavoy . . . .	2,718	18	1,681	438	236	2,375	...	2,375
	Thaton . . . .	3	1	32	2	...	35	...	35
	Southern Shan States	2	...	9	...	...	9	...	9
	Yamathin . . . .	17	...	42	38	...	80	...	80
	Total (Tin) for 1936.	4,664	25	1,809	492	272	2,598	...	2,598
Total of preceding year.	1,383	27	2,186	76	301	2,590	...	2,590	
Difference . . . .	+281	-2	-377	+416	-29	+8	...	+8	
Burma		Tons.							WOLFRAM
	Mergui . . . .	241	...	...	...	6	6	...	Figures included
	Southern Shan States	6	...	...	...	...	...	...	...
	Tavoy . . . .	2,722	...	...	...	6	6	...	Figures included
	Thaton . . . .	26	...	...	...	...	...	...	...
	Yamathin . . . .	146	...	...	...	...	...	...	...
	Total (Wolfram Ore) for 1936.	3,140	...	...	...	...	...	...	Figures included
Total of preceding year.	2,549	...	68	...	...	6	71	...	
Difference . . . .	+591	...	-68	...	...	-6	-74	...	

DIX I—*contd.*AND MINERALS—*contd.*No. 1—*contd.*year 1936 at mines under the Indian Mines Act—*contd.*

daily in and about the mines.

Foremen and Mates.	Open workings.					Females.	Total Males and Females.	Total Underground and Open workings.	Surface.					Grand Total.		
	Males.				Total Males.				Males.				Total 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.				
<b>ORE.</b>																
1	49	...	113	163	38	201	201	1	1	1	3	...	8	204		
69	2,907	1,643	974	5,593	135	5,728	5,827	137	75	218	430	9	439	6,266		
63	4,483	841	3,111	8,498	345	8,846	11,221	211	396	426	1,032	19	1,051	12,272		
4	59	57	11	131	...	131	166	4	7	7	16	4	22	158		
...	..	38	22	60	...	60	69	1	...	1	2	...	2	71		
1	281	40	102	424	...	424	504	28	6	2	38	...	28	542		
138	7,779	2,619	4,333	14,809	521	15,390	17,988	382	487	654	1,523	32	1,555	19,543		
159	6,334	2,245	3,764	12,302	430	12,941	15,531	301	306	497	1,104	10	1,114	16,645		
-21	+1,445	+371	+569	+2,367	+82	+2,449	+2,457	+81	+181	+157	+419	+22	+441	+2,896		
<b>ORE.</b>																
in those for Tin Ore.																
in those for Tin Ore.																
9	519	84	122	734	26	760	734	29	1	289	310	2	312	1,146		
-9	-519	-84	-122	-734	-26	-760	-834	-20	-1	-289	-310	-2	-112	-1,146		

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.					Females.	Total Males and Females.
			Males.						
			Foremen and Mates.	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.		
		Tons.							<b>CHROMITE</b>
Baluchistan	Zhob . . . .	21,089	3	45	...	...	48	...	48
Bihar	Singbham . . . .	7,053	...	...	...	...	...	...	...
	Grand Total (Chromite Ore) for 1936.	28,142	3	45	...	...	48	...	48
	Grand Total of preceding year.	19,039	2	15	...	...	17	...	17
	Difference . . . .	+9,103	+1	+30	...	...	+31	...	+31
		Tons.							<b>COPPER</b>
Bihar	Singbham	357,194	3	417	...	1,102	1,522	...	1,622
	Total of preceding year.	350,801	2	439	...	1,179	1,620	...	1,620
	Difference . . . .	+6,393	+1	-22	...	-77	-98	...	-98

DIX I—*contd.*AND MINERALS—*contd.*No. 1—*contd.*year 1936 at mines under the Indian Mines Act—*contd.*

daily in and about the mines.

Foremen and blaters.		Open workings.					Total Males and Females.	Total Underground and Open workings.	Surface.					Total Males and Females.	Grand Total.
		Males.				Females.			Males.				Females.		
		Miners.	Other skilled labour.	Other unskilled labour.	Total Males.				Clerical and supervising staff.	Skilled labour.	Unskilled labour.	Total Males.			
<b>ORE.</b>															
10	100	2	12	184	...	184	232	3	2	99	104	...	104	336	
44	396	76	9	525	394	919	919	8	3	20	31	25	56	975	
64	556	78	21	709	394	1,103	1,131	11	5	149	135	25	160	1,311	
58	533	164	61	816	620	1,436	1,453	27	36	52	115	36	171	1,624	
-4	+23	-86	-10	-107	-226	-333	-302	-16	-31	+67	+20	-11	-11	-313	
<b>ORE.</b>															
...	...	...	...	...	...	...	1,522	39	248	679	968	300	1,356	2,876	
...	...	...	...	...	...	...	1,620	33	230	550	813	345	1,164	2,764	
...	...	...	...	...	...	...	-98	+6	+12	+128	+147	+45	+192	+94	

**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.		
Burma . . .	Northern Shan States.	Tons. 7,500	<b>COPPER</b> Figures included						
	Total of preceding year.	8,950	...	...	...	...	...	...	
	Difference . . .	-1,450	...	...	...	...	...	...	
Burma . . .	Northern Shan States.	Tons. 4,325	<b>NICKEL</b> Figures included						
	Total of preceding year.	4,850	...	...	...	...	...	...	
	Difference . . .	-525	...	...	...	...	...	...	
Burma . . .	Northern Shan States.	Tons. 76,807	<b>ZINC CON.</b> Figures included						
	Total of preceding year.	78,590	...	...	...	...	...	...	
	Difference . . .	-1,783	...	...	...	...	...	...	

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 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.				Clerical and supervising staff.	Skilled labour.	Unskilled labour.	Total Males.			
<b>MATTE.</b>													
in those for Lead Ore.													
..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..
<b>SPEISS.</b>													
in those for Lead Ore.													
..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..
<b>CENTRATES.</b>													
in those for Lead Ore.													
..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..

**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.						
		Cwt.							MI
Bihar	Bhagalpur . . .	13	1	19	...	...	20	...	20
	Gaya . . .	18,792	79	1,434	285	1,349	3,147	...	3,147
	Hazaribagh . . .	52,348	611	6,659	971	2,538	10,779	...	10,779
	Manbhum . . .	148	...	...	...	...	...	...	...
	Monghyr . . .	438	15	132	12	182	341	...	341
	Total	71,739	706	8,244	1,268	4,069	14,287	...	14,287
Madras	Nellore* . . .	13,009	59	616	305	364	1,344	...	1,344
	Nilgiris . . .	80	1	16	2	10	29	...	29
	Total	13,089	60	632	307	374	1,373	...	1,373
Rajputana	Ajmer-Merwara*	1,076	13	177	...	...	190	...	190
	Grand Total (Mica) for 1936.	86,504	779	9,053	1,575	4,443	16,850	...	15,850
	Grand Total of preceding year.	58,553	719	8,856	1,271	3,827	14,673	...	14,673
	Difference . . .	+27,951	+60	+197	+304	+616	+2,177	...	+1,177

\* 40,476 cwt. of waste mica useful for

DIX I—*contd.*AND MINERALS—*contd.*No. 1—*contd.*year 1936 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.				
CA.															
2	10	...	...	12	...	12	32	...	...	...	...	...	...	...	32
16	350	58	160	584	25	609	3,756	170	206	74	450	160	610	4,366	
127	1,298	149	354	1,928	104	2,032	12,811	513	793	567	1,873	514	2,387	15,198	
3	29	3	4	39	3	42	42	1	...	...	1	...	1	43	
...	...	...	...	...	...	...	341	18	103	...	126	27	153	494	
148	1,687	210	618	2,563	132	2,695	16,982	702	1,107	641	2,450	701	3,151	20,133	
44	256	340	314	954	641	1,595	2,939	73	248	216	537	670	1,407	4,346	
...	...	...	...	...	...	...	29	...	6	3	9	1	10	39	
41	256	340	314	954	641	1,595	2,968	73	234	219	546	671	7	4,356	
22	279	10	3	314	31	345	535	4	37	...	41	2	43	578	
214	2,222	560	835	3,831	804	4,635	20,485	779	1,396	860	3,037	1,574	4,611	25,096	
113	1,691	277	712	2,793	788	3,491	18,164	555	2,677	609	3,841	1,163	4,944	23,108	
+101	+621	+253	+123	+1,128	+16	+1,144	+2,321	+224	-1,279	+251	-804	+471	-335	+1,936	

splitting was also raised.





DIX I—*contd.*AND MINERALS—*contd.*No. 1—*contd.*year 1936 at mines under the Indian Mines Act—*contd.*

daily in and about the mines.

		Open workings.					Total Males and Females.	Total Underground and Open workings.	Surface.					Total Males and Females.	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.				
<b>LT.</b>															
1	10	...	225	236	...	236	890	1	68	...	69	1	70	969	
...	...	...	...	...	...	...	113	...	...	68	...	...	68	181	
...	...	...	...	...	...	...	132	...	9	79	82	...	85	240	
1	10	...	225	236	...	236	1,164	1	77	147	167	1	226	1,390	
1	10	...	...	11	1	12	1,063	1	80	465	546	...	546	1,609	
...	...	...	+225	+225	-1	+224	+1	..	-3	-316	-389	+1	-320	-219	
<b>SITE.</b>															
16	236	..	490	742	147	889	889	18	106	10	126	9	145	1,034	
12	185	...	383	580	234	814	814	14	75	19	102	11	113	927	
+4	+51	...	+107	+162	-87	+75	+75	+4	+30	...	+34	-2	+32	+107	







DIX I—*contd.*AND MINERALS—*contd.*No. 1—*contd.*year 1936 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.			
<b>TE—<i>contd.</i></b>														
12	48	31	26	112	...	112	112	1	...	2	3	...	3	115
51	105	85	117	358	...	...	358	...	...	...	...	...	...	388
63	148	116	143	470	...	470	470	1	...	2	3	...	3	473
70	172	136	163	541	7	548	548	1	...	2	3	...	3	551
83	174	157	218	632	13	645	645	1	...	1	2	..	2	647
-13	-2	-21	-55	-91	-6	-97	-97	...	...	+1	+1	...	+1	-96
<b>STONE.</b>														
106	351	81	683	1,191	336	1,527	1,527	131	165	91	387	46	433	1,960
2	2	11	8	23	12	35	35	1	1	1	3	..	3	38
3	...	8	67	73	...	73	78	...	...	...	...	...	...	73
...	...	...	10	10	...	...	10	...	...	...	...	...	...	10
10	10	20	20	60	...	60	60	1	1	4	6	...	6	66
15	12	34	105	166	12	178	178	2	2	5	9	...	9	187
14	136	237	27	414	175	589	589	7	48	31	86	81	167	766
83	350	141	1,122	1,696	2,265	3,961	3,961	31	25	40	96	72	168	4,129
97	486	378	1,149	2,100	2,440	4,550	4,550	36	73	71	182	153	335	4,885

## 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.		
<b>LIME</b>									
Punjab	Attock . . . . .	Tons. 150,700	...	...	...	...	...	...	
	Jhelum . . . . .	2,528	...	...	...	...	...	...	
	Mianwali . . . . .	30,000	...	...	...	...	...	...	
	Total . . . . .	183,228	...	...	...	...	...	...	
Grand Total (Limestone) for 1936		1,007,967	...	...	...	...	...	...	
Grand Total of preceding year.		1,000,303	...	...	...	...	...	...	
Difference . . . . .		+7,649	...	...	...	...	...	...	
<b>STONE (CHIEFLY IGNEOUS)</b>									
Bengal	Birbhum . . . . .	Tons. 46,449	...	...	...	...	...	...	
Bihar	Gaya . . . . .	21,923	...	...	...	...	...	...	
	Southal Parganas . . . . .	254,667	...	...	...	...	...	...	
	Shalabad . . . . .	50,680	...	...	...	...	...	...	
	Singhbhum . . . . .	69,172	...	...	...	...	...	...	
Total . . . . .		386,442	...	...	...	...	...	...	
Bombay	Bombay . . . . .	132,079	...	...	...	...	...	...	
	Bombay Suburban . . . . .	20,050	...	...	...	...	...	...	
	Kaira . . . . .	23,166	...	...	...	...	...	...	
	Surat . . . . .	63,571	...	...	...	...	...	...	
Total . . . . .		265,109	...	...	...	...	...	...	
Sind	Sukkur . . . . .	27,366	...	...	...	...	...	...	

DIX I—contd.

AND MINERALS—contd.

No. 1—contd.

year 1936 at mines under the Indian Mines Act—contd.

daily in and about the mines.

Open workings.							Total Males and Females.	Total Underground and Open workings.	Surface.						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.	Total Males and Females.		
<b>STONE—contd.</b>															
3	188	..	2	193	..	193	199	3	3	75	81	..	81	274	
2	30	..	20	52	..	52	52	..	15	..	15	..	15	67	
4	..	..	200	204	6	210	210	..	..	..	..	..	..	210	
9	218	..	222	440	6	446	455	8	18	75	96	..	96	651	
227	1,067	193	2,129	3,916	2,794	6,710	6,710	174	258	242	674	199	873	7,583	
214	1,179	376	2,103	3,872	2,350	6,222	6,222	188	202	585	975	188	1,163	7,385	
+13	-112	+117	+26	+44	+141	+488	+488	-14	+56	-343	-301	+11	-290	+198	
<b>ROCK)</b>															
1	218	51	20	299	6	305	305	26	171	133	330	74	404	709	
8	176	..	..	184	103	286	286	..	..	..	..	..	..	286	
24	489	530	56	1,079	34	1,113	1,113	80	293	379	752	279	1,081	2,114	
5	198	..	..	203	60	263	253	..	5	..	5	..	5	258	
11	303	11	55	389	318	698	698	2	20	8	30	2	32	730	
48	1,166	541	91	1,846	504	2,350	2,350	82	318	387	787	281	1,068	3,418	
..	143	31	72	246	..	246	246	14	5	25	44	68	112	358	
..	..	..	30	30	..	30	30	2	15	37	54	..	54	84	
2	..	..	11	13	..	13	13	5	4	69	80	..	80	92	
8	17	62	184	271	197	468	468	6	..	..	6	..	6	474	
5	..	..	106	111	69	180	180	6	..	..	5	..	5	186	
15	160	104	392	661	268	937	937	32	24	122	178	6	246	1,183	
6	67	44	..	117	13	130	130	1	..	1	2	..	2	132	



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.	<b>STONE (CHIEFLY IGNEOUS)</b>						
Burma	Bassein . . . . .	2,170	..	..	..	..	..	..	
	Lower Chhindwin . . . . .	30,884	..	..	..	..	..	..	
	Mandalay . . . . .	7,953	..	..	..	..	..	..	
	Meiktila . . . . .	6,000	..	..	..	..	..	..	
	Mergui . . . . .	497	..	..	..	..	..	..	
	Tavoy . . . . .	2,322	..	..	..	..	..	..	
	Thaton . . . . .	166,348	..	..	..	..	..	..	
	Toungoo . . . . .	95,304	..	..	..	..	..	..	
	<b>Total</b> . . . . .	<b>311,488</b>	..	..	..	..	..	..	
Central Provinces.	Akola . . . . .	10,486	..	..	..	..	..	..	
	Amraoti . . . . .	240	..	..	..	..	..	..	
	<b>Total</b> . . . . .	<b>10,726</b>	..	..	..	..	..	..	
Madras	Chingleput . . . . .	52,392	..	..	..	..	..	..	
	East Godavari . . . . .	9,204	..	..	..	..	..	..	
	Guntur . . . . .	34,441	..	..	..	..	..	..	
	<b>Total</b> . . . . .	<b>96,127</b>	..	..	..	..	..	..	
Punjab . . . . .	Jhelum . . . . .	40,206	..	..	..	..	..	..	

DIX I—*contd.*AND MINERALS—*contd.*No. 1—*contd.*year 1936 at mines under the Indian Mines Act—*contd.*

daily in and about the mines.

Open workings.							Total Undergound and Open workings.	Surface.						Grand Total.
Males.					Females.	Total Males and Females.		Males.				Females.	Total Males and Females.	
Foremen and Mates.	Minors.	Other skilled labour.	Other unskilled labour.	Total Males.				Clerical and supervis- ing staff.	Skilled labour.	Unskilled labour.	Total Males.			
ROCK)— <i>contd.</i>														
...	...	15	...	15	...	15	15	...	...	...	...	...	...	15
...	...	...	409	409	...	409	409	16	...	...	16	...	16	425
6	5	...	14	25	22	47	47	6	...	...	6	...	6	53
...	...	...	...	...	...	...	...	3	...	26	29	20	49	49
...	...	1	2	3	...	3	3	...	1	4	5	...	5	6
...	5	...	48	53	25	78	78	...	...	...	...	...	...	78
37	2,521	96	40	2,694	52	2,746	2,746	11	17	243	271	...	271	3,017
...	...	...	48	43	41	84	84	...	...	...	...	...	...	84
43	2,531	112	556	3,242	140	3,382	3,382	36	18	273	327	20	347	3,729
4	...	...	90	94	78	172	172	2	...	...	2	...	2	174
2	...	...	...	2	8	10	10	1	...	...	1	...	1	11
6	...	...	90	96	86	182	182	3	...	...	3	...	3	185
...	...	358	16	374	250	624	624	19	...	117	136	56	192	616
...	...	62	...	62	13	75	75	...	...	...	...	...	...	75
...	6	16	73	99	24	123	123	2	...	10	12	5	17	140
—	8	438	89	535	287	822	822	21	...	127	148	61	209	1,031
2	67	...	34	103	...	103	103	3	5	16	24	...	24	127



DIX I—*contd.*AND MINERALS—*contd.*No. 1—*contd.*year 1936 at mines under the Indian Mines Act—*contd.*

daily in and about the mines.

Open workings.					Total Males and Females.	Total Underground and Open workings.	Surface.					Grand Total.		
Males.							Females.	Males.					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.			Females.
<b>IGNEOUS ROCK)—<i>contd.</i></b>														
2	59	...	...	61	...	61	61	8	13	23	39	20	59	120
128	1,276	1,290	1,281	6,970	1,303	8,272	8,272	207	549	1,062	1,838	524	2,362	10,634
188	3,035	1,359	2,255	6,837	1,869	8,706	8,706	253	510	1,961	2,724	866	3,590	12,296
-65	+1,241	-69	-974	-138	-667	-434	-434	-46	-39	-679	-886	-342	-1,228	-1,662
<b>STONE.</b>														
12	46	51	40	149	41	190	190	...	...	24	24	10	34	224
2	2	10	40	54	..	54	54	1	1	2	4	...	4	58
14	4	61	80	203	41	244	244	1	1	26	28	10	38	282
12	73	70	60	215	4	263	263	6	2	25	33	...	33	286
+2	-25	-9	+20	-12	-7	-19	-19	-5	-1	+1	-5	+10	+5	-14
<b>RITE.</b>														
in those for Stone.														
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...



DIX I—contd.

AND MINERALS—contd.

No. 1—contd.

year 1936 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.				Total Males and Females.		Males.				Total Males and Females.		
Foremen and Mates.	Miners.	Other skilled labour.	Other unskilled labour.			Total Males.	Females.	Clerical and supervising staff.	Skilled labour.			Unskilled labour.
<b>VEL.</b>												
in those for Stone.												
in those for Stone.												
in those for Stone.												
in those in Stone.												
...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...
<b>RUM</b>												
in those for Stone.												
...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...
<b>VITE</b>												
1	...	...	6	7	...	7	7	...	...	...	...	7
...	...	...	...	...	...	...	...	...	...	...	...	...
+1	...	...	+6	+7	...	+7	+7	...	...	...	...	+7

**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.		
Bihar	Bhagalpur .	Tons. 4	...	...	...	...	...	ILMI	
	Total of preceding year.	...	...	...	...	...	...	Figures included in	
	Difference . . .	+4	..	...	...	...	...	...	
Central Provinces.	Jubbulpore . . .	Tons. 22,817	...	...	...	...	...	FIRE	
	Total of preceding year.	27,236	...	...	...	...	...	...	
	Difference . . .	- 4,419	...	...	...	...	...	...	
Bihar . . .	Bhagalpur . . .	Tons 3,764	1	16	...	44	61	...	CHINA
	Singhbhum . . .	5,897	...	...	...	...	...	...	61
	Total . . .	9,661	1	16	...	44	61	...	61
Burma . . .	Thanton . . .	788	...	...	...	...	...	...	...
Delhi . . .	Delhi . . .	3,819	3	17	..	8	8	...	9
	Grand Total (China Clay) for 1936.	14,268	4	39	...	52	89	...	89
	Grand Total of preceding year.	10,407	2	39	...	42	73	...	83
	Difference	+3,861	+2	-6	...	+10	+6	...	+6

DIX I—*contd.*AND MINERALS—*contd.*No. 1—*contd.*year 1936 at mines under the Indian Mines Act—*contd.*

daily in and about the mines.

		Open workings.							Surface.						
		Males.			Total Males and Females.	Females.	Total Males and Females.	Total Underground and Open workings.	Males.				Females.	Total Males and Females.	Grand Total.
Foremen and Mates.	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.					Clerical and supervising staff.	Skilled labour.	Unskilled labour.	Total Males.			
<b>NITE.</b>															
those for Beryl															
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
<b>CLAY.</b>															
6	4	...	145	155	156	311	311	3	...	26	29	2	31	342	
6	102	...	146	254	165	419	419	2	5	63	90	7	97	516	
...	—06	...	—1	—39	—9	—108	—108	+1	—5	—57	—61	—5	—66	—174	
<b>CLAY.</b>															
6	...	...	39	45	43	88	149	...	...	...	...	...	...	149	
16	72	3	90	181	232	413	413	23	31	132	186	184	370	783	
22	72	3	129	226	275	501	562	23	31	132	186	184	370	934	
...	...	1	9	10	1	11	11	5	...	...	5	...	5	16	
...	...	16	6	22	...	22	50	1	...	8	9	...	9	59	
22	72	20	144	256	276	534	623	29	31	140	201	184	384	1,007	
24	116	8	157	307	372	679	762	28	43	163	234	231	468	1,239	
—2	—46	+12	—13	—49	—26	—145	—139	+1	—12	—23	—34	—50	—84	—223	



**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 Mistee.	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.		
		Tons.							<b>CL</b>
Bengal . . .	Burdwan . . .	7,756	..	..	..	..	..	..	..
Punjab . . .	Attock . . .	36,679	Figures included in those						
	Grand Total (Clay) for 1936.	44,435	...	...	...	...	...	...	...
	Grand Total of preceding year.	34,058	...	...	...	...	...	...	...
	Difference	+10,377	...	...	...	...	...	...	...
		Tons.							<b>BARY</b>
Madras . . .	Cuddapah	1,000	...	...	...	...	...	...	...
	Kurnool . . .	252	1	4	...	...	5	...	5
	Grand Total (Barytes) for 1936.	1,252	1	4	...	...	5	...	5
	Grand Total of preceding year.	270	1	3	...	...	4	...	4
	Difference . . .	+982	..	+1	...	...	+1	...	+1

DIX I—*contd.*AND MINERALS—*contd.*No. 1—*contd.*year 1936 at mines under the Indian Mines Act—*contd.*

daily in and about the mines.

AY.	Open workings.						Total Underground and Open workings.	Surface.						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.	Total Males and Females.		
...	...	16	...	16	16	32	32	...	3	...	3	...	3	35
for Limestone.														
...	...	16	...	16	16	32	32	...	3	...	3	...	3	35
...	...	18	...	18	22	40	40	...	7	...	7	...	7	47
...	...	-2	...	-2	-6	-5	-8	...	-4	...	-4	...	-4	-12
TES.														
...	...	6	7	13	...	13	13	2	...	...	2	...	2	15
...	...	...	...	...	...	...	5	...	...	...	2	...	6	15
...	...	6	7	13	...	13	18	2	...	2	4	...	6	30
...	1	...	...	1	...	1	5	1	...	6	9	...	14	30
...	-1	+6	+7	+12	...	+12	+13	+1	...	-6	-5	...	-16	-8



DIX I—contd.

AND MINERALS—contd.

No. 1—contd.

year 1936 at mines under the Indian Mines Act—contd.

daily in and about the mines.

TITE.	Open workings.					Total Males and Females.	Total Underground and Open workings.	Surface.					Grand Total.		
	Males.							Females.	Males.					Total Males and Females.	
	Foremen and Mates.	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.				Clerical and super- and super- &ising staff.	Skilled labour.	Unskilled labour.	Total Males.			Females.
...	...	...	...	...	...	...	...	...	...	...	64	64	64		
...	...	...	...	...	...	...	...	...	...	...	-64	-64	-64		
RE.	...	...	...	...	...	...	7	1	...	...	1	3	4	11	
...	...	...	...	...	...	...	13	2	3	...	5	6	11	24	
...	...	...	...	...	...	...	-6	-1	-3	...	-4	-3	-7	-13	
LINE.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
...	13	...	...	13	11	24	24	1	...	...	1	...	1	25	
...	-13	...	...	-13	-11	-24	-24	-1	...	...	-1	...	-1	-25	

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.							
			Foremen and Blazes.	Males.			Total Males.	Females.	Total Males and Females.	
Miners.	Other skilled labour.	Other unskilled labour.								
Madræs . .	Trichinopoly .	Tons. 1,565	...	...	...	...	...	...	...	GYP
Punjab . .	Jhelum . .	5,991								Figures included in
	Grand Total (Gypsum) for 1936.	7,496	...	...	...	...	...	...	...	
	Grand Total of preceding year.	3,533	...	...	...	...	...	...	...	
	Difference	+3,963	...	...	...	...	...	...	...	
Rajputana	Ajmer-Merwara .	Tons. 98	...	...	...	...	...	...	...	BER
Bihar . .	Bhagalpur . .	1	1	...	12	...	13	...	13	
	Grand Total (Beryl) for 1935.	99	1	...	12	...	13	...	13	
	Grand Total of preceding year.	139	...	...	...	...	...	...	...	
	Difference	-40	+1	...	+12	...	+13	...	+13	
Central Provinces. Madræs	Betul . . . . .	Tons. 237	...	...	...	...	...	...	...	GRA
	Vizagapatam	...	...	...	...	...	...	...	...	
	Grand Total (Graphites) for 1936.	237	...	...	...	...	...	...	...	
	Grand Total of preceding year	407	...	...	...	...	...	...	...	
	Difference	-170	...	...	...	...	...	...	...	
Bihar . .	Bhagalpur . .	Tons. 1								FELS Figures included

DIX I—contd.

AND MINERALS—contd.

No. 1—contd.

year 1936 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.				Chemical and supervising staff.	Skilled labour.	Unskilled labour.	Total Males.			
<b>SUM.</b>														
...	...	...	12	12	11	23	23	1	4	9	14	119	133	156
those for Salt.														
...	...	...	12	12	11	23	23	1	4	9	14	119	133	156
2	...	...	8	10	34	44	44	...	...	5	5	65	70	114
-2	...	...	+4	+2	-23	-21	-21	+1	+4	+4	+9	+54	+63	+12
<b>YL.</b>														
4	65	...	...	69	...	69	69	...	2	...	2	...	2	71
...	...	...	...	...	...	...	13	...	...	...	...	2	2	15
4	65	...	...	69	...	69	82	...	2	...	2	2	4	86
1	26	...	33	62	...	62	62	1	...	...	1	...	1	64
+3	+37	...	-33	+7	...	+7	+31	-1	+2	...	+1	+2	+3	+22
<b>WHITE.</b>														
...	3	2	3	8	...	8	8	...	...	...	...	...	...	8
...	13	...	5	18	1	19	19	...	...	...	...	...	...	19
...	16	2	6	26	1	27	27	...	...	...	...	...	...	27
...	3	2	4	9	6	15	15	...	...	...	...	...	...	15
...	+13	...	+4	+17	-5	+12	+12	...	...	...	...	...	...	+12
<b>PAR.</b>														
in those for Beryl.														

**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.							<b>FELS</b>
<b>Rajputana</b>	Ajmer-Marwara	685	...	...	...	...	...	...	...
	Grand Total (Felspar) for 1936	686	...	...	...	...	...	...	...
	Total of preceding year.	600	...	...	...	...	...	...	...
	Difference	+86	...	...	...	...	...	...	...
		Cwts.							<b>BIS</b>
<b>Burma</b>	Tavoy	1	...	...	...	...	...	...	Figures included
	Total of preceding year.	2	...	...	...	...	...	...	...
	Difference	-1	...	...	...	...	...	...	...
		Carats							<b>GE</b>
<b>Burma</b>	Katha { Rubies . Sapphires	155,381 172	...	...	...	...	...	...	...
	Total of { Rubies . preced- { Rubin ing year. { Sapphires	98,753 6,687 2,174	...	...	...	...	...	...	...
	Differ- { Rubies . ence. { Rubin Sapphires	+56,628 -6,687 -2,302	...	...	...	...	...	...	...
		Cwts.							<b>CORUN</b>
<b>Madras</b>	Salem	30	...	...	...	...	...	...	...
	Total of preceding year.	556	...	...	...	...	...	...	...
	Difference	-526	...	...	...	...	...	...	...
	Grand Total (Metal- liferous Mines) for 1936.	...	966	13,192	2,314	8,418	24,920	32	24,962
	Grand Total of preceding year.	...	900	13,506	1,632	7,874	23,912	75	23,987
	Difference	...	+66	-314	+712	+544	+1,008	-43	+965
	Grand Total (All Minerals) for 1936.	...	...	...	...	...	123,423	7,301	130,724
	Grand Total of preceding year.	...	...	...	...	...	119,830	9,551	129,381
	Difference	...	...	...	...	...	+3,593	2,250	+1,343

DIX I—*contd.*AND MINERALS—*concl'd.*No. 1—*concl'd.*year 1936 at mines under the Indian Mines Act—*concl'd.*

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.			
<b>PAR—<i>cont'd.</i></b>														
4	...	9	14	27	...	27	27	1	...	...	1	...	1	28
4	...	9	14	27	...	27	27	1	...	...	1	...	1	28
4	7	...	13	24	...	24	24	1	...	...	1	...	1	25
...	-7	+9	+1	+8	...	+3	+3	...	...	...	...	...	...	+3
<b>MUTH,</b>														
in those for Tin.														
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
<b>MS.</b>														
4	73	...	...	77	...	77	77	...	...	...	...	...	...	77
3	91	...	...	94	...	94	94	2	...	...	2	...	2	96
+1	-18	...	...	-17	...	-17	-17	-2	...	...	-2	...	-2	-19
<b>DUM.</b>														
...	8	...	...	8	14	22	22	...	...	...	...	...	...	22
...	...	...	12	12	36	48	48	...	...	...	...	...	...	48
...	+8	...	-12	-4	-22	-36	-26	...	...	...	...	...	...	-26
1,367	26,128	5,836	11,907	45,238	15,122	60,361	85,318	1,991	1,935	8,331	15,257	6,106	21,363	198,676
1,281	21,215	5,113	11,662	39,271	12,580	51,851	75,838	1,757	4,865	7,549	14,191	4,677	18,878	94,716
+86	+4,913	+723	+245	+5,967	+2,543	+8,510	+9,475	+234	+50	+782	+1,066	+1,419	+2,487	+11,960
...	...	...	...	82,122	17,171	99,293	199,917	...	...	...	51,413	18,233	69,676	269,593
...	...	...	...	45,659	14,193	59,852	189,263	...	...	...	48,546	16,159	64,707	253,970
...	...	...	...	+6,433	+2,978	+9,311	+10,654	...	...	...	+2,865	+2,104	+4,969	+15,623



Table

## Statement of total mining population in Coal Mines in British India

Name of Province.	Name of Coalfield or District	Total number attending work.								
		Males.				Females.				Total Males and Females.
		Under-ground.	O. W.	Surface.	Total.	Under-ground.	O. W.	Surface.	Total.	
		Tons.								
Assam	Khasi and Jaintia hills	10	...	...	10	...	...	3	3	13
	Mukim	1,319	...	325	1,644	...	...	118	118	1,762
	Nazira	186	...	152	338	...	...	...	...	338
	Total	1,515	...	477	1,992	...	...	121	121	2,113
Baluchistan	Sor Range	9	1	...	10	...	...	...	...	10
	Khost	68	3	1	72	...	...	...	...	72
	Total	77	4	1	82	...	...	...	...	82
Bengal	Raniganj	35,812	171	9,331	45,314	2,125	285	4,494	6,904	52,218
Bihar	Raniganj	3,989	179	1,077	5,245	139	120	657	916	6,161
	Jharia	45,810	1,551	16,971	64,382	2,779	10,019	6,691	10,399	74,781
	Bokaro	2,154	4,538	2,173	8,895	90	793	768	1,641	10,536
	Giridih	6,382	6	691	7,079	249	7	231	487	7,566
	Karainpura	1,034	1,312	561	2,907	77	450	144	671	3,578
	Jainty	459	17	206	712	31	8	19	58	770
	Total	59,938	7,603	21,679	89,220	3,365	2,407	8,400	14,172	103,392
Central Provinces	Betul	110	66	179	355	5	33	19	57	412
	Wardha Valley	2,228	...	390	2,678	116	...	124	240	2,918
	Pench Valley	7,385	169	2,858	10,412	529	72	672	1,273	11,685
	Total	9,723	235	3,427	13,445	650	105	815	1,570	15,015
Oriasa	Hingir-Rampur	192	...	62	254	...	...	55	55	309
Punjab	Salt Range	1,779	154	808	2,741	...	...	21	21	2,762
	Grand Total	109,096	8,167	35,735	153,048	6,140	2,797	13,906	22,843	175,891

DIX I—contd.

## No. 1-A.

on a day in the selected week in February 1937.

Total number prevented from attending.									Grand Total.
Males.				Females.				Total Males and Females.	
Under-ground.	O. W.	Surface.	Total.	Under-ground.	O. W.	Surface.	Total.		
..	..	..	..	..	..	..	..	..	13
513	..	32	545	..	..	57	57	602	2,364
51	..	36	87	..	..	..	..	87	435
564	..	68	632	..	..	57	57	690	2,802
..	..	..	..	..	..	..	..	..	10
..	..	..	..	..	..	..	..	..	72
..	..	..	..	..	..	..	..	..	82
3,315	4	677	3,996	474	2	492	968	4,964	57,182
498	8	92	598	18	9	57	84	682	6,843
1,610	87	437	2,134	150	38	233	421	2,555	77,336
217	703	276	1,196	8	283	39	330	1,526	12,062
3,460	1	120	3,581	93	2	16	111	3,692	11,258
268	356	24	648	10	161	15	186	834	4,412
12	..	4	16	..	..	..	..	16	786
6,005	1,155	953	8,113	279	493	960	1,732	9,845	112,697
2	..	3	5	..	..	1	1	6	415
94	..	20	114	9	..	4	13	127	3,045
713	2	123	849	91	2	53	156	1,000	12,690
814	2	152	968	103	9	68	170	1,138	16,143
..	31	17	48	..	..	22	22	70	379
90	..	27	117	..	..	..	..	117	2,879
19,848	1,492	1,894	13,934	856	504	909	2,349	16,283	192,174



DIX I—*contd.*

## No. 2.

each important mining field during the year 1936.

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.
47	45	45	46	47	45	53	51	50	50
48	44	44	49	44	43	52	50	50	49
48	39	48	48	48	38	50	47	47	45
...	...	...	...	...	...	46	39	41	38
47	42	42	...	39	.	49	47	48	36
...	...	36	48	...	...	...	...	...	...
50	48	48	48	48	48	53	52	51	50
44	44	...	47	45	41	47	46	47	47
45	44	...	45	46	46	47	47	47	47
49	47	...	47	46	46	49	48	46	46
50	49	...	49	50	49	49	49	50	48
49	49	...	49	49	49	50	51	51	51
47	...	...	...	47	...	53	53	53	...
50	47	...	50	49	43	47	48	48	46
54	54	...	...	...	...	54	47	46	27
49	11	...	44	45	45	49	48	48	46
42	40	...	42	41	...	48	...	48	...

## Table

Analysis of figures relating to

Province.	Coalfield.	Coal.					
		Opening stock.	Raisings.	Total.	Despatches.	Colliery consumption.	Coal delivered for coking.
		Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Assam . . .	Khushi & Jaintia hills.	336	9,171	9,597	3,766	...	...
	Makum . . . .	...	172,075	172,075	157,604	11,601	2,970
	Nazira . . . .	38	20,347	20,385	18,894	1,047	...
Baluchistan . . .	Baluchistan . . .	159	3,451	3,610	3,353	36	...
Bengal (and part of Bihar).	Raniganj . . . .	396,862	7,305,437	7,702,299	6,938,912	423,845	66,179
Bihar . . . .	Jharia . . . .	471,292	8,530,144	9,001,436	7,040,884	490,939	1,318,307
	Bokaro . . . .	1,809	1,417,227	1,419,036	1,361,964	36,715	17,261
	Karanpura . . . .	7,202	396,083	403,285	385,661	12,162	...
	Giridih . . . .	294,589	698,133	992,722	698,462	60,748	...
	Jainty . . . .	4,012	36,022	40,034	26,567	6,034	...
Central Provinces.	Betul . . . .	...	1,727	1,727	292	1,200	...
	Pench Valley . . . .	31,881	1,259,133	1,280,814	1,166,553	99,922	...
	Wardha Valley . . . .	7,995	247,122	255,117	232,712	17,347	...
Orissa . . . .	Hingir-Rampur . . . .	1,928	31,061	32,989	27,763	4,200	...
Punjab . . . .	Salt Range . . . .	2,959	156,849	159,808	153,747	3,697	...
	Total 1936 . . . .	1,120,892	20,583,982	21,704,874	18,223,134	1,169,393	1,404,717

## DIX I—contd.

## No. 3.

the output of Coal and Coke, 1936.

Coal despatched to coke factories.		Closing stocks.		Coke.									
				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.		
...	5,771	...	...	...	...	...	...	...	...	...	...		
...	...	...	...	488	...	445	...	43	...	...	...		
...	444	...	...	...	...	...	...	...	...	...	...		
...	221	...	...	...	...	...	...	...	...	...	...		
80,014	273,363	72	344	3,002	41,337	2,982	11,081	...	297	92	303		
1,707,263	445,306	3,726	10,879	88,738	868,196	87,933	866,611	619	2,122	3,912	10,342		
7,138	3,096	295	437	4,905	4,970	5,134	5,027	30	261	36	119		
...	5,462	...	...	...	...	...	...	...	...	...	...		
10,562	143,512	...	...	...	...	...	...	...	...	...	...		
...	7,433	...	...	...	...	...	...	...	...	...	...		
...	235	...	...	...	...	...	...	...	...	...	...		
...	14,359	...	...	...	...	...	...	...	...	...	...		
...	5,058	...	...	...	...	...	...	...	...	...	...		
...	1,026	...	...	...	...	...	...	...	...	...	...		
...	2,364	...	...	...	...	...	...	...	...	...	...		
1,834,997	907,630	4,083	11,660	97,133	917,843	96,494	915,719	692	2,980	4,040	10,764		

APPENDIX I—*contd.*

Table No. 4.

Numbers of mines opened, closed and inspected, during the year 1936.

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.
<b>COAL</b>								
Assam	Khasi and Jaintia Hills	1	...	1	...	...	2	2
	Lakhimpur—Makum Coalfield	4	4	...	...	...	3	10
	Naga Hills—Nazira Coalfield	1	...	1	...	...	1	3
Baluchistan	Baluchistan Coalfields	8	...	8	5	1	...	...
Bengal (and part of Bihar).	Raniganj Coalfield	190	150	40	18	16	214	927
Bihar	Jharia Coalfield	209	160	49	20	22	256	1,719
	Bokaro Coalfield	6	5	1	1	...	5	14
	Karapura Coalfield	6	4	2	2	1	3	7
	Giridih Coalfield	5	3	2	...	...	5	53
	Jainty Coalfield	8	1	7	2	1	1	1
Central Provinces.	Betul	3	1	2	1	1	2	2
	Peneh Valley Coalfield	24	20	4	3	2	23	45
	Wardha Valley	7	6	1	1	...	6	11
Orissa	Hingir-Rampur Coalfield	1	1	...	...	...	1	1

APPENDIX I—*contd.*Table No. 4—*contd.*Numbers of mines opened, closed and inspected, during the year 1936—*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.
<b>COAL—<i>contd.</i></b>								
Punjab . . . . .	Salt Range Coalfield . . . . .	31	...	31	12	10	14	19
	Grand Total (Coal) for 1936 . . . . .	594	365	149	65	54	536	2,781
	Grand Total of preceding year.	494	353	141	41	41	513	2,564
	Difference . . . . .	+10	+2	+8	+24	+13	+23	+230
<b>IRON ORE.</b>								
Bihar . . . . .	Singbhum . . . . .	4	...	4	...	...	6	7
Burma . . . . .	... . . . .	3	...	3	...	...	1	1
	Grand Total (Iron Ore) for 1936 . . . . .	7	...	7	...	...	7	8
	Grand Total of preceding year.	7	1	6	2	...	6	9
	Difference . . . . .	...	-1	+1	-2	...	+1	-1
<b>MANGANESE ORE.</b>								
Bihar . . . . .	Singbhum . . . . .	13	...	13	7	1	8	8
Bombay . . . . .	Panch Mahals . . . . .	2	2	...	1	...	1	1



APPENDIX I—*contd.*Table No. 4—*contd.*Numbers of mines opened, closed and inspected, during the year 1936—*contd.*

PROVINCE.	District and mineral field.	Number of mines under the scope of the Act.	NUMBER OF MINES.				INSPECTIONS.	
			Worked under me- chanical power.	Not worked by me- chanical power.	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspec- tions.
<b>MANGANESE ORE—<i>contd.</i></b>								
Central Pro- vinces.	...	40	2	38	13	5	26	27
Madras	...	8	1	7	2	1	4	4
	Grand Total (Manganese Ore) for 1936.	63	5	58	23	7	30	40
	Grand Total of preceding year.	48	5	43	23	8	23	26
	Difference	+15	...	+15	...	-1	+16	+14
<b>LEAD ORE.</b>								
Burma	Northern Shan States	1	1	...	...	...	...	...
	Total of preceding year	1	1	...	...	...	1	11
	Difference	...	...	...	...	...	-1	-11
<b>GOLD.</b>								
Bihar	...	3	...	3	1	1	1	1
	Total of preceding year	2	...	2	2	...	1	1
	Difference	+1	...	+1	-1	+1	...	...
<b>TIN AND WOLFRAM ORE.</b>								
Burma	...	387	16	371	111	70	93	108
	Total of preceding year	333	15	318	84	27	44	58
	Difference	+54	+1	+53	+27	+43	+49	+50

APPENDIX I—*contd.*Table No. 4—*contd.*Numbers of mines opened, closed and inspected, during the year 1936—*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.
<b>CHROMITE ORE.</b>								
Baluchistan	Zhob . . . . .	38	...	38	...	...	...	...
Bihar	Singhbhum . . . . .	11	...	11	...	...	9	9
	Grand Total (Chromite Ore) for 1936.	49	...	49	...	...	9	9
	Grand Total of preceding year	48	...	48	33	...	7	7
	Difference	+1	...	+1	-33	...	+2	+2
<b>COPPER ORE.</b>								
Bihar	Singhbhum . . . . .	3	2	1	1	...	1	6
	Total of preceding year	2	2	...	...	...	1	5
	Difference	+1	...	+1	+1	...	...	+1
<b>GEMS.</b>								
Burma	Katha . . . . .	4	4	...	...	...	...	...
	Total of preceding year	6	4	2	3	...	4	4
	Difference	-2	...	-2	-3	...	-4	-4



APPENDIX I—*contd.*Table No. 4—*contd.*Numbers of mines opened, closed and inspected, during the year 1936—*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.
<b>MAGNESITE.</b>								
Madras	Salem . . . . .	3	..	3	..	..	1	1
	Total of preceding year	3	..	3	..	..	2	2
	Difference	..	..	..	..	..	-1	-1
<b>STEATITE.</b>								
Bihar	.. . . . .	4	..	4	..	1	2	2
Central Provinces.	Jubbulpore . . . . .	2	..	2	..	..	2	2
Madras	.. . . . .	2	..	2	1	..	2	2
United Provinces.	Hamirpur . . . . .	17	..	17	11	9	4	5
	Grand Total (Steatite) for 1936	25	..	25	12	10	10	11
	Grand Total of preceding year	28	..	28	16	16	22	22
	Difference	-3	..	-3	-4	-6	-12	-11

## APPENDIX I—contd.

Table No. 4—contd.

Numbers of mines opened, closed and inspected, during the year 1936—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.
<b>SLATE.</b>								
Bihar	Monghyr . . . . .	6	...	6	5	2	2	2
Punjab . . . . .	... . . . .	15	...	15	2	3	9	9
	Grand Total (Slate) for 1936 . . . . .	21	...	21	7	5	11	11
	Grand Total of preceding year . . . . .	22	...	22	7	6	21	24
	Difference . . . . .	-1	...	-1	...	-1	-10	-13
<b>LIMESTONE.</b>								
Bihar	... . . . .	14	...	14	5	2	9	11
Burma . . . . .	... . . . .	7	...	7	2	2	4	4
Central Provinces.	... . . . .	23	2	21	3	2	15	16
Madras . . . . .	... . . . .	...	...	...	...	...	2	2
Punjab . . . . .	... . . . .	3	1	2	1	...	2	2
	Grand Total (Limestone) for 1936 . . . . .	47	3	44	11	6	32	35
	Grand Total of preceding year . . . . .	46	3	43	18	12	31	34
	Difference . . . . .	+1	...	+1	-7	-6	+1	+1

## APPENDIX I—contd.

Table No. 4—contd.

Numbers of mines opened, closed and inspected, during the year 1936—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.
<b>STONE.</b>								
Bengal . . . . .	...	3	...	3	...	...	5	5
Bihar . . . . .	...	59	...	59	6	8	56	61
Bombay . . . . .	...	16	2	19	...	3	20	30
Burma . . . . .	...	14	...	14	2	...	12	12
Central Provinces . . . . .	...	2	...	2	...	...	...	...
Delhi . . . . .	Delhi . . . . .	...	...	...	...	...	1	1
Madras . . . . .	...	7	1	6	1	...	14	14
Punjab . . . . .	Jhelum . . . . .	2	...	2	...	...	6	6
Sind . . . . .	Sukkur . . . . .	1	...	1	...	...	...	...
United Provinces . . . . .	...	1	...	1	...	...	15	15
Grand Total (Stone) for 1936 . . . . .		104	3	101	9	11	138	144
Grand Total of preceding year . . . . .		121	3	118	13	12	177	187
Difference . . . . .		-17	...	-17	-4	-1	-39	-43

APPENDIX I—*contd.*Table No. 4—*contd.*Numbers of mines opened, closed and inspected, during the year 1936—*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.
<b>SANDSTONE.</b>								
Bihar . . .	Shahabad . . . . .	2	...	2	...	...	3	3
Burma . . .	Toungoo . . . . .	1	...	1	...	...	...	...
United Provinces.	Randa . . . . .	...	...	...	...	...	4	4
	Grand Total (Sandstone) for 1936.	3	...	3	...	...	7	7
	Grand Total of preceding year.	3	...	3	...	...	10	10
	Difference	...	...	...	...	...	-3	-3
<b>FIRE CLAY.</b>								
Bengal . . .	...	...	...	...	...	...	7	8
Bihar . . .	...	1	...	1	...	...	10	11
Central Provinces.	Jubbulpore . . . . .	3	2	1	...	...	2	3
Orissa . . .	Sambalpur . . . . .	...	...	...	...	...	1	1
Punjab . . .	Jhelum . . . . .	...	...	...	...	...	1	1
	Grand Total (Fire Clay) for 1936	4	2	2	...	...	21	24
	Grand Total of preceding year.	6	2	4	1	2	20	22
	Difference	-2	...	-2	-1	-2	+1	+2

APPENDIX I—*contd.*Table No. 4—*contd.*Numbers of mines opened, closed and inspected, during the year 1936—*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.
<b>CHINA CLAY.</b>								
Bihar	...	9	...	9	3	2	5	5
Burma	Thaton	1	...	1	...	...	1	1
Delhi	Delhi	4	...	4	3	3	3	3
	Grand Total (China Clay) for 1936.	14	...	14	6	5	9	9
	Grand Total of preceding year	15	...	15	4	6	14	14
	Difference	-1	...	-1	+2	-1	-5	-5
<b>CLAY.</b>								
Beagal	Burdwan	1	1	...	...	...	3	5
	Total of preceding year	1	1	...	1	...	1	2
	Difference	...	...	...	-1	...	+2	+3





APPENDIX I—*contd.*Table No. 4—*contd.*Numbers of mines opened, closed and inspected, during the year 1936—*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.
<b>GYPSUM.</b>								
Madras	Trichinopoly . . . . .	4	...	4	...	1	8	4
	Total of preceding year . . . . .	3	...	3	1	...	1	1
	Difference	+1	...	+1	-1	+1	+2	+3
<b>BERYL.</b>								
Bihar	Bhagalpur . . . . .	3	...	3	3	...	...	...
Rajputana	Ajmer-Merwara . . . . .	5	...	5	4	4	2	2
	Grand Total of (Beryl) for 1936.	8	...	8	7	4	2	2
	Grand Total of preceding year . . . . .	2	...	2	1	...	2	2
	Difference	+6	...	+6	+6	+4	...	...
<b>CORUNDUM.</b>								
Madras	Salem . . . . .	1	...	1	...	1	...	...
	Total of preceding year . . . . .	1	...	1	1	...	...	...
	Difference	...	...	...	-1	+1	...	...

APPENDIX I—*conid.*Table No. 4—*conclid.*Numbers of mines opened, closed and inspected, during the year 1936—*conclid.*

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.
<b>GRAPHITE.</b>								
Central Provinces.	Betal . . . . .	1	...	1	...	...	1	1
Mudras	Vizagapatam . . . . .	1	...	1	...	...	...	...
	Grand Total (Graphite) for 1936 . . . . .	2	...	2	...	...	1	1
	Grand Total of preceding year . . . . .	2	...	2	...	...	...	...
	Difference . . . . .	...	...	...	-2	...	+1	+1
<b>BAUXITE.</b>								
Central Provinces.	Jubbulpore . . . . .	...	...	...	...	...	3	3
	Total of preceding year . . . . .	...	...	...	...	...	1	1
	Difference . . . . .	...	...	...	...	...	+2	+2
<b>FELSPAR.</b>								
Rajputana	Ajmer-Merwara . . . . .	5	...	5	...	3	3	3
	Total of preceding year . . . . .	7	...	7	1	3	3	3
	Difference . . . . .	-2	...	-2	-1	...	...	...
<b>ANTIMONY.</b>								
Burma	Amherst . . . . .	2	...	2	2	...	...	...
	Total of preceding year . . . . .	...	...	...	...	...	...	...
	Difference . . . . .	+2	...	+2	+2	...	...	...
<b>MUSCOVITE.</b>								
Rajputana	Ajmer-Merwara . . . . .	1	...	1	1	...	...	...
	Total of preceding year . . . . .	...	...	...	...	...	...	...
	Difference . . . . .	+1	...	+1	+1	...	...	...
<b>TANTALITE.</b>								
Bihar	Monghyr . . . . .	1	...	1	1	...	...	...
	Total of preceding year . . . . .	...	...	...	...	...	...	...
	Difference . . . . .	+1	...	+1	+1	...	...	...
	Grand Total (Metaliferous Mines), for 1936 . . . . .	1,469	79	1,390	497	359	585	584
	Grand Total of preceding year . . . . .	1,318	72	1,247	513	283	659	751
	Difference . . . . .	+151	+7	+143	-16	+76	-124	-167
	Grand Total (All Minerals) for 1936 . . . . .	1,973	434	1,539	562	413	1,071	3,375
	Grand Total of preceding year . . . . .	1,813	425	1,388	554	324	1,172	3,315
	Difference . . . . .	+160	+9	+151	+8	+89	-101	+63

## 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 antimony, apatite, barytes, beryl, bismuth, chinaclay, clay, corundum, felsper, fireclay, lems, graphite gypsum, ilminite, magnesite, muscovite, ochre, stone, slate, steatite and tantalite.

Year.	Coal.	Manga- nese ore.	Mica.	Lime- stone.	Salt.	Gold.	Copper ore.	Wolfram ore.	Iron ore.	Chro- mite ore.	Tin ore.	Lead ore.	Silver.
	Tons.	Tons.	Owts.	Tons.	Tons.	Troy Oz.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Troy Oz.
1927	21,108,976	878,521	42,061	1,182,235	145,311	2,395	5,010	530	1,008,891	17,086	2,656	460,777	6,084,586
1928	21,515,796	716,626	44,620	1,404,678	145,543	7	18,055	623	1,300,754	17,187	2,777	443,954	7,404,726
1929	22,308,174	750,908	49,437	1,313,647	149,498	30	76,831	1,061	1,436,365	21,054	3,284	404,561	7,280,517
1930	22,683,861	623,678	52,519	1,143,312	147,376	30	123,740	1,500	1,182,893	30,488	3,001	530,119	7,054,206
1931	20,514,597	347,373	46,177	852,236	134,916	..	153,036	969	590,176	14,938	2,582	397,079	5,300,400
1932	18,719,587	33,119	32,643	725,378	150,286	50	175,375	848	673,434	7,809	2,957	372,586	5,908,950
1933	18,160,681	83,241	41,035	1,120,110	145,836	267	201,723	836	653,230	0,770	3,200	454,791	6,064,080
1934	20,243,977	221,363	55,555	943,860	154,955	858	328,678	1,333	834,477	9,355	3,500	443,499	5,792,033
1935	21,014,469	432,847	58,553	1,000,308	150,515	1,255	350,801	2,549	1,179,050	19,039	4,353	461,866	5,925,929
1936	26,583,982	624,833	82,077	1,007,957	151,623	1,376	357,194	3,140	1,401,530	28,142	4,004	468,812	5,062,000

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 1927 to 1936 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.
1927 . . . . .	Tons. 21,108,976	165,218	181	8.57	1.10
1928 . . . . .	21,515,796	164,139	218	10.18	1.33
1929 . . . . .	22,308,174	166,658	194	8.70	1.17
1930 . . . . .	22,683,861	169,001	211	6.30	1.25
1931 . . . . .	20,514,597	158,267	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 . . . . .	26,583,982	162,917	420	20.40	2.58

## 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 screening.	Miscellaneous.	Total.	Haulage.	Pumping.	Portable machinery.	Miscellaneous.	Total.	
Assam . . . . .	...	117	125	7	179	428	180	...	...	...	180	608
Bokaro . . . . .	723	300	210	137	1,123	2,493	330	1,057	...	...	1,387	3,880
Central Provinces . . . . .	...	85	100	...	46	231	131	763	242	5	1,141	1,372
Qiridih . . . . .	165	358	...	270	448	1,271	797	4,183	104	2	5,086	6,357
Jharia . . . . .	3,169	1,135	1,883	1,263	1,552	9,002	7,675	22,101	2,436	1,770	33,982	42,984
Karainara . . . . .	...	75	825	95	314	1,309	...	443	4	...	447	1,756
Punjab . . . . .	...	25	...	...	...	25	...	12	...	...	12	37
Raniganj . . . . .	2,445	1,370	565	842	630	5,852	6,214	13,496	2,496	116	21,322	27,174
Total . . . . .	6,502	3,470	3,733	2,614	4,292	20,611	16,327	41,055	5,282	1,893	63,557	84,168

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.		Silver-Lead.		Sundry Minerals.		
	Number of mines.	Horse power.	Number of mines.	Horse power.	Number of mines.	Horse power.	
Assam . . . . .	2	608	...	...	...	...	608
Bengal . . . . .	46	24,637	...	...	1	58	24,695
Bihar . . . . .	66	37,514	...	...	5	3,468	60,982
Bombay . . . . .	...	...	...	...	1	128	128
Burma . . . . .	...	...	1	4,062	13	2,816	6,906
Central Provinces . . . . .	9	1,372	...	...	5	511	1,883
Madras . . . . .	...	...	...	...	3	426	426
Punjab . . . . .	1	37	...	...	2	1,960	2,017
Total . . . . .	124	84,168	1	4,092	30	9,387	97,647

## 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.	British.	American.	Chain.	Bar.	Percussive.	Power.		Total number of machines.
						A. C.	D. C.	
Goodman . . . . .	—	55	35	...	...	38	17	55
Hardy . . . . .	4	...	...	..	4	4	...	4
Mavor and Coulson . . . . .	44	...	25	19	...	43	1	44
Sullivan . . . . .	—	7	7	...	...	7	...	7
<b>Total</b> . . . . .	<b>48</b>	<b>62</b>	<b>87</b>	<b>19</b>	<b>4</b>	<b>92</b>	<b>18</b>	<b>110</b>
Jharia coalfield . . . . .				38	machines	} Total number of square feet undercut—53,57,369.		
Raniganj coalfield . . . . .				63	..			
Karaupura coalfield . . . . .				2	..			
Central Provinces coalfield . . . . .				7	..			

Table No. 10.

Number of mechanical ventilators in use at Coal Mines in 1936 under the Indian Mines Act.

Assam.	Baluchistan.	Bengal.	Bihar.	Central Provinces.	Orissa.	Punjab.	Total.
9	...	30	56	8	...	1	104

## APPENDIX I—contd.

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.	
			<b>Electric.</b>					
Coag . . . . .	303	...	...	1,190	...	...	...	1,493
Oldham . . . . .	...	...	...	10	...	...	...	10
			<b>Flame type.</b>					
Davies . . . . .	447	...	4,669	3,577	6	...	...	8,669
Hailwood . . . . .	968	...	22	6,715	...	...	...	7,705
Naylor . . . . .	...	...	4	237	...	...	4	245
Patterson . . . . .	...	...	246	1,331	...	...	..	1,577
Premier . . . . .	...	...	24	1,001	...	...	.	1,025
Thomas Williams . . . . .	..	...	8,635	3,668	...	...	...	12,303
Wolfe . . . . .	...	4	...	...	...	...	..	4
<b>Total</b> . . . . .	<b>1,716</b>	<b>4</b>	<b>13,590</b>	<b>17,729</b>	<b>8</b>	<b>...</b>	<b>4</b>	<b>33,051</b>

9,226 were locked by lead rivets and 23,825 by magnetic means.

Table No. 12.

Statement of explosives used during the year 1935 at mines under the Indian Mines Act.

Name of explosives.	Quantity of explosives used, in lb., in :—								Total.
	Coal mines.	Mica mines.	Manganese mines.	Lead ore mines.	Tin and Wolfram ore mines.	Limestone mines.	Stone mines.	Other mines.	
Dynamite . . . . .	11,004	119,735	13,608	...	23,114	1,639	10,597	19,317	198,014
Gelignite . . . . .	34,283	56,965	53,794	124,368	37,752	7,797	15,434	399,112	729,495
Monobel . . . . .	25,588	...	...	...	...	3,950	...	...	29,538
Stonobel . . . . .	65,186	...	...	...	...	...	...	...	65,186
Dynobel . . . . .	350	...	...	...	...	...	...	...	350
Bobbinite . . . . .	3	...	...	...	...	...	...	...	3
Raunkol . . . . .	3,951	...	...	...	...	...	...	...	3,951
Liquid Oxygen . . . . .	50,432	...	...	...	...	...	..	...	50,432
Gunpowder . . . . .	2,181,106	9,135	64,908	..	54	176,730	105,429	342,247	2,879,609
Pieric Powder . . . . .	...	...	...	...	...	...	1,673	...	1,673
<b>Number of detonators used.</b>	<b>461,153</b>	<b>1,422,421</b>	<b>418,608</b>	<b>159,192</b>	<b>387,520</b>	<b>18,816</b>	<b>135,475</b>	<b>769,048</b>	<b>3,802,232</b>

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**APPENDIX II.**  
**Accident in Mines.**

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**APPENDIX II.**  
**ACCIDENTS IN MINES.**

**Table No. 1.**  
**Fatal Accidents during the year 1936.**

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.
<b>EXPLOSIONS AND IGNITIONS OF FIRE-DAMP AND COAL DUST—(213 deaths).</b>						
1	14th July, about 10-30 A. M.	Adjai Second Coal mine, Dishergarh P. O., Bengal.	Messrs. Adjai Collieries, Ltd.	John G. Cunningham, (m.), 43, C. M. E. Messrs. Andrew Yule & Co., Ltd. (2) James H. Lang, (m.), 47, Inspector of Mines. (3) Joyram D. Sethia, (m.), 32, Merchant. (4) Lakshipati Banerjee, (m.), 44, Manager.	Coal	Five persons entered a mine which had been dewatered and encountered an unsuspected accumulation of inflammable gas. The gas was ignited by a naked light and all were severely burnt. Four of them died and one recovered from his injuries. Inspection and enquiry made.
2	18th December, about 11 A. M.	Poidih mine, Sundarohack P. O., Bengal.	Messrs. Bengal Coal Co., Ltd.	Mr. E. Dobbs, 28, Manager. Fakir Bouri 40, Surface signalman at No. 1 Pit. and others as per attached list.	Coal	A violent explosion of fire-damp and coal dust occurred and all the persons in the mine to the number of 208 were killed. One person on the surface was also killed. The cause of the explosion is not known. Inspection and enquiry made.

Underground Labour as per Attendance Book on 18th December 1936 at Poidih Colliery.

Monoranjan Bhattacharjee, (m.),
Ganesh Ch. Mitra, (m.), <i>Overman.</i>
Bankesh Chatterjee, (m.),
Joyshiri Kundu, (m.),
Gopi Tewary, (m.), <i>Mining Sirdars.</i>
Sambhu Bauri, (m.), <i>Overstier.</i>
Pravakar Mondal, (m.), <i>Rail Mistry.</i>
Fakir Halui, (m.),
Banerahi Josbbara, (m.), <i>Rail Coolies,</i>
Panchanan Mondal, (m.), <i>Mech. Fitter.</i>
Kandhu Bauri, (m.), <i>Mech Assst.</i>
Chakoo Karmakar, (m.), <i>Elec. Fitter.</i>

**APPENDIX II—contd.**

**Fatal Accidents during the year 1936—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.
2— <i>contd.</i>				<p align="center"><b>EXPLOSIONS AND IGNITIONS OF FIRE-DAMP AND COAL DUST—(213 deaths)—contd.</b></p> <p align="center"><b>Underground Labour as per Attendance Book on 18th December 1936 at Peidih Colliery—contd.</b></p> <p>Atul Bauri, (m.), <i>East Haulage, Khatari.</i></p> <p>Brojendra Nath Das, (m.), <i>Pit Sircar.</i></p> <p>Bagala Prasad Acherjee, (m.), <i>Tub Checker.</i></p> <p>Gubril Das, (m.), <i>West Haulage, Khatari.</i></p> <p>Jadu Kamar, (m.), <i>Roller Mistry.</i></p> <p>Kashi Bagti, (m.), <i>Line Coolie.</i></p> <p>Sudhir Chandra Sircar, (m.),</p>		

Binoo Singh,  
(m.),  
*Line Riders.*

Tarak Hari,  
(m.),

Sukra Hari,  
(m.),  
*Pit Sweepers.*

Kailoo Ahir,  
(m.),

Shamlal Singh,  
(m.),

Datoo Ahir,  
(m.),  
*Timber Mistries.*

Siboo Singh,  
(m.),

Duarika Ahir,  
(m.),

Ahadali Mia,  
(m.),

Bajaram Ahir,  
(m.),

Ramkhanu Ahir,  
(m.),

Joyrup Ahir,  
(m.),  
*Timber Coolies.*

Nagendra Bauri,  
(m.),

Ranjit Dasad,  
(m.),  
*Tramways.*

**APPENDIX II--contd.**

**Fatal Accidents during the year 1936--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.
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**EXPLOSIONS AND IGNITIONS OF FIRE-DAMP AND COAL DUST--(213 deaths)--contd.**

**Underground Labour as per Attendance Book on 18th December 1936 at Poidih Colliery--contd.**

2--contd.		...		Rajewar Tewari, (m.), Ghura Dasad, (m.), Baldeo Singh, (m.), Nanak Malla, (m.), Kailoo Malla, (m.), Bodri Halwai, (m.), Malinduri, (m.), Ajudha Bauri, (m.), Ch. Amullya Bauri, (m.), Saku Mahata, (m.).		
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Radha Bauri,  
(m.),

Parka Majhi,  
(m.),

Ganori Nanis,  
(m.),

Suku Majhi,  
(m.),

Manesh Bauri,  
(m.),

Sitaram Chamar,  
(m.),  
*Tramcar.*

Rampada Pal,  
(m.),

Nagen Mondal,  
(m.),

Joti Bauri,  
(m.),

Gobardhan Dome,  
(m.),

Ganga Dhar Dome,  
(m.),  
*Dust Cleaning  
Coolies.*

Sobia Bhuya,  
(m.),

Sukru Bhuya,  
(m.),

Tulla Majhi,  
(m.),

Lill Momi Majhin,  
(f.),  
*Coal cutters.*

**APPENDIX II—contd.**

**Fatal Accidents during the year 1936—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.
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**EXPLOSIONS AND IGNITIONS OF FIRE-DAMP AND COAL DUST—(213 deaths)—contd.**

**Underground Labour as per Attendance Book on 18th December 1936 at Poidih Colliery—contd.**

2—contd.		...	...	Siboo Majhi (m.),  Sukoo Majhi, (w.),  Badni Majhin, (f.),  Charkoo Kole, (m.),  Lamboo Kole, (m.),  Sambhu Majhi, (m),  Hopna Majhi, (m.),  Laloo Majhi, (m.),  Debi Majhi, (m.),  Kadan Majhi, (m.),	...	.....
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Fulmoni Majhin,  
(f.).

Robia Majhi,  
(m.).

Sambhu Majhi,  
(m.),  
*Coal-cutters.*

Mangali Majhin,  
(f.),  
*Coal Loader.*

Kadan Majhi,  
(m.),  
*Coal-cutter.*

Sukurmani Majhin,  
(f.),  
*Coal Loader.*

Karoo Majhi,  
(m.),  
*Coal-cutter.*

Pto Majhin,  
(f.),  
*Coal Loader.*

Hari Bauri,  
(m.).

Bodi Kora,  
(m.).

Upendra Kora,  
(m.).

Jogindo Kora,  
(m.).

Dandu Kora,  
(m.).

Suku Kole,  
(m.),  
*Coal-cutters.*



**APPENDIX II—contd.**

**Fatal Accidents during the year 1936—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.
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**EXPLOSIONS AND IGNITIONS OF FIRE-DAMP AND COAL DUST—(213 deaths)—contd.**

**Underground Labour as per Attendance Book on 18th December 1936 at Poidih Colliery—contd.**

3—contd.	...	...	Karoo Kole, (m.), Banjit Kole, (m.), Agnoo Kole, (m.), Ramoo Kole, (m.), Ch. Sukoo Majhi, (m.), B. Sukoo Majhi, (m.), Badi Majhi, (m.), Bhurub Majhi, (m.), Takoor Majhi, (m.), Lakhiram Majhi, (m.),		.....
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Rupal Majhi,  
(m.),

Budhu Majhi,  
(m.),

Akloo Kole,  
(m.),

Budhan Kole,  
(m.),

Kartiok Kole,  
(m.),

Chatoo Kole,  
(m.),

Ganoo Kole,  
(m.),

Gokul Kole,  
(m.),

Jatoo Majhi,  
(m.),

B. Dubla Majhi,  
(m.),

Budhu Majhi,  
(m.),

Matla Majhi,  
(m.),

Begdu Majhi,  
(m.),

Kaloo Majhi,  
(m.),

Hori Mohali,  
(m.),

Bhairab Mahali,  
(m.),  
Coal-cutters.

APPENDIX II—*contd.*

Fatal Accidents during the year 1936—*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.
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EXPLOSIONS AND IGNITIONS OF FIRE-DAMP AND COAL DUST—(213 deaths)—*contd.*

Underground Labour as per Attendance Book on 18th December 1936 at Poidih Colliery—*contd.*

2— <i>contd.</i>			Gobinda Mahali, (m.), Rakhahari Mahali, (m.), Mongal Majhi, (m.), Parbat Majhi, (m.), Barka Majhi, (m.), Joginda Kora, (m.), Golam Kora, (m.), Mahesh Kora, (m.), Hari Bauri, (m.), Rashu Bauri, (m.), Sarkar Majhi, (m.).	
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Ganga Majhi,  
(m.).

Labu Majhi,  
(m.).

Chaku Majhi,  
(m.).

Baburam Majhi,  
(m.).

Lakhiram Majhi,  
(m.).

Rasik Majhi,  
(m.).

Somai Majhi,  
(m.).

Ch. Baburam,  
(m.).

B. Mongia,  
(m.).

Ch. Mongia,  
(m.).

B. Saku Majhi,  
(m.).

Manoo Majhi,  
(m.).

Galoo Majhi,  
(m.).

Soma Majhi,  
(m.).

Somi Majhi,  
(m.).

Paroo Majhi,  
(m.).  
*Coal-cutters.*

**APPENDIX II—contd.**

**Fatal Accidents during the year 1936—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.
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**EXPLOSIONS AND IGNITIONS OF FIRE-DAMP AND COAL DUST—(213 deaths)—contd.**

**Underground Labour as per Attendance Book on 18th December 1936 at Poidih Colliery—concl'd.**

2—contd.

		...		...		.....
				Hapna Majhi, (m.),		
				Suku Majhi, (m.),		
				Sona Majhi, (m.),		
				Matla Majhi, (m.),		
				Munsi Dosad, (m.),		
				Chutto Turi, (m.),		
				Bhutu Turi, (m.),		
				Jageswar Turi, (m.),		
				Baneswar Roy, (m.),		
				Hopna Majhi, (m.),		
				Bouram Majhi, (m.),		

Kahra Majhi,  
(m.),

Candri Majhi,  
(m.),

Lakhoo Majhi,  
(m.),

Munshi Majhi,  
(m.),  
Coal-cutters,  
Sunderchak.

Names under fly sheet and not on attendance book:

Lakhi Mejhan,  
(f.),

Dulali Mejhan,  
(f.),

Badani Mejhan,  
(f.),

Moni Mejhan,  
(f.),

Suki Mejhan,  
(f.),

Rasani Mejhan,  
(f.),

Lakhi Mejhan,  
(f.),

Badani Mejhan,  
(f.),

Soni Mejhan,  
(f.),

Sukurmani Mejhan,  
(f.),

Lilmoni Mejhan,  
(f.),

Jaba Mejhan,  
(f.),  
Coal-loaders.

APPENDIX II—*contd.*

Fatal Accidents during the year 1936—*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.
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EXPLOSIONS AND IGNITIONS OF FIRE-DAMP AND COAL DUST—(213 deaths)—*contd.*

Names under fly sheet and not on attendance book—*contd.*

2—*contd.*

				Jati Baurini, (f.),		.....
				Kama) a Kora, (f.),		
				Khandi Kora, (f.),		
				Mongali Kola, (f.),		
				Suki Kola, (f.),		
				Fulmoni Mejhan, (f.),		
				Sumi Mejhan, (f.),		
				Basani Mejhan, (f.),		
				Maka Mejhan, (f.),		
				Mani Mejhan, (f.),		
				Makhani Mahali, (f.),		
				Mongali Mahall, (.)		

Sukurmoni Mahall.  
(f.).  
Soni Mahali,  
(f.).  
Basani Kora,  
(f.).  
Puti Kora,  
(f.).  
Nisi Kora,  
(f.).  
Pani Kora,  
(f.).  
Rani Mejhan,  
(f.).  
Pani Mejhan,  
(f.).  
Bernia Dosadh,  
(f.).  
Sumati Kole,  
(f.).  
Basani Kole,  
(f.).  
Lilmoni Kole,  
(f.).  
Mukhi Kole,  
(f.).  
Simoli Kole,  
(f.).  
Dukhni Kole,  
(f.).  
Simoti Mejhan,  
(f.).  
Malati Mejhan,  
(f.).  
Muni Mejhan,  
(f.).  
Lilmoni Kole,  
(f.).  
Masoti Kole,  
(f.).  
Coal-leaders.



APPENDIX II- *contd.*

Fatal Accidents during the year 1936—*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.
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EXPLOSIONS AND IGNITIONS OF FIRE-DAMP AND COAL DUST—(213 deaths)—*concl.*

Names under fly sheet and not on attendance book—*concl.*

2—*concl.*

---	Suki Mejhan, (f.), Kandi Mejhan, (f.), Lilmoni Mejhan, (f.), Fulmoni Mejhan, (f.), Karhi Mejhan, (f.), Siburmoni Mejhan, (f.), Rasani Mejhan, (f.), Ch. Lakhi, (f.), B. Lakhi Mejhan, (f.), Badni Mejhan, (f.), Mangli Mejhan, (f.), Chanlamoni Mejhan, (f.), Rasani Mejhan, (f.), Coal-loaders.	
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## FALLS OF ROOF AND SIDES.

### (a) Falls of roof—(67 Deaths)

3	1st January, 4 P.M.	Ghorawari mine, Junnordeo P. O., Central Provinces.	Hirdagarh Colli- eries, Ltd.	Dhondia Ahir, (m.), 23, Coal-cutter.	Coal	While dressing down the roof coal after blasting, a miner was killed by a slab of coal, about 5' in diameter x 1'6" thick, that fell on him from a height of 10 feet. The fall exposed a "slip" in the roof. Inspection and inquiry made.
4	7th January, 3-45 P.M.	Kurharbaroo mine, Giridih P. O., Bihar.	Government of India, Railway Department. (E. I. Railway.)	Dhaneshwar Bhuiya, (m.), 32, Coal-cutter.	Coal	While deceased was working at the coal face a piece of stone 2' x 2' and 3 inches thick fell from a height of 9'6" and he was killed instantly. Inspection and inquiry made.
5	8th January, 10-50 A.M.	Barmondia mine, Sitarampur P. O., Bengal.	New Beerbhoom Coal Co., Ltd.	Piroo Meah, (m.), 40, Coal-cutter.	Coal	While the under-manager was giving instructions to take down some roof near a large goafed area a 'bump' occurred and a large mass of coal fell. Deceased who was standing near received severe injuries from which he died three days later. Inspection and inquiry made.
6	23rd January, about 3 A.M.	Poniati mine, Charanpur P. O., Bengal.	H. K. Nag	Thakur Manjhi, (m.), 37, Coal-cutter.	Coal	A gang of miners was engaged in dressing down a mass of roof coal, about 8' x 5' x 4'6" thick, which was overhanging from the corner of a pillar when it came away unexpectedly from a pronounced cleat. A miner, who was running under the falling coal, was entrapped and killed instantly. The cleat was exposed after the fall. Inspection and inquiry made.
7	23rd January, 6-30 P.M.	Gasitand mine, Sijua P. O., Bihar.	New Manbhoom Coal Co., Ltd.	Bhaju Bai, (m.), 30; Pannu Modak, (m.), 38, Leaders.	Coal	Two miners were engaged in loading coal in a depillaring district when a 'bump' occurred in the goaf and about 6 tons of coal fell from a height of 14 feet killing them instantly. Inspection and inquiry made.
8	31st January, 5-30 A.M.	Pootkee Mine, Kusnuda P. O., Bihar.	The Eastern Coal Co., Ltd.	Goloni Majhan, (f.), 22, Coal-carrier.	Coal	While filling her basket with coal at a junction of galleries, deceased was struck by a mass of coal, 5' x 3' x 3' which fell from a concealed slip in the roof a height of 7 feet. She was killed instantly. Inspection and inquiry made.
9	31st January, 11-30 P.M.	New Tetturiya mine, Katrasgarh P. O., Bihar.	New Tetturiya Coal Co., Ltd.	Bhola Muchi, (m.), 32, Coal-carrier.	Coal	While loading coal in a gallery, deceased was killed by a fall of roof, 6' x 1'6" x 1'6", which fell from a height of about 6 feet. Inspection and inquiry made.

APPENDIX II—contd.

Fatal Accidents during the year 1936—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.
<b>FALLS OF ROOF AND SIDES—contd.</b>						
<b>(a) Falls of roof—contd.</b>						
10	12th February, 3-30 A.M.	Burra Dhemio mine, Sitarampur P. O., Bengal.	Burra Dhemio Coal Co., Ltd.	Sailu Mia, (m.), 40, Dukhi Mia, (m.), 45, Coal-cutters. Bagdu Mia, (m.), 32, Loader.	Coal	While a gang of miners, who were employed to cut roof coal in a goafing area, were reducing a 'stock' it collapsed killing three persons. Inspection and inquiry made.
11	12th February, 3 p.m.	Gashtand mine, Sijua P. O., Bihar	New Manbhoom Coal Co., Ltd.	Jhama Meah, (m.), 40, Loader.	Coal	While a miner was drilling a shot hole into the roof coal of a gallery, 16 feet high, a piece of coal weighing about 4 lbs. fell and struck a loader who was loading coal. He received serious injuries which proved fatal seven and half weeks later. Inspection and inquiry made.
12	12th February, 3 P. M.	Pretoria Mine, Charaampur P. O., Bengal.	Seebpore Coal Co., Ltd.	(1) Nando Manjhi, (m.), 32, Loader. (2) Gaya Malick, (m.), 30, Coal-cutters.	Coal	While a miner was dressing the roof after shot-firing a mass of roof coal 10' x 6' x 1' thick fell injuring two persons, so severely that they afterwards died. Inspection and inquiry made.
13	16th February, 3 a. m.	Damoderpore mine, Nandi P. O., Bengal.	Bengal Coal Co., Ltd.	Bales Kole, (m.), 37, Coal-cutter.	Coal	While a number of persons were working in a goafing area a slab of roof stone 12' x 5' x 3' thick fell from a height of 9 feet killing deceased. Inspection and inquiry made.
14	22nd February, about 4 P. M.	Kurhnbaree mine, Giridih P. O., Bihar.	Government of India, Railway Department (E. I. Railway).	Basu Koiri, (m.), 35, Coal-cutter.	Coal	Deceased passed through a fence to rob a pillar and was killed by a piece of stone which fell from a height of 9 feet. Inspection and inquiry made.
15	6th March, 12-50 P. M.	Amlabad mine, Jehalgora P. O., Bihar.	Eastern Coal Co., Ltd.	Bahaman Meah, (m.), 28, Coal-cutter.	Coal	A miner who was appointed to cut roof coal in a depillaring area was killed instantly by a mass of roof coal, 10' x 9' x 1' 8", which fell from a height of 6 feet. He was illegally removing a prop which helped to support the roof coal which fell. Inspection and inquiry made.

16	9th March, 4 P. M.	New Khas Kalikapur mine, Mejia, P. O., Bengal.	Messrs. Harihar Benerjee & others.	Saile Baurin, (f.), 34, Loader.	Coal	While working in a gallery 5' 6" high a female loader was seriously injured by a mass of roof, stone 8' x 1'6" x 6" thick which fell from a height of 5 feet. She died two days later. Inspection and inquiry made.
17	12th March, 4-30 A. M.	Jamuria (Nos. 10 & 11 pits) mine, Charanpur P. O., Bengal.	Equitable Coal Co., Ltd.	Akbar Meah, (m.), 32, Coal-cutter.	Coal	While a miner was engaged in loding coal in a depillaring area a fall of roof took place and a miner was fatally injured. Inspection and inquiry made.
18	13th March, 10-45 A. M.	Godhur mine, Kununda P. O., Bihar.	Kanga & Co.	Whedni Bhuiyan, (f.), 30, Coal-carrier.	Coal	Deceased was sitting down in a gallery, 20 feet high, when a mass of roof stone, 5' x 2' x 6" thick, fell on her leg and almost severed it. She died nine hours later as a result of her injuries. Inspection and inquiry made.
19	17th March, 10-30 A. M.	South Kujama mine, Jbaria P. O., Bihar.	Bagdigi Kujama Colliery Co.	Kanal Bhuiya, (m.), 38, Coal-cutter.	Coal	While deceased was engaged in cutting coal at a small pillar about 5' x 6', the pillar collapsed and a mass of roof coal, 12' x 12' x 8', fell from a "slip" at a height of 6 feet, crushing the pillar. Deceased sustained serious injuries and died a few minutes later. Inspection and inquiry made.
20	19th March, 11-30 P. M.	Sodepur (Nos. 9 and 10 Pits) mine, Sitarampur P. O., Bengal.	Bengal Coal Co., Ltd.	Siboo Kole, (m.), 31, Loader.	Coal	While filling coal at the edge of a goaf a loader was killed by a large mass of coal and stones which fell from a height of 12 feet. Two others were slightly injured. Inspection and inquiry made.
21	25th March, 8 P. M.	Chanoh mine, Barakar P. O., Bihar.	Bengal Coal Co., Ltd.	Adhar Manjhi, (m.), 35, Coal-cutter.	Coal	While a miner was resting in a depillaring area he was fatally injured by a mass of stoney coal, 4' x 2' x 9" thick, which fell from a height of 9 feet. Inspection and inquiry made.
22	1st April, 1 P. M.	Ledo Vally mine, Ledo P. O., Assam.	Assam Railways and Trading Co., Ltd.	Sheahoo Makrani, (m.), 42, Coal-puller.	Coal	After a shot had been fired and the roof tested in an 'opening' workers were engaged filling out the coal when there was a sudden 'bump' causing a mass of coal—8' x 6' x 3'—to fall suddenly from a height of 6 feet. Deceased and another person were buried and seriously injured. Deceased died from his injuries twelve hours later. Inspection and inquiry made.
23	3rd April.	Sinbinchaung mine, Tavoy P. O., Burma.	U. Ni Toe	Ah Wain, (m.), 27, Trilateral.	Wolfram	While a tributor was at work in an adit he was buried by a mass of earth, 12' x 10' x 3', which fell from the roof—a height of 6 feet. He was killed instantly. Inspection and inquiry made.
24	16th April, 9-30 A. M.	East Rawanwaza mine, Parasia P. O., Central Provinces.	Seth Hazarimal Bazam.	Kapsi Gondni, (f.), 17, Tub-filler.	Coal	While bringing out coal from the face of a level gallery, deceased was fatally injured by a mass of shale, 10' x 3' x 6" thick, that fell on her left leg from a height of 7 feet. She died 34 hours later. Inspection and inquiry made.

APPENDIX II—*contd.*

Fatal Accidents during the year 1936—*contd.*

Sectal 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.
<b>FALLS OF ROOF AND SIDES—<i>contd.</i></b>						
<b>(a) Falls of roof—<i>contd.</i></b>						
25	25th April, 3 P.M.	Dishergarh West mine, Dishergarh P.O., Bengal.	Equitable Coal Co., Ltd.	Kataroo Chamar, (m.), 26 <i>Timberman.</i>	Coal	In a gallery 6 feet high, a timberman was withdrawing a prop by cutting it in the middle when a mass of shale, about 9' x 5' x 3" thick, came away from the roof immediately above and pinned him to the floor. He succumbed to the injuries three hours later. Inspection and inquiry made.
26	6th May, 10-40 A.M.	Namdang Top mine, Margherita P.O., Assam.	Assam Railways and Trading Co., Ltd.	Akbar Sayed Pathan, (m.), 34, <i>Coal-puller.</i>	Coal	While a number of persons were working in an opening—20' x 20' x 16'—a 'bump' occurred causing a mass of coal—12' x 6' x 4'—to fall from a height of 8 feet, burying three persons. Deceased died before he could be recovered. Inspection and inquiry made.
27	3rd June, 6-50 P. M.	Bhamori mine, Parasi P. O., Central Provinces.	Amalgamated Coal- fields Ltd.	Baldeo Ahir (m.), 45, <i>Coal-cutter.</i>	Coal.	While sitting near his working place, a miner was fatally injured by a mass of overhanging roof coal, about 4' x 1' x 1', that fell on his shoulder from a height of 5 feet. Inspection and inquiry made.
28	9th June, 1-50 P. M.	Kirkend mine, Kusunda P. O., Bihar.	K. D. Worah.	Duti Sing, (m.), 30, <i>Labourer.</i>	Coal.	Deceased and a companion were working under a stone band, 15' thick, when the latter collapsed over an area, 12' x 8'. He was killed instantly and his companion sustained serious injuries. Inspection and inquiry made.
29	24th June, 2-30 P. M.	Kurhurbareo mine, Giridih P. O., Bihar.	Government of India, State Railways Coal Department.	Huru Singh (m.), 30, <i>Coal-cutter.</i>	Coal.	While deceased was loading coal in a depillaring area a "bump" occurred and a mass of roof coal, 25' x 6' x 2', fell from a height of 15 ft. He sustained injuries which proved fatal. Inspection and inquiry made.
30	17th July, 2-15 P. M.	Ekra Khas mine, Banajora P. O., Bihar.	Maharaja S. C. Nandy.	Dasarat Binjhar, (m.), 35, <i>Loader.</i>	Coal.	Deceased was assisting to place a ladder in a gallery, 25 feet high, in order to dress down roof coal after blasting when a piece of stone, 2' x 1' x 3", fell upon him from the roof. He received serious injuries which proved fatal five hours later. Inspection and inquiry made.

31	19th July, 4 A. M.	Bermondia mine, Sitarampur P. O., Bengal.	New Beerbhoom Coal Co., Ltd.	Chanda Manjhi, (m.), 45. Coal-cutter.	Coal.	While deceased was loading a basket a miner sounded the roof 5 feet away. This caused a piece of coal, 5' x 3' x 2 1/2", to fall from the roof 11 feet above. The piece struck deceased on his head injuring him fatally. Inspection and inquiry made.
32	27th July, 4 P. M.	Ramnagar mine, Kulti P. O., Bengal.	Bengal Iron Co., Ltd.	Makhoni Mejhian, (f.), 22. Coal-carrier.	Coal.	While a gang of workers was loading coal on a tram-line a triangular piece of shale about 6' x 4' x 6" thick, suddenly fell from the roof at a height of 11 feet. It struck the edge of a tub and then rested against it, entrapping deceased within the space. She was severely injured and died half an hour later. Inspection and inquiry made.
33	14th August, 1 A. M.	Gopalichuck West mine, Kusunda P. O., Bihar.	Gopalichuck Coal Co., Ltd.	Dular Barhi, (m.), 40, Proprietary mistry.	Coal.	Deceased was withdrawing a prop in a depillaring area, when a mass of roof coal, 2' x 2 1/2', x 1 1/2" fell on him from a height of 9 feet. He sustained serious injuries to which he succumbed two hours later. Inspection and inquiry made.
34	21st August, 10-45 P. M.	Beidih mine, Sundarchak P. O., Bengal.	Equitable Coal Co., Ltd.	Jagat Manjhi, (m.), 39, Coal-cutter.	Coal.	As two miners and a loader, who had just finished their shift were passing the junction of four galleries, a mass of stone 24' x 18' x 2' fell from the roof, a height of 14 feet. One of the miners was struck by the falling stone and killed instantly. Inspection and inquiry made.
35	23rd August, 7-30 A. M.	Sodepur (Nos. 9 and 10 pits) mine, Sunderchak P. O., Bengal.	Bengal Coal Co., Ltd.	Khedan Barhi, (m.), 40, Timberman.	Coal	In the course of withdrawal of props from a depillared area, a prop 14 feet long was knocked out by a piece of stone that suddenly came away from the roof. It struck a timberman on the head, killing him instantly. Inspection and inquiry made.
36	27th August, 4-30 A. M.	Saltore mine, Dishergarh P. O., Bihar.	Burrakur Coal Co., Ltd.	Sukhu Manjhi, (m.), 25, Coal-cutter.	Coal	In a depillaring area a miner was cutting a mass of overhanging coal, 12' x 3' x 3', from the side of a pillar when the coal suddenly fell from a height of 8 1/2 feet. He was severely injured and died shortly afterwards. Inspection and inquiry made.
37	3rd September, 2-45 P. M.	Sunkerpore, Ukhra P. O., Bengal.	Messrs. Burn & Co., Ltd.	Kalachand Dome, (m.), 42, Loader.	Coal	While a loader was loading coal which had been blasted down, he was struck by a piece of coal, weighing about 5 seers, which fell from the roof, a height of 13 feet. He was fatally injured. Inspection and inquiry made.
38	9th September, 2-30 A. M.	Ghorawari mine, Ghorawari P. O., Central Provinces.	Hirdacarb Collier- ies, Limited.	Gutta Kole, (m.), 20, Labourer.	Coal	Instead of withdrawing a partly buried fallen prop from the edge of a coal with a Sylvester, a timberman and his assistants out of the exposed portion. While removing it, they bumped and dislodged a standing prop, releasing pieces of coal and shale from the roof at a height of 11 feet. A piece about 3 1/2' x 2' x 6" thick fell on deceased, causing fatal injuries. Inspection and inquiry made.

APPENDIX II—contd.

Fatal Accidents during the year 1936—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.
<b>FALLS OF ROOF AND SIDES—contd.</b>						
<b>(a) Falls of Roof—contd.</b>						
29	9th September, 8-30 P.M.	Sodepur (9 and 10 pits) mine, Sitarampur P. O., Bengal.	Bengal Coal Co., Ltd.	Biswanath Dasadh, (m.), 32, Coal-cutter.	Coal	While three miners were loading fallen coal out of a goaf which was not an authorised working place, a large slab of stone slipped from the top of the goaf. One of the miners was killed instantly and the other two were seriously injured. Inspection and inquiry made.
40	10th September, 5-15 A.M.	Gopaliobuck East mine, Jharia P. O., Bihar.	Gopaliobuck Coal Co., Ltd.	Baharon Kaot, (m.), 36, Coal-cutter.	Coal	A minor was sitting in a gallery at the edge of a depillar-ing area when a mass of coal fell from the side and also from the roof. He received serious injuries from which he afterward died. Inspection and inquiry made.
41	13th September, 2-30 A.M.	Jarongdih mine, Bokaro P. O., Bihar.	B. B. & C. I. and M. & S. M. Rail-ways.	Baudhen Belder, (m.), 35, Coal-cutter.	Coal	While dressing roof coal in a gallery 6' high, deceased pulled down a mass of coal weighing about 10 cwt. from between two slips and was crushed under it. He was killed instantly. Inspection and inquiry made.
42	18th September, 10-15 A.M.	Radhamadhapur mine, Kalipahari P. O., Bengal.	Ghnsick and Musila Collieries Ltd.	Mangal Majih, (m.), 35, Coal-cutter.	Coal	While deceased was cutting roof coal in a gallery a wedge shaped mass of coal, 8' x 3' x 2½' fell from between two converging 'slips' in the roof at a height of 5 feet. He sustained serious injuries to which he succumbed four hours later. Inspection and inquiry made.
43	21st September, 3 P.M.	Selaiya mine, Domchanch P. O., Bihar.	Indian Mica Supply Co., Ltd.	Banwari Ray, (m.), 26, Labourer.	Mica	While setting supports in a drive a labourer was burried by a mass of debris which slid down from a stoped area. Ins-pection and inquiry made.
44	28th September, 8-45 P.M.	New Tetturya, P. O. Katraagarh, Bihar.	New Tetturya Coal Co., Ltd.	Hari Ram Rajwar, (m.), 32, Coal-loader.	Coal	Deceased was loading a basket from under some roof coal which was being taken down, when a portion of it mea-suring 10' x 3' x 2' fell on him and he was killed instantly. Inspection and inquiry made.
45	30th September, 7-15 A.M.	Mosaboni, Ghatsila P. O., Bihar.	The Indian Copper Corporation Ltd.	Ram Manjhi, (m.), 23, Timberman.	Copper	A timber "mistry" was engaged in levering down a piece of loose stone from the hanging wall of a stope when a mass of stone, 21' x 10' x 1'-3", fell unexpectedly. Deceas-ed who was assisting him was struck by the edge of the fall and fatally injured. Inspection and inquiry made.

46	30th September, 4 A.M.	West Bhuggatdih Mine, P. O. Jharis, Bihar.	Kalwanji Mavji & Co.	Debukar Kora, (m.), 22, Miner.	Coal	A miner was working at the face of a gallery when a mass of coal, 5' x 4' x 3', fell from a concealed "slip" from a height of about 10 feet and he was killed almost instantly. Inspection and inquiry made.
47	1st October, 1:30 A.M.	Loyabad Mine, Bansjora P. O., Bihar.	Burrakur Coal Co., Ltd.	Bhudu Gope, (m.), 26, Labourer.	Coal	Deceased was killed by a piece of stone which fell on him from a height of 3 feet. Inspection and inquiry made.
48	2nd October, 4:30 P.M.	North Mosila Colliery, P. O., Kalipahari, Bengal.	North Mosila Colliery Company.	Matla Manjhi, (m.), 40, Assistant to Timbermen.	Coal	In the course of erection of roof supports, a mass of roof shale, about 7' x 5' x 1' thick, came away from a height of 7 feet. The workers managed to get clear but deceased changed his mind and attempted to recross the road under the same roof. A piece of shale, 3' x 1½' x 6" thick, fell on his head, killing him instantly. Inspection and inquiry made.
49	7th October, 1:30 P.M.	Kustore Mine, P. O. Kusanda, Bihar.	Bansjore Coal Association, Ltd.	Purudas Painka, (m.), 30, Loader.	Coal	Deceased was loading coal in a gallery 12 ft. high when a mass of roof coal, 18' x 9' x 3' fell without warning and he sustained injuries which proved fatal. Inspection and inquiry made.
50	7th October, 1:45 P. M.	Banksimula mine, P. O. Charanpur, Bengal.	The Bengal Coal Co., Ltd.	Fulchand Singh, (m.), 40, Propping Cooly.	Coal	While a propping mistry and two propping coolies were removing rails supporting the roof of a gallery which was to be abandoned, a mass of coal 5' x 4' x 1'6" fell from the roof—a height of 6½ feet—and fatally injured one of the propping coolies. Inspection and inquiry made.
51	9th October, 1:30 P.M.	Dhemo Main Mine, Sitarampur P. O., Bengal.	Dhemo Main Collieries, Ltd.	Rashu Bauri, (m.), 28, Trammer.	Coal	While a Sirdar and a Trammer were talking to each other in a level adjacent to a place where depillaring operations were in progress a sudden "weighting" in the goaf occurred, causing a mass of coal—10' x 4' x 1'6" to fall from the roof—a height of 10 feet. The trammer was struck by the falling coal and fatally injured. Inspection and inquiry made.
52	17th October, 10 P.M.	Jumuria Mine, Charanpur P. O., Bengal.	Equitable Coal Co., Ltd.	Soniram Kora, (m.), 36, Leader.	Coal	In a depillaring section, while deceased and his companion were carrying coal which had been blasted down from the roof, a mass of shale roof, about 8' sq. x 6" thick, came away from a height of 13 feet. Both attempted to run away but deceased was killed by a prop which was knocked out by the falling stone; and his companion was partially covered by the fall and sustained serious injuries. Inspection and inquiry made.



APPENDIX II—*contd.*

Fatal Accidents during the year 1936—*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.
<b>FALLS OF ROOF AND SIDES—<i>contd.</i></b>						
<b>(a) Falls of roof—<i>contd.</i></b>						
53	20th October, 6 A.M.	Damna Mine, Bamhanwara P. O., Central Provinces.	Kanhan Valley Coal Co., Ltd.	Babi Bohidas, (m.), 28. Coal-cutter.	Coal	The roof of a gallery became weak as a result of blasting and the sirdar ordered the miners to stop work, pending erection of roof support. In the absence of the sirdar, they returned to the gallery to fetch their picks and shovels when a mass of roof coal about 12' x 6' x 1'6" thick, came away from a slip in the roof at a height of 7 feet, killing one of them instantly. Inspection and inquiry made.
54	21st October, 10-30 P.M.	Kurhurbaree Mine, Giridih P. O., Bihar.	Government of India, State Rail- ways Department.	Malik Meah, (m.), 34. Coal-cutter.	Coal	Deceased was passing into his working place when a piece of stone, 4'9" x 2'6" x 6", which was being dressed down, fell on his back and he sustained injuries which proved fatal. Inspection and inquiry made.
55	27th October, 5 A.M.	Lodna Nos. 4 & 5 Pits mine, Jharua P. O., Bihar.	Lodna Colliery Co. (1920), Ltd.	Dey Baran Bari, (m.), 40. Coal-cutter.	Coal	Deceased was standing on a ladder dressing down roof coal, when a mass of coal fell and broke the ladder. He fell down from a height of 16 feet and fractured his fore-arm. He died in hospital from septic pneumonia 19 days later. Inspection and inquiry made.
56	28th October, 6 A.M.	Jotejanaki Mine, Charanpur P. O., Bengal.	Bauerjee Santan	Kumi Banrin, (f), 40. Loader.	Coal	While deceased was filling her basket with slack coal from a fenced off gallery a piece of shale about 2' x 2' x 2" thick, came away from the roof at a height of 11 feet, rebounded on the floor and struck her hip, causing internal injuries. She succumbed to her injuries three days later. Inspection and inquiry made.
57	4th November, 11-45 A.M.	Jamuria Mine, Charanpur P. O., Bengal.	Equitable Co., Ltd.	Coal Gopi Kole, (m.), 30. Coal-cutter.	Coal	While a miner was dressing down a piece of stone band which was projecting from the face of a gallery, a portion—11" x 6" x 4"—fell from a height of 6 feet and struck his left leg causing serious injuries. He died from septicaemia two months later. Inspection and inquiry made.
58	9th November, 10-30 A.M.	Jamuria Mine, Charanpur P. O., Bengal.	Equitable Co., Ltd.	Coal Chitamon Singh, (m.) 30. Assistant to a timberman.	Coal	Deceased assisted a timberman in resetting a prop along the edge of a hanging goaf and was about to retreat when his left leg was caught and fractured by a piece of shale, about 4' sq. x 9" thick, that fell from the roof at a height of 12 feet. He died 18 hours later. Inspection and inquiry made.

59	10th November, 12-30 P. M.	Kustore Mine, P. O. Kusunda, Bihar.	Raneegunge Coal Association Ltd.	Dukhala Rajwarin, (f.), 45. <i>Coal-carrier.</i>	Coal	While deceased was loading coal in a depillaring area a piece of coal, about 10 inches cube, fell on her foot from a height of 12 feet. She died of exhaustion caused by her injuries 13 days after the accident. Inspection and inquiry made.
60	11th November, 1 A.M.	Standard Mine, P. O. Jharis, Bihar.	The Standard Coal Co., Limited.	Badri Muchi, (m.), 45. <i>Loader.</i>	Coal	While walking into a working place in a depillaring area, a loader was struck and fatally injured by a piece of roof coal, 1' x 1' x 6", which fell from a height of 24 ft. Inspection and inquiry made.
61	23rd November, 2-45 P.M.	Mudidih Mine, P. O. Sijua, Bihar.	Messrs. Burrakur Coal Co., Ltd.	Resul Mian, (m.), 32. <i>Coal-cutter.</i>	Coal	While deceased was dressing down roof coal in a depillaring area stones from the adjoining g-wf rolled down and dislodged some props which were supporting the roof coal. He was knocked down by the falling props and immediately afterwards the roof coal about 20' x 7' x 6', collapsed on him from a height of 7 feet and killed him instantly. Inspection and inquiry made.
62	29th November, 2-30 A.M.	Ashakuty Mine, Katragarh P. O., Bihar.	Chaudannull Indra- kumar.	Bandhia Bhuian, (f.), 35. <i>Loader.</i>	Coal	While loading coal along with her husband deceased was struck and killed instantly by a slab of shale 4' x 4' x 5", which fell from the roof from a height of 12 feet. Her husband sustained slight injury. Inspection and inquiry made.
63	4th December, 5-30 P.M.	Damna Mine, Bamhanwará P. O., Central Provinces.	Kanhan Valley Coal Co., Ltd.	Mohan Singh, (m.), 30. <i>Timberman.</i>	Coal	In a depillaring section two timbermen were setting props when a portion of shale roof fell along the goal-edge, knocking out one of the props. It struck deceased on the head so severely that he succumbed to his injuries 16 hours later. Inspection and inquiry made.
64	19th December, 11-20 P.M.	Hindusthan Lalpeth Mine, Chanda P. O., Central Provinces.	Birla Brothers, Ltd.	Gattaiya Manna- powar, (m.), 17. <i>Loader.</i>	Coal	While deceased was carrying coal, a piece of roof coal, about 4' x 3' x 5" thick, fell on his head from a height of 11 feet. He was killed instantly. Inspection and inquiry made.
65	22nd December, 12-30 P.M.	Kurburhara Mine, Gididih P. O., Bihar.	Government of India (Railway Department).	Horil Koiri, (m.), 45. <i>Timber Mistry.</i>	Coal	Deceased entered a part of a working place which had been fenced off and was killed by a fall of stone.
(b) Falls of Sides—(74 deaths).						
66	8th January, 8 P.M.	Singaran Mine, Topsi P. O., Bengal.	Singaran Coal Syn- dicate, Ltd.	Koku Bauri, (m.), 27. <i>Coal-cutter.</i>	Coal	A miner was killed by a mass of coal 12' x 8' x 1' 3" which fell from the side of a pillar which he was robbing. Inspection and inquiry made.

APPENDIX II—*contd.*

Fatal Accidents during the year 1936—*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.
<b>FALLS OF ROOF AND SIDES—<i>contd.</i></b>						
<b>Falls of sides—<i>contd.</i></b>						
67	15th January, 2-30 P.M.	Bongamunda Mine, Chaibassa P.O., Bihar.	S. K. Vanjo.	Chapa Ho, (m.), 30. Miner.	Chromite	Deceased was undercutting the side of an open-cast excavation when a boulder above it, measuring about 5' x 4' x 3', slipped down the side from a height of 3 feet and crushed him. He was killed instantly. Inspection and inquiry made.
68	23rd January, 2 A.M.	Kustore Mine, Kusunda P.O., Bihar.	Raneegunge Coal Association, Ltd.	Somar Mahato, (m.), 25. Labourer.	Coal	A prop was being set in a depillaring area, when a mass of coal fell from the side of a pillar and displaced the prop which struck deceased. He was killed instantly, and another person was seriously injured. Inspection and inquiry made.
69	3rd February, 12 noon.	Hindubagh Mine, Hindubagh P.O., Baluchistan.	F. B. Patel.	Mustafa, (m.), 50. Labourer.	Chromite	Deceased was struck by a stone which fell from an open quarry and was killed.
70	11th February, 6 P.M.	Gua mine, Gua P.O., Bihar.	Indian Iron & Steel Co., Ltd.	Baley Munda, (m.), 33. Miner.	Iron ore	While quarrying ore on the slope of a hill deceased was crushed under a mass of ore that was dislodged by him. He was killed instantly. Inspection and inquiry made.
71	13th February, 4-30 P.M.	Polipathar Mine, Jubbulpore P.O., Central Provinces.	Perfect Pottery Co., Ltd.	Bindha Chamar, (m.), 40. Miner.	Fire clay	Two miners left their working place and went to bring out freeclay from the fenced off part of a quarry. A mass of freeclay, about 2½ cubs in size, came away from a height of 10 feet, injuring both of them. Bindha succumbed to his injuries three days later. Inspection and inquiry made.
72	14th February, 10-30 P.M.	Methani Mine, Sitarampur P.O., Bengal.	Aldih Coal Co., Ltd.	Janak Ram Gor, (m.), 35. Coal-cutter.	Coal	Deceased went inside a fenced goaf to load fallen coal when a mass of coal 5' x 3' x 1' fell from the side and struck him. He received injuries which proved fatal three days later. Inspection and inquiry made.
73	21st February, 1-0 A.M.	Gaslitand Mine, Sijua P.O., Bihar.	New Manbhoom Coal Co., Ltd.	Mukial Turi, (m.), 23. Coal-cutter.	Coal	While two miners were robbing coal from the side of a loading level a mass of overhanging coal, 25' x 5' x 2'6", fell from the side. One miner was killed instantly and a female coal loader was seriously injured. Inspection and inquiry made.

74	25th February, 11-0 P.M.	Khas Jinagora mine, Jharia P.O., Bihar.	G. P. C. & Company	Nadan Moonda, (m.), 45, Coal-cutter.	Coal	A miner was standing on a ladder drilling a hole near the top of a pillar 28 feet high, when a mass of coal 20' x 22' x 2', fell from the side, and broke the ladder. He fell to the floor and was killed instantly by the falling coal. Inspection and inquiry made.
75	3rd March, 4 P. M.	Mohulan mine, Fakur P. O., Bihar.	Kumar G. C. Pandey.	Jethu Manjhi, (m.), 22, Labourer.	Stone	While deceased was levering down a boulder, 8' in length and 2' 6" in diameter, from the side of an excavation, the boulder fell off the side on to him and killed him instantly. Had he attempted to dislodge the boulder from the top of the excavation the accident would not have occurred. Inspection and enquiry made.
76	10th March, 5 P. M.	Bhalgora mine, Jharia P. O., Bihar.	Bhalgora Coal Co., Ltd.	Sokhi Rawat, (m.), 36, Coal-cutter.	Coal	Deceased was sitting in a gallery, when a piece of side coal, 3' x 1'6" x 6", fell on him from a "slip" at a height of 10 feet. He sustained serious injuries to which he succumbed eight hours later. Inspection and inquiry made
77	22nd March, 3 P. M.	Hindubagh mine, Hindubagh P. O., Baluchistan.	Baluchistan Chrome Co., Ltd.	Sultan Mohd., (m.), 30, Labourer.	Chromite	Deceased received severe injuries from a fall of stone in a quarry and afterwards died.
78	28th March, 10 A. M.	Charanpur mine, Charanpur P. O., Bengal.	Apoar Collieries, Ld.	Robi Manjhi, (m.), 42, Coal-cutter.	Coal	While working in a 'split' gallery next a goaf, a miner was fatally injured when a mass of overhanging roof coal 6' x 5' x 8' 6" fell from a height of 12 feet. Inspection and inquiry made.
79	8th April, 8 A. M.	Mawton mine, Mergui P. O., Burma.	Gul Mohamed	(1) Kasu, (m.), 26, (2) Beern, (m.), 28, Labourers.	Tin	Two persons were buried under a landslide and were suffocated.
80	16th April, 11 A. M.	Jamadoba mine, Jaisalgora P. O., Bihar.	Tata Iron & Steel Co., Ltd.	Nageswar Koiri, (m.), 26, Labourer.	Coal	While two persons were coiling a trailing cable in an underground haulage road, 8 feet high, a fall of side occurred. One of them received injuries which proved fatal six hours later. Inspection and inquiry made.
81	20th April, 1 P. M.	Balaghat mine, Bharweli P. O., Central Provinces.	Central Provinces Manganese & Ore Co., Ltd.	Noneylal, (m.), 41, Labourer.	Manganese	While deceased was engaged in removing broken ore from a stone, he was fatally injured by a slab of ore, about 2' x 5' x 6" thick, which fell on his head from a height of 8 feet. Inspection and inquiry made.
82	22nd April, 9 A. M.	Zawe mine, Mergui P. O., Burma.	Saw Lein Lee	Mg Sein Aung, (m.), 67.	Tin and wolfram	Deceased was buried under a fall of side and was suffocated.

APPENDIX II—*contd.*

Fatal Accidents during the year 1936—*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.
<b>FALLS OF ROOF AND SIDES—<i>contd.</i></b>						
<b>(b) Falls of Sides—<i>contd.</i></b>						
83	6th May, 4 A. M.	Sripur No. 1 mine, Kalipahari P. O., Bengal	Lodna Colliery Co. (1920), Ltd.	Tulai Mahato, (m.), 45, <i>Propping Mistri.</i>	Coal	While removing props from a goafed area a propping mistri was seriously injured by a mass of coal which fell from the side of the pillar. He died from his injuries next day. Inspection and inquiry made.
84	6th May, 9 P. M.	Lodna mine, Jharia P. O., Bihar.	Lodna Colliery Co. (1920), Ltd.	Mohamad Khan, (m.), 51, <i>Labourer.</i>	Coal	While assisting to erect a support at the corner of a pillar, 27 feet high, deceased was crushed under a mass of coal, measuring about 14' x 6' x 2', which fell from the corner. He was killed instantly. Inspection and inquiry made.
85	7th May, about 10-30 P.M.	Kustore mine, Kusmuda P. O., Bihar.	Raneegunge Coal Association, Ltd.	Gunpat Kurmi, (m.), 45, <i>Coal-loader.</i>	Coal	Deceased was loading coal in a depillaring district when a piece of coal, 2' x 1' x 4', fell from a height of 8 feet, and inflicted injuries which proved fatal. Inspection and inquiry made.
86	15th May, 4-30 P.M.	Amlabad mine, Jalgora P. O., Bihar.	Eastern Coal Co., Ltd.	Farbar Boy, (m.), 48, <i>Coal-cutter.</i>	Coal	Deceased left his working place and was cutting coal from the side of a pillar when a mass of coal and stone fell from the side and killed him instantly. Inspection and inquiry made.
87	31st May, 8-30 A.M.	Malpahari mine, Fakur P. O., Bihar.	Chatterjee, Shaw & Co.	Alam Sheikh, (m.), 35, <i>Labourer.</i>	Stone	While barring down the loose soil from the edge of a quarry deceased fell down to the bottom—a distance of about 8 feet. In falling down, he dislodged the ground on which he was standing and was partly buried beneath the debris. He sustained internal injuries and succumbed to the same on the day following. Inspection and inquiry made.
88	4th June, 11 A.M.	Damus, P.O. Bamhanwara, Central Provinces.	Kanhan Valley Coal Co., Ltd.	Saddu Mohasi, (m.), 25, <i>Coal-filler.</i>	Coal	In a depillaring section a loader was passing along the corner of a pillar when a piece of coal, about 2' x 1½' x 1', suddenly burst off it from a height of 5 feet and struck him on the back. He sustained a fracture of the spine and died two hours later. Inspection and inquiry made.

89	12th June, 5-45 A.M.	Jogta Mine, Sijua P. O., Bihar.	Messrs. Agabeg Brothers Ltd.	Chhottoo Chamar, (m.), 30, <i>Coal-cutter.</i>	Coal	While a miner was at work in a depillaring area, a mass of coal, measuring about 7' x 7' x 14', fell upon him from the side of a pillar under extraction at a height of 7'. He was killed instantly. Inspection and inquiry made.
90	24th June, 7-45 A.M.	Poidi mine, Sunderchak P. O., Bengal.	Bengal Coal Co., Ltd.	Bepon Manjhi, (m.), 36, <i>Coal-cutter.</i>	Coal	While cutting floor coal, a miner was killed by a mass of overhanging side coal, about 4' - 3' 6" x 2' thick, which suddenly fell on him from a height of 14 feet. Inspection and inquiry made.
91	25th June, 10 P. M.	Lodna Nos. 4 & 5 pits mine, Jharra P. O., Bihar.	Lodna Colliery Co. (1920), Ltd.	Udia. Bhuiya, (m.), 26, <i>Loader.</i>	Coal	Deceased was loading coal in a gallery when about 7 cwts. of coal fell from a height of 12 feet and he sustained injuries which proved fatal. Inspector and inquiry made.
92	26th June, about 4 P. M.	Pullatto mine, Tavoy P. O., Burma.	Eu Pola Brothers	Kundi Sisahook (m.), 36, <i>Tributor.</i>	Tin & Wolfram.	Deceased was buried under a fall of ground and was suffocated.
93	29th June, 4-30 P. M.	Vemula mine, Vemula P. O., Madras.	Tiffin & Co.	Tulasaku Gangadu, (m.), 20, <i>Quarryman.</i>	Barytes.	While deceased was sitting at the foot of a slope in a quarry he was buried and suffocated by a mass of earth and stone, 12' x 10' x 3', which fell from the side from a height of 10 feet. Inspection and inquiry made.
94	4th July, 11 A. M.	Baragolai mine, Margherita P. O., Assam.	The Assam Rail- ways and Trading Co., Ltd.	Abdul Haq Pathan (m.), 29, <i>Coal-filler.</i>	Coal	While assisting in timbering operations on a haulage road, a coal-filler was struck by a mass of coal, 9' - 4' x 1' 6", which fell from the side—a height of 3 feet. He was fatally injured. Inspection and inquiry made.
95	8th July, 2-30 P. M.	Poniasi mine, Charanpur P. O., Bengal.	H. K. Nag	Lodna Manjhi (m.), 30, <i>Coal-cutter.</i>	Coal	While dressing down loose coal after firing a shot a mass of coal 6' x 4' - 2' fell on deceased from a height of 12 feet. He was killed instantly. Inspection and inquiry made.
96	10th July, 3-30 A. M.	Angarpathra mine, Katreagarh P. O., Bihar.	National Coal Co., Ltd	Tiku Hazam, (m.), 25, <i>Coal-carrier.</i>	Coal	Deceased was carrying a basket of coal in a depillaring area, when a mass of coal, 4' x 2' - 2', fell on him from the side of a pillar at a height of 15 feet. He was killed on the spot. Inspection and inquiry made.
97	17th July, about 12 noon	Karathuri mine, Bokpyin P. O., Burma.	Mr. Yaw Kayn	Chung Paw, (m.), 48, <i>Labourer.</i>	Tin ore.	Deceased was killed by a fall of side in an open working.
98	20th July, 1 P. M.	Panchaung mine, Nanbauk P. O., Burma.	Yeo Kyeo Han.	Hteo Shwe, (m.), 33, <i>Tributor.</i>	Tin and Wolfram.	Deceased was struck on the head by a boulder and was killed.

APPENDIX II—*contd.*

Fatal Accidents during the year 1936—*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.
<b>FALLS OF ROOF AND SIDES—<i>contd.</i></b>						
<b>(b) Falls of sides—<i>contd.</i></b>						
99	25th July, 4-30 A. M.	Dhariajoba mine, Kusunda P. O., Bihar.	Dhariajoba Colliery Co., Ltd.	Bindla Bhuiya, (m.), 23, Coal-carrier.	Coal	Deceased was standing at the foot of a ladder which was being used for dressing down some roof coal in a gallery 22 feet high, when a piece of coal about 1' x 1' x 6' fell from the side at a height of 15 feet on to his right leg. He sustained serious injuries which proved fatal three days later. Inspection and inquiry made.
100	26th July, 9-30 A. M.	Tagu mine, Tenasserim P. O., Burma.	Mr. E. Ahmed	Ma Misu, (f.), 27, and one boy, 6, wife and child of a mining cooly.	Tin and wolfram.	The deceased were killed by a fall of side in an open working.
101	28th July, 12 A. M.	Kyankkudaung mine, Tavoy P. O., Burma.	Quah Hun Cheong.	Bon Na Wales, (m.), 30, Labourer.	Tin and wolfram.	Deceased was killed by a fall of side in an open working.
102	4th August, 4 P. M.	Sugi mine, Kudarma P. O., Bihar.	Indian Mica Supply Co., Ltd.	(1) Debi Turi, (m.), 34, (2) Akin Turi, (m.), 32, Labourers.	Mica	While two labourers were working in a prospecting pit, 15 feet deep, the sides of the pit collapsed and buried them, they were suffocated to death. Inspection and inquiry made.
103	5th August, 8-30 A. M.	West Jamuria mine, Charaupur P. O., Bengal.	West Jamuria Coal Co., Ltd.	Udhaw Singh, (m.), 42, Coal-cutter.	Coal	After a shot had been fired in a stook, deceased went to dress down the overhanging side when a piece of coal of unknown size became dislodged, glanced off the heap of blasted coal on the floor and struck him above the right knee-joint, causing slight injuries. Septicæmia supervened and he died four months and two days later. Inspection and inquiry made.
104	12th August, 2 P. M.	Jamuria (Nos. 7 and 8 pits) mine, Charaupur P. O., Bengal.	Equitable Coal Co., Ltd.	Banoo Chamar, (m.), 28, Coal-cutter.	Coal	Soon after a shot-hole was stemmed in the coal which had been overhanging from the corner of a pillar under extraction, its adjacent piece, measuring about 7' x 2' 6" x 5', unexpectedly came away from a height of 13 feet, killing a miner and seriously injuring his companion. Inspection and inquiry made.

105	18th August, 2-45 A. M.	Katra-Chaitodih mine, Katraagarh P. O., Bihar.	Burrakar Coal Co., Ltd.	Bhatu Bhuiya, (m.), 36, Coal-cutter.	Coal	While a miner was dressing coal from the side of a pillar on a haulage road, 18' high, a mass of coal 5'x3'x2', fell upon him from between two converging "slips". He sustained injuries which proved fatal five and half hours later. Inspection and inquiry made.
106	24th August, at about 9 P. M.	Wagon North mine, Tavoy P. O., Burma.	Teh Lu Pe	1. Punnajan Swami, 25. 2. Bagya Purasam, 20. 3. Ahnentaw Sati, 30, 4. Chintu Panda, 35, 5. Gorasanti Pan- dasanti, 35, 6. Phahirawpater- para, 30, 7. Dasamjuna, 25, (m.), Tribulora.	Tin and wolfram.	Seven persons were working in a prohibited area when a land-slide took place and engulfed them. All seven lost their lives.
107	25th August, 6 A. M.	Ahnyin Mine, Mergui P. O., Burma.	Tan Taik Aik	Mg. Tha Maung. (m.), 24, Cooly.	Tin	Deceased was killed by a fall of side and died from suffocation.
108	18th September, 4-30 P. M.	Banksimla, Charanpur P. O., Bengal.	The Bengal Coal Co., Ltd.	Kedar Bauri, (m.), 37, Loader.	Coal	While loading a basket with coal at the base of a pillar, a loader was fatally injured by a mass of coal 4'x3'x1', which fell from the side, a height of 10 feet. Inspection and inquiry made.
109	15th September, 7 A. M.	Bhangia Guroote Mine, Japla P. O., Bihar.	Sone Valley Port- land Cement Co., Ltd.	Lochmonia Nunian, ( ), 41, Loader.	Lime- stone.	While a labourer was loading stones, a mass of hard clay with pieces of stones embedded in it fell from the side of a quarry and a piece projected from that struck her. She sustained serious injuries which proved fatal an hour after the accident. Inspection and inquiry made.
110	18th September, 11-45 P. M.	Ramnagar Mine, Kulti P. O., Bengal.	The Bengal Iron Co., Ltd.	Mita Mahato (m.), 40, Coal-cutter.	Coal	While four miners were sitting at a junction of two galleries, a mass of coal, 4' x 1½' x 1½' fell unexpectedly from a corner of a pillar. One of the miners was killed instantly and the other sustained serious injury. Inspection and inquiry made.
111	17th September, 10-30 A. M.	Polipathar Mine, Jubbulpore, P. O., United Provinces.	Perfect Pottery Co., Ltd.	Abhiram Kola, (m.), 35, Miner.	Fire clay.	A gang of 11 workers and their Mukadam entered a fenced off area of an opencast working in order to drain out the water which had accumulated there. They worked there for about ½ hour, when a mass of stone, about 4'x3'x1' 6" thick, fell from the side from a height of 15 feet, rolled down the floor and struck Abhiram so severely that he succumbed to his injuries soon after. Inspection and enquiry made.



## APPENDIX II.

### Fatal Accidents during the year 1936—*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.
<b>FALLS OF ROOF AND SIDES—<i>contd.</i></b>						
<i>(b) Falls of sides—contd.</i>						
112	19th September, 10-41 P. M.	Dharmaband Mine, Katrasgarh, P. O., Bihar.	New Tetturya Coal Co., Ltd.	Poohan Mahato, (m.), 38. <i>Coal-cutter.</i>	Coal	A mass of coal and stones 6' x 1' x 1' 3" which fell from near the roof of a pronounced cleat in the side of a gallery 9 ft. high, over turned a loaded tub. A miner was struck by the tub and sustained severe injuries. He refused proper medical treatment and died from septicaemia five months later. Inspection and inquiry made.
113	25th September, 6 A. M.	Bejdih Mine, Sunderchak, P. O., Bengal.	Equitable Coal Co., Ltd.	Dhona Manjhi, (m.), 42. <i>Coal-cutter.</i>	Coal	A slab of coal, about 7' x 4' x 2' thick, fell from the side at a height of 13 feet. A miner was killed instantly and a coal-carrier was seriously injured. Inspection and inquiry made.
114	26th September, 6 A. M.	Jitpur Mine, Bhaga, P. O., Bihar.	Bengal Iron Co., Ltd.	Bhandu Rohidas, (m.) 45, <i>Coal cutter.</i>	Coal	Deceased was resting in a gallery when a mass of coal 12' x 4' x 1' 3" fell from the side of a pillar and he received injuries which proved fatal. Inspection and inquiry made.
115	14th October, 10 A. M.	Lodna mine, P. O. Jharis, Bihar.	Lodna Colliery Co. (1920), Ltd.	Baldeo Fasi, (m.), 28, <i>Coal-cutter.</i>	Coal	Deceased was drilling a shot-hole in some floor coal, in a depillaring area, when a mass of coal weighing approximately 6 tons fell from the side. He was struck by a piece which rolled across the place and sustained injuries from which he died 3 hours later. Inspection and inquiry made.
116	16th October, At about 12-30 P. M.	Talaingya Chaung Mine, Abyu P. O., Burma.	Fa Kyoung Nga	Tillabshadur, (m.), 46. <i>Tributor.</i>	Tin and Wol- fram.	Deceased was killed by a fall of side in an open working which had been abandoned.
117	17th October, 4 A. M.	Bhaljuria Mine, Nirshachati P. O., Bihar.	Pure Fakha Coal Co.	Golak Bauri, (m.), 23, <i>Coal-cutter.</i>	Coal	While three miners were robbing a pillar, they released a mass of coal 5' x 2' 6" x 2' which fell from a height of 10 feet. One of the miners was struck by the falling coal and killed instantly. Inspection and inquiry made.

118	20th October, 6 A. M.	Jamuria Mine, P. O. Charanpur, Bengal.	Equitable Co., Ltd.	Coal	Ravla Keot, (f.), 35, Loader.	Coal	After leaving her working place in a depillaring section, a female loader remembered that she has forgotten to bring out her basket. She returned to retrieve it, and was struck by a piece of coal, 8' x 3' x 2', which fell from the corner of a "stook" and fatally injured. Inspection and inquiry made.
119	2nd November, 12 Noon.	Jamuria Mine, Charanpur P. O., Bengal.	Equitable Company, Limited.	Coal	Ful Singh, (m.), 20, Loader.	Coal	In a depillaring section, while a gang of loaders was at work, a mass of side cole, about 8' x 8' x 2' thick, came away from a height of 12 feet and fatally injured deceased. Inspection and inquiry made.
120	3rd November, 11-30 P. M.	Kustore Mine, P. O. Kusunda, Bihar.	Raneegunge Association, Ltd.	Coal	Sukhai Chamar, (m.), 35, Coal-loader.	Coal	Deceased was engaged in loading coal in a depillaring district, when a mass of coal weighing about 8 tons fell without warning from a pillar side and killed him instantly. Inspection and inquiry made.
121	6th November, 4 A. M.	Khutgarwa Mine, Jhamsri-Telaiya P. O., Bihar.	Bridhioland Bansi- dhar.		Janki Roy, (m.), 25, Labourer.	Mica	While cutting an adit a labourer was buried and suffocated to death by a mass of earth which fell from the side from a height of 5 feet. Inspection and inquiry made.
122	17th November	Sin Gyun Mine, Palaw P. O., Burma.	L. C. Khoo		Hline Phwa, (m.), about 32, Mine coolie.	Tin and Wolfram Ore.	Deceased was killed by a fall of side in an open working.
123	19th November, 8-45 P. M.	Chowrasia Colliery, Ramkanali P. O., Bihar.	Equitable Coal Co., Ltd.		Rugni Mejhian, (f.), 30, Loader.	Coal	In a depillaring section, while a loader was carrying coal along the side of a pillar, a mass of side coal, weighing about 8 cwt., fell on her from a height of 7 feet, causing fatal injuries. Inspection and inquiry made.
124	23rd November, at about 5 P. M.	Wagon North Mine, Tavoy P. O., Burma.	Teh Lu Pe		Taw San Kooi, (m.), 31, Tributor.	Tin and Wolfram.	Deceased was killed by a fall of side in an open working.
125	25th November, 4 A. M.	Lodna Nos. 4 and 5 pits Mine, Jharia P. O., Bihar.	Lodna Colliery Co (1920), Ltd.		Lari Meah (m.), 56, Coal-cutter.	Coal	While a miner was loading coal in his working place in a depillaring area a mass of coal weighing about 30 cwt. fell from a pillar side and he received injuries which proved fatal. Inspection and inquiry made.
126	25th November, 4-45 P. M.	Chandametta Mine, Parasia P. O., Central Provinces.	Pench Valley Coal Co., Ltd.		Punmasi Kurmi, (m.), 40, Coal-cutter.	Coal	While dressing down the side of a pillar loosened by blasting deceased failed to take his stand in proper position and brought down a piece of shale about 6' x 3' x 9' thick, on himself from a height of 5 feet. He was killed instantly. Inspection and inquiry made.
127	8th December, 1-30 P. M.	Jorta Mine, Sijna P. O., Bihar.	Messrs. Agabeg Bro., Ltd.		Gobardhan Rajwar, (m.), 40, Coal-cutter.	Coal	Deceased was engaged in preparing a gallery for a haulage curve when a mass of coal 17' x 4' x 1' 9" fell away and he received injuries which proved fatal. Inspection and inquiry made.

APPENDIX II—*contd.*

Fatal Accidents during the year 1936—*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.
<b>FALLS OF ROOF AND SIDES—<i>concl'd.</i></b>						
<b>(b) Falls of Sides—<i>concl'd.</i></b>						
128	11th December, 9 A. M.	Karathuri Mine, Bokpyin P. O., Burma.	Yaw Kayu.	Tan Awe, (m.), 63, <i>Cooly.</i>	Tin and wolfram Ore.	Deceased was injured by a fall of stone and afterwards died.
129	17th December, 2-15 P. M.	Pathardih Sudamdih Mine, Pathardih P. O., Bihar.	Pathardih Sudamdih Colliery Ltd.	Budhu Panka, (m.), 35, <i>Coal-cutter.</i>	Coal	Deceased was struck and fatally injured by a mass of shale, 2' 6" x 1' 8" x 9", which fell from the face of a quarry from a height of about 6 feet. Inspection and inquiry made.
130	24th December, 5-45 A. M.	Dhemo Main Mine, Sitaranapur P. O., Bengal.	Dhemo Main Collieries Ltd.	Suku Majhi, (m.), 35, <i>Coal-cutter.</i>	Coal	A gang of three miners was employed by the sirdar to cut down the roof coal. It is presumed that during the temporary absence of the Sirdar, deceased started to rob coal from the side of a pillar when a mass of sidecoal, about 5' x 3' x 6', fell on him from a height of 13 feet, killing him instantly. Inspection and enquiry made.
<b>IN SHAFTS (WHILST ASCENDING BY MACHINERY)—(1 death).</b>						
131	23rd July, 4 A. M.	Shampur mine, Nirsachati P. O., Bihar.	Shampore Coal Co., Ltd.	Prasanna Mahatan, (f.), 29, <i>Labourer.</i>	Coal	While a woman was stepping out of a cage at the top of a shaft the cage started ascending. The Bankaman gave a signal to stop the cage. The cage was stopped and was lowered immediately afterwards. The woman was struck by the sliding pit top gate and was thrown into the shaft 330 feet deep. She was killed instantly. Inspection and inquiry made.
<b>IN SHAFTS (FALLING DOWN SHAFT)—(1 death).</b>						
132	14th March, 12 P. M.	Charki mine, Kodarma P. O., Bihar.	F. F. Chrestien & Co., Ltd.	Barhon Gope, (m.), 32, <i>Labourer.</i>	Mica	While descending a ladderway in a shaft, 57 feet deep, deceased fell from a height of about 25 feet and sustained injuries which proved fatal two days later. Inspection and inquiry made.

IN SHAFTS (THINGS FALLING DOWN SHAFT)—(3 deaths).

133	20th January, 1 A. M.	Thani mine, Kodarma, P. O., Bihar.	Chattu Ram Horil Ram, Ld.	Horil Singh, (m.) 30, Labourer.	Mica .	While a bucket full of debris was being hoisted, it struck against a wooden set in the shaft. Some stones fell out of it and struck deceased who was standing at the bottom of the shaft. He sustained serious injuries from which he died six hours later. Inspection and inquiry made.
134	4th July, 8 A. M.	Damoderpur mine, Nandi P. O., Bengal.	Bengal Coal Co., Ld.	Kasee Bauri, (m.) 32, Trammer.	Coal .	While a trammer was pulling an empty tub off a cage at a shaft bottom, he was struck on the head by a piece of coal which fell from a loaded tub being removed from the cage at the surface. He was seriously injured and died from his injuries the same day. Inspection and inquiry made.
135	7th July, 10 A. M.	South Panara mine, Jumardoo P. O., Central Provinces.	Budhoolal Jagan- nath.	Mangico Gond, (m.) 26, Sinker.	Coal .	On the top of a sinking pit 271 feet deep, the trolley men landed a bucket of stone on a small trolley which was placed above a larger one. While pushing the large trolley clear of the top of the pit, they caused it to bump against the buffer with the result that the bucket tumbled over, allowing a few pieces of stone to fall down the pit. A sinker was fatally injured by the falling pieces of stone and expired on the following morning. Inspection and inquiry made.

IN SHAFTS (MISCELLANEOUS)—(2 deaths).

136	20th February, 4-30 P. M.	Benahir Mine, P. O. Jharin, Bihar.	Standard Coal Co., Ld.	Sitaram Chamar, (m.) 26, Coal-carrier.	Coal .	Deceased was waiting at the bottom of a shaft 365 feet deep, to ascend in the cage. He was pushed from behind, causing him to slip with his left foot on the sump boards as the cage was being lowered to the bottom of the shaft. The cage caught him and he sustained serious injuries to his foot. Septicæmia set in and he died a fortnight later. Inspection and inquiry made.
137	10th October, 1 A. M.	Benali Colliery, P. O. Ramganj, Bengal.	Chandanmull Indrakumar.	Kaibada Bauri, (m.) 25, Loader.	Coal .	Deceased stepped into the exposed space of a shaft bottom while the cages were in motion. He was caught by the descending cage and killed almost instantly. Inspection and inquiry made.

APPENDIX II—contd.

Fatal Accidents during the year 1936—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.
<b>FALLS OF ROOF AND SIDES—concl'd.</b>						
<b>(b) Falls of Sides—concl'd.</b>						
128	11th December, 9 A. M.	Karathuri Mine, Bokpyin P. O., Burma.	Yaw Kayu.	Tan Awe, (m.), 63, Cooly.	Tin and wolfram Ore.	Deceased was injured by a fall of stone and afterwards died.
129	17th December, 3-15 P. M.	Pathardih Sudamdih Mine, Pathardih P. O., Bihar.	Pathardih Sudamdih Colliery Ltd.	Budhu Panka, (m.), 35, Coal-cutter.	Coal	Deceased was struck and fatally injured by a mass of shale, 2' 6" x 1' 9" x 9", which fell from the face of a quarry from a height of about 6 feet. Inspection and inquiry made.
130	24th December, 5-45 A. M.	Dhemo Main Mine, Sitarampur P. O., Bengal.	Dhemo Main Collieries Ltd.	Suku Majhi, (m.), 35, Coal-cutter.	Coal	A gang of three miners was employed by the sirdar to cut down the roof coal. It is presumed that during the temporary absence of the Sirdar, deceased started to rob coal from the side of a pillar when a mass of sidecoal, about 5' x 3' x 6', fell on him from a height of 13 feet, killing him instantly. Inspection and enquiry made.
<b>IN SHAFTS (WHILST ASCENDING BY MACHINERY)—(1 death).</b>						
131	23rd July, 4 A. M.	Shampur mine, Nirshachati P. O., Bihar.	Shampore Coal Co., Ltd.	Prasanna Mahatan, (f.), 29, Labourer.	Coal	While a woman was stepping out of a cage at the top of a shaft the cage started ascending. The Banksman gave a signal to stop the cage. The cage was stopped and was lowered immediately afterwards. The woman was struck by the sliding pit top gate and was thrown into the shaft 330 feet deep. She was killed instantly. Inspection and inquiry made.
<b>IN SHAFTS (FALLING DOWN SHAFT)—(1 death).</b>						
132	14th March, 12 P. M.	Charki mine, Kodarna P. O., Bihar.	F. F. Chrestien & Co., Ltd.	Barhon Gope, (m.), 32, Labourer.	Mica	While descending a ladderway in a shaft, 57 feet deep, deceased fell from a height of about 25 feet and sustained injuries which proved fatal two days later. Inspection and inquiry made.

**IN SHAFTS (THINGS FALLING DOWN SHAFT)—(3 deaths).**

133	20th January, 1 A. M.	Thani mine, Kodarma, P. O., Bihar.	Chattu Ram Horil Ram, Ld.	Horil Singh, (m.), 80, <i>Labourer.</i>	Mica	While a bucket full of debris was being hoisted, it struck against a wooden set in the shaft. Some stones fell out of it and struck deceased who was standing at the bottom of the shaft. He sustained serious injuries from which he died six hours later. Inspection and inquiry made.
134	4th July, 8 A. M.	Damoderpur mine, Nandi P. O., Bengal.	Bengal Coal Co., Ld.	Kasee Bauri, (m.), 32, <i>Trammer.</i>	Coal	While a trammer was pulling an empty tub off a cage at a shaft bottom, he was struck on the head by a piece of coal which fell from a loaded tub being removed from the cage at the surface. He was seriously injured and died from his injuries the same day. Inspection and inquiry made.
135	7th July, 10 A. M.	South Panara mine, Junnordeo P. O., Central Provinces.	Budhoolal Jagannath.	Mangloo Gond, (m.), 26, <i>Sinker.</i>	Coal	On the top of a sinking pit 271 feet deep, the trolleyman landed a bucket of stone on a small trolley which was placed above a larger one. While pushing the large trolley clear of the top of the pit, they caused it to bump against the buffer with the result that the bucket tumbled over, allowing a few pieces of stone to fall down the pit. A sinker was fatally injured by the falling pieces of stone and expired on the following morning. Inspection and inquiry made.

**IN SHAFTS (MISCELLANEOUS)—(2 deaths).**

136	20th February, 4-30 P. M.	Benahir Mine, P. O. Jharis, Bihar.	Standard Coal Co., Ld.	Sitaram Chamar, (m.), 26, <i>Coal-carrier.</i>	Coal	Deceased was waiting at the bottom of a shaft 365 feet deep, to ascend in the cage. He was pushed from behind, causing him to slip with his left foot on the sump boards as the cage was being lowered to the bottom of the shaft. The cage caught him and he sustained serious injuries to his foot. Septicæmia set in and he died a fortnight later. Inspection and inquiry made.
137	10th October, 1 A. M.	Benali Colliery, P. O. Raniganj, Bengal.	Chandanmull Indrakumar.	Kalipada Bauri, (m.), 26, <i>Loader.</i>	Coal	Deceased stepped into the exposed space of a shaft bottom while the cages were in motion. He was caught by the descending cage and killed almost instantly. Inspection and inquiry made.

APPENDIX II—contd.

Fatal Accident during the year 1936—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.
138	30th January, 12-30 P.M.	Loyabad Mine. P. O. Bansiara, Bihar.	The Burrakur Coal Co., Ltd.	<p style="text-align: center;"><b>SUFFOCATION BY GASES—(35 deaths).</b></p> <p>Mr. J. Brown, (m.), 62, <i>Chief Mining Engineer.</i> Mr. G. Boscolo, (m.), 43, <i>Chief Electrical Engineer, S. J. Electric Supply Company.</i> Mr. B. Starks Field, (m.), 48, <i>Agent.</i> Mr. H. Lawton, (m.), 51, <i>Manager,</i> <i>Bhulanbarasee Colliery.</i> Mr. Hayman, (m.), 21, <i>Asst. Engineer.</i> M. C. Mullick, (m.), 88, <i>Overman.</i> Chatoo Kahar, (m.), 36, <i>Electrical Fitter.</i> Dubraj Dasadh, (m.), 45, <i>Fitter.</i> Baubasi Kurmi, (m.), 25, <i>Labourer.</i></p>	Coal	The deceased were employed in building stoppings to isolate an underground fire near a shaft bottom, when 35 persons lost their lives due to suffocation by gases. It is presumed that an explosion occurred. Inspection and inquiry made.

	<p>Johar Singh, (m.), 50, <i>Labourer.</i></p> <p>Chet Singh, (m.), 25, <i>Labourer.</i></p> <p>Sona Singh (No. 1), (m.), 35, <i>Labourer Supervisor.</i></p> <p>Khairdin, (m.), 35,</p> <p>Santa Singh, (m.), 45,</p> <p>Charan Singh, (m.), 27,</p> <p>Sadho Singh, (m.), 25,</p> <p>Issar Singh, (m.), 26,</p> <p>Sone Singh (No. 2), (m.), 45, <i>Labourer.</i></p> <p>Amir Mia, (m.), 35,</p> <p>Barhan Kumbhar, (m.), 40, <i>Mechanical Fitters.</i></p> <p>Bhava Mistry, (m.), 35,</p> <p>Karim Miah, (m.), 30, <i>Timber Mistry.</i></p> <p>Garacharan Rajwar, (m.), 30, <i>Labourer.</i></p> <p>Rupon Gope, (m.), 35, <i>Line Mistry.</i></p>	
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APPENDIX II—*contd.*

Fatal Accidents during the year 1936—*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.
<b>SUFFOCATION BY GASES—(35 deaths)—<i>contd.</i></b>						
				<p>Duli Mistry, (m.), 40, <i>Timber Mistry.</i></p> <p>Uttim Barhi, (m.), 29, <i>Labourer.</i></p> <p>Immaman Miah, (m.), 32, <i>Labourer.</i></p> <p>Hazara Singh, (m.), 40, <i>Labour Supervisor.</i></p> <p>Lab Singh, (m.), 45,</p> <p>Natha Singh, (m.), 41,</p> <p>Sadagar Singh, (m.), 38,</p> <p>Soni Singh, (m.), 40,</p> <p>Jagtu, (m.), 37,</p> <p>Behari Kahar, (m.), 26, <i>Labourers.</i></p> <p>Aziz Miah, (m.), 20, <i>Electrical Apprentice.</i></p>		

BY EXPLOSIVES—(12 deaths).

139	2nd January, 9-30 A. M.	Gua Mine, P. O. Gua, Bihar.	Indian Iron & Steel Co., Ltd.	Ram Gopal Das, (m.), 30, <i>Blasting Foreman.</i>  P. K. Dhar, (m.), 26, <i>Supervisor.</i>	Iron ore	After blasting operations, a number of unused gunpowder cartridges were kept in two canisters for returning to the magazine when they were accidentally ignited. A blasting foreman and a mine supervisor were so severely burnt that both died a few hours later. Inspection and inquiry made.
140	17th January, 11-30 A. M.	Kargali mine, Bokaro P. O., Bihar.	Government of India, Railway Department.	Sunder Khan, (m.), 35, <i>Shot-firer.</i>	Coal.	Deceased was engaged on the stone overburden of a quarry in stemming a shothole charged with liquid oxygen explosives when the charge exploded and he received injuries which proved fatal. Inspection and inquiry made.
141	3rd February, 8 A. M.	Bariabagh mine, Karwandia P. O., Bihar.	Seth Sewak Ram.	Rajmat, (f.), 25, <i>Stone-breaker.</i>	Stone.	A woman stone breaker was struck on her head and was fatally injured by a piece of stone projected a distance of 350 feet by blasting operations in an open working. Inspection and inquiry made.
142	8th May, 2-30 P. M.	Upper Ghorawara mine, Junnordeo P. O., Central Provinces.	B. N. Budhoolal & Co.	Parasdi Passi, (m.), 25, <i>Coal-cutter.</i>	Coal.	A coal-cutter disregarded the warning given by a shot-firer and returned to his working place while shots were being fired in a gallery which was only 70 feet away. He was struck on the chest by a piece of coal which had been projected by a shot and succumbed to the injuries within an hour. Inspection and inquiry made.
143	13th June, 2-30 P. M.	Jainty Central mine, Karmatar P. O., Bihar.	Jainty Central Colliery, Ltd.	Ismail Meah, (m.), 36, <i>Shot-firer.</i>	Coal.	Deceased returned to a gallery where a shot had hung fire. When he reached within 15 feet of the face, the shot exploded, injuring him fatally. Inspection and inquiry made.
144	3rd July, 1 A. M.	Newton Chickli mine Parasia P. O., Central Provinces.	Newton Chickli Collieries, Ltd.	Teji Gond, (m.), 25, <i>Shot-firer.</i>	Coal.	A piece of coal was projected a distance of about 30 feet by a shot and struck a shot-firer on the back of his neck, killing him almost instantly. Inspection and inquiry made.
145	8th October, 11 A. M.	Singaran Mine, Toposi P. O., Bengal.	Singaran Syndi- cate, Ltd.	Thuku Manjhi, (m.), 18, <i>Loader.</i>	Coal	A shot-firer left his canister of gunpowder cartridges in charge of his coal-carrier and went away to his working place. The latter started to smoke and caused the gunpowder to become ignited from a spark of his cigarette. He sustained burns of the first degree all over the upper part of his body and died. Inspection and inquiry made.
146	25th October, 4 P. M.	Sirinivasa Mine, Gudur P. O., Madras.	M. Kota Reddy.	Sheik Khadar Sahub, (m.), 30, <i>Miner.</i>	Mica	While three miners were drilling a relieving hole to recover a misfired charge, the charge exploded. One of them sustained fatal injuries and the other was seriously injured. Inspection and enquiry made.

**APPENDIX II—contd.**

**Fatal Accidents during the year 1936—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.
<b>BY EXPLOSIVES—(12 deaths)—contd.</b>						
147	19th November, 10-30 A. M.	Bwabin mine, Tavoy P. O., Burma.	Consolidated Tin Mines of Burma, Ltd.	Putti Lama, (m.), 25, Labourer.	Tin and wolfram.	Deceased was pressing the charge of an explosive into a shot-hole of insufficient size and the charge exploded and injured him so severely that he afterwards died.
148	10th December, 3 P. M.	Sendra Mine, Bansjora P. O., Bihar.	Sendra Coal Co., Ltd.	Sudhu Bhar, (m.), 26, Coal-cutter.	Coal	After lighting the fuse of a gunpowder charge placed in a hole 12 feet above floor level, deceased was engaged in removing a ladder, when the charge exploded and he sustained injuries, as the result of which he died 11 hours later. Inspection and enquiry made.
149	29th December, 2 P. M.	Makerwal Mine, Trag P. O., Punjab.	R. S. L. Ishardas Kapur and C. Buvan Petman.	Adam Khan, (m.), 24, Coal-cutter.	Coal	Two persons were severely burnt by an accidental ignition of gunpowder and one afterwards died.
<b>HAULAGE—(25 deaths).</b>						
150	18th January, 7 P. M.	Jarangdih mine, Bokaro P. O., Bihar.	B. B. & C. I. and M. & S. M. Railways.	Biahan Singh, (m), 35, Head Trolleyman.	Coal	Deceased was engaged in moving 3 ton capacity mine cars on a slight gradient when one car began to move without his knowledge and he was crushed between it and a car retarder. Inspection and inquiry made.
151	27th January, 6-45 A. M.	Kargali mine, Bokaro P. O., Bihar.	Government of India, Railway Department.	Jagernath, (m.), 30, Trolleyman	Coal	Deceased was attempting to uncouple the last tub of a rake of loaded tubs when he slipped and fell and the wheels of the tub passed over his right hand. He received medical attention but died as the result of tetanus, eleven days later. Inspection and inquiry made.
152	15th February, 4 A. M.	Bhulanbarree mine, Patbardih P. N., Bihar.	Bhulanbarree Coal Co., Ltd.	Manoo Roy, (m.), 35, Budhoo Manjhi, (m.), 37, Coal-cutters.	Coal	While one empty and five loaded tub were being drawn up a haulage road rising at 1 in 5 the rope broke and the tubs ran wild, a distance of 50 feet down the road. The deceased who were working on the road were struck by the tubs and received injuries which proved fatal. Inspection and inquiry made.

153	18th February, 4 P.M.	Burra Dhemu mine, Sitarampur P. O. Bengal.	Burra Dhemu Coal Co., Ltd.	Nitai Kora, (m.), 57, <i>Coal-cutter.</i>	Coal	A trammer failed to sprag a loaded tub which was being lowered on a gradient of 1 in 15. The tub ran amais and struck an empty which was being pushed by a miner and his wife. The miner sustained fatal injuries. Inspection and inquiry made.
154	27th February, 10-30 P. M.	Ratibaty mine, Kalipahari, P. O., Bengal.	Ratibaty Collieries, Ltd.	Robi Manjhi, (m.), 25, <i>Coal-cutter.</i>	Coal	While a rake of 8 empty tubs was being lowered down a haulage drift a coupling became detached and 7 tubs ran wild. Deceased who had come to the foot of the drift for an empty tub was struck by the tubs and fatally injured. Inspection and inquiry made.
155	28th February, 11-30 P. M.	Seetalpur mine, Dishergarh P. O., Bengal.	Bengal Coal Co., Ltd.	Sanjilal Bauri, (m.), 35, <i>Trammer.</i>	Coal	While a trammer was guiding a set of empty tubs over a crossing one of the tubs derailed causing the trammer to slip and fall between two tubs. He was severely injured, and died some days later. Inspection and inquiry made.
156	13th March, 10 P.M.	Lower Upper Jharlia mine, Jharlia P. O., Bihar.	Khimji Dossa & Sons.	Jugal Rai, (m.), 28, <i>Hookman.</i>	Coal	While a set of eight empty tubs was being lowered down a haulage road dipping at 1 in 8 the rope broke and the set ran amain 300 feet. A hookman was struck and fatally injured by the runaway tubs. The rope breakage was caused by excessive stress when there was a jerk due to one coil having been trapped under another coil of rope on the drum. Inspection and inquiry made.
157	8th April, 9-30 A.M.	Kustore mine, Kusnuda P. O., Bihar.	Raneegunge Coal Association, Ltd.	Bigdar Mahato, (m.), 30, <i>Labourer.</i>	Coal	Due to an error on the part of a trolleyman, three loaded mine cars ran wild down a gradient of 1 in 8. They crashed into four loaded cars standing at the foot of the incline and deceased who was passing by, received injuries which proved fatal. Inspection and inquiry made.
158	13th April, 3 A.M.	Kustore Mine Kusnuda P. O., Bihar.	Raneegunge Coal Association, Ltd.	Eali Mahato, (m.), 35, <i>Coolie.</i>	Coal	While clearing pieces of coal from a mine car standing in an underground empty line, deceased was caught between the buffers of the mine car and another which came from behind. He sustained serious injuries which proved fatal two hours latter. Inspection and inquiry made.
159	18th April, 3-30 P.M.	Barkuri No. 4 Mine, P. O. Parasai, Central Province.	Pench Valley Coal Co., Ltd.	Bugia Gondui, (J. 1, 20), <i>Loader</i>	Coal	While deceased and two other loaders were taking an empty tub in-bye along a level line, a trammer lowered three loaded tubs on sprags down a gradient of about 1 in 16. The front full tub collided with the empty near a crossing causing the latter to become derailed. Deceased was pinned by the empty tub against the side of a pillar and sustained such severe injuries that she expired shortly afterwards. Inspection and inquiry made.

APPENDIX II—*contd.*

Fatal Accidents during the year 1936—*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.
<b>HAULAGE—(25 deaths)—<i>contd.</i></b>						
160	23rd April, 10-30 P.M.	Ena Mine Jbaria P. O., Bihar.	North-West Coal Co., Ltd.	Rupai Manjhi, (m.), 44, Coal-cutter.	Coal	While a rake of ten loaded tubs was being drawn up a haulage road rising at 1 in 10, the rope broke and the tubs ran wild down the incline. Deceased, who was leaving the mine at the end of his shift was struck by the tubs and fatally injured. Inspection and inquiry made.
161	12th May, 3 A.M.	Datia Mine, Junnordeo P. O., Central Provinces.	Amalgamated Coal- fields, Ltd.	Sakkaria Pardhanni, (J.), 23, Loader.	Coal	Deceased came out of a loading level, passed the "white safety mark" and for some unknown reason went near the crossing of the main haulage dip where a few loaded tubs were standing. A set of empties, which was being lowered down the incline at that moment became derailed at the crossing and its leading tub crushed her against the standing ones. She was killed instantly. Inspection and inquiry made.
162	12th May, 7 A.M.	Datia Mine, Junnordeo P. O., Central Provinces.	Amalgamated Coal- fields, Ltd.	Baboolal Gond, (m.), 25, Trammer.	Coal	A trammer was surreptitiously riding on a loaded set which was being hauled up an incline rising at about 1 in 8. While the set was passing through a narrow brick arch, he jumped off and was crushed between the wall and the moving tubs. He sustained internal injuries and died sixty-three hours later. Inspection and inquiry made.
163	6th June, 11-30 A.M.	Barmoudia Mine, Sitarampur P. O., Bengal.	New Beerbhoom Coal Co., Ltd.	Ramlal Bant, (m.), 42, Assistant to filter.	Coal	While a set of loaded tubs was being hauled up a slope of 1 in 6½, deceased attempted to cross the line in front of it. He tripped over the haulage rope and was fatally injured by the moving tubs. Inspection and inquiry made.
164	17th June, 3-30 A.M.	Chowrassie Mine, Dishergarh P. O., Bihar.	Equitable Coal Co., Ltd.	Budhu Manjhi, (m.), 32, Haulage atten- dant.	Coal	While a set of 4 full tubs was being lowered into a level road one of the haulage attendants in attempting to cross in front of the set was knocked down and fatally injured. Inspection and inquiry made.

165	30th June, 1-30 A.M.	East Gopalichuck Mine, Jharia P. O., Bihar.	Gopalichuck Co., Ltd.	Coal	Chetu Roy, (m.), 30, Coal-cutter.	Coal	While a set of six loaded tubs was being hauled up a gradient of 1 in 8 the last three tubs became uncoupled and ran wild. Deceased who had come to the haulage road to obtain an empty tub was struck by the tubs and received injuries which proved fatal. Inspection and inquiry made.
166	31st July, 10 A.M.	Kondwadih Mine, Jharia P. O., Bihar.	Hurriladih Co., Ltd.	Coal	Nakhal Malik, (m.), 35, Coal-cutter.	Coal	A miner was attempting to rerail an empty tub on a haulage track when a rake of empty tubs collided with it. He was dragged for a distance of 80 feet and received injuries which proved fatal. Inspection and inquiry made.
167	6th August, 0-40 A.M.	Burra Dhemu Colliery, Sitarampur P. O., Bengal.	Burra Dhemu Coal Co., Ltd.	Coal	Bir Bahadur, (m.), 27, Trammer.	Coal	While halting at the bottom of an underground haulage road, dipping at 1 in 5, a trammer was fatally injured by a train of 5 empty tubs which became detached from the haulage rope and ran wild. Inspection and inquiry made.
168	26th August, 3-20 P.M.	Kharkhari-Moheshpur Mine, Katragarh P. O., Bihar.	Kharkhari Co.	Coal	Bhika Bauri, (m.), 35, Coal-cutter.	Coal	A train of four loaded tubs was being raised up a haulage incline when the drawbar of the second tub failed and three tubs ran wild. A miner, who came for loading coal at the bottom of the haulage road, was struck by the tubs and killed instantly. Inspection and inquiry made.
169	24th September, 2-16 P.M.	North Jealgora Mine, Jealgora P. O., Bihar.	East Indian Coal Co., Ltd.	Coal	Jhagsoo Bania, (m.), 29, Trammer.	Coal	While pushing a loaded tub along a tramming level, a trammer was struck and seriously injured by another loaded tub that approached him from behind. Tetanus supervened and he died 15 days later. Inspection and inquiry made.
170	25th September, 3-30 A.M.	Darbhanga Kajora Mine, Kajoragram P. O., Bengal.	Maharaja of Dar- bhanga.	Coal	Sonichar Kole, (m.), 28, Coal-cutter.	Coal	A miner was struck and fatally injured by a train of ten empty tubs which was being lowered round a curve into a loading level. Inspection and inquiry made.
171	2nd October, 7-15 A.M.	Bhamori Mine, Parasia P. O., Central Provinces.	Amalgamated Coal- fields, Ltd.	Coal	Sukhan Gond, (m.), 25, Underground Clipman.	Coal	On an endless haulage road, deceased was riding on an outgoing set without authority. Suddenly, the rope gave way, allowing two sets to run wild. Deceased jumped off his set but was caught against a pillar by the runaway tubs. He sustained serious internal injuries and died on his way to the hospital. Inspection and inquiry made.
172	7th November, 11-30 A.M.	Malkera Mine, Katragarh P. O., Bihar.	The Tata Iron & Steel Co., Ltd.	Coal	Bhakta Majhi, (m.), 33, Coal-cutter.	Coal	While a miner was pushing an empty tub up a gradient on a tramming road, another empty tub, which was left on the slope uncontrolled, gravitated in the opposite direction and ran into his tub. He was thrown on the road and sustained injuries which proved fatal 17 hours later. Inspection and inquiry made.

APPENDIX II—contd.

Fatal Accidents during the year 1936—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.
<b>HAULAGE—(25 deaths)—concl'd.</b>						
173	26th December, 4-30 P.M.	Ghogri mine, Junnordco P. O., Central Provinces.	Sial Coal Coy.	Bukhi Loharin, (f.), 25, Tub-filler.	Coal	A set of 8 tubs had been drawn up to the junction of two haulage roads and was being lowered down to the branch road when the rope became detached from the set, allowing the latter to run wild. A tub-filler who came in the way of the runaway tubs, was pinned against a pillar by a tub and sustained fatal injuries. Inspection and inquiry made.
<b>SUNDRIES UNDERGROUND—(19 deaths).</b>						
174	3rd January, 2-30 P.M.	Yinnyeiu mine, Yinnyeiu P. O., Burma.	Burma China Clay Works, Ltd.	Thein Maung, (m.), 30, Labourer.	Clay	In trying to avoid being struck by some earth which was being barred down from the side of an opencast working, a labourer tripped and fell. He struck his side against the top of light tipping truck which was standing in a cutting just below him, and sustained fatal injuries. Inspection and inquiry made.
175	5th January, about 5 A.M.	Bhulanbararee mine, Pathardih P. O., Bihar.	Bhulanbararee Coal Co., Ltd.	Hedait Mesh, (m.), 42, Coal-carrier.	Coal	Deceased was carrying a basket full of coal on his head when he fell down as he was stepping over a pipe laid along the floor of the gallery. He sustained an injury to the spine which proved fatal. Inspection and inquiry made.
176	12th March, 2-0 A.M.	Bhulanbararee mine, Pathardih P. O., Bihar.	Bhulanbararee Coal Co., Ltd.	Somai Manjhi, (m.), 26, Trammer.	Coal	While a trammer was running down a haulage road he slipped and fell through a fence into a gallery at the side from which floor coal 10 feet thick had been removed. He sustained fatal injuries. Inspection and inquiry made.
177	13th March, 7-30 A.M.	Kargali mine, Bokaro P. O., Bihar.	Government of India, Railway Department.	Nandlal, (m.), 35, Stone-cutter.	Coal	A stone-cutter was engaged in breaking up a large stone with a hammer and chisel, when he fell forward on his face after delivering a blow and breaking the stone. He sustained an injury and died 12 hours later as the result of cerebral haemorrhage. Inspection and inquiry made.

178	14th April, 11 P.M.	Ekra Khas mine, Bansjora P. O., Bihar.	Maharaja S. C. Nandy.	Sukri Chamarin, (f.), 30, Loader.	Coal	While a woman was carrying slack coal along a gallery a mass of coal, weighing about 6 cwt., fell from between two "slips" on the side of a pillar at a height of 7 feet. In avoiding the falling coal she tripped and fell heavily on the floor sustaining internal injuries which proved fatal sixteen hours later. Inspection and inquiry made.
179	1st June, 9-30 A.M.	Bhurkunda mine, Bhurkunda P. O., Bihar.	Secretary of State for India.	Sobram Mistry, (m.), 40, Fitter-in-charge.	Coal	While attending to a steam pump a fitter was overcome by steam and hot air and suffocated. Inspection and inquiry made.
180	14th June, 6 A.M.	Neetalpar mine, Dishergarh P. O., Bengal.	Bengal Coal Co., Ld.	Jhuloo Singh, (m.), 25, Labourer.	Coal	While carrying a prop underground a coolie grazed his ankle on a stone. Although the injury was very slight it became septic and he died seven days later. Inspection and inquiry made.
181	18th July, 6 A.M.	Gonshadih mine, Kusumda P. O., Bihar.	Gonshadih Coal Co.,	Hulas Barbui (m.), 46, Propping Mistry	Coal	Due to a sudden movement in the goaf, a mass of stone rolled down to the edge of the goaf and knocked out a prop which displaced another prop. Deceased was struck by the second prop and received injuries which proved fatal ten days later. Inspection and inquiry made.
182	24th July, 1 P.M.	Jambad Selected mine, Kajorngram P. O., Bengal.	Devji Gbelabhai & Brothers.	Sripati Dose, (m.), 47, Pump-man.	Coal	While returning from a steam pump to the bottom of a pit along a water-logged level gallery, deceased slipped and was drowned. The depth of the water was about 4½ feet. Inspection and inquiry made.
183	31st July, 4-45 P.M.	West Bhugadidih mine, Jharin P. O., Bihar.	Kalyanji Mavji & Co.	Sahdeo Singh, (m.), 32, Propping Mistry.	Coal	While setting a prop by standing on a stool, 4 feet high, in a depillaring area a propping "mistry" fell down from the stool accidentally, and the prop fell upon him inflicting serious injuries which proved fatal forty hours later. Inspection and inquiry made.
184	18th August, 1-15 P.M.	Shivrajpur Mine, Shivrajpur P. O., Bombay.	Shivrajpur Syndi- cate, Ltd.	Chandra Singh, (m.), 25, Labourer.	Manga- nese	While two workers were climbing up a slope over the broken ore, one of them caused some pieces to roll down the slope of about 45°. A piece struck deceased on the foot when he fell backwards, hitting his head against some sharp stone on the floor. He died on his way to the hospital. Inspection and inquiry made.
185	10th September, 1 P.M.	Jamnria Mine Charanpur P. O., Bengal.	Equitable Coal Co., Ld.	Bara Jhari Bhuin, (m.), 36, Loader.	Coal	The sinder removed the workers from a depillaring section as the roof in the goaf was threatening to collapse. Deceased left his halting place and started to run further out-by when the air blast from the goaf knocked him down, causing serious injuries. He died of septicaemia 12 days later. Inspection and inquiry made.



APPENDIX II—contd.

Fatal Accidents during the year 1936—contd.

Serial number.	Date and hour of accident.	Name and situation of mine.	Name and owner	Name, sex, age and occupation of persons killed.	Name of mineral worked.	Cause of accident and remarks.
<b>SUNDRIES IN OPEN WORKING—(19 deaths)—contd</b>						
186	19th September, 6-30 A.M.	Gna mine, Gua P. O., Bihar.	The Indian Iron and Steel Co., Ltd.	Birsa Kishan, (m.), 30, Miner.	Iron Ore.	After hearing a warning that blasting operation were to be conducted in an adjoining place, deceased attempted to climb up a quarry face in order to retire to a place of safety when he slipped and fell through a height of 12 feet. He sustained serious injuries which proved fatal shortly after. Inspection and inquiry made.
187	28rd September	Ghorawari mine, Junnerdeo P. O., Central Provinces.	The Hirdagarh Collieries Ltd.	Khanijaman, (m.), 35, Miner.	Coal	Deceased fell heavily while at work and sustained a dislocation of the hip joint. He received treatment in a hospital but failed to recover from the anaesthetic. Inspection and enquiry made.
188	8th October, 2-30 A.M.	Bararee mine, Jealgora P. O. Bihar.	East Indian Coal Co., Ltd.	Koki Baurin, (f.), 24, Coal-carrier.	Coal	While carrying a mass of coal, 1' x 3' x 1' x 1' down a slope having a gradient of 1 in 4 approximately, a female coal-carrier slipped and fell. She sustained a fracture at the base of the skull and died almost immediately. Inspection and inquiry made.
189	31st October, 3-30 A. M.	Kurhurbaree mine, Giridih P. O., Bihar.	Government of India, State Railways Department	Jitan Chamar, (m.), 37, Coal-cutter.	Coal	A coal-cutter was engaged in his working place when a piece of coal rolled off the face and knocked out a prop. The latter struck him on the forehead and he sustained a fracture of the skull as the result of which he died 12 hours later. Inspection and inquiry made.
190	10th December, 12 Midnight.	Sawdwu mine, Namtu P. O., Upper Burma.	Burma Corporation Ltd.	Kwan Sho Yain, (m.), 26, Trucker.	Silver-lead-sinc.	Deceased was struck on the head by a piece of ore weighing 7 lbs. which fell from a ladderway. He received severe head injuries and died shortly afterwards.
191	22nd December, 6-30 P. M.	Kirkend mine, Kusunda P. O., Bihar.	Kirkend Coal Co.	Lilu Mahata, (m.), 38, Coal-loader.	Coal	A stone falling in the goaf rolled towards deceased's working place and dislodged two props, 11 feet long, one of which struck him inflicting injuries which proved fatal, Inspection and enquiry made.

192	20th December, 2-30 P. M.	Bhulanbararee Mine, Sijna P. O., Bihar.	Bhulanbararee Coal Co., Ltd.	Ismail Meah, (m.), 27, <i>Coal-loader.</i>	Coal	Three men were handling a ladder in their working place when some stones and coal fell from inside the goaf and knocked a prop, 31 feet long, out of position. The prop struck two of the men, inflicting fatal injuries to one and serious injuries to the other. Inspection and enquiry made.
<b>BY SURFACE MACHINERY— (6 deaths).</b>						
193	10th January, 8-30 A. M.	Karmatand Mine, Nudkurkee P. O., Bihar.	Sreeram Coal Co.	Budhan Mahaton, (m.), 36, <i>Engine-driver.</i>	Coal	Deceased was oiling the gear wheels of a haulage engine when his clothing was caught in the shafting, and he was thrown down. He sustained serious injuries to which he succumbed eight hours later. Inspection and inquiry made.
194	15th April, 7-10 A. M.	Sunkerpoore Mine, Ukhra P. O., Bengal.	Burn & Co., Ltd.	Kanai Noonis, (m.), 24, <i>Labourer.</i>	Coal	While deceased was operating the winch for lowering the shoot of a loading plant, the handle slipped from his hands and struck him on the head, fracturing the skull. He died within five hours. Inspection and inquiry made.
195	6th May, 3-45 A. M.	Bejdih Mine, Sundarchak P. O., Bengal.	Equitable Coal Co., Ltd.	Mati Mondal, (m.), 40, <i>Fitter.</i>	Coal	While deceased was opening the casing at the bottom of an elevator to examine the cause of a jam, the attendant of the elevator switched it on from the top. The left hand of deceased was so severely crushed between a bucket and the casing that it had to be amputated. He died 18 hours later. Inspection and inquiry made.
196	29th June, 11 A. M.	Sodepur Mine, Sitarampur P. O., Bengal.	Bengal Coal Co., Ltd.	Gani Dosadh, (m.), 40, <i>Fitter.</i>	Coal	While a fitter was inspecting a picking belt, his clothing was caught on one of the links connecting the plates on the return side of the belt. He was drawn between the plates and the return drum, and killed instantly. Inspection and inquiry made.
197	2nd October, 4-30 P. M.	Ajita Mine, Manoharpur P. O., Bihar.	The Bengal Iron Co., Ltd.	Jusaph, (m.), 20, <i>Pump Khalasia.</i>	Iron ore	While greasing the main shaft bearing of a three-throw pump, deceased for some unknown reason placed his hand behind the guard protecting the gearing of the pump. His hand was caught between the spur and the pinion wheels causing severe injuries and he died of septicaemia 12 days later. Inspection and inquiry made.
<b>SURFACE RAILWAYS AND TRAMWAYS BELONGING TO THE MINE—(11 deaths).</b>						
198	8th April, 8-30 A. M.	Sitapur Colliery, Sitarampur P. O., Bengal.	Bengal Coal Co., Ltd.	Dalu Hari, (m.), 40, <i>Tramway.</i>	Coal	While a trammer was hand skunting a loaded coal tub on the top landing of an endless haulage a set of tubs loaded with sand arrived and bumped against two stationary tubs. He was trapped between two tubs and sustained serious injuries from which he died. Inspection and inquiry made.

APPENDIX II—contd.

Fatal Accidents during the year 1936—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.
<b>SURFACE RAILWAYS AND TRAMWAYS BELONGING TO THE MINE—(11 deaths)—contd.</b>						
199	17th April, 9 A. M.	Pansira Mine, Manharpur P. O., Bihar.	The Bengal Iron Co., Ltd.	Noto Tossa, (m.), 27, Trammer	Iron ore.	Deceased with another trammer was pushing a loaded tub along a tramline sloping 1 in 50 approximately when it struck against a boulder and overturned. He was pinned underneath the tub and fatally injured. Inspection and inquiry made.
200	6th May, 4-30 P. M.	Khas Angarpathra, (b Section) mine, Katraagarh P. O., Bihar.	Bal Gopal Das	Fagoo Bhuiyan, (m.), 23 Labourer.	Coal	Deceased was taking shelter under a railway wagon when another wagon moved by a high wind bumped into the wagon and set it into motion. In attempting to get out from beneath the wagon, he was run over and was seriously injured. He succumbed to his injuries five hours after the accident. Inspection and inquiry made.
201	7th May, 7-35 A. M.	Dhobani Mine, Ghatwila P. O., Bihar.	Indian Copper Corporation, Ltd.	Ramdas, (m.), 26, Plater coolie.	Copper	Three persons carrying an oxygen cylinder attempted to cross a tramline on the surface in front of a moving tub when it caught the back of the cylinder and knocked it down. Deceased was struck by the oxygen cylinder as he fell with it and fatally injured. Inspection and enquiry made.
202	20th June, 11 P. M.	Kustore Mine, Kusunda P. O., Bihar.	Raneegunge Coal Association, Ltd.	Guru Sahya Dosad, (m.), 32, Wagon shunter.	Coal	Four persons were employed to move down a loaded wagon from beneath a screening plant, but as they failed to do it, an empty wagon was allowed to run into the loaded wagon in order to set it in motion. Deceased who was on the track was crushed between the buffers and killed instantly. Inspection and enquiry made.
203	4th July, 8 A. M.	Gua Iron Ore Mine, Gua P. O., Bihar.	The Indian Iron & Steel Co., Ltd.	Rakhal Mahato, (m.), 24, Pointman.	Iron Ore.	While a train of 12 empty tubs was being pushed by a locomotive, the tub next to it got derailed and capsized causing the locomotive to overturn. Deceased, who was travelling on the locomotive, attempted to jump clear but was pinned underneath the locomotive and killed instantly. Inspection and enquiry made.

204	5th October, 7-30 P.M.	Sitabala, Bhojndih P. O., Bihar.	Messrs. Mohatta Brothers.	Knuja Jorain, (m.), 49, <i>Boiler foreman.</i>	Coal	While walking along a tramline, during the hours of darkness, deceased was struck by three empty tubs which were set into motion by a violent storm. He sustained serious internal injuries which proved fatal two days later. Inspection and enquiry made.	
205	13th December, 3 P.M.	Dandot Mine, Dandot P. O., Punjab.	The Executors of the Estate of late Lala Shankerdas.	1. Feroz, (m.), 33, <i>Signal-man.</i> 2. Saïda, (m.), 20. 3. Mehdi, (m.), 25. 4. Saïda, (m.), 18, <i>Labourers.</i>	Coal	While a set of six loaded tubs was being lowered down a surface self acting incline the rope broke when the set reached the part of the incline where it sloped at 1 in. 3. The tubs ran again, a distance of 275 ft. and fell into a "Khud" 144 ft. deep, at the bottom of the incline. The deceased, who were riding on the set without authority were also thrown into the "Khud" and killed instantly. Inspection and inquiry made.	
<b>BY ELECTRICITY—(3 deaths).</b>							
206	15th January, 2 P.M.	Hursiladh Mine, Jharia P. O., Bihar.	Equitable Coal Co., Ltd.	Khublal Rewani, (m.), 40, <i>Assistant Electrician.</i>	Coal	Deceased went up a transmission line pole for connecting an overhead line to a cable which was live and feeding another overhead line. He received an electric shock at about 345 volts A. C. and falling to the ground, received serious injuries from which he died soon after. The accident would not have occurred if deceased had first ascertained if the cable was dead. Inspection and inquiry made.	
207	9th April, 3-30 P.M.	Ghusick Mine, Kalmahari P. O., Bengal.	Ghusick & Muslia Collieries, Ltd.	Shibu Kurmi, (m.), about 30, <i>Pump-attendant.</i>	Coal	Deceased climbed a post carrying a lighting line with a view to remove the burnt out electric bulb of a light fixed on the post. He received an electric shock at 230 volts to earth, fell down from a height of about 13 feet and was found dead. He was not authorized to do the work. The lighting was at 230 volts A. C. obtained from one phase and earthed neutral point of a 3-phase 400 volt distribution system. Inspection and inquiry made.	
208	18th April, 3-30 P.M.	Bawtwis Mine, Namsu P. O., Burma.	Burma Corporation, Ltd.	Lu Win Kyi, (m.), 35, <i>Miner.</i>	Silver- lead- mine.	A miner was attempting to pass between two cars of a stationary electric train, and while standing on the buffers, a shovel which he was carrying on his shoulder came in contact with the overhead trolley line. He received an electric shock and died instantly. Inspection and inquiry made.	

APPENDIX II—contd.

Fatal Accidents during the year 1936—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.
<b>MISCELLANEOUS ON SURFACE— (6 deaths).</b>						
209	2nd March, 7-25 A.M.	Bankswimla, Nos. 7 & 8 Pits Mine, Charanpur P. O., Bengal.	The Bengal Coal Co., Ltd.	Butey Shah, (m.), 24, <i>Tindal Cooly.</i>	Coal	While climbing on the headgear of a sinking pit, a cooly lost his balance and fell on the landing door at the top of the shaft. He was fatally injured. Inspection and inquiry made.
210	28th April, 2-30 P.M.	Pachaung Mine, Kanbauk P. O., Burma.	Mr. Yeo Kyeo Han	The Yin, (m.), 41, <i>Tributor.</i>	Tin and Wol- fram ore.	Deceased was dislodging a boulder in an open working. He was struck by the boulder and died from the injuries he received.
211	18th May, 5-15 P.M.	Jaragdh Mine, Bokaro P. O., Bihar.	B. B. & C. I. and M. & S. M. Rail- ways.	Pindakhan, (m.), 48, <i>Labourer.</i>	Coal	A gang of 10 men was engaged in coiling a guide rope 900, long as it was being drawn out of a shaft. After about 400' of the rope had been withdrawn it got out of control and began to slip down. Deceased, who was one of the gang, hung on to the rope and was raised about 25, from the ground before he let go. He crashed in to the headgear in falling and received internal injuries which proved fatal two hours later. Inspection and inquiry made.
212	27th June, about 11 P.M.	Hpaungdaw Mine, Tavoy P. O., Burma.	Quah Cheng Guan.	Pan Khwee, (m.), 49, <i>Labourer.</i>	Tin and Wol- fram.	Deceased fell into a ditch and was smothered by fall of earth.
213	27th August, 8-30 P.M.	Busserya Mine, Kuannda P. O., Bihar.	Busserya Coal Co., Ld.	Dukhan Bhuiya, (m.), 18, <i>Labourer.</i>	Coal	Deceased was found drowned in a boiler fed tank containing 8 feet of water. Inspection and inquiry made.
214	21st December, 8-30 A.M.	Nannghakhaw Mine, Meymyo P. O., Burma.	Burma Corporation, Ld.	Bhemo Saw, (m.), 26, <i>Labourer.</i>	Iron ore,	Deceased was loosening iron ore in a bin when the material suddenly slipped and engulfed him. He died from suffocation.

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APPENDIX II—contd.

Fatal Accidents during the year 1936—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.	Reason for exclusion.	Cause of accident and remarks.
<b>FATAL ACCIDENTS NOT INCLUDED IN THE STATISTICS—(46 deaths).</b>							
1	1st January, 9 A.M.	Banksimula Mine, Charanpur P. O., Bengal.	Bengal Coal Co., Ld.	Jamuna Kora, (f), 80, Wagon-loader.	Coal	Not a mining accident.	Deceased jumped into a well in a deranged mental state and was drowned. Inspection and inquiry made.
2	12th January, 10 A.M.	Kustore (Alkusa South) Mine, Kuannda P. O., Bihar.	Baneugunge Coal Association, Ld.	Tipou Roy, (m.), 25.	Coal	Not employed.	Deceased was drowned while bathing in a boiler feed tank containing eleven feet of water. Inspection and inquiry made.
3	17th January, 11 P.M.	Lower Joyrampur mine, Jharra P. O., Bihar.	Ghela Panchan & Co.	Lalji Beldar, (m.), 40, Contractor.	Coal	Not a mining accident.	Deceased was sitting near a fire on the verandah of his dwelling when his clothing caught fire, and he sustained serious burns to which he succumbed the following day. Inspection and inquiry made.
4	25th February 2 P.M.	Bararee Mine, Jealgora P. O., Bihar.	East Indian Coal Co., Ld.	Choudhuri Mesh, (m.), 45, Coal-carrier.	Coal	Not a mining accident.	Deceased died in the mine as the result of heart failure. Inspection and inquiry made.
5	27th January 7-30 A.M.	Begonia Mine, Barakar P. O., Bengal.	K. C. Thapar.	Jhilwa Mahao, (m) 15, Not employed.	Coal	Not a mining accident.	Deceased in an epileptic fit was drowned in a colliery bathing tank. Inspection and inquiry made.
6	27th February, 8-30 A.M.	Dhura Mine, Nirahachati P. O., Bihar.	Searool Raj Estate.	Gulab Bala Jogin, (f.), 14.	Coal	Not employed.	While deceased was undercutting the outcrop of a seam of coal near the southern bank of a river, a mass of earth 10' x 3' x 3½' thick fell on her from a height of about 4 feet. She was buried and suffocated. Inspection and inquiry made.

7	4th March, 4 A. M.	Sethus Mine, Kodurina P. O., Bihar.	S. K. Sahana & Sons.	Budhan Kairi, (m.), 19, <i>Labourer.</i>	Mica	Not a mining accident	Deceased was adjusting the flame of a kerosene lamp on the surface when the lamp was suddenly involved in flame. Deceased was severely burnt and died from his injuries.
8	The 15th March, About 8 A. M.	Thikatchang Mine, Tavoy P. O., Burma.	V. A. Ross Suther- land.	Ah Hoo, (m.), 50, <i>Tributor.</i>	Tin & wolfram.	Not a mining accident	Deceased fell from a tree and was killed.
9	24th March, 9 A. M.	Jeetpur Mine, Bhaga P. O., Bihar	The Bengal Iron Co., Ltd.	Meghn Kahar, (m.), 30, <i>Tramway.</i>	Coal	Not a mining accident	Deceased climbed on to the top of an expanded metal fence, 4'-9" high surrounding the top of a shaft 453 ft. deep, and committed suicide by jumping down the shaft. Inspection and inquiry made
10	31st March, 8 A. M.	Neetalpore Mine, Dishergarh P. O., Bengal.	Bengal Coal Co., Ltd.	Chuan Manjhi, (m.), 40, <i>Coal-cutter.</i>	Coal	Not a mining accident	While at work underground a miner collapsed and died from natural causes. His death was possibly accelerated by over exertion. Inspection and inquiry made.
11	12th April, 8 P. M.	Damna Mine, Bamhanwara P. O., Central Provinces.	Kashau Valley Coal Co., Ltd.	Chhoti Bai Gondni, (f.), 14.	Coal	Not emplo- yed.	A child, 14 years old, fell into a boiler feed tank containing 34' of water and was drowned. The tank was fenced. In- spection and inquiry made.
12	19th April, 2-30 P. M.	New Jinagora Mine, Jharia P. O., Bihar.	New Jinagora Coal Co., Ltd.	Hethia Bhuiyan (f.), 12.	Coal	Not emplo- yed.	Deceased, who was subject to epileptic fits, was found drowned in a bathing tank containing water only 3 feet deep. Inspection and inquiry made.
13	3rd April, 6 A. M.	Ganbodih Mine, Jharia P. O., Bihar.	S. B. Banerjee.	Jiten Shaw, (m.), 50.	Coal	Not emplo- yed.	Deceased was drowned in an abandoned quarry containing 18 feet of water. Inspection and inquiry made.
14	2nd April, 2-30 P. M.	Bagligi Mine, Jharia P. O., Bihar.	Anderson Wright & Co.	Bhadu Bauri, (m.), 4.	Coal	Not emplo- yed.	A child was found drowned in an abandoned quarry contain- ing 3 feet of water. Inspection and inquiry made.
15	28th April, 1 P. M.	Baarria Mine, Domehanch P. O., Bihar.	Shamakant Lal & Shrikant Lal	Ugna Musahar, (m.), 17.  Sohre Musahar, (m.), 18.  Lachman Musahar, (m.), 19, <i>Dumper- cutter.</i>	Mica	Not a mining accident	During a jungle fire a straw hut constructed on a discon- tinued mica mine caught fire and three persons, who were sleeping in that hut, were fatally burnt. One of them in confusion fell down a shaft and died there one died on the spot and the third one died about twelve hours after the accident. Inspection and inquiry made.



APPENDIX II—contd.

Fatal Accidents during the year 1936—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.	Reason for exclusion.	Cause of accident and remarks.
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FATAL ACCIDENTS NOT INCLUDED IN THE STATISTICS—(45 deaths)—contd.

16	15th May, 9-15 P.M.	Victoria Mine, Kulti P. O., Bengal.	New Boerbhoom Coal Co., Ltd.	Jati Chamar, (m.), 30, Coal-cutter.	Coal	Not a mining accident.	In the Temporary absence of the Sirdar and contrary to his instructions deceased commenced to load coal in a depillaring area when a piece of roof stone fell upon him fracturing his right thigh. Deceased recovered from his injuries but was later attacked with dysentery followed by secondary anaemia and died four months later. Inspection and inquiry made.
17	6th June, 5 P.M.	Bokaro Mine, Bokaro P. O., Bihar.	East Indian Railway and Bengal Nagpur Railway.	Sukri Bhuiyan, (f.), 8.	Coal	Not employed.	While attempting to cross a railway yard by passing underneath a wagon deceased was run over and fatally injured. Inspection and inquiry made.
18	10th June, 6 A.M.	Dhariajoba Mine, Kusunda P. O., Bihar.	Dhariajoba Colliery Co., Ltd.	Ghasi Ram Marwari, (m.), 45.	Coal	Not employed.	Deceased was drowned while bathing in an abandoned quarry containing about 20 feet of water. Inspection and inquiry made.
19	14th June, 9 A.M.	Mohulichua Mine, Qiridih P. O., Bihar.	Khuldiha Coal Company.	Unknown, (f.), about 25.	Coal	Not employed.	Deceased was excavating coal in the outcrop of a seam without authority when she was suffocated by a fall of earth.
20	20th June, 11-30 P.M.	Khas Jambad Mine, Ukhra P. O., Bengal.	Fulchand & Sons	Kaur Janak Dulari, (f.), 40, Not employed.	...	Not employed.	It is presumed that deceased, who was insane, either fell or jumped into a well and was drowned. Inspection and inquiry made.
21	12th July, between 11- 30 P.M. and 2-30 A.M.	Lodna Mine, Jharis P. O., Bihar.	Lodna Colliery Co., (1920), Ltd.	Chatudhari Nunia, (m.), 33, Bansman.	Coal	Not a mining accident.	Deceased either jumped or was thrown down a shaft 371 feet deep, and was killed instantly. Inspection and inquiry made.

22	13th July, 5 A.M.	Churulia mine, Churulia P. O., Bengal.	Churulia Coal Co., Ld.	An unknown person whose name is pre- sumed to be Moral Manjhi, (m.), 30.	Coal	Not em- ployed.	An unemployed miner jumped over the fence-wall of an airshaft 150 feet deep and fell to the bottom. He was killed instantly. Inspection and inquiry made.
23	18th July, 1-40 P.M.	Yinnyeiu Mine, Yinnyeiu P. O., Burma.	Burma China Clay Works, Ld.	Ma Tha, (f).	Clay	Not em- ployed.	Deceased was run over by a wagon on a light railway and died from shock and hæmorrhage.
24	25th July, 8-30 A.M.	Jarangdih Mine, Bokaro P. O., Bihar.	B., B. & C. I. and M. & S. M. Rail- ways.	Bajrang Sahai, (m.), 36, <i>Loading Supervi- sor.</i>	Coal	Not a mining acci- dent.	Deceased fainted and fell while on duty at the loading depot. He received injuries which were thought to be simple in the beginning but proved fatal later. Inspection and inquiry made.
25	10th August, 11-30 A.M.	Faridour Mine, Charanpur P. O., Bengal.	Poniat Coal Co.	Bijala Bauria, (f.), 6.	Coal	Not a mining acci- dent.	Deceased was found drowned in a boiler feed tank containing four feet of water. Inspection and inquiry made.
26	12th August, 12 Noon.	Gua Iron Ore Mine, Gua P. O., Bihar.	The Indian Iron and Steel Co., Ld.	Sukhs Kishan (m.), 30, <i>Miner.</i>	Iron Ore	Not a mining accident.	While cutting down the trees on the slope of a hill for extension of a quarry, a tree that had been felled crashed against another tree in falling and tore off a branch of the latter. Deceased who happened to be in the vicinity was struck by the falling branch and received injuries which proved fatal 4 days later. Inspection and enquiry made.
27	23rd August	Bejjih Mine, Sitarampur P. O., Bengal.	Equitable Coal Co., Ltd.	Maku Mejjiam, (f.), 26, <i>Loader.</i>	Coal	Not a mining accident.	Deceased, said to have been an epileptic, was found drowned in a boiler feed tank containing eight feet of water. Inspection and inquiry made.
28	Probably 18th September, not known.	Reat Jambad Mine, Ukhra P. O., Bengal.	Real Jambad Coal Co., Ltd.	Radhika Dasai, (f.), 27.	Coal	Not em- ployed.	Deceased was found drowned in an abandoned water-logged shaft. Inspection and inquiry made.
29	28th Septem- ber, 7 P.M.	Murulidih Mine, Mehoda P. O., Bihar.	The Bengal Coal Co., Ltd.	Kishan Dome, (m.), 35.	Coal	Not em- ployed.	Deceased in a state of intoxication jumped into an abandoned well and was drowned. Inspection and inquiry made.

APPENDIX II—*contd.*

Fatal Accidents during the year 1936—*contd.*

Serial number	Date and hour of accidents.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of persons killed.	Name of manager worked.	Reason for exclusion.	Cause of accident and remark.
<b>FATAL ACCIDENTS NOT INCLUDED IN THE STATISTICS—(45 deaths)—<i>contd.</i></b>							
30	29th September, 5 P.M.	Niluripathra Mine, Jharia P. O., Bihar.	Niluripathra Coal Co., Ltd.	Fakir Chamar, (m.), 30. Parbatia Kamru, (f.), 30 Khendi Mullik, (f.), 40. Son of Jhari Modi, (m.), 10.	Coal	Not employed.	A dwelling on the surface collapsed owing to a subsidence of an area of old workings and two persons were killed. At the same time two other persons who were near the subsidence were engulfed in the broken ground and were lost. Inspection and inquiry made.
31	30th September, 11 P.M.	Muslia Mine, Kalipahari P. O., Bengal.	Ghusick and Muslia Collieries, Ltd	Aviram Bauri, (m.), 35. <i>Underground Trammer.</i>	Coal	Not a mining accident.	While at work underground a trammer was attacked by illness and died shortly after being brought to the surface. Death was due to heart failure. Inspection and inquiry made.
32	30th September, 4-30 P.M.	Alkusa and Nyadee Mine, Kusunda P. O., Bihar.	Alkusa and Nyadee Collieries Co.	Pairu Bhuyan, (m.), 25.	Coal	Not employed.	A child, which was being carried by its mother, fell under a projecting revolving shaft, was severely injured by the shaft and died 3 days later. Inspection and inquiry made.
33	14th October, 11 P.M.	Hpaungdaw Mine, Tavoy P. O., Burma.	High Speed Steel Alloys Mining Co., Ltd.	(1) Bancha, (m.), 22. (2) Natubara, (m.), 25 (3) Govinda, (m.), 22. <i>Triputers.</i>	Tin and Wolfram.	Not a mining accident.	Three tributars were overwhelmed by a land slip on the side of a hill not being part of the mine and were killed.

34	9th November, 9 P.M.	Lodna Mine, Jharia P. O., Bihar.	North Burrakur Coal Co., Ltd.	Gouru e Kumarin. (f.), 22. Kamwla, daughter of Ram Charan Kumar. (f.), 2. Madan, son of Chhambari Kumar. (m.), 4.	Coal	Not employed.	A collapse of underground workings damaged a building on the surface and one woman and two children who were in the building at the time, were killed. Inspection and inquiry made.
35	10th November, 8 A.M.	Toposi Mine, Toposi P. O., Bengal.	Burn & Co., Ltd.	Gouru Pala Mukherjee. (m.), 47. Pat Siroor.	Coal	Not a mining accident.	Deceased closed the door and the window of his room at night and went to sleep with a burning pipe, a terrible hearth. He was found to have been asphyxiated next morning. He died of blood poisoning two days later. Inspection and inquiry made.
36	31st December, 4.30 P.M.	Makerwal Mine, Trag P. O., Punjab.	R. S. L. Ishardas Kapur and C. B. Pitman.	Amir Khan. (m.), 42. Overman.	Coal	Not a mining accident.	Deceased was assisting to remove a stone during the widening of a road when he fell down a deep precipice and was killed.

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.	
A-ssam . . . . .	Lakhimpur—M a k u m coalfield.	3	3	..	..	..	..	..	3
Bengal (and part of Bihar).	Raniganj coalfield . .	64	203	69	..	..	6	..	278
Bihar . . . . .	Jharia coalfield . .	67	91	6	..	..	6	..	103
	Bokaro ..	6	4	..	1	..	1	..	6
	Karaupura ..	1	1	..	..	..	..	..	1
	Giridih ..	6	6	..	..	..	..	..	6
Central Provinces	Chanda . . . . .	1	1	..	..	..	..	..	1
	Chhindwara—P e n e b Valley coalfield.	17	13	4	..	..	..	..	17
Punjab . . . . .	Salt Range coalfield . .	2	1	..	..	..	4	..	5
Total (Coal) . . . . .		167	323	79	1	..	17	..	420

## DIX II.

## No. 2.

regulated by the Indian Mines Act, 1936.

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																	
1.90	...	...	1.30	69	60	..	..	...	8	2	70	39.84	...	15.17	32.38		
6.76	...	0.38	4.91	216	160	22	1	...	34	6	223	4.52	1.78	2.52	3.93		
2.19	...	0.26	1.49	267	203	20	3	...	46	1	273	5.03	1.51	2.05	3.06		
1.74	0.23	0.37	0.64	32	13	...	7	3	7	2	32	5.66	2.99	3.37	3.44		
1.18	...	...	0.34	9	7	...	...	...	3	...	10	8.24	...	4.28	5.40		
1.04	...	...	0.84	33	30	1	...	...	2	...	33	6.39	...	1.57	4.61		
0.52	...	...	0.38	7	4	1	...	...	1	1	7	2.56	...	3.51	2.66		
2.45	...	...	1.76	41	32	5	...	...	6	...	43	5.34	...	2.27	4.54		
0.75	...	5.12	2.26	23	14	...	...	...	9	...	23	10.47	...	11.51	10.42		
3.80	0.11	0.35	2.58	697	523	49	11	3	116	12	714	5.41	1.59	2.65	4.36		

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 . . . . .	Singbhum . . . . .	6	...	...	2	...	5	...	7
Burma . . . . .	Northern Shan States . . . . .	1	..	...	...	...	1	...	1
	(Total (Iron Ore))	7	...	...	2	..	6	...	8
Bombay . . . . .	Panch Mahals . . . . .	1	1	..	...	...	...	...	1
Central Provinces	{ Balaghat . . . . .	1	1	...	...	...	...	...	1
	{ Bhandara . . . . .	...	...	...	...	...	...	...	...
	{ Nagpur . . . . .	...	...	..	...	...	..	...	...
Madras . . . . .	Vizagapatam . . . . .	...	...	...	...	...	...	...	...
	Total (Manganese)	2	2	...	...	...	...	...	2
Burma . . . . .	Northern Shan States . . . . .	2	2	...	...	...	...	...	2
Burma . . . . .	{ Mergui . . . . .	7	...	...	8	1	...	...	9
	{ Tavoy . . . . .	10	2	...	12	...	2	..	16
	Total (Tin and Wolfram)	17	2	..	20	1	2	...	25

## DIX II—contd.

## No. 2—contd.

regulated by the Indian Mines Act, during the year 1936—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.					
<b>ORE</b>															
...	0.31	0.82	0.55	9	..	..	3	..	6	..	9	..	0.46	9.98	0.71
...	...	8.93	2.72	1	..	..	..	..	1	..	1	..	8.93	2.72	..
...	0.30	0.96	0.61	10	..	..	3	..	7	..	10	..	0.44	1.12	0.77
<b>NESE</b>															
14.08	...	..	1.27	9	..	..	2	3	2	2	9	..	11.57	14.08	11.44
1.81	...	..	0.13	9	..	..	4	1	4	..	9	..	0.84	3.23	1.16
...	...	..	..	9	..	..	1	..	5	1	7	..	0.36	15.34	2.59
...	...	..	..	1	..	..	..	..	2	..	2	..	..	4.61	0.52
...	...	..	..	1	..	..	..	..	1	..	1	..	..	15.15	0.92
3.22	...	..	0.12	9	..	..	7	4	14	3	28	..	0.78	6.57	1.62
<b>ORE</b>															
0.63	..	..	0.54	116	112	..	..	..	4	..	116	32.14	..	8.47	31.37
<b>WOLFRAM</b>															
...	1.57	..	1.44	2	..	..	..	1	1	..	2	..	0.17	2.28	0.32
0.84	1.36	1.90	1.30	23	6	..	5	..	16	..	29	3.37	0.57	15.25	2.36
0.77	1.36	1.25	1.28	25	7	..	5	1	17	..	31	3.06	0.39	10.50	1.59





DIX II—*contd.*No. 2—*contd.*regulated by the Indian Mines Act, during the year 1936—*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.					
<b>ORE</b>															
...	10.87	...	6.95	2	...	...	1	...	1	...	2	...	5.43	9.62	6.95
...	1.09	...	1.03	...	...	...	...	...	...	...	...	...	...	...	...
...	2.72	...	2.29	2	...	...	1	...	1	...	2	...	0.91	6.35	1.53
<b>ORE</b>															
0.66	...	0.74	0.69	46	43	...	...	...	4	...	47	18.25	...	2.95	16.18
<b>CA</b>															
...	...	...	...	2	3	...	...	...	...	...	3	0.95	...	...	0.69
0.37	0.9	...	0.39	11	12	...	...	...	1	...	13	1.11	...	0.42	0.86
0.74	...	...	0.23	...	...	...	...	...	...	...	...	...	...	...	...
0.31	0.43	...	0.2	13	15	...	...	...	1	...	16	0.95	...	0.22	0.61
<b>LT</b>															
...	...	...	...	8	8	...	...	...	...	...	8	12.07	...	...	8.26
...	...	...	...	1	1	...	...	...	...	...	1	8.85	...	...	5.52
...	...	...	...	8	6	1	...	...	2	...	8	39.47	...	22.73	13.53
...	...	...	...	17	14	1	...	...	2	...	17	16.16	...	8.85	12.23

Table

Statement of fatal and serious accidents in and about Mines

Provinces.	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.	
Bihar . . . . .	Santal Parganas . . . . .	2	...	...	2	...	...	...	2
	Sahabad . . . . .	1	...	...	...	1	...	...	1
Burma . . . . .	Lower Chindwin . . . . .	...	...	...	...	...	...	...	...
	Thaton . . . . .	...	...	...	...	...	...	...	...
Madras . . . . .	Chingleput . . . . .	...	...	...	...	...	...	...	...
	East Godawari . . . . .	...	...	...	...	...	...	...	...
	Guntur . . . . .	...	...	...	...	...	...	...	...
	Total (Stone) . . . . .	3	...	...	2	1	...	...	3
									<b>LIME</b>
Bihar . . . . .	Shahabad . . . . .	1	...	...	...	1	...	...	1
Burma . . . . .	Northern Shan States . . . . .	...	...	...	...	...	...	...	...
Central Provinces . . . . .	Jubbulpore . . . . .	...	...	...	...	...	...	...	...
Punjab . . . . .	Attock . . . . .	...	...	...	...	...	...	...	...
	Total (Limestone) . . . . .	1	...	...	...	1	...	...	1

DIX II—contd.

No. 2—contd.

regulated by the Indian Mines Act, during the year 1936—contd.

ACCIDENTS.				SERIOUS ACCIDENTS.												
Deaths rate per 1,000 persons employed.			Underground, Open workings and Surface.	Number of separate serious accidents.	Number of persons seriously injured.						Total.	Serious injury rate per 1,000 persons employed.				
Underground.	Open workings.	Surface.			Underground.	Open workings.	Surface.	Underground.	Open workings.	Surface.		Underground.	Open workings.	Surface.	Underground and Open workings and Surface.	
					Males.	Females.	Males.	Females.	Males.	Females.						
<b>NE</b>																
..	1.60	..	0.33	..	..	..	..	..	..	..	..	..	..	..	..	..
..	3.28	..	3.74	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	1	..	..	..	..	1	..	1	..	..	62.50	2.33	..
..	..	..	..	4	..	..	4	..	1	..	5	..	1.71	3.69	1.03	..
..	..	..	..	5	..	..	2	1	1	1	5	..	4.81	10.42	6.13	..
..	..	..	..	1	..	..	1	..	..	..	1	..	13.33	..	13.33	..
..	..	..	..	2	..	..	2	..	..	..	2	..	16.27	..	16.27	..
..	0.36	..	0.28	13	..	..	9	1	3	1	14	..	1.21	1.70	1.32	..
<b>STONE</b>																
..	0.65	..	0.51	2	..	..	1	1	..	..	2	..	1.71	..	1.62	..
..	..	..	..	2	..	..	2	..	..	..	2	..	27.40	..	27.40	..
..	..	..	..	4	..	..	8	..	1	..	9	..	13.58	5.96	2.18	..
..	..	..	..	3	..	..	3	..	..	..	3	..	15.54	..	16.35	..
..	0.15	..	0.13	11	..	..	14	1	1	..	16	..	2.24	1.1	2.11	..

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.	
Burma	Thaton	1	...	...	1	...	...	...	1
Central Provinces	Jubbulpore	2	...	...	2	...	...	...	2
Madras	Chaddapal	1	...	...	1	...	...	...	1
	Grand Total (All minerals).	214	335	79	34	3	26	...	477

CHINA

FIRE

BARY

DIX II—*contd.*

No. 2—*concl.*

regulated by the Indian Mines Act, during the year 1936—*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.					
<b>CLAY</b>															
...	90-91	...	62-50	...	...	...	...	...	...	...	...	...	...	...	
<b>CLAY.</b>															
...	6-41	...	5-85	...	...	...	...	...	...	...	...	...	...	...	
<b>TES</b>															
...	76-92	...	66-66	...	...	...	...	...	...	...	...	...	...	...	
3-17	0-53	0-37	1-77	978	7-15	50	80	10	170	16	1,011	5-85	0-57	2-67	3-75

APPENDIX II—*concl.*

Table No. 3.

Statement of fatal accidents in Mines regulated by the Indian Mines Act, during the year 1936, 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 deaths.	Underground.	Open workings.	Surface.	Underground, Open workings and Surface.
Coal . . .	167	213	64	39	5	35	7	..	25	15	2	15	420	3 80	0·11	0·35	2·58
Iron Ore . . .	7	..	..	1	..	..	2	..	..	1	..	4	8	..	0·30	0·96	0·61
Manganese Ore	2	..	..	1	..	..	..	..	..	1	..	..	2	22	..	..	0·12
Lead Silver . . .	2	..	..	..	..	..	..	..	..	1	1	..	2	0·63	..	..	0·54
Tin and Wolfram Ore.	17	..	1	21	..	..	1	..	..	..	..	2	25	0·77	1·36	1·29	1·28
Chromite Ore . . .	3	..	..	3	..	..	..	..	..	..	..	..	3	..	2·72	..	2·29
Copper Ore . . .	2	..	1	..	..	..	..	..	..	..	..	1	2	0·66	..	0·74	0·69
Mica . . .	6	..	1	3	2	..	1	..	..	..	..	..	7	0·32	0·43	..	0·28
Stone . . .	3	..	..	2	..	..	1	..	..	..	..	..	3	..	0·36	..	0·28
Limestone . . .	1	..	..	1	..	..	..	..	..	..	..	..	1	..	0·15	..	0·13
China Clay . . .	1	..	..	..	..	..	..	..	..	1	..	..	1	..	90·91	..	62·50
Fire Clay . . .	2	..	..	2	..	..	..	..	..	..	..	..	2	..	6·43	..	5·85
Barytes . . .	1	..	..	1	..	..	..	..	..	..	..	..	1	..	76·92	..	66·66
Total for 1936	214	213	67	74	7	35	12	..	25	19	3	22	477	3·17	0·53	0·37	1·77
Total for preceding year	203	88	76	71	11	4	7	11	22	13	..	14	312	2·01	0·62	0·23	1·23
Difference	+11	+130	-9	+3	-4	+31	+5	-11	+3	+6	+3	+8	+165	+1·16	-0·19	+0·14	+0·54

## APPENDIX III.

Statement of prosecutions under the Indian Mines Act, during the year 1936.

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	1	1	Section 16(2) of the Indian Mines Act, 1923 and Regulations 137 (1) and 138 (1) of the Indian Coal Mines Regulations, 1926.	
	Do.	1	1	1	Sections 15(1) and 27 of the Indian Mines Act, 1923.	
	Do.	1	1	1	Temporary Regulations 11(1), 11(2) and 12 of the Temporary Indian Coal Mines Regulations, 1936.	
	Do.	1	1	1	Regulations 103 104 and 111 of the Indian Coal Mines Regulations, 1926.	
	Do.	1	1	—	Bye-law 82 made under Section 32 of the Indian Mines Act, 1923.	Case pending as accused has not yet been traced.
	Do.	1	3	3	Regulations 76 and 15(4) of the Indian Coal Mines Regulations, 1926, and Bye-law 36 made under Section 32 of the Indian Mines Act, 1923.	
	Do.	1	1	1	Regulation 149 of the Indian Coal Mines Regulations, 1926 and Bye-law 36 made under Section 32 of the Indian Mines Act, 1923.	
	Do.	1	2	2	Regulations 70(2), 76 and 149 of the Indian Coal Mines Regulations, 1926, and Rule 9 of the Rules made by the Bihar Government under Section 30 of the Indian Mines Act, 1923, and Bye-law 30 made under Section 32 of the Indian Mines Act, 1923.	
	Do.	1	1	1	Regulations 144 and 146 of the Indian Coal Mines Regulations, 1926.	



APPENDIX III—*contd.*Statement of prosecutions under the Indian Mines Act, during the year 1936—*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	Hazaribagh	1	3	3	Regulations 42 and 64(3) of the Indian Metalliferous Mines Regulations, 1926, read with Regulations 71 and 16 of the Indian Metalliferous Mines Regulations, 1926.	
	Do.	1	1	1	Regulations 3 (2) of the Indian Metalliferous Mines Regulations, 1926.	
	Do.	2	2	1	Regulation 3(1) of the Indian Metalliferous Mines Regulations, 1926.	One of the accused died.
	Do.	1	3	3	Regulation 3 of the Regulations for prohibition of employment of women underground.	
	Maunbhum	1	3	1	Regulation 3(3) of the Indian Coal Mines Regulations, 1926.	Case against one of the accused was dropped.
	Do.	1	1	—	Regulation 3(2) of the Indian Coal Mines Regulations, 1926.	Case was dropped as the accused could not be traced.
	Do.	1	2	2	Regulations 24(3)(c), 67 and 149 of the Indian Coal Mines Regulations 1926 and Rule 9 of the rules made by the Bihar Government under Section 30 of the Indian Mines Act, 1923.	
	Do.	1	1	1	Regulation 84 of the Indian Coal Mines Regulations, 1926.	
	Do.	1	1	1	Section 15 of the Indian Mines Act, 1923, Rule 9 of the rules made by the Bihar Government under Section 30 of the Indian Mines Act, 1923, read with Regulations 149 and 137 of the Indian Coal Mines Regulations, 1926.	

APPENDIX III—*contd.*Statement of prosecutions under the Indian Mines Act, during the year  
1936—*contd.*

Province.	District.	Number of prosecutions.	Number of persons prosecuted.	Number of persons convicted.	Number of Regulations, By-laws and Rules and Sections of the Act contravened.	REMARKS.
Bihar— <i>contd.</i>	Manbhum . . .	1	1	1	Regulation 146 of the Indian Coal Mines Regulations, 1926.	
	Do. . .	1	1	1	Regulation 67 of the Indian Coal Mines Regulations, 1926.	
	Do. . .	1	2	2	Regulations 15, 119 and 143 of the Indian Coal Mines Regulations, 1926 read with Rule 9 of the Rules made by the Bihar Government under Section 30 of the Indian Mines Act, 1923.	
	Do. . .	1	2	2	Regulations 67 and 119 of the Indian Coal Mines Regulations, 1926 and Rule 9 of the Rules made by the Bihar Government under Section 30 of the Indian Mines Act, 1923.	
	Do. . .	1	3	3	Section 22 (C) of the Indian Mines Act, 1923, and Regulation 149 of the Indian Coal Mines Regulations, 1926, read with Rule 9 of the rules made by the Bihar Government under Section 30 of the Indian Mines Act, 1923.	
	Do. . .	1	3	1	Section 22 (B) of the Indian Mines Act, 1923, and Regulations 146 and 142 of the Indian Coal Mines Regulations, 1926, and By-law 71 made under Section 32 of the Indian Mines Act, 1923.	Two of the accused were acquitted.

APPENDIX III—*contd.*

Statement of prosecutions under the Indian Mines Act, during the year  
1936—*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>concd.</i>	Manbhum . . .	1	2	1	Section 15, of the Indian Mines Act, 1923.	One of the accused could not be traced.
	Do. . . . .	1	2	2	Regulations 25 and 149 of the Indian Coal Mines Regulations, 1926, and Bye-law 95 made under Section 32 of the Indian Mines Act, 1923.	
	Do. . . . .	1	1	1	Order under Section 15(2) of the Indian Mines Act, 1923, Government of India Notification No. M-1055, dated the 7th March 1939, made under Section 129(j) of the Indian Mines Act, 1923, and Section 15 of the Indian Mines Act, 1923 read with Regulation 24(3) of the Indian Coal Mines Regulations, 1926.	
Burma	Mergui . . . .	2	2	1	Regulation 3(1) of the Indian Metalliferous Mines Regulations, 1926.	Case against one of the accused was withdrawn.
	Tavoy . . . .	1	1	1	Regulations 38 and 45 of the Indian Metalliferous Mines Regulations, 1926 and Rule 9 of the Burma Government Rules made under Section 30 of the Indian Mines Act, 1923.	
Central Provinces.	Chhindwara . .	1	3	2	Regulations 67, 121 and 137 of the Indian Coal Mines Regulations, 1926.	One of the accused was acquitted.
	Do. . . . .	2	2	2	Regulation 146 of the Indian Coal Mines Regulations, 1926.	
	Do. . . . .	1	1	1	Regulations 101, 108 and 145 of the Indian Coal Mines Regulations, 1926.	

APPENDIX III—*contd.*

Statement of prosecutions under the Indian Mines Act, during the year 1936  
—*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.
Central Provinces— <i>contd.</i>	Chhindwara	5	14	14	Regulation 95 of the Indian Coal Mines Regulations, 1926.	
	Do.	1	2	2	Regulations 101 and 106 of the Indian Coal Mines Regulations, 1926.	
	Do.	1	1	1	Regulations 108, 141, 144 and 146 of the Indian Coal Mines Regulations, 1926.	
	Do.	1	1	1	Regulations 101 and 108 of the Indian Coal Mines Regulations, 1926, read with Section 40 of the Indian Mines Act, 1923.	
	Do.	3	5	4	Regulation 101 of the Indian Coal Mines Regulations, 1926.	One of the accused absconded.
	Do.	1	2	2	Regulations 101, 106 and 111 of the Indian Coal Mines Regulations, 1926.	
	Do.	1	1	1	Regulations 101, 108, 109 and 117 of the Indian Coal Mines Regulations, 1926.	
	Do.	1	1	1	Regulations 143 and 145 of the Indian Coal Mines Regulations, 1926.	
	Do.	1	3	3	Regulation 143 of the Indian Coal Mines Regulations, 1926 and Bye-law 2 made under Section 32 of the Indian Mines Act, 1923.	

APPENDIX III—*contd.*

Statement of prosecutions under the Indian Mines Act, during the year 1936  
—*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.
Central Provinces— <i>contd.</i>	Chhindwara	2	3	3	Regulation 145 of the Indian Coal Mines Regulations, 1926.	
	Do.	1	2	2	Regulations 146 and 117 of the Indian Coal Mines Regulations, 1926.	
	Do.	1	1	1	Regulations 101, 108 and 146 of the Indian Coal Mines Regulations, 1926.	
Madras	Nellore	1	1	1	Regulation 3 (2) of the Indian Metalliferous Mines Regulations, 1926.	
United Provinces.	Hamirpur	2	2	2	Regulation 42 of the Indian Metalliferous Mines Regulations, 1926.	
		57	93	83		

## 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 Burma.
6. All mines in Rajputana.	6. All mines in the Central Provinces
7. All mines in the United Provinces.	7. All mines in Madras.

## 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 1936.

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.
Biswas, Bidhu Bhushan . . . . .	378	14th January 1936	2692	27th January 1933.
Evans, Thomas Philip Marcus . . . . .	379	1st May 1936	2635	22nd July 1932.

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 1936—*contd.*

Certificates 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.
Warmington, Nool Makepeace	380	1st May 1936	2743	21st July 1933.
Joshua, Thomas . . . . .	381	Ditto	4181	28th June 1912.
Warner, George Winfred . . . . .	382	10th November 1936	2853	8th February 1935.

## (b) SECOND CLASS.

Name.	Number of Indian certificate	Date of Indian certificate.	Number of British certificate.	Date of British certificate.
Bose, Sukumar . . . . .	32	14th January 1936	3366	27th January 1933.
Carty, Thomas Francis . . . . .	33	10th November 1936	2953	26th July 1929.

## (c) SURVEYORS' CERTIFICATES.

Name.	Number of Indian certificate	Date of Indian certificate.	Number of British certificate.	Date of British certificate.
Bolton, Arnold . . . . .	3	14th January 1936	970	31st July 1930.
Mack, Alexander . . . . .	4	Ditto	276	24th January 1917

## INDIAN CERTIFICATES.

## (a) FIRST CLASS.

Name.	No. of certificate.	Date of certificate.	REMARKS.
Diddee, Dev Datta . . . . .	247	1st May 1936	
Fell, Meredith (George) . . . . .	248	Ditto	

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 1936—*contd.*

INDIAN CERTIFICATES—*contd.*(a) FIRST CLASS—*contd.*

Name.	No. of certificate.	Date of certificate.	REMARKS.
Sachdev, Harbans Singh . . . . .	249	1st May 1936.	
Dick, John Henry . . . . .	250	Ditto.	
Shah, Bhogilal Chhotalal . . . . .	251	Ditto.	
Petal, Raojibhai Chhotabhai . . . . .	252	Ditto.	
Beck, Eric Frank . . . . .	253	Ditto.	
Sharma, Lakshi Ram . . . . .	254	Ditto.	

## (b) SECOND CLASS.

Name.	No. of certificate.	Date of certificate.	REMARKS.
Das Gupta, Khagendra Mohan . . . . .	516	1st May 1936.	
Sirker, Jitendra Mohan . . . . .	517	Ditto.	
Ghatak, Ganca Dhar . . . . .	518	Ditto.	
Pai, Bhaggarbhat Ramachandra . . . . .	519	Ditto.	
Sirker, Amal Krishna . . . . .	520	Ditto.	
Dhnp. Ja-want Rai . . . . .	521	Ditto.	
Ghosh, Nishi Blusun . . . . .	522	Ditto.	
Rao, Irravati Govind . . . . .	523	Ditto.	



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

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 1936—*contd.*

INDIAN CERTIFICATES—*contd.*(b) SECOND CLASS—*contd.*

Name.	No. of certificate.	Date of certificate	REMARKS.
Khanna, Kailash Narayan . . . . .	524	1st May 1936.	
Khanna, Sandagar Ma' . . . . .	525	Ditto.	
Lahiri, Pankaj Nath . . . . .	526	Ditto.	
Guiso, Szymore Carlisle . . . . .	527	Ditto.	
Mirza, Bashir Ahmed . . . . .	528	Ditto.	
Gupta, Jyotish Chandra . . . . .	529	Ditto.	

## (c) SURVEYORS' CERTIFICATES.

Name.	No. of certificate	Date of certificate.	REMARKS.
Bhat, Homant Kumar . . . . .	86	27th January 1937 .	
Gargo, Daya Parkash . . . . .	87	Ditto.	
Goopa'akrishnan, Subbuswami Iyer . . . . .	88	Ditto.	
Roy, Rama Nath . . . . .	89	Ditto.	
Sirkar, Hemendra Nath . . . . .	90	Ditto.	

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

## Statement No. 3.

## NOTIFICATION.

*Dhanbad, the 29th August 1936.*

**No. P. I.**—In exercise of the powers conferred by Regulation 2 (co) and Regulation 116-A (b) of the Indian Coal Mines Regulations, 1926, as published under Notification No. M-1077, dated the 20th 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.

D. PENMAN,  
*Chief Inspector of Mines in India.*

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

## Statement No. 4.

## NOTIFICATION.

*Simla, the 23rd May 1936.*

**No. M.-955.**—In exercise of the powers conferred by sections 29 and 31-A of the Indian Mines Act, 1923 (IV of 1923), as amended, by the Indian Mines (Amendment) Act, 1936 (XI of 1936), the Governor General in Council is pleased to make the following temporary regulations, having satisfied himself that for the prevention of apprehended danger or the speedy remedy of conditions likely to cause danger it is necessary in making these regulations to dispense with the delay that would result from their previous publication and reference to Mining Boards:—

## Temporary Regulations for Coal Mines.

1. (1) These regulations may be called the Coal Mines (Temporary) Regulations, 1936.

(2) They shall apply only in respect of coal mines.

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

(a) “the principal Regulations” mean the Indian Coal Mines Regulations, 1926;

(b) “the District Magistrate”, in relation to any mine, means the District Magistrate as defined in the principal Regulations.

3. (1) The owner, agent or manager of every mine shall keep in the office at the mine a 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.

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

(3) The code of signs set out in Schedule I to these Regulations shall be utilised in plans made under this regulation.

(4) Regulations 15 and 16 of the principal Regulations shall apply to any plan made under this regulation as if such plan had been prepared under Chapter II of the principal Regulations.

4. (1) All structures and supports at the tops of shafts and the covering of all shafts sealed off or covered for ventilation purposes shall be made of non-inflammable material:

Provided that this sub-regulation shall not apply to beams for the support of cage keps or of platforms or to wooden headgears if such beams and headgears were in use on the date on which these regulations come 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.

(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.

(4) This regulation shall come into operation on the first day of December 1936. The Chief Inspector may in the case of any particular mine, where he is satisfied that compliance with the provisions of this regulation is not reasonably possible by the date aforesaid, direct that this regulation shall not apply to such mine for a further period not exceeding six months from that day.

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

6. Adequate precautions shall be taken at every mine to prevent the deposition of boiler ash or the residue from the manufacture of coke in any coal quarry, or exposed outcrop of coal or on any broken surface caused by the extraction of coal.

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 4—*contd.*NOTIFICATION—*contd.*

*Sindu, the 23rd May 1936*—*contd.*

7. (1) 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 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 to 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.

(2) No person shall light a fire or permit a fire to be lighted within a distance of 20 feet of the top 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.

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

8. 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 pithead, engine-room and electrical apparatus room.

9. (1) No coal shall be extracted from any spot which lies vertically below and within 50 feet of—

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

(b) any spot lying within a horizontal distance of 50 feet from either bank of the river.

(2) No coal shall be extracted from any spot which lies vertically below—

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

(b) any spot lying within a horizontal distance of 50 feet from either bank of the river.

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

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

10. 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 broken strata to any fire except by a method which will maintain the strata between the seams *in situ* and intact.

11. (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 of the principal Regulations and the mine has been reported to be safe. Every such report 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 manager and the competent person who made the inspection :

Provided that where a mine is mechanically ventilated, this regulation shall apply only to the ventilating district or districts that may be affected.

(2) Locked safety lamps or electric torches of a type approved by the Chief Inspector 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 this sub-regulation shall be deemed to have been complied with if the workmen engaged in dealing with the fire are provided with safety lamps or electric torches as quickly as is reasonably practicable.

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 4—*contd.*NOTIFICATION—*contd.*

*Simla, the 23rd May, 1936—contd.*

(3) During the work of dealing with or damming off an underground fire a cage or cages containing small birds or mice shall be kept at all places in which persons may be in danger from noxious gases.

12. When smoke or other indication of outbreak of fire or a dangerous influx of noxious gases occurs in or about a mine, the owner, agent or manager of the mines shall forthwith inform the Inspector by telephone or telegraph, and shall also, within twenty-four hours of such occurrence send notice thereof in the form contained in Schedule II to these Regulations to the District Magistrate, or to the Sub-Divisional Magistrate, who shall forward it to the Chief Inspector.

13. (1) Locked safety lamps or electric torches of a type approved by the Chief Inspector 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, if, in his opinion, the use of safety lamps or electric torches in such mine is not necessary.

(2) This regulation shall not come into force till the 1st day of July 1936.

14. In any ventilating district of a mine which is not naturally wet throughout and in which there is an underground fire, whether sealed off or not, 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.

15. 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 broken strata connected with the fire ; and

(b) no work shall be done in any part of the mine which is not effectively sealed off from any such goaf or broken strata.

16. Inspections—

(a) under regulation 70 of the principal Regulations in the region of an underground fire, or

(b) of any stoppings made to control a fire, or

(c) under regulation 72 of the principal Regulations where the danger arises from fire of noxious gases,

shall be made with a locked safety lamp of the flame-type and a cage containing mice or small birds or other means of detecting carbon monoxide gas approved by the Chief Inspector.

APPENDIX IV—contd.





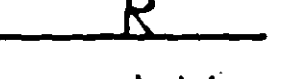




Miscellaneous—contd.

Statement No. 4—contd.

SCHEDULE I.

[ See Regulation (3). ]

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. 4—concl.**

SCHEDULE II.

FORM OF NOTICE.

(See Regulation 12.)

From

\_\_\_\_\_

To

The Chief Inspector of Mines in India,

(through the District \_\_\_\_\_ -Magistrate of.....),  
 Sub-Divisional \_\_\_\_\_

Dated.....193 .

Sir,

I have the honour to furnish the following particulars of an occurrence of <sup>smoke or other indica-</sup>  
<sup>a dangerous influx of</sup>  
tion of outbreak of fire at the.....Mine :—  
noxious gases

1. 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. 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.

A. G. CLOW,

Offg. Secretary to the Government of India.

## APPENDIX IV—contd.

## Miscellaneous—contd.

## Statement No. 5.

## NOTIFICATION.

Simla, the 29th August 1936.

No. M.-1077.—In exercise of the powers conferred by section 39 of the Indian Mines Act, 1923 (IV of 1923), the Governor General in Council 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. In regulation 2 after clause (c), the following clause shall be inserted, namely:—

“(cc) “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.”

II. After regulation 96, the following regulation shall be inserted, namely:—

“96-A. In every underground part of a mine 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,—

- (1) main haulage and travelling roads shall, as far as practicable, be kept free from accumulations of fine coal dust;
- (2) all coal tubs shall be so constructed and maintained as to prevent, as far as practicable, coal dust escaping through their sides, ends or floors.”

III. For regulation 107, the following regulation shall be substituted, namely:—

“107. The amount of every charge of explosive shall not be disproportionate to the work to be done. The charge shall be placed in a properly drilled and placed shot hole and shall have sufficient stemming. A sufficient supply of suitable non-inflammable stemming material shall be provided at places convenient to the shot-firers.”

IV. In regulation 111, for the words “clay or other non-inflammable substance” the words “suitable non-inflammable substances” shall be substituted.

V. (1) In regulation 116, for the words and figures “unless the explosive is one of the “Permitted Explosives” allowed to be used by any order under the Coal Mines Act, 1911”, the words “unless the explosive is a Permitted Explosive” shall be substituted.

(2) In the margin to the said regulation the figures, word and letters “1 and 2 Sec. 5, Ch. 50” shall be omitted.

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

“116-A. In any mine in which the use of “Permitted Explosives” is required by these regulations or by any bye-law or order made under the Act:—

- (a) where more shots than one are charged for firing, the shots shall be fired simultaneously;
- (b) the aggregate charge in any number of shots fired simultaneously in coal shall not exceed the permissible maximum charge laid down by the Chief Inspector for the kind of “Permitted Explosive” used;
- (c) no shot shall be fired in coal in any gallery unless—
  - (1) the coal has been undercut, overcut or sidecut; and
  - (2) the length of the shot hole is at least six inches less than the length of the cut.”

VII. For regulation 124, the following regulation shall be substituted, namely:—

“124. In every mine in which inflammable gas has been found during the previous twelve months, safety lamps shall be used in all galleries driven to a distance greater than the length of two pillars ahead of the last connecting gallery and in all advance galleries less than five feet wide, and no such advance gallery shall be driven more than ten feet ahead of the widened gallery; in every such gallery the ventilating current shall be conducted as near to the working face as is practicable.”

A. G. CLOW,

Secy. to the Govt. of India.



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

## Statement No. 6.

## NOTIFICATION.

*Simla, the 27th June 1936.*

**No. M.-1055.**—In exercise of the powers conferred by sections 29 and 31-A of the Indian Mines Act, 1923 (IV of 1923), as amended by the Indian Mines (Amendment) Act, 1936 (XI of 1936) the Governor General in Council is pleased to make the following further temporary regulations, having satisfied himself that for the prevention of apprehended danger or the speedy remedy of conditions likely to cause danger it is necessary in making these regulations to dispense with the delay that would result from their previous publication and reference to Mining Boards :—

**Temporary Regulations for Coal Mines.**

1. (1) These regulations may be called the Supplementary Coal Mines (Temporary) Regulations, 1936.

(2) They shall apply only in respect of coal mines.

2. No liquid oxygen explosive shall be used in any underground part of a mine.

3. In any mine in which safety lamps are required to be used by any regulations for the time being in force no shot shall be fired unless the explosive is one of the "Permitted Explosives" allowed to be used by any order under the Coal Mines Act, 1911 (*1 & 2 Geo., 5 Ch. 50*).

4. (1) In any place in which the use of a locked safety lamp is for the time being required by any regulations for the time being in force, no shot shall be fired until the shotfirer 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.

(2) 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 or dusted with stone to such an extent that there will be no danger of dry coal-dust being raised into the air by the shot.

5. 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 one of the "Permitted Explosives" allowed to be used by any order under the Coal Mines Act, 1911: (*1 & 2 Geo., 5 Ch. 50*):

Provided that this regulations shall not apply to—

(a) working places in any ventilating district of a mine which is naturally wet throughout; or

(b) a cross-measure drift in stone if such drift does not contain dry coal dust; or

(c) shafts which are being sunk through such measures.

6. When inflammable gas or any noxious gas is detected in any working place or in any part of a mine the place or part shall, if necessary for the safety of workers, be immediately fenced off, and steps shall be taken without delay to remove the gas by improving the ventilation. During the removal of the gas no person shall be allowed to remain on the return side of the ventilating district in which the gas is detected.

A. G. CLOW,

Offg. Secy. to the Govt. of India.



## APPENDIX IV—contd.

## Miscellaneous—contd.

## Statement No. 8—contd.

3. For Schedule B appended to the said rules, the following schedule shall be substituted, namely :—

## SCHEDULE B.

NOTICE OF COMMENCEMENT AND END OF WORK OR OF RELAYS AND OF INTERVAL FOR REST.

*Section 23-B (1) of the Indian Mines Act, 1923.*

(See Rule 10-A.)

Name of mine.....

Name of owner.....

It is hereby declared that persons employed in this mine shall begin their  $\frac{\text{work}^*}{\text{relay}}$ , shall enjoy the interval for rest, and shall end their  $\frac{\text{work}^*}{\text{relay}}$  between hours set out below :—

1 Occupation.	Hours of work first relay.			Hours of second relay, if any.			Hours of third relay, if any.			
	Work begins.	Interval for rest.		Work begins.	Interval for rest.		Work begins.	Interval for rests.		Work ends.
		Begins.	Ends.		Begins.	Ends.		Begins.	Ends.	
	A.M.*	A.M.*	A.M.*	A.M.*	A.M.*	A.M.*	A.M.*	A.M.*	A.M.*	A.M.*
	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.

Dated

19 .

Manager.

\* The words and letters not required should be scored out.

NOTE.—The work of persons employed below ground is to be reckoned from the time such persons leave the surface of the mine to the time when they finally return thereto at the end of the work or of the relay.

By order of the Governor in Council,

J. A. MADAN,

Secretary to Government.

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

## Statement No. 9.

## NOTIFICATION.

25th June 1936.

**No. 4350 Com.**—In exercise of the powers conferred by section 30 of the Indian Mines Act, 1923 (IV of 1923), the Governor in Council is pleased to direct that the following amendments shall be made to the rules for coal mines and the rules for mines other than coal mines, published with Bengal Government, Notification No. 4785 Com., dated the 29th August 1924, and namely :—

**Amendments in the Rules for Coal Mines.**

## 1. In Chapter III of the rules for coal mines—

## (a) For rule 9, the following rule shall be substituted :—

9. The register of all persons employed in the mine shall be maintained, as required by sub-section (1) of section 28 of the Act, in the form shown in Schedule A. The register shall be kept at the office of the mine.

## (b) For rule 9-A, the following rule shall be substituted :—

9-A. The register required by sub-section (4) of section 28 of the Act shall be maintained in the form shown in Schedule E and all entries therein shall be made at the entrance or entrances to the mine and at the time when the person against whose name the entries are made entered or left the mine. The register shall be kept at the entrance of the mine.

## (c) After rule 11, the following rule shall be inserted as rule 11-A :—

11-A. The register of accidents referred to in sub-section (2) of section 20 of the Act shall be in the form shown in Schedule C.

2. After Chapter VI of the rules for coal mines, the following new Chapter VII shall be inserted and the existing Chapter VII shall be renumbered as Chapter VIII and existing rules 23 to 27 in Chapter VIII as renumbered shall be renumbered as rules 30 to 35 :—

## CHAPTER VII.

*Certificate of fitness for employment underground of persons who have not completed 17 years of age.*

23. Before any person who has not completed his seventeenth year is employed underground, the manager shall arrange to have him examined by a qualified medical practitioner and, if after examination the medical practitioner is of opinion that such person is fit for employment underground, he shall grant him a certificate in the Form in Schedule D.

24. Every certificate granted by a qualified medical practitioner shall be prepared by filling up the foil and counterfoil on both of which shall be impressed the left thumb mark of the person in whose name the certificate is granted.

25. The qualified medical practitioner shall, when satisfied as to the correctness of the entries made therein, sign the foil and initial the counterfoil, and shall deliver the foil to the manager for safe custody.

26. No certificate granted under rule 23 shall be valid for a period exceeding twelve months. Every person in respect of whom a certificate of fitness has been issued shall be re-examined within twelve months of the last previous examination unless in the meantime he has completed his seventeenth year and the qualified medical practitioner making such re-examination may renew the certificate for a further period not exceeding twelve months or may suspend or revoke the said certificate.

APPENDIX IV—*contd.*

Miscellaneous—*contd.*

Statement No. 9—*contd.*

CHAPTER VII—*contd.*

27. A qualified medical practitioner who refuses to grant a certificate referred to in rule 23 or suspends or revokes an existing certificate under rule 26 shall state the reasons for refusing to grant a certificate or for suspending or revoking the certificate as the case may be. If the manager of the mine disagrees with the opinion of such medical practitioner, he may refer the case to the Chief Inspector or Inspector. The Chief Inspector or the Inspector shall refer the case for decision to a second qualified medical practitioner and such decision shall be final.

28. Every person who has been certified as fit for employment underground shall before he is so employed be provided by the manager with a metal token. Such token shall be stamped with the letter "P" and numbered. The number shall be the same as that of the certificate of fitness.

29. A record of every token so issued and the person to whom it was issued shall be maintained in the office of the mine.

30. In the rule for coal mines—

(a) For the existing Schedule A, the following Schedule shall be substituted :—

SCHEDULE A.

(See Rule 9.)

*Register of employees.*

Name and caste of the employee.	Age.	Sex.	Nature of employment.	Date of commencement of employment.	Periods of work.		Intervals for rest to which he or she is entitled.		Days of rest to which he or she is entitled	Relay* to which he or she belongs.
					Begins.	Ends.	Begins.	Ends.		

\*In mines where work is carried on by a system of relays.

**APPENDIX IV—contd.**

**Miscellaneous—contd.**

**Statement No. 9—contd.**

(d) For the existing Schedule B the following Schedule shall be substituted:—

**SCHEDULE B.**

(See RULE 9-B.)

*Notice of commencement and end of work.*

Name of mine.....

Name of owner of mine.....

It is hereby notified that persons employed in this mine shall begin and end their periods of work between the hours set out below:—

Kind of worker.	1st relay.				2nd relay, if any.				3rd relay, if any.			
	Period of work.		Rest interval.		Period of work.		Rest interval.		Period of work.		Rest interval.	
	Be-gins.	Ends.	Be-gins.	Ends.	Be-gins.	Ends.	Be-gins.	Ends.	Be-gins.	Ends.	Be-gins.	Ends.
	A.M. P.M.	A.M. P.M.	A.M. P.M.	A.M. P.M.	A.M. P.M.	A.M. P.M.	A.M. P.M.	A.M. P.M.	A.M. P.M.	A.M. P.M.	A.M. P.M.	A.M. P.M.

*Note.*—The words and letters not wanted should be scored out.

In the case of underground workers, the entry in the rest interval column will be *nil*.

(e) After Schedule B the following Schedules shall be added:—

**SCHEDULE C.**

(See Rule 11-A.)

*Register of minor Accidents.*

Date of entry.	Date of accident.	Name of persons injured.	Nature of work.	Nature of injury.	Nature of accident.	Duration of enforced absence from work.	Signature of Manager.
1	2	3	4	5	6	7	8

APPENDIX IV—contd.

Miscellaneous—contd.

Statement No. 9—contd.

SCHEDULE D.

(See RULE 23.)

Form of certificate of fitness for employment underground in a mine.

Counterfoil of certificate of fitness.	Certificate of fitness.
Serial No. ....	Serial No. ....
Date.....	Date.....
2. Name .....	This certificate unless renewed shall not be valid after .....
3. Father's name.....	I hereby certify that I have personally examined (name) .....
4. Sex and caste or religion .....	son/daughter of..... (caste, etc.).....
.....	residing at .....
5. Residence .....	who is desirous of being employed in a mine and that his/her age as nearly as can be ascertained from my examination is .....
6. Age certified .....	years and that he/she is fit for employment underground in a mine as an adult. His/Her descriptive marks are.....
7. Distinctive marks .....	.....
Left thumb impression.	Left thumb impression.
.....	.....
Qualified Medical Practitioner.	Qualified Medical Practitioner.
	Renewed till .....
	Date.....
	Signature of qualified medical practitioner.

\*Date twelve months after date of issue to be filled in by the medical practitioner.

APPENDIX IV—*contd.*

Miscellaneous—*contd.*

Statement No. 9—*contd.*

SCHEDULE E.

(See RULE 9-A.)

*Register of persons employed underground.*

(Persons entering the mine shall be shown by a X in the column marked "In" against the name.)

(Persons leaving the mine shall be shown by a X in the column marked "Out" against the name.)  
(All entries shall be made in ink.)

Period of work commences at p. m.  
a. m.  
Period of work ends at p. m.  
a. m.

For week commencing and ending

Name of person.	Sex.	Nature of work.	Sun-day.		Mon-day.		Tues-day.		Wednes-day.		Thurs-day.		Friday.		Satur-day.	
			In.	Out.	In.	Out.	In.	Out.	In.	Out.	In.	Out.	In.	Out.	In.	Out.

Total number of persons underground.  
Total number of women underground.  
Percentage of persons belowground who are women.  
Signature of Register-keeper.



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

## AMENDMENTS IN THE RULES FOR MINES OTHER THAN COAL MINES.

4. In Chapter III of the rules for mines other than coal mines for rule 9 the following rule shall be substituted :—

9. The register of all persons employed in the mine shall be maintained, as required by sub-section (J) of section 28 of the Act, in the form shown in Schedule A. The register shall be kept at the office of the mine.

5. After Chapter V of the rules for mines other than coal mines the following new Chapter VI shall be added and the existing Chapter VI shall be renumbered as Chapter VII and existing rules 17 to 21 in Chapter VII as renumbered shall be renumbered as rules 24 to 29 :—

## CHAPTER VI.

*Certificate of fitness for employment underground of persons who have not completed 17 years of age.*

17. Before any person who has not completed his seventeenth year is employed underground, the manager shall arrange to have him examined by a qualified medical practitioner and if after examination the medical practitioner is of opinion that such person is fit for employment underground he shall grant him a certificate in the Form in Schedule C.

18. Every certificate granted by a qualified medical practitioner shall be prepared by filling up the foil and counterfoil on both which shall be impressed the left thumb mark of the person in whose name the certificate is granted.

19. The qualified medical practitioner shall, when satisfied as to the correctness of the entries made therein, sign the foil and initial the counterfoil, and shall deliver the foil to the manager for safe custody.

20. No certificate granted under rule 17 shall be valid for a period exceeding twelve months. Every person in respect of whom a certificate of fitness has been issued shall be re-examined within twelve months of the last previous examination unless in the meantime he has completed his seventeenth year and the qualified medical practitioner making such re-examination may renew the certificate for a further period not exceeding twelve months or may suspend or revoke the said certificate.

21. A qualified medical practitioner who refuses to grant a certificate referred to in rule 17 or suspends or revokes an existing certificate under rule 20 shall state the reasons for refusing to grant a certificate or for suspending or revoking the certificate as the case may be. If the manager of the mine disagrees with the opinion of such medical practitioner, he may refer the case to the Chief Inspector or Inspector. The Chief Inspector or the Inspector shall refer the case for decision to a second qualified medical practitioner and such decision shall be final.

22. Every person who has been certified as fit for employment underground shall, before he is so employed, be provided by the manager with a metal token. Such token shall be stamped with the letter "P" and numbered. The number shall be the same as that of the certificate of fitness.

23. A record of every token so issued and the person to whom it was issued shall be maintained in the office of the mine.

APPENDIX IV—*contd.*

Miscellaneous—*contd.*

Statement No. 9—*contd.*

6. In the rules for mines other than coal mines—  
 (a) For the existing Schedule A the following shall be substituted :—

SCHEDULE A.

(See RULE 9.)

*Register of employees.*

Name and cast of the employee.	Age.	Sex.	Nature of employment.	Date of commencement of employment.	Periods of work.		Intervals for rest to which he or she is entitled.		Days of rest to which he or she is entitled.	Relays* to which he or she belongs.
					Be-gins.	Ends.	Be-gins.	Ends.		

\*In mines where work is carried on by a system of relays.

APPENDIX IV—*contd.*

Miscellaneous—*contd.*

Statement No. 9—*contd.*

(b) For the existing Schedule B the following Schedule shall be substituted :—

SCHEDULE B.

(See RULE 9-A.)

*Notice of commencement and end of work.*

Name of mine.....

Name of owner of mine.....

It is hereby notified that persons employed in this mine shall begin and end their periods of work between the hours set out below :—

Kind of worker.	1st relay.				2nd relay, if any.				3rd relay, if any.			
	Period of work.		Rest interval.		Period of work.		Rest interval.		Period of work.		Rest interval.	
	Be-gins.	Ends.	Be-gins.	Ends.	Be-gins.	Ends.	Be-gins.	Ends.	Be-gins.	Ends.	Be-gins.	Ends.
	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.
	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.

Note.—The words and letters not wanted should be scored out.

In the case of underground workers, the entry in the rest interval column will be nil.

APPENDIX IV—*contd.*

Miscellaneous—*contd.*

Statement No. 9—*contd.*

(c) After Schedule B the following Schedule shall be inserted :—

SCHEDULE C.

(See RULE 17.)

*Form of certificate of fitness for employment underground in a mine.*

Counterfoil of certificate of fitness.	Certificate of fitness.
Serial No. ....	Serial No. ....
Date. ....	Date. ....
2. Name .....	This certificate unless renewed shall not be valid after .....
3. Father's name .....	I hereby certify that I have personally examined (name) .....
4. Sex and caste or religion .....	son/daughter of .....
.....	(caste, etc.) .....
.....	residing at.....
5. Residence .....	who is desirous of being employed in a mine and that his/her age as nearly as can be ascertained from my examination is .....
6. Age certified .....	years and that he/she is fit for employment underground in a mine as an adult. His/Her descriptive marks are.....
7. Distinctive marks.....	.....
.....	.....
Left thumb impression.	Left thumb impression.
.....	.....
Qualified Medical Practitioner.	Qualified Medical Practitioner.
	Renewed till .....
	Date.....
	Signature of Qualified Medical Practitioner.

\*Date twelve months after date of issue to be filled in by the Medical Practitioner.

E. N. BLANDY.  
*Secy. to the Govt. of Bengal.*

APPENDIX IV—*contd.*

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Miscellaneous—*contd.*

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Statement No. 9—*concl.*

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Nos. 4351-63 Com.

Copy forwarded to the Secretary, Indian Mining Association, Secretary, Indian Mining Federation, Secretary, Indian Colliery Owners' Association, Jharia, Secretary, Association of Colliery Managers (Indian Branch), Kasunda post office (Manbhum), Bihar, Secretary, Indian Mine Managers' Association, Gonshadih Colliery, Khasunda post office (Manbhum), Bihar, Chairman, Mining Board, Bengal, Chief Inspector of Mines in India, Secretary, Mining and Geological Institute of India, and all Commissioners of Divisions, for information.

Nos. 4364-65 Com.

Copy forwarded to the Secretary to the Government of Assam/Bihar Revenue Department, for information.

By order of the Governor in Council,

R. L. WALKER,

*Addl. Dy. Secy. to the Govt. of Bengal.**Calcutta, the 25th June 1936.*

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Statement No. 10.

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## NOTIFICATIONS.

*Mount Abu, the 22nd August 1936.*

**No. 1069 316-C. C. 32.**—In exercise of the powers conferred by Section 30 of the Indian Mines Act, 1923 (IV of 1923), and subject to the control of the Governor (General) in Council, the Chief Commissioner is pleased to make the following additions and alterations to the Ajmer-Merwara Metalliferous Mines Rules, 1924, published in this Administration's Notification No. 1289, dated the 1st August 1924, as subsequently amended by Notifications Nos. 144 354-C. C. I/29, and 555-C-354-C. C./29, dated respectively the 27th May and the 27th August 1930:—

(1) (a) Add the following as Chapter III-A:—

## CHAPTER III-A.

6. (a) The register of accidents referred to in sub-section (2) of Section 20, shall be in the form prescribed in Schedule C.

(b) After Schedule B in the rules insert Schedule C.

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 10—*contd.*

(2) In the said rules for the existing Schedule B the following Schedule shall be substituted:—

## SCHEDULE B.

(See RULE 7-A.)

*Notices of commencement and end of work.*

Name of mine

Name of owner of mine

It is hereby notified that the persons employed in this mine shall begin and end their periods of work between the hours set out below:—

Kind of worker.	1st relay.				2nd relay, if any.				3rd relay, if any.			
	Period of work.		Rest interval.		Period of work.		Rest interval.		Period of work.		Rest interval.	
	Begins.	Ends.	Begins.	Ends.	Begins.	Ends.	Begins.	Ends.	Begins.	Ends.	Begins.	Ends.
	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.
P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	

NOTE.—The words and letters not wanted should be scored out.

In case of underground workers, the entry in the rest interval column will be *nil*.

(3) (a) After Chapter VII in the said rules the following new Chapter VIII shall be added:—

## CHAPTER VIII.

22. Before any person who has not completed his seventeenth year, is employed underground, the manager shall arrange to have him examined by a qualified medical practitioner, and if after examination the medical practitioner is of opinion that such person is fit for employment underground, he shall grant him a Certificate in the Form in Schedule (C—C).

23. Every certificate granted by a qualified medical practitioner shall be prepared by filling up the foil and counterfoil on both of which shall be impressed the left thumb mark of the person in whose name the Certificate is granted.

24. The qualified medical practitioner shall, when satisfied as to the correctness of the entries made therein, sign the foil and initial the counterfoil, and shall deliver the foil to the Manager for safe custody.

25. Any person who has been granted a certificate of fitness for underground work shall be re-examined within twelve months of any previous examination, unless in the meantime he has completed his seventeenth year, and the qualified medical practitioner making such re-examination may confirm, suspend or revoke such certificate.

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 10—*contd.*CHAPTER VIII—*contd.*

26. A Medical Practitioner who refuses to grant a Certificate, or suspends or revokes an existing certificate under rule 25, shall state the reasons for refusing to grant a certificate or for suspending or revoking the certificate as the case may be. If the Manager of the mine disagrees with the opinion of such Medical Practitioner, he may refer the case to the Chief Inspector or Inspector. The Chief Inspector or the Inspector shall refer the case for decision to a second qualified Medical Practitioner and such decision shall be final.

27. Every person who has been certified as fit for employment underground shall, before he is so employed, be provided by the Manager with a metal token. Such token shall be stamped with the letter "P" and numbered. The number shall be the same as that of the certificate of fitness.

28. A record of every token so issued and the person to whom it was issued shall be maintained in the office of the mine.

(b) After Schedule C in the said rules insert Schedule C. C.

(4) In the said rules for the existing Schedule A, the following Schedule shall be Substituted:—

## SCHEDULE A.

## REGISTER OF EMPLOYEES.

*Prescribed under Article 28(1) of the Indian Mines Act.*

Name and caste of the employee.	Age.	Sex.	Nature of employment.	Date of commencement of employment.	Periods of work.		Intervals for rest to which he/she is entitled.		Date of rest to which he/she is entitled.	*Relay to which he/she belongs.
					Begins. A.M.	Ends. P.M.	Begins. A.M.	Ends. P.M.		

\*In mines where work is carried on by a system of relays.

**APPENDIX IV—contd.**

**Miscellaneous—contd.**

**Statement No. 10—concl'd.**

(5) In Chapter IV of the said rules, for the 7, the following rules shall be substituted:—

7. The register of all persons employed in the mine shall be maintained, as required by Section 28(1) of the Act, in the Form shown in Schedule A. The register shall be kept at the office of the mine.

**SCHEDULE C.**

(See RULE 6(A) IN CHAPTER III-A.)

*Register of Minor Accidents.*

Date of entry.	Date of accident.	Names of persons injured.	Nature of work.	Nature of injury.	Nature of accident.	Duration of enforced absence from work.	Signature of Manager.

**SCHEDULE C. C.**

(See RULE 22 IN CHAPTER VII.)

*Form of certificate of fitness for employment underground in a mine.*

Counterfoil of certificate of fitness.

Certificate of fitness.

1. ( Serial No. ....
- ( Date .....
2. Name .....
3. Father's name .....
4. Caste or religion .....
5. Residence .....
6. Age certified .....
7. Distinctive marks .....
- Left thumb impression .....
- Qualified Medical Practitioner.

Serial No. ....

Date .....

I hereby certify that I have personally examined (name).....

..... son of .....

(caste, etc.) .....

residing at .....

who is desirous of being employed in a mine and that his age, as nearly as can be ascertained from my examination is .....

years and that he is fit for employment underground in a mine as an adult. His descriptive marks are .....

Left thumb impression .....

Qualified Medical Practitioner.

By order,  
**C. G. HERBERT,**  
*Secretary to the Chief Commissioner,  
Ajmer-Merwara.*



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

## Statement No. 11.

## NOTIFICATION.

*Quetta, the 26th September 1936.*

**No. 5143-R.**—In exercise of the powers conferred by section 30 of the Indian Mines Act, 1923 (IV of 1923) the Agent to the Governor General and Chief Commissioner is pleased to direct that the following amendments shall be made to the rules for coal mines and the rules for mines other than coal mines, published with Baluchistan Government Notification No. 3587-R., dated the 5th November 1924, namely:—

## AMENDMENTS IN THE RULES FOR COAL MINES.

## 1. In Chapter III of the rules for coal mines—

## (a) For rule 9 the following rule shall be substituted:—

9. The register of all persons employed in the mine as required by sub-section (1) of section 28 of the Act shall be maintained in the form shown in Schedule A. The register shall be kept at the office of the mine.

## (b) For rule 9A the following rule shall be substituted:—

9A. The register required by sub-section (4) of section 28 of the Act shall be maintained in the form shown in Schedule E and all entries therein shall be made at the time when the person enters or leaves the mine. The register shall be kept at the entrance of the mine.

## (c) After rule 9A insert the following rule as rule 9B:—

9B. The notice required under sub-section (1) of section 23B of the Act shall be of the form shown in Schedule B and shall be posted in English and Urdu outside the office of the mine.

## (d) After rule 11, the following rule shall be inserted as rule 11A:—

11A. The register of accidents required by sub-section (2) of section 20 of the Act shall be in the form shown in Schedule C. A copy of the entries in the register shall be sent by the owner, agent or manager of the mine, within fourteen days after the 30th day of June and the 31st day of December in each year, to the District Magistrate and the Chief Inspector.

## (e) After Chapter V of the rules for coal mines the following new Chapter VI shall be inserted:—

## CHAPTER VI.

*Inquiry in the case of Accidents.*

22. If a Court of Enquiry appointed under section 21 of the Act finds that the accident was due to any carelessness or negligence on the part of the management, the Court may order the owner, agent or manager of the mine to pay all or any part of the expenses of the enquiry, and the amount so directed to be paid may, on application by the Chief Inspector or an Inspector to a Magistrate having jurisdiction at the place where the mine is situated or where such owner, agent or manager is for the time being resident, be recovered by the distress and sale of any movable property within the limits of the Magistrate's jurisdiction belonging to such owner, agent or manager.

(f) After Chapter VI so inserted to the rules for coal mines the following new Chapter VII shall be inserted and the existing Chapter VII shall be renumbered as Chapter VIII and existing rules 23 to 27 in Chapter VIII as renumbered shall be renumbered as rules 30 to 34.

**APPENDIX IV—contd.**

**Miscellaneous—contd.**

**Statement No. 11—contd.**

**CHAPTER VII.**

*Certificate of fitness for employment underground of persons who have not completed 17 years of age.*

23. Before any person who has not completed his seventeenth year is employed underground, the manager shall arrange to have him examined by a qualified medical practitioner and, if after the examination the medical practitioner is of opinion that such person is fit for employment underground, he shall grant him a certificate in the Form in Schedule D.

24. Every certificate granted by a qualified medical practitioner shall be prepared by filling up the foil and counterfoil on both of which shall be impressed the left thumb-mark of the person in whose name the certificate is granted.

25. The qualified medical practitioner shall, when satisfied as to the correctness of the entries made therein, sign the foil and initial the counterfoil, and shall deliver the foil to the manager for safe custody.

26. No certificate granted under rule 23 shall be valid for a period exceeding twelve months. Every person in respect of whom a certificate of fitness has been issued shall be re-examined within twelve months of the last previous examination unless in the meantime he has completed his seventeenth year and the qualified medical practitioner making such re-examination may renew the certificate for a further period not exceeding twelve months or may suspend or revoke the said certificate.

27. A qualified medical practitioner who refuses to grant a certificate referred to in rule 23 or suspends or revokes an existing certificate under rule 26 shall state the reasons of refusing to grant a certificate or for suspending or revoking the certificate as the case may be. If the manager of the mine disagrees with the opinion of such medical practitioner, he may refer the case to the Chief Inspector or Inspector. The Chief Inspector or the Inspector, shall refer the case for decision to a second qualified medical practitioner and such decision shall be final.

28. Every person who has been certified as fit for employment underground shall before he is so employed be provided by the manager with a metal token. Such token shall be stamped with the letter "P" and numbered. The number shall be the same as that of the certificate of fitness.

29. A record of every token so issued and the person to whom it was issued shall be maintained in the office of the mine.

3. In rules for coal mines:—

(a) For the existing Schedule A the following Schedule shall be substituted:—

**SCHEDULE A.**

(See RULE 9.)

*Register of employees.*

Name and caste of the employee.	Age.	Sex.	Nature of employment.	Date of commencement of employment.	Period of work.		Intervals for rest to which he/she is entitled.		Days of rest to which he/she is entitled.	Relays* to which he/she belongs.
					Begins.	Ends.	Begins.	Ends.		
					A.M. P.M.	A.M. P.M.	A.M. P.M.	A.M. P.M.		

\* In mines where work is carried on by a system of relays.

APPENDIX IV—*contd.*

Miscellaneous—*contd.*

Statement No. 11—*contd.*

(b) For the existing Schedule B the following Schedule shall be substituted :—

SCHEDULE B.

(See RULE 9-B.)

*Notice of commencement and end of work.*

Name of mine.....

Name of owner of mine.....

It is hereby notified that persons employed in this mine shall begin and end their periods of work between the hours set out below :—

Kind of worker.	1st relay.				2nd relay, if any.				3rd relay, if any.			
	Period of work.		Rest interval.		Period of work.		Rest interval.		Period of work.		Rest interval.	
	Begins.	Ends.	Begins.	Ends.	Begins.	Ends.	Begins.	Ends.	Begins.	Ends.	Begins.	Ends.
	A.M. P.M.	A.M. P.M.	A.M. P.M.	A.M. P.M.	A.M. P.M.	A.M. P.M.	A.M. P.M.	A.M. P.M.	A.M. P.M.	A.M. P.M.	A.M. P.M.	A.M. P.M.

NOTE.—The words and letters not wanted should be scored out.

In the case of underground workers, the entry in the rest interval column will be *nil*.



APPENDIX IV—contd.

Miscellaneous—contd.

Statement 11—contd.

SCHEDULE D.

(See RULE 23.)

Form of certificate of fitness for employment underground in a mine.

Counterfoil of certificate of fitness.

Certificate of fitness.

Serial No.....

Serial No. ....

Date .....

Date.....

This certificate unless renewed shall not be valid after.....\*

2. Name.....

I hereby certify that I have personally examined (name).....

3. Father's name ..

son/daughter of..... (caste, etc.).....

4. Sex & caste or religion .....

residing at .....

5. Residence .....

who is desirous of being employed in a mine and that his/her age as nearly as can be ascertained from my examination is..... Years and that he/she is fit for employment underground in a mine as an adult. His/Her descriptive marks are .....

6. Age certified.....

Left thumb impression.....

7. Distinctive mark.....

Qualified Medical Practitioner.

Renewed till .....

Left thumb impression .....

Date .....

Qualified Medical Practitioner.

Signature of Qualified Medical Practitioner.

\*Date twelve months after date of issue to be filled in by the Medical Practitioner.

**APPENDIX IV—contd.**

**Miscellaneous—contd.**

**Statement No. 11—contd.**

**SCHEDULE E.**

(See RULE 9A.)

*Register of persons employed underground.*

(Persons entering the mine shall be shown by a I in the column marked "In" against the name)  
 (Persons leaving the mine shall be shown by a O in the column marked "Out" against the name.)

(All entries shall be made in ink.)

Period of work commences at P.M.  
A.M.

Period of work ends at P.M.  
A.M.

For week commencing and ending

Name of person.	Sex.	Nature of work.	Sun-day.		Mon-day.		Tues-day.		Wednes-day.		Thurs-day.		Fri-day.		Satur-day.	
			In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out

- Total number of persons underground.
- Total number of women underground.
- Percentage of persons below ground who are women.
- Signature of Register-keeper.

**AMENDMENTS IN RULES FOR MINES OTHER THAN COAL MINES.**

1. In Chapter III of the rules for mines other than coal mines—
  - (a) For rule 9 the following rule shall be substituted:—
    9. The register of all persons employed in the mine as required by sub-section (1) of section 28 of the Act shall be maintained in the form shown in Schedule A. The register shall be kept at the office of the mine.
  - (b) After rule 11 the following rule shall be inserted as rule 11A:—
    - 11A. The register of accidents required by sub-section (2) of section 20 of the Act shall be in the form shown in Schedule C. A copy of the entries in the register shall be sent by the owner, agent or manager of the mine, within fourteen days after the 30th day of June and the 31st day of December in each year, to the District Magistrate and the Chief Inspector.

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 11—*contd.*

(c) After Chapter IV of the rules for mines other than coal mines the following new Chapter V shall be inserted :—

## Chapter V.

*Inquiry in the case of Accidents.*

16. If a Court of Enquiry appointed under section 21 of the Act finds that the accident was due to any carelessness or negligence on the part of the management, the Court may order the owner, agent or the manager of the mine to pay all or any part of the expenses of the enquiry, and the amount so directed to be paid may, on application by the Chief Inspector or an Inspector to a Magistrate having jurisdiction at the place where the mine is situated or where such owner, agent or manager is for the time being resident, be recovered by the distress and sale of any movable property within the limits of the Magistrates' jurisdiction belonging to such owner, agent or manager.

(d) After Chapter V so inserted to the rules for mines other than coal mines the following new Chapter VI shall be inserted and the existing Chapter VI shall be renumbered as Chapter VII and existing rules 17 to 21 in Chapter VII as renumbered shall be renumbered as rules 24 to 28.

## CHAPTER VI.

*Certificate of fitness for employment underground of persons who have not completed 17 years of age.*

17. Before any person who has not completed his seventeenth year is employed underground the manager shall arrange to have him examined by a qualified medical practitioner, and, if after the examination the medical practitioner is of opinion that such person is fit for employment underground, he shall grant him a certificate in the Form in Schedule D.

18. Every certificate granted by a qualified medical practitioner shall be prepared by filling up the foil and counterfoil on both of which shall be impressed the left thumb-mark of the person in whose name the certificate is granted.

19. The qualified medical practitioner shall, when satisfied as to the correctness of the entries made therein, sign the foil and initial the counterfoil, and shall deliver the foil to the manager for safe custody.

20. No certificate granted under rule 17, shall be valid for a period exceeding twelve months. Every person in respect of whom a certificate of fitness has been issued shall be re-examined within twelve months of the last previous examination unless in the meantime he has completed his seventeenth year and the qualified medical practitioner making such re-examination may renew the certificate for a further period not exceeding twelve months or may suspend or revoke the said certificate.

21. A qualified medical practitioner who refuses to grant a certificate referred to in rule 17 or suspends or revokes an existing certificate under rule 20 shall state the reasons of refusing to grant a certificate or for suspending or revoking the certificate as the case may be. If the manager of the mine disagrees with the opinion of such medical practitioner, he may refer the case to the Chief Inspector or Inspector. The Chief Inspector or the Inspector shall refer the case for decision to a second qualified medical practitioner and such decision shall be final.

22. Every person who has been certified as fit for employment underground shall, before he is so employed, be provided by the manager with a metal token. Such token shall be stamped with the letter "P" and numbered. The number shall be the same as that of the certificate of fitness.

23. A record of every token so issued and the person to whom it was issued shall be maintained in the office of the mine.

APPENDIX IV—*contd.*

Miscellaneous—*contd.*

Statement No. 11—*contd.*

3. In rules for mines other than coal mines :—

(a) For the existing Schedule A the following Schedule shall be substituted :—

SCHEDULE A.

(See RULE 9.)

*Register of employees.*

Name and caste of the employee.	Age.	Sex.	Nature of employment.	Date of commencement of employment.	Period of work.		Interval for rest to which he/she is entitled.		Days of rest to which he/she is entitled.	Relay* to which he/she belongs.
					Begins.	Ends.	Begins.	Ends.		
					A.M. P.M.	A.M. P.M.	A.M. P.M.	A.M. P.M.		

\* In mines where work is carried on by a system of relays.



APPENDIX IV—*contd.*

Miscellaneous—*contd.*

Statement No. 11—*contd.*

(b) For the existing Schedule B the following Schedule shall be substituted :—

SCHEDULE B.

(See RULE 9-A.)

*Notice of commencement and end of work.*

Name of mine.....

Name of owner of mine.....

It is hereby notified that persons employed in this mine shall begin and end their periods of work between the hours set out below :—

Kind of worker.	1st relay.				2nd relay, if any.				3rd relay, if any.			
	Period of work.		Rest interval.		Period of work.		Rest interval.		Period of work.		Rest interval.	
	Begins.	Ends.	Begins.	Ends.	Begins.	Ends.	Begins.	Ends.	Begins.	Ends.	Begins.	Ends.
	A. M.	A. M.	A. M.	A. M.	A. M.	A. M.	A. M.	A. M.	A. M.	A. M.	A. M.	A. M.
P. M.	P. M.	P. M.	P. M.	P. M.	P. M.	P. M.	P. M.	P. M.	P. M.	P. M.	P. M.	

NOTE.—The words and letters not wanted should be scored out.  
 In the case of underground workers, the entry in the rest interval column will be nil.



APPENDIX IV—*contd.*

Miscellaneous—*contd.*

Statement No. 11—*concl.*

SCHEDULE D.

(See RULE 17.)

*Form of certificate of fitness for employment underground in a mine.*

Counterfoil of certificate of fitness.

Certificate of fitness.

Serial No.....

Serial No.....

Date.....

Date.....

2. Name.....

This certificate unless renewed shall not be valid after.....\*

3. Father's name.....

I hereby certify that I have personally examined (name).....

4. Sex and caste or religion.....

son/daughter of.....

.....

(caste, etc.).....

residing at.....

5. Residence.....

who is desirous of being employed in a mine and that his/her age as nearly as can be ascertained

6. Age certified.....

from my examination is.....Years and that he/she is fit for employment underground in a

7. Distinctive mark.....

mine as an adult. His/Her descriptive marks are.....

.....

.....

Left thumb impression.....

Left thumb impression.....

.....

.....

Qualified Medical Practitioner.

Qualified Medical Practitioner.

Renewed till.....

Date.....

Signature of Qualified Medical Practitioner.

\* Date twelve months after date of issue to be filled in by the Medical Practitioner.

By order,  
I. W. GALBRAITH,  
Secretary.

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

## Statement No. 12.

*The 14th October 1936.*

**No. 5148—VIII-23-Com.**—In exercise of the powers conferred by section 30 of the Indian Mines Act, 1923 (IV of 1923), the Government of Bihar are pleased to direct that the following amendments shall be made to the rules for coal mines and the rules for mines other than coal mines, published with notification No. 2608—VIII-2-Com., dated the 8th September 1924, namely :—

## AMENDMENTS IN THE RULES FOR COAL MINES.

## 1. In Chapter III of the rules for coal mines—

(a) For rule 9 the following rule shall be substituted :—

9. The register of all persons employed in the mine shall be maintained, as required by sub-section (1) of section 28 of the Act, in the form shown in Schedule A. The register shall be kept at the office of the mine.

(b) For rule 9A the following rule shall be substituted :—

9A. The register required by sub-section (4) of section 28 of the Act shall be maintained in the form shown in Schedule F and all entries therein shall be made at the entrance or entrances to the mine and at the time when the person against whose name the entries are made entered or left the mine. The register shall be kept at the entrance of the mine.

(c) After rule 11 the following rule shall be inserted as rule 11A :—

11A. The register of accidents referred to in sub-section (2) of section 20 of the Act shall be in the form shown in Schedule D.

2. After Chapter VI of the rules for coal mines the following new Chapter VIA shall be inserted and the rules in Chapter VII renumbered 30 to 34 :—

## CHAPTER VIA.

*Certificate of fitness for employment underground of persons who have not completed 17 years of age.*

23. Before any person who has not completed his seventeenth year is employed underground, the manager shall arrange to have him examined by a qualified medical practitioner and, if after examination the medical practitioner is of opinion that such person is fit for employment underground, he shall grant him a certificate in the Form in Schedule E.

24. Every certificate granted by a qualified medical practitioner shall be prepared by filling up the foil and counterfoil on both of which shall be impressed the left thumb-mark of the person in whose name the certificate is granted.

25. The qualified medical practitioner shall, when satisfied as to the correctness of the entries made therein, sign the foil and initial the counterfoil, and shall deliver the foil to the manager for safe custody.

26. No certificate granted under rule 23 shall be valid for a period exceeding twelve months. Every person in respect of whom a certificate of fitness has been issued shall be re-examined within twelve months of the last previous examination unless in the meantime he has completed his seventeenth year and the qualified medical practitioner making such re-examination may renew the certificate for a further period not exceeding twelve months or may suspend or revoke the said certificate.

27. A qualified medical practitioner who refuses to grant a certificate referred to in rule 23 or suspends or revokes an existing certificate under rule 26 shall state the reasons for refusing to grant a certificate or for suspending or revoking the certificate as the case may be. If the manager of the mine disagrees with the opinion of such medical practitioner, he may refer the case to the Chief Inspector or Inspector. The Chief Inspector or the Inspector shall refer the case for decision to a second qualified medical practitioner and such decision shall be final.

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

28. Every person who has been certified as fit for employment underground shall before he is so employed be provided by the manager with a metal token. Such token shall be stamped with the letter "P" and numbered. The number shall be the same as that of the certificate of fitness.

29. A record of every token so issued and the person to whom it was issued shall be maintained in the office of the mine.

3. In the rules for coal mines—

(a) For the existing Schedule A the following Schedule shall be substituted :—

## SCHEDULE A.

(See RULE 9.)

*Register of employees.*

Name and caste of the employee.	Age.	Sex	Nature of employment.	Date of commencement of employment.	Periods of work.		Intervals for rest to which he/she is entitled.		Days of rest to which he/she is entitled.	Relay* to which he/she belongs.
					Begins.	Ends.	Begins.	Ends.		
					A. M. P. M.	A. M. P. M.	A. M. P. M.	A. M. P. M.		

\*In mines where work is carried on by system of relays.



APPENDIX IV—*contd.*

Miscellaneous—*contd.*

Statement No. 12—*contd.*

SCHEDULE E.

(See RULE 23.)

*Form of certificate of fitness for employment underground in a mine.*

Counterfoil of certificate of fitness.	Certificate of fitness.
Serial No.....	Serial No.....
Date.....	Date.....
2 Name.....	This certificate unless renewed shall not be valid after.....*
3 Father's name.....	I hereby certify that I have personally examined (name).....
4 Sex and caste or religion.....	son/daughter of.....
.....	(caste, etc.).....
5 Residence.....	residing at.....
6 Age certified.....	who is desirous of being employed in a mine and that his/her age as nearly as can be ascertained from my examination is.....Years and that he/she is fit for employment underground in a mine as an adult. His/Her descriptive marks are.....
7 Distinctive marks.....	.....
.....	.....
Left thumb impression.....	Left thumb impression.....
.....	.....
Qualified Medical Practitioner.	Qualified Medical Practitioner.
	Renewed till.....
	Date.....

Signature of Qualified Medical Practitioner.

---

\*Date twelve months after date of issue to be filled in by the Medical Practitioner.

APPENDIX IV—*contd.*

Miscellaneous—*contd.*

Statement No. 12—*contd.*

SCHEDULE F.

(See RULE 9A.)

*Register of persons employed underground.*

(Per ons entering the mine shall be shown by a X in the column marked "In" against the name )  
 (Persons leaving the mine shall be shown by a X in the column marked "Out" against the name )  
 (All entries shall be made in ink.)

Period of work commences at A.M.  
F.M.

Period of work ends at A.M.  
F.M.

For week commencing and ending

Name of person.	Sex.	Nature of work.	Sunday.		Monday.		Tuesday.		Wednes- day.		Thurs- day.		Friday.		Saturday.	
			In.	Out.	In.	Out.	In.	Out.	In.	Out.	In.	Out.	In.	Out.	In.	Out.

Total number of persons underground.  
 Total number of women underground.  
 Percentage of persons below ground who are women.  
 Signature of Register-keeper.

AMENDMENTS IN THE RULES FOR MINES OTHER THAN COAL MINES.

4. In Chapter III of the rules for mines other than coal mines for rule 9 the following rule shall be substituted:—

9. The register of all persons employed in the mine shall be maintained, as required by sub-section (1) of section 25 of the Act, in the form shown in Schedule A. The register shall be kept at the office of the mine.



**APPENDIX IV—contd.**

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**Miscellaneous—contd.**

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**Statement No. 12—contd.**

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5. After Chapter V of the rules for mines other than coal mines the following new Chapter VA shall be added and the rules 17 to 21 in Chapter VI renumbered as rules 24 to 28 :—

**CHAPTER VA.**

*Certificate of fitness for employment underground of persons who have not completed 17 years of age.*

17. Before any person who has not completed his seventeenth year is employed underground, the manager shall arrange to have him examined by a qualified medical practitioner and if after examination the medical practitioner is of opinion that such person is fit for employment underground, he shall grant him a certificate in the Form in Schedule D.

18. Every certificate granted by a qualified medical practitioner shall be prepared by filling up the foil and counterfoil on both of which shall be impressed the left thumb-mark of the person in whose name the certificate is granted.

19. The qualified medical practitioner shall, when satisfied as to the correctness of the entries made thereon, sign the foil and initial the counterfoil, and shall deliver the foil to the manager for safe custody.

20. No certificate granted under rule 17 shall be valid for a period exceeding twelve months. Every person in respect of whom a certificate of fitness has been issued shall be re-examined within twelve months of the last previous examination unless in the meantime he has completed his seventeenth year and the qualified medical practitioner making such re-examination may renew the certificate for a further period not exceeding twelve months or may suspend or revoke the said certificate.

21. A qualified medical practitioner who refuses to grant a certificate referred to in rule 17 or suspends or revokes an existing certificate under rule 20 shall state the reasons for refusing to grant a certificate or for suspending or revoking the certificate as the case may be. If the manager of the mine disagrees with the opinion of such medical practitioner, he may refer the case to the Chief Inspector or Inspector. The Chief Inspector or the Inspector shall refer the case for decision to a second qualified medical practitioner and such decision shall be final.

22. Every person who has been certified as fit for employment underground shall, before he is so employed, be provided by the manager with a metal token. Such token shall be stamped with the letter "P" and numbered. The number shall be the same as that of the certificate of fitness.

23. A record of every token so issued and the person to whom it was issued shall be maintained in the office of the mine.

APPENDIX IV—*contd.*

Miscellaneous—*contd.*

Statement No. 12—*contd.*

6. In the rules for mines other than coal mines—

(a) For the existing Schedule A the following shall be substituted:—

SCHEDULE A.

(See RULE 9.)

*Register of employes.*

Name and caste of the employe.	Age.	Sex.	Nature of employment.	Date of commencement of employment.	Periods of work.		Intervals for rest to which he/she is entitled.		Days of rest to which he/she is entitled.	Relays to which he/she belongs.
					Begins.	Ends.	Begins.	Ends.		
					A. M. P. M.	A. M. P. M.	A. M. P. M.	A. M. P. M.		

\*In mines where work is carried on by a system of relays.

APPENDIX IV—*contd.*

Miscellaneous --*contd.*

Statement No. 12—*contd.*

(b) For the existing Schedule O the following Schedule shall be substituted :—

SCHEDULE C.

(See RULE 9A.)

*Notice of commencement and end of work.*

Name of mine.....

Name of owner of mine.....

It is hereby notified that persons employed in this mine shall begin and end their periods of work between the hours set out below :—

Kind of worker.	1st relay.				2nd relay, if any.				3rd relay, if any.			
	Period of work.		Rest interval.		Period of work.		Rest interval.		Period of work.		Rest interval.	
	Begins.	Ends.	Begins.	Ends.	Begins.	Ends.	Begins.	Ends.	Begins.	Ends.	Begins.	Ends.
	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.
P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	

NOTE.—The words and letters not wanted should be scored out.

In the case of underground workers, the entry in the rest interval column will be *nil*.

APPENDIX IV—contd.

Miscellaneous—contd.

Statement No. 12—contd.

(c) After Schedule C the following Schedule shall be inserted —

SCHEDULE D.

(See RULE 17.)

Form of certificate of fitness for employment underground in a mine.

Counterfoil of certificate of fitness.	Certificate of fitness.
Serial No.....	Serial No.....
Date.....	Date.....
2. Name.....	This certificate unless renewed shall not be valid after.....*
3. Father's name.....	I hereby certify that I have personally examined (name).....
4. Sex and caste or religion.....	son/daughter of.....
.....	(caste, etc.).....
5. Residence .....	residing at.....
6. Age certified.....	who is desirous of being employed in a mine and that his/her age as nearly as can be ascertained from my examination is.....Years and that he/she is fit for employment underground in a mine as an adult. His/Her descriptive marks are .....
7. Distinctive marks.....	.....
.....	.....
Left thumb impression.....	Left thumb impression.....
.....	.....
Qualified Medical Practitioner.	Qualified Medical Practitioner.
	Renewed till.....
	Date.....
	Signature of Qualified Medical Practitioner.

\*Date twelve months after date of issue to be filled in by the Medical Practitioner.

By order of the Governor in Council,  
J. W. HOULTON,  
Secretary to Government.

APPENDIX IV—*contd.*

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Miscellaneous—*contd.*

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Statement No. 12—*concl.*

MEMO. NO. -Com.

Dated the 1936.

Copy forwarded to the Secretary, Indian Mining Association, Secretary, Indian Mining Federation, Secretary, Indian Colliery Owners' Association, Jharia, Secretary, Association of Colliery Managers (Indian Branch), Kasunda post office (Manbhum), Secretary, Indian Mine Managers' Association, Gonshadih Colliery, Kasunda post office (Manbhum), and Chief Inspector of Mines in India.

By order of the Governor in Council,

S. P. SINHA,

*Assistant Secretary to Government.*

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MEMO. NO. -Com.

Dated the 1936.

Copy forwarded to the Secretary to the Government of Assam/Bengal/Orissa Department, for information.

Revenue	_____
Commerce	_____
Law and Commerce	_____

By order of the Governor in Council,

S. P. SINHA,

*Assistant Secretary to Government.*

---

MEMO. NO. -Com.

Dated the 1936.

Copy with 12 spare copies forwarded to all Commissioners of Divisions for information and communication to District Officers.

By order of the Governor in Council,

S. P. SINHA,

*Assistant Secretary to Government.*

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

## Statement No. 13.

*The 23rd November, 1936.*

**No. 5041-I. and L.-36 36332.**—In exercise of the powers conferred by section 30 of the Indian Mines Act, 1923, as amended by Act No. V of 1935, and with reference to Punjab Government notification No. 4998-I. and L.-36 24006, dated the 4th August, 1936, the Governor in Council is pleased to make the following rules in supersession of those published with Punjab Government notification No. 3224-D., dated the 14th July, 1927.

These rules shall apply to coal mines and also to mines other than coal mines, except when it has been specifically made clear in the rules that a particular rule or a set of rules is applicable to certain specified mines only :—

## CHAPTER I.

*Sanitary and Health Provisions.*

1. At every mine a sufficient supply of wholesome drinking water shall be provided on the surface and, if the local Government so directs in the case of any mine or class of mines, also below ground at points reasonably accessible to the persons employed.

2. At every coal mine, and in the case of mines other than coal mines where the Chief Inspector of Mines so directs, arrangements shall be made for keeping all the underground working places and travelling roads clean from excreta.

3. In every mine where 25 or more persons are employed, latrine and urinal accommodation shall be provided on the surface, subject to the conditions—

(i) that there shall be one seat for every 25 persons or part thereof, and

(ii) that the urinals and latrines shall be of the type approved by the local District Medical Officer of Health with due regard to the local conditions.

If the local Government so directs, latrine and urinal accommodation shall be provided in the case of any mine or class of mines, either on the surface only or both on the surface and in the underground working of the mine.

4. Every latrine erected on the surface for the use of the work-people of a mine shall be so partitioned off as to secure privacy and, if a latrine intended for the use of one sex adjoins a latrine intended for the use of the other sex, the approaches shall be separate and clearly marked off.

5. All latrines in or about a mine shall be kept in a sanitary condition.

## CHAPTER II.

*Ambulance, First Aid and Rescue Work.*

6. It shall be the duty of the owner, agent and manager of a coal mine, and in the case of mines other than coal mines, if the Chief Inspector of Mines by order in writing so requires, to see that adequate arrangements are made for the training of men in ambulance work.

7. In every coal mine, and in the case of mines other than coal mines, where the Chief Inspector of Mines by order in writing so requires, in which fifty persons or more are employed underground during any period of 24 hours, one or more of the persons employed according to the sub-joined scale shall be trained in ambulance work to the standard of St. John's First-Aid Certificate :—

Where the number of persons employed underground during any period of 24 hours—

does not exceed 100, not less than one person,

exceeds 100, but does not exceed 200, not less than two persons.

exceeds 200, but does not exceed 300, not less than three persons.

exceeds 300, but does not exceed 400, not less than four persons.

exceeds 400, but does not exceed 500, not less than five persons.

exceeds 500, one person for every completed hundred of persons employed.

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 13—*contd.*CHAPTER II—*contd.**Ambulance, First Aid and Rescue Work—contd.*

8. In or at every mine to which section 18 of the Act applies, there shall be provided and kept in a good condition and ready for immediate use at a convenient place on the surface and also, if the Chief Inspector by an order in writing so directs in the case of any mine, underground—

- (a) a suitably constructed stretcher or stretchers, and
- (b) a box or boxes containing a sufficient supply of suitable splints and bandages, adhesive plaster, boric vaseline, cotton wool and tincture of iodine or other suitable antiseptic solution.

## CHAPTER III.

*Registration of Work-people.*

9. (a) The register of all persons employed in the mine (except in the case of salt mines in which women are employed underground) of their hours of work, of their days of rest, and of the nature of their respective employment as required by section 28 of the Act shall be maintained in the form shown in Schedule A. The register shall be kept at the office of the mine.

(b) The register of all persons employed in salt mines in which women are employed underground, of their hours of work, of their days of rest, and of the nature of their respective employments as required by section 28 of the Act shall be maintained in the form shown in Schedule B. The register shall be kept at the office of the mine.

(c) At every salt mine in which women are employed underground a statement shall be posted every day outside the office of the mine showing in respect of the previous day the total number of persons employed underground, the total number of women employed underground and the percentage of the total number of persons employed underground who are women.

(d) In the case of all mines having underground workings there shall be kept at the mine in the form shown in Schedule C a register showing at any moment the name of every person then working below ground in the mine.

10. The notice required under section 23-B (1) shall be in the form shown in Schedule D and shall be posted in English and Urdu outside the office of the mine.

11. All work of persons employed below ground shall be reckoned from the time such persons leave the surface of the mine to the time at which they finally return thereto at the end of the period of employment.

12. The following persons shall be deemed to be persons holding positions of supervision or management or employed in a confidential capacity, within the meaning of section 24 of the Act :—

- (a) (i) In the case of coal mines : assistant managers, under-managers, or overmen or any person holding a position under the manager equivalent to assistant manager, under-manager or overman ;
- (ii) In the case of mines other than coal mines : any official in charge of a mine or part of a mine ;
- (b) Mechanical engineers or engine wrights or electricians ;
- (c) Surveyors ;
- (d) Clerks, accountants and time-keepers.

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 13—*contd.*

## CHAPTER IV.

*Safety Provisions.*

(Rules 13 to 16 below are applicable to coal mines only. The other rules in this chapter will apply to all mines.)

13. If the owner, agent or manager of a mine intends to commence or extend any mining operations under his control at or to any point within 50 yards of any ground on which are situated public roads, buildings, structures, works or rivers not belonging to the owner, or in respect of which the local Government has not issued any general or special order under clause (u) of section 29 of the Act, he shall, not less than sixty days before commencing to carry out his intention, give notice in writing to the Chief Inspector.

NOTE.—This rule applies to coal mines only.

14. If the operations, in respect of which notice is given under rule 13, are not commenced within 12 months from the expiry of the period of 60 days therein referred to, the notice shall be held to have expired, and the provisions of that rule shall apply as if no such notice had been given.

NOTE.—This rule applies to coal mines only.

15. The notice to be given under rule 13 shall specify the position of the workings of the mine in relation to the public roads, buildings, structures, works or rivers, the manner in which it is proposed to carry out the intended new operations the limits to which it is proposed to carry the said operations, and whether the operations are actually in progress, and shall include a plan showing the existing and the intending operations in so far as they affect the public roads, buildings, structures, works or rivers in question.

NOTE.—This rule applies to coal mines only.

16. Mine workings beneath land within 50 feet of a public road shall be made only in accordance with restrictions laid down by the Chief Inspector of Mines and when a mine owner wishes to extract pillars under such land, he shall not commence such operations until a diversion of the road has been made or other precautionary measures taken to the satisfaction of the Chief Inspector.

*Explanation.*—The expression "public road" where it occurs in rules 13, 15 and 16 means a road maintained for the use of the public by Government or any local authority.

NOTE.—This rule applies to coal mines only.

17. Any place in or about an excavation which is dangerous shall be made safe or shall be kept securely fenced. Should any doubt arise whether a place is dangerous or not, the opinion of an Inspector or of the District Magistrate shall be conclusive on the point.

18. Where an excavation, which has been formed as the result of any mining operation, extends within fifty feet of a public road or dwelling house and persons are likely to be endangered thereby, substantial fencing shall be erected and maintained around the excavation.

19. Where as a result of mining operations a subsidence of the surface has taken place, or is likely to take place, and persons are likely to be endangered thereby, the dangerous area shall be kept fenced on the surface.

## CHAPTER V.

*Abandonment of Mines.*

(Rules 21 to 23 below will apply to coal mines only. The remaining rules in this chapter will apply to all mines.)

20. In the case of any mine which is abandoned or the working of which is discontinued, the owner, agent or manager of the mine shall be bound, before the mine is finally abandoned or immediately after the working thereof has been discontinued, to cause the top or entrance of every shaft and



APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 13—*contd.*CHAPTER V—*contd.**Abandonment of Mines—contd.*

opening into the mine to be fenced by a structure of a permanent character sufficient to prevent persons inadvertently falling into or entering the shafts or openings.

21. When the workings of any mine or part of a mine which are underground, on which is situated property vested in His Majesty or any Local Authority or any Railway Company as defined in the Indian Railways Act, 1899, are discontinued or abandoned, intimation in writing shall be sent by the owner to the Chief Inspector not less than thirty days before the date of such discontinuance or abandonment.

NOTE.—This rule applies to coal mines only.

22. When a notice of discontinuance or abandonment in conformity with rule 21 of these rules has been received, the Chief Inspector may order an inspection of such working to be made as soon as possible to ascertain what protection is necessary in order to prevent injury to any property vested in His Majesty or any Local Authority or Railway.

NOTE.—This rule applies to coal mines only.

23. The Chief Inspector may, after the inspection required by rule 22, call upon the owner of the mine to construct in the mine or on the surface of the mine such protective work as he may consider necessary within such time as he may consider adequate for the purpose :

Provided that if the owner objects to the orders of the Chief Inspector in this respect, he may within 20 days after the receipt of the notice containing the order, appeal to the local Government stating the grounds on which he objects to the orders of the Chief Inspector. The local Government shall refer the appeal to a Committee.

NOTE.—This rule applies to coal mines only.

## CHAPTER VI.

*Inquiry in the case of Accidents.*

24. Persons other than Government servants entitled to travelling allowance under the Punjab Travelling Allowance Rule: appointed to act as assessors in an enquiry ordered under section 21 of the Act shall be entitled to an allowance of Rs. 21 per diem in addition to actual expenses incurred on journeys to and from the place where the enquiry is held.

25. A Court of Inquiry appointed under section 21 of the Act shall permit a relative of any person whose death may have been caused by an accident with respect to which an inquiry is being held, and the owner, agent or manager of the mine in which the accident occurred, and any person appointed by the order in writing of the majority of the workmen employed at the said mine, and any person appointed in writing by an association of workmen to which the deceased at the time of his death belonged, or by any association of employers of which the owner is a member or by any association to which any official of or workmen employed in the mine belongs, to attend and examine any witness, in person or by his counsel, solicitor, pleader or agent, subject nevertheless to the power of the Court to disallow any question which, in its opinion, is not relevant or is otherwise not a proper question.

26. If a Court of Inquiry appointed under section 21 of the Act find that the accident was due to any carelessness or negligence on the part of the management, the Court may order the owner, agent or manager of the mine to pay all or any part of the expenses of the inquiry, and the amount so directed to be paid may, on application by the Chief Inspector or an Inspector to a Magistrate having jurisdiction at the place where the mine is situated or where such owner, agent or manager is for the time being resident, be recovered by the distress and sale of any movable property within the limits of the Magistrate's jurisdiction belonging to such owner, agent or manager.

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 13—*contd.*

## CHAPTER VII.

*Certificates of Fitness.*

27. No person between the age of 15 and 17 years shall be employed below ground without a certificate of fitness granted to him by a qualified medical practitioner, and no one claiming to be between these two ages shall be employed in a mine at all, unless and until he has been certified by a qualified medical practitioner to have completed his fifteenth year.

28. Certificates of fitness shall be granted by a qualified medical practitioner to persons desirous of being employed in mines, if they are found qualified to receive them. No fee shall be charged for the grant of such certificates.

29. The qualified medical practitioner shall fix such place and such time as may be convenient for the attendance of persons wishing to obtain certificates of fitness. Notice of the place and the time thus fixed shall be given to the managers of mines within the local limits of which the medical practitioner is appointed.

30. Every medical practitioner shall keep a bound book containing certificates in the form as in Schedule E in foil and counterfoil. The forms shall be numbered consecutively and shall be printed on Lancashire Ledger or Titan Ledger paper. Every certificate granted to a person desirous of being employed in a mine, shall be prepared by filling up the foil and counterfoil, on which shall also be impressed the left thumbmark of the person in whose name the certificate is granted.

31. A medical practitioner may revoke any certificate granted under rule 27 or 28 if, in his opinion, the holder of it is no longer fit to work in a mine.

## CHAPTER VIII.

*Miscellaneous.*

32. Sufficient materials and appliances shall be kept in stock for the proper carrying out of all necessary operations in a manner consonant with the provisions of the Act, regulations, rules and by-laws.

33. The abstracts of the Act, and of the regulations and the rules made thereunder, as well as the by-laws, if any, framed under section 32 of the Indian Mines Act, shall be posted up, both in English and Urdu, at or near every mine.

34. All plans and books which are required to be kept under the regulations, these rules and the by-laws and the prescribed abstract of the Indian Mines Act, 1923, as subsequently amended, and of the regulations, rules and by-laws applicable to the mine shall be kept at an office or other building as near as conveniently may be to and used in connection with the working of the mine and shall be produced on the request of the Chief Inspector or an Inspector, or any person authorized in that behalf by the local Government.

35. The originals or true copies of all reports made in conformity with the Act, or with the regulations, rules or by-laws shall be maintained at the office of the mine, for a period of twelve months after having been made.

36. No person shall pull down, injure or deface any abstract of the Indian Mines Act, 1923, as subsequently amended, or any copy of the regulations, rules or by-laws made thereunder which is posted up at any mine or any notice posted up in pursuance of the regulations of the mine.

37. Accidents, other than those covered by section 20 (1) of the Act, which cause bodily injury resulting in the enforced absence from work of the person injured for a period exceeding forty eight hours, shall be entered in a register, which shall be maintained in the form shown in Schedule F.

**APPENDIX IV—contd.**

**Miscellaneous— contd.**

**Statement No. 13—contd.**

**SCHEDULE A,**

[**RULE 9 (a).**]

*Register of work persons.*

[Section 28 of the Indian Mines (Amendment) Act, 1935.]

Name of colliery/mine \_\_\_\_\_

Name of owner \_\_\_\_\_

Week commencing \_\_\_\_\_

Name.	Age and sex.	Father's name.	Cast and religion.	Permanent home address.	Nature of employment.	Period of work fixed.	Intervals for rest if any, to which the worker is entitled.	Days of rest to which the worker is entitled.	Where work is carried on by a system of relays, the relay to which the worker belongs.
1	2	3	4	5	6	7	8	9	10

**APPENDIX IV—contd.**

**Miscellaneous—contd.**

**Statement No. 13—contd.**

**SCHEDULE B.**

[RULE 9 (b).]

*Register of work persons employed on surface.*

[Sections 28 and 30 (f) and (k), of the Indian Mines Act, 1923.]

Name of mine \_\_\_\_\_

Name of owner \_\_\_\_\_

Name and caste.	Age and sex.	Father's name or in the case of a married woman or widow, husband's name.	Permanent home address.	Nature of work.	SUNDAY.		MONDAY.		TUESDAY.		WEDNESDAY.		THURSDAY.		FRIDAY.		SATURDAY.		Number of hours worked during the week ending _____ 19 .
					In.	Out.	In.	Out.	In.	Out.	In.	Out.	In.	Out.	In.	Out.	In.	Out.	

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**APPENDIX IV—contd.**

**Miscellaneous—contd.**

**Statement No. 13—contd.**

**SCHEDULE B—contd.**

**[RULE 9 (b)]—contd.**

*Register of work persons employed underground.*

[Sections 28 and 30 and (f) and (k) of the Indian Mines Act, 1923.]

Name of mine \_\_\_\_\_

Name of owner \_\_\_\_\_

Name and caste.	Age and sex.	Father's name or in the case of a married woman or widow, husband's name	Permanent home address.	Nature of work.	SUNDAY.		MONDAY.		TUESDAY.		WEDNESDAY.		THURSDAY.		FRIDAY.		SATURDAY.		Number of hours worked during the week ending _____ 19 .
					In.	Out.	In.	Out.	In.	Out.	In.	Out.	In.	Out.	In.	Out.	In.	Out.	
Total number of persons employed underground . . . . .																			
Total number of women employed underground . . . . .																			
Percentage of persons employed underground who are women																			

**APPENDIX IV—contd.**

**Miscellaneous—contd.**

**Statement No. 13—contd.**

**SCHEDULE C.**

[RULE 9 (d).]

*Register of persons working below ground in the mine.*

[Section 28 (4) of the Indian Mines (Amendment) Act, 1935.]

Name of colliery/mine \_\_\_\_\_

Name of owner \_\_\_\_\_

Date.	Name of person.	REMARKS.

NOTE — Each name should be struck off or marked on the return to the surface of the person concerned.

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**APPENDIX IV—contd.**

**Miscellaneous—contd.**

**Statement No. 13—contd.**

**SCHEDULE D.**

[RULE 10.]

*Notice of Commencement and end of work.*

Name of colliery/mine \_\_\_\_\_

Name of owner \_\_\_\_\_

It is hereby notified that persons employed in this mine shall begin and end their relays of work between the hours set out below :—

Kind of worker.	1st relay.		Rest interval.		2nd relay, if any.		Rest interval.		3rd relay, if any.	
	Begins.	Ends.	Begins.	Ends.	Begins.	Ends.	Begins.	Ends.	Begins.	Ends.
	A. M.	A. M.	A. M.	A. M.	A. M.	A. M.	A. M.	A. M.	A. M.	A. M.
	P. M.	P. M.	P. M.	P. M.	P. M.	P. M.	P. M.	P. M.	P. M.	P. M.
	A. M.	A. M.	A. M.	A. M.	A. M.	A. M.	A. M.	A. M.	A. M.	A. M.
	P. M.	P. M.	P. M.	P. M.	P. M.	P. M.	P. M.	P. M.	P. M.	P. M.

\* The words and letters not wanted should be scored out.

NOTE.—The work of persons employed below ground is to be reckoned from the time such persons leave the surface of the mine to the time when they finally return thereto at the end of the relay.

APPENDIX IV—*contd.*

Miscellaneous—*contd.*

Statement No. 13—*concl.*

SCHEDULE E,

[RULE 30.]

1. Serial No. _____	Serial No. _____
2. Date _____	Dated _____
3. Name _____	I hereby certify that I have personally examined (name) _____
4. Father's name _____	_____
5. Sex and caste or religion _____	_____
6. Residence _____	_____ son of _____ daughter of _____ (caste, etc.) _____ residing at _____
7. Age certified _____	who is desirous of being employed in a mine and that <sup>his</sup> / <sub>her</sub> age, as nearly as can be ascer- tained from my examination, is _____
8. Physical fitness _____	years, and that <sup>he</sup> / <sub>she</sub> is fit for employment in a mine.
9. Distinctive marks _____	His _____ descriptive marks are _____ Her _____

Thumb-impression.

Thumb-impression.

Certifying Surgeon.

Certifying Surgeon.

SCHEDULE F.

[RULE 39.]

Register of Accidents.

[Section 20 (2) of the Indian Mines (Amendment) Act, 1935.]

Name of colliery/mine \_\_\_\_\_  
Name of owner \_\_\_\_\_

Date of entry.	Date of accident.	Name of person injured.	Nature of injury.	Nature of the accident.	Duration of the enforced absence from work.

P. C. BOURNE,

Secretary to Government, Punjab,  
Electricity and Industries Department.



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

## Statement No. 14.

## ACT NO. XI OF 1936.

[ PASSED BY THE INDIAN LEGISLATURE. ]

*Received the assent of the Governor General on the 26th April 1936.***An Act further to amend the Indian Mines Act, 1923, for certain purposes.**

**IV of 1923.** WHEREAS it is expedient further to amend the Indian Mines Act, 1923\*, for the purposes herein-after appearing, it is hereby enacted as follows:—

**1. Short title and commencement.**—(1) This Act may be called the Indian Mines (Amendment) Act, 1936.

(2) It shall come into force on such date as the Governor General in Council may, by notification in the *Gazette of India*, appoint in this behalf.

**IV of 1923.** **2. Amendment of Section 19, Act IV of 1923.**—(1) In section 19 of the Indian Mines Act, 1923 † (hereinafter referred to as the said Act), after sub-section (1), the following sub-section shall be deemed to be inserted, namely:—

“(1A) Without prejudice to the generality of the provisions contained in sub-section (1), the Chief Inspector or the Inspector may, in any area to which the Governor General in Council may, by notification in the *Gazette of India* declare that this sub-section applies, by order in writing addressed to the Owner, Agent or Manager of a mine,—

- (a) prohibit the extraction or reduction of pillars in any part of the mine if, in his opinion, such operation is likely to cause the crushing of pillars or the premature collapse of any part of the workings or otherwise endanger the mine, or if, in his opinion, adequate provision against the outbreak of fire has not been made by providing for the sealing off and isolation of the part of the mine in which such operation is contemplated and for restricting the area that might be affected by a fire; or
- (b) limit to such dimensions as he considers reasonable the galleries that may be driven in the mine,

and the provisions of sub-sections (3), (4), (5) and (6) shall apply to an order made under this sub-section as they apply to an order made under sub-section (2).”

(2) This section shall have effect for two years only from the commencement of this Act.

**3. Amendment of Section 29, Act IV of 1923.**—In section 29 of the said Act,—

(a) in clause (m), after the words “providing for” the words “and regulating” shall be inserted, and

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

“(p) for providing against explosions or ignitions or irruptions of or accumulations of water in mines and against danger arising therefrom, and for prohibiting, restricting or regulating the extraction of minerals in circumstances likely to result in or to aggravate irruptions of water or ignitions in mines;”

\* IV of 1923.

† IV of 1923.

**APPENDIX IV—contd.**

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**Miscellaneous—contd.**

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**Statement No. 14—contd.**

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4. *Amendment of Section 30, Act IV of 1923.*—In clause (c) of section 30 of the said Act, the words "the formation and training of rescue brigades" shall be omitted.

5. *Insertion of new Section 30-A in Act IV of 1923.*—After section 30 of the said Act the following section shall be inserted namely:—

30-A. *Power of the Governor General in Council to require rescue stations to be established.*—"The Governor General in Council may, by notification in the *Gazette of India*, make regulations under this section—

- (a) requiring groups of specified mines to establish central rescue stations,
- (b) prescribing the position, equipment, control, maintenance and functions of such rescue stations,
- (c) providing for the allocation of the cost of the maintenance and upkeep thereof among mines served by such stations, and for the recovery from Owners or Agents of mines of sums payable on account of such cost, and
- (d) providing for the formation, training and duties of rescue brigades."

6. *Insertion of new Section 31-A in Act IV of 1923.*—After section 31 of the said Act, the following section shall be inserted, namely:—

"31-A. *Power to make regulations without previous publication.*—Notwithstanding anything contained in sub-sections (1), (2) and (3) of section 31, regulations under clause (a) and clauses (k) to (s) inclusive of section 29 may be made without previous publication and without previous reference to Mining Boards, if the Governor General in Council is satisfied that for the prevention of apprehended danger or the speedy remedy of conditions likely to cause danger it is necessary in making such regulations to dispense with the delay that would result from such publication and reference:

Provided that any regulations so made shall not remain in force for more than two years from the making thereof."

**Statement No. 15.**

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**Circular No. 1 of 1936.**

*Dated Dhanbad, the 13th February 1936.*

The attention of all OWNERS, AGENTS and MANAGERS of mines is invited to the risks of fire at air crossings which contain inflammable materials or which are made in coal, and also to the similar risks of fire at pit tops whether sealed off or covered over for ventilation purposes or open if there is inflammable material used in the construction. It is therefore, strongly recommended that all air crossings and shaft covers should be constructed of non-inflammable material. In addition fires should not be permitted underground nor near shaft tops on the surface.

Attention is also invited to Rules 88(3) and 89(2) of the Indian Electricity Rules, 1922. No timber or other inflammable material should be used, and where such has been used it should be removed forthwith.

D. PENMAN,

*Chief Inspector of Mines in India.*

APPENDIX IV—*contd.*


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 Miscellaneous—*contd.*


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 Statement No. 16.
 

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Circular No. 2 of 1936.

*Dated Dhanbad, the 9th March 1936.*

To

The Owner, Agent or Manager of Coal Mines,

Where there are Mechanical Ventilators (29 cells. as per list).

Attention is invited to Regulation 136 of the Indian Coal Mines Regulations, 1926, which prescribes that "After such date as the Chief Inspector may fix for any mine in view of the special circumstances thereof, there shall, in every mine in which a mechanical contrivance for ventilation is used, be provided and maintained, in a condition to be put into immediate operation, adequate means for reversing the air current".

It is hereby notified that, with effect from the 1st January 1937, adequate means for reversing the air current shall be provided and maintained at every mine in which the ventilation is effected by a mechanical contrivance situated on the surface.

The Chief Inspector of mines may by order in writing extend this date in special circumstances.

D. PENMAN,

*Chief Inspector of Mines in India.*


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 Statement No. 17.
 

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Circular No. 3 of 1936.

*Dated Dhanbad, the 9th March 1936.*

To

The Owner, Agent or Manager of Coal Mines,

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**Work in seams in which there are fires or which are connected to fires by broken stratas.**

The following principle should be observed :—

Every part of a mine in which there is a fire or in which there is believed to be a fire should be effectively sealed or dammed off both below ground and as far as practicable also on the surface, from any working part of the mine.

The area sealed or dammed off should include all goaves or broken strata connected with the fire, whether in the same seam or another seam.

In view of the probable early embodiment of the above principle in regulations I suggest that the managers of all mines in which there are fires should at once examine carefully the position in the mines under their charge and take action to put the principle into immediate effect. In particular, in working a seam below an area which is on fire, the strata between the seams should be kept intact.

D. PENMAN,

*Chief Inspector of Mines in India.*

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APPENDIX IV—*contd.*


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 Miscellaneous—*con* .
 

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 Statement No. 18.
 

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Circular No. 4 of 1936.

*Dated Dhanbad, the 23rd May 1936.*

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 notifications have been issued by the Government of India, Department of Industries and Labour. Printed copies of the Indian Mines (Amendment) Act, 1936 (XI of 1936), referred to therein may be obtained by purchase from the Manager of Publications, Civil Lines, Delhi.

*No. M.-955(1), dated the 14th May 1936.*

In pursuance of sub-section (2) of section 1 of the Indian Mines (Amendment) Act, 1936 (XI of 1936), the Governor General in Council is pleased to appoint the 16th May 1936 as the date on which the said Act shall come into force.

*No. M.-955(2), dated the 14th May 1936.*

In exercise of the powers conferred by sub-section (1-A) of section 19 of the Indian Mines Act, 1923 (IV of 1923), as amended by the Indian Mines (Amendment) Act, 1936 (XI of 1936), the Governor General in Council is pleased to declare that the provisions of the said sub-section shall apply to the area known as the Jharia coalfield in the districts of Hazaribagh and Manbhum of the province of Bihar.

D. PENMAN,

*Chief Inspector of Mines in India.*


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 Statement No. 19.
 

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Circular No. 5 of 1936.

*Dated Dhanbad, the 17th July 1936.*

From

D. Penman, Esqr., D.Sc., F.R.S.E.,  
 Chief Inspector of Mines in India,

To

The Owner, Agent or Manager of Coal Mines.

Sir,

I have the honour to invite your attention to Regulation 70(4) of the Indian Coal Mines Regulations, 1926, and to enquire if the provisions of that regulation are being strictly observed in the mines under your charge. You will please note that all statutory inspections in any mine in which inflammable gas has been found at any time or is likely to be found must thereafter be made with a locked safety lamp.

**APPENDIX IV—contd.**

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**Miscellaneous—contd.**

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**Statement No. 19—contd.**

For the purposes of this regulation it is my opinion that the term 'mine' includes all seams, shafts, inclines, drifts or other workings in the colliery which have any connection with the seam or working in which inflammable gas has been found or is likely to be found.

I wish also to point out that all such inspections should be made by a person who holds a Sirdar's certificate endorsed for gas-testing.

I have the honour to be,

Sir,

Your most obedient servant,

D. PENMAN,

*Chief Inspector of Mines in India.*

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**Statement No. 20.**

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**Circular No. 6 of 1936.**

*Dated Dhanbad, the 21st July 1936.*

From

D. Penman, Esqr., D.Sc., F.R.S.E.,  
Chief Inspector of Mines in India.

To

The Owner, Agent or Manager of Coal Mines.

Sir,

In continuation of my Circular No. 5, dated the 17th July 1936, I wish to invite your attention to the inspection of old and reopened workings in the coal mines and to say that in my opinion the first inspections of such workings should in every case be made with a locked flame safety lamp and no other light except a permissible electric torch should be carried by the person or persons making the inspection. If a permissible electric torch is used it must be used in conjunction with a locked safety lamp of the flame type.

2. It is also important that such areas should be adequately ventilated in compliance with Regulation 121.

I have the honour to be,

Sir,

Your most obedient servant,

D. PENMAN,

*Chief Inspector of Mines in India.*

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

## Statement No. 21.

## Circular No. 7 of 1936.

*Dated Dhanbad, the 30th September 1936.*

To

Owners, Agents and Managers of all Coal Mines.

The following notification has been issued by the Government of India, Department of Industries and Labour. Arrangements are being made by the Manager of Publications, Civil Lines, Delhi, for the supply of correction slips to the regulations.

*Notification No. M.-1077, dated the 29th August 1936.*

In exercise of the powers conferred by section 29 of the Indian Mines Act, 1923 (IV of 1923), the Governor General in Council 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. In Regulation 2 after clause (c), the following clause shall be inserted, namely:—
 

“(cc) ‘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*.
- II. After Regulation 96, the following regulation shall be inserted, namely:—
 

“96-A. In every underground part of a mine 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—

  - (1) main haulage and travelling roads shall, as far as practicable, be kept free from accumulations of fine coal dust;
  - (2) all coal tubs shall be so constructed and maintained as to prevent, as far as practicable, coal dust escaping through their sides, ends or floors.”
- III. For Regulation 107, the following regulation shall be substituted, namely:—
 

“107. The amount of every charge of explosive shall not be disproportionate to the work to be done. The charge shall be placed in a properly drilled and placed shot hole and shall have sufficient stemming. A sufficient supply of suitable non-inflammable stemming material shall be provided at places convenient to the shot-firers.”
- IV. In Regulation 111, for the words “clay or other non-inflammable substance” the words “suitable non-inflammable substances” shall be substituted.
- V. (1) In Regulation 116, for the words and figures “unless the explosive is one of the ‘Permitted Explosives’ allowed to be used by any order under the Coal Mines Act, 1911”, the words “unless the explosive is a Permitted Explosive” shall be substituted;
- (2) In the margin to the said regulation the figures, word and letters “1 and 2, Geo. 5, Ch. 50” shall be omitted.

**APPENDIX IV—contd.**

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**Miscellaneous—contd.**

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**Statement No. 21—contd.**

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VI. After Regulation 116, the following regulation shall be inserted, namely :—

“ 116-A. In any mine in which the use of ‘ Permitted Explosives ’ is required by these regulations or by any bye-law or order made under the Act :—

- (a) where more shots than one are charged for firing, the shots shall be fired simultaneously ;
- (b) the aggregate charge in any number of shots fired simultaneously in coal shall not exceed the permissible maximum charge laid down by the Chief Inspector for the kind of ‘ Permitted Explosive ’ used ;
- (c) no shot shall be fired in coal in any gallery unless—
  - (1) the coal has been undercut, overcut or sidecut ; and
  - (2) the length of the shot hole is at least six inches less than the length of the cut.”

VII. For Regulation 124, the following regulation shall be substituted, namely :—

“ 124. In every mine in which inflammable gas has been found during the previous twelve months, safety lamps shall be used in all galleries driven to a distance greater than the length of two pillars ahead of the last connecting gallery and in all advance galleries less than five feet wide, and no such advance gallery shall be driven more than ten feet ahead of the widened gallery ; in every such gallery the ventilating current shall be conducted as near to the working face as is practicable.”

D. PENMAN,  
*Chief Inspector of Mines in India.*

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

## Statement No. 22.

Circular No. 8 of 1936.

*Dated Dhanbad, the 30th September 1936.*

Attention of OWNERS, AGENTS and MANAGERS of Coal Mines is drawn to my Notification No. P.-1, dated the 29th August 1936, published in the *Gazette of India*, dated the 5th September 1936, the full text of which is reproduced below.

D. PENMAN,  
*Chief Inspector of Mines in India.*

## NOTIFICATION.

*Dated Dhanbad, the 29th August 1936.*

No. P.-1.— In exercise of the powers conferred by Regulation 2(cc) and Regulation 116-A (b) of the Indian Coal Mines Regulations, 1926, as published under Notification No. M.-1677, dated 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.*

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Miscellaneous—*contd.*

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Statement No. 23.

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Circular No. 9 of 1936.*Dated Dhanbad, the 1st October 1936.*

The attention of OWNERS, AGENTS and MANAGERS of all Coal Mines in Bihar is drawn to Notification No. 4004-VII-M.-3-Com., dated the 8th September 1936, issued by the Government of Bihar, in which the amendment has been made in the rules for coal mines published with Notification No. 2608-VII-M.-2-Com., dated the 8th September 1924. It reads as follows:—

*Amendment.*

In Rule 17 of the said rules, after the word "kept" the word "securely" shall be inserted.

D. PENMAN,  
*Chief Inspector of Mines in India.*

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Statement No. 24.

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Circular No. 10 of 1936.*Dated Dhanbad, the 28th November 1936.*

From

D. Penman, Esq., D.Sc., F.R.S.E.,  
Chief Inspector of Mines in India.

To

Agents and Managers of Gasay Mines.

Re: *Certified flameproof electrical apparatus.*

Sir,

I have the honour to invite attention to the fact that in safety lamp mines, non-flameproof electrical apparatus and open-type motors are ordinarily installed in situations which are not main intake airways and also near depillaring areas. Cases have occurred where firedamp has been expelled from goaf edges by falls of roof.

To prevent any risk of an ignition of firedamp through a defect in electrical apparatus, it is necessary that, in areas such as those mentioned above, only certified and totally enclosed flameproof apparatus should be installed. Reference may be made to Rule 99 of the Indian Electricity Rules, 1922.

I shall be glad if, in future, attention is given to the above point.

I have the honour to be,

Sir,

Your most obedient servant,

D. PENMAN,  
*Chief Inspector of Mines in India.*

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

## Statement No. 25.

Circular No. 11 of 1936.

*Dated Dhanbad, the 27th December 1936.*

From

D. Penman, Esq., D. Sc., F.R.S.E.,  
Chief Inspector of Mines in India.

To

The Owner, Agent or Manager.

Sir,

I have the honour to invite your attention to the bye-laws for the treatment of coal dust which have been established at your mine, and to recommend that systematic sampling and testing should be done so as to check the percentage of incombustible matter or water, as the case may be, contained in the mixture of dusts where the bye-laws require to be applied.

I also recommend that a properly qualified person be appointed to take samples and make tests and that the results of the tests be entered in a book kept for the purpose in the office of the mine.

As a guide to you I give herewith the tests required under the British Mines Act and recommend that that practice be followed:—

1. For the purposes of testing the composition of the dust mixture in any part of a road, the following procedure shall be adopted:—

- (a) Representative samples of the dust shall be collected from the floor, roof and sides, respectively, over an area of road not less than 50 yards in length.
- (b) Each sample collected shall be well mixed and a portion of the mixture shall be sieved through a piece of metallic gauze having a mesh of 28 to the linear inch.
- (c) A weighed quantity of the dust which has passed through the sieve shall be dried at 212 degrees Fahrenheit and the weight lost shall be reckoned as moisture. The sample shall then be brought to a red heat in an open vessel until it no longer loses weight. The weight so lost by incineration shall be reckoned as combustible matter for the purposes of the test.

2. *Moist Dust Mixtures which cannot be sieved:—*

- (a) The samples collected shall be well mixed and a weighed quantity of the mixture shall be dried at 212 degrees Fahrenheit. The weight lost shall be reckoned as moisture.
- (b) The dust so dried shall be treated in the manner prescribed by paragraph 1(b) and the percentage of combustible matter shall then be determined in the manner prescribed by paragraph (c) of the Regulation.

3. The results of the tests shall be posted at the pit head and recorded in a book to be kept at the mine for the purpose in accordance with the provisions of section 24 of the Act.

If stone-dusting is done the mixture in the sample should contain not less than 50 per cent of incombustible matter and if watering is done the percentage of moisture combined with the dust should not be less than 30 per cent.

Tests of dust, so taken as to be representative of the normal composition of the dust throughout the mine on the floor, roof and sides, respectively, should be made as often as may be necessary but not less frequently than once a month.

I have the honour to be,

Sir,

Your most obedient servant,

D. PENMAN,

*Chief Inspector of Mines in India.*

APPENDIX IV—*concl.*

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Miscellaneous—*concl.*

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Statement No. 26.

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Circular No. 12 of 1936.

*Dated Dhanbad, the 31st December 1936.*

From

D. Penman, Esq., D. Sc., F.R.S.E.,  
Chief Inspector of Mines in India.

To

The Owner, Agent or Manager.

Sir,

In continuation of my Circular No. 11, dated the 27th December 1936, I wish to suggest that when cleaning up roads on which slack coal or dust has accumulated care should be taken that clouds of fine dust are not raised during the cleaning operations. If the slack coal or dust is in a dry condition it would be advisable to drench it with water before cleaning it up. If practicable the cleaning should be done between relays when as few men as possible are in the mine.

I have the honour to be,

Sir,

Your most obedient servant,

D. PENMAN,

*Chief Inspector of Mines in India.*