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# **INDIAN MINES ACT, 1923**

**ANNUAL REPORT**

**OF THE**

## **CHIEF INSPECTOR OF MINES IN INDIA**

**FOR THE YEAR ENDING**

**31st DECEMBER 1934**



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FROM

D. PENMAN, Esq., 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 20th May 1935.*

SIR,

I have the honour to submit the report upon the inspection of mines in British India for the year ending 31st December 1934.

### 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 L.—Persons employed.

During the year 1934 the daily average number of persons working in and about the mines regulated by the Indian Mines Act was 229,381, as compared with 206,507 in the previous year. The increase was 22,874 persons, or 11·08 per cent. Of these persons 120,216 worked underground, 50,604 in open workings and 58,561 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.	
	1934.	1933.	1934.	1933.
Underground . . . . .	100,023	99,556	11,193	12,799
In open workings . . . . .	38,431	30,866	12,173	10,721
Surface . . . . .	44,766	40,616	13,805	11,949
Total . . . . .	<u>192,210</u>	<u>171,038</u>	<u>37,171</u>	<u>35,469</u>

The number of women employed underground was 11,193, or 9.31 per cent. of the total number of men and women employed underground. The percentage of women employed underground in coal mines was 10.94, as compared with 13.14 per cent. in 1933, 14.84 per cent. in 1932, 16.81 per cent. in 1931 and 18.39 per cent. in 1930. 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 . . . . .	3,914	..	3,914
Bihar and Orissa . . . . .	6,306	..	6,306
Central Provinces . . . . .	839	..	839
Punjab . . . . .	..	135	135
Total . . . . .	11,068	135	11,193 in 1934,

as compared with 12,799 in 1933.

The number of persons employed in coal mines was 151,375, which is 6,668 more than the number employed in 1933. Of these persons, 46,698 were males employed in cutting coal, 20,303 were males employed as loaders of coal and 22,482 were women.

The increase in the number of persons employed in 1934 as compared with 1933 is reflected in the larger quantity of minerals produced, the increases being most marked in coal, iron ore, manganese and copper.

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 work-persons. For February 1935 the week selected by me was as follows :—

Bengal and Bihar and Orissa . . . . .	17th to 23rd.
Assam, Baluchistan, the Central Provinces and the Punjab . . . . .	10th to 16th.

Although these returns are for a day in 1935, I am including them in this report and propose also to do the same each year as they would be more than a year out of date if held over till the submission of my report for the year in which they are made.

The returns for 1935 show that on the day selected 209,674 persons were either at work or were prevented from attending work. This figure is 58,299 more than the average number of persons employed in coal mines during 1934. Some of the more important district comparisons are as follows :—

—	Average daily attendance.	Attendance on selected day (absentees included).	Excess over average daily attendance.	Percentage excess.
Jharia Coalfield . . . . .	65,241	80,355	21,114	32.36
Raniganj Coalfield . . . . .	50,157	74,149	23,992	47.83
Central Provinces . . . . .	12,498	16,630	4,222	34.03
Salt Range Coalfield (Punjab) . . . . .	1,790	2,118	328	18.32

Some of the percentages of absentees are as follows:—All mines from which returns were received 7·4; Jharia 2·1; Raniganj 7·7 and Central Provinces 11·2. 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.	
	1934.	1932-33.	1934.	1932-33.
British India . . . . .	187	175	134	126
Bengal and Bihar . . . . .	191	179	137	129
Assam . . . . .	156	135	110	95
Baluchistan . . . . .	69	66	64	60
Central Provinces . . . . .	166	157	116	114
Punjab . . . . .	110	94	70	59

There was an all-round increase in the average output of coal per person employed. The increase may be ascribed partly to the increased demand for coal and partly to the increased output from the extraction of coal in pillars. 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 1933 the output of coal per person employed above and below ground in the United Kingdom was 262 tons. In the same year, i.e., 1933, comparative figures in certain other countries were Japan 288 tons; France 185 tons; Germany 333 tons; and the United States of America 608 tons.

The number of persons employed in metalliferous (including mica, stone, clay and salt) mines was 78,006 which is 16,206 more than the number employed in 1933. 63,317 were men and 14,689 were women. Of the women, 135 worked underground in salt mines.

*Bengal and Bihar and Orissa.*—In Bengal and Bihar and Orissa there was an ample supply of mining labour. There was a further slight reduction in the rates paid to workmen in the Jharia Coalfield. The weekly earnings of miners on the whole, however, were probably higher than during 1933 owing to many of the mines working a greater number of days per week. The relations between employers of labour and workmen were on the whole amicable except in one instance in which a strike and riot occurred in May at the East Indian Railway's collieries at Giridih. I have received the following particulars from the Colliery Superintendent in this connection:—

“The decision to work the whole of Giridih colliery departmentally was decided upon in March and took effect from the 1st April 1934. Owing to the reduced rates paid to coal cutters in other coalfields it was decided to standardise rates at the Giridih pits to bring them into line with other districts. The labour were informed of these proposed reductions but no written or verbal complaints were

received by the Management until May the 10th, when some of the labour at Joktiabad colliery asked the overman in charge not to alter the rates. He informed them that he could not do this without orders from the manager. The overman was subsequently assaulted by the labour and the manager had to come to the rescue. The bulk of the coal cutters at Joktiabad did not go to work on the 10th, 11th and 12th May. The other mines were working normally.

On Monday, the 14th of May, the labour at Joktiabad returned to work but at Serampore colliery some rioters attacked the Manager and his staff in the office, prevented the labour from going down the pits and set fire to some motor cars. The Deputy Commissioner and the Superintendent of Police, who were in Giridih at the time, hearing of the riot at once proceeded to the colliery and found a very large and threatening mob assembled and were compelled to open fire to disperse them. Two men were killed and two wounded. The crowd dispersed immediately. When things had quietened down arrangements were made to persuade the coal cutters to go to work on the night shift. This was successful and a limited number went down. The numbers gradually increased and in a short time normal working was resumed. The miners at Kurhurbaree colliery, including Joktiabad Pit, where the original troubles arose, worked uninterruptedly from the 14th of May."

The general health of the mining population in the Jharia and Raniganj Mining Settlements was on the whole satisfactory. In both of the coalfields there was, however, an increase in the number of deaths from cholera as compared with the previous year. Particulars of the activities of the Mines Boards 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 maintained in a high state of efficiency. Little progress, however, was made in housing and sanitation, but it is hoped that with improved prospects in the coal trade some progress will be made in this direction in the near future.

In the iron ore mines in the Singhbhum district there was an ample supply of labour. There were no strikes or epidemics and the general health of the labourers was good. There was an increase in the amount of work available owing to the increase in the output of iron ore.

At the copper mines worked by the Indian Copper Corporation, Limited, in the Singhbhum district there was an increase of production. There was, however, an ample supply of labour and there were no strikes. There was no outbreak of epidemic disease.

At the mica mines in Chota Nagpur the supply of labour was plentiful. The demand for mica increased with the result that a larger number of persons were employed. There was little change in the rate of wages paid. There were severe epidemics of small-pox in certain districts during the year. The working of the Bihar and Orissa Mica Act is now proving more helpful to all legitimate traders in mica and has reduced theft considerably. Proposals have been put forward to extend the Act beyond the borders of the Hazaribagh district so as to take in the whole of the mica field.

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

*Central Provinces.*—In the Pench Valley Coalfield the supply of labour was sufficient for requirements, except for short periods at important poojahs and during cultivation seasons. A larger number of work-persons was employed due to increased activity at the mines. There was no alteration in the rate of wages. There were no strikes and the relation between labour and employers was good. On the whole the health conditions were satisfactory. In August and September there was a number of deaths from cholera. Inoculations for cholera were, however, carried out extensively, 614 being done at Datla colliery and 2,455 at Barkui hospital, and it is believed that the inoculations together with other anti-cholera measures considerably minimised the effect of the spread of the disease.

At the manganese mines in the Central Provinces there was an improvement in the amount of work available owing to the increased demand for manganese. The supply of labour was ample. There were no disputes between labour and employer. There was an outbreak of cholera at Balaghat mine involving 12 attacks and 3 deaths and at Tirody mine involving 156 attacks and 33 deaths. Inoculations against the disease were carried out extensively. Malaria was more severe than usual. There was also an epidemic of small-pox at Tirody during the hot weather with 130 attacks and 37 deaths. About 3,000 persons were vaccinated.

*Punjab.*—There was no change in the labour conditions in the Punjab. At Khewra the labour conditions were normal. There were no epidemics and the health and well-being of the community was satisfactory. The year was particularly dry, being almost a record year in respect of lack of rainfall. A sufficient supply of water was, however, available throughout the year. A new village for the accommodation of miners was commenced and considerable progress in building work has been made.

*Madras.*—At the mica mines in the Madras Presidency labour was plentiful during the year. There were no strikes or epidemics. The relations between labour and the employers were amicable.

*Burma.*—At the mines in the Northern Shan States worked by the Burma Corporation, Limited, there was at no period of the year any shortage of labour. The average daily number of employees in all departments was 10,583. There were no strikes. The anti-malarial measures at Namtu and Bawdwin were continued throughout the year with beneficial results and there were no epidemics.

The supply of labour in the Tavoy and Mergui districts was adequate to requirements, and the relations between labour and the employers were good. The rates of wages remained approximately the same as during 1933. The Tavoy and Mergui districts were free from serious epidemics.

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The statistics furnished in this report show that the number of women employed underground is well below the permissible percentage on 1st July 1934. In many coal mines very few women are now employed.

In the table on page 7 figures are given of the average daily wages paid in December in each important mining field in India. If the figures are com-

pared with those in last year's Annual Report it will be seen that in most cases there has not been much change in the average daily earnings. The daily earnings of coal miners, for example, in the Jharia and Giridih coalfields were 6 pies lower than in December 1933; and in Baluchistan coal mines 2 annas 3 pies lower, but in the Raniganj coalfield earnings were 1 anna 3 pies higher; and in the Punjab coal mines 9 pies higher; while in the Central Provinces daily earnings remained the same as in 1933. The earnings of mica miners were slightly lower, and there was a considerable decrease in the earnings of salt miners.

#### RECOMMENDATIONS OF THE ROYAL COMMISSION ON LABOUR.

Regulations were issued during the year prescribing (a) a maximum slope for footpaths in open workings along which loads are carried; (b) a minimum width for such footpaths; (c) the provision of suitable steps where the slope exceeds 1 vertical to 4 horizontal; and (d) that where women are employed in carrying loads the weight of the loads and the height and distance to which they have to be carried shall not be such as to involve risk of injury to the health of the women.

Average daily earnings in December 1934.

Mineral Field.	Underground.						Open workings.						Surface.			
	Overmen and Sirdars.	Miners.	Leaders.	Skilled Labour.	Unskilled Labour.	Females.	Overmen and Sirdars.	Miners.	Leaders.	Skilled Labour.	Unskilled Labour.	Females.	Clerical and Supervising staff.	Skilled Labour.	Unskilled Labour.	Females.
	Foremen and Mates.						Foremen and Mates.									
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.	R. a. p.
Jharia Coalfield (Bihar and Orissa)	1 2 0	0 3 0	0 6 9	0 10 6	0 7 0	0 5 3	0 15 0	0 6 0	0 6 0	0 7 3	0 7 0	0 6 0	1 3 0	0 8 3	0 6 0	0 4 0
Raniganj Coalfield (Bengal)	0 15 3	0 9 6	0 6 0	0 9 3	0 6 3	0 4 9	0 9 0	0 6 0	0 6 0	0 5 0	0 4 0	0 2 0	1 0 0	0 8 0	0 6 3	0 3 9
Girdih Coalfield (Bihar and Orissa)	1 7 0	0 9 0	0 7 3	0 10 6	0 8 0	0 3 9	0 12 3	0 7 0	0 5 0	0 7 6	0 6 0	0 4 9	1 6 3	0 12 3	0 8 0	0 5 6
Assam Coalfields	1 4 0	1 0 9	1 0 0	1 0 6	0 13 9	...	...	...	...	...	...	...	2 4 0	0 15 0	0 11 0	0 7 9
Punjab Coalfields	0 14 0	0 13 0	0 13 0	0 11 0	0 7 3	...	1 1 3	0 14 0	0 8 0	...	0 11 3	...	0 14 6	0 14 0	0 3 0	0 2 0
Baluchistan Coalfields	1 11 0	0 12 0	0 12 0	0 12 0	...	...	1 0 0	...	...	...	0 11 0	...	...	0 7 6	...	...
Pench Valley Coalfield (Central Provinces).	1 3 0	0 13 0	0 6 0	0 10 3	0 7 0	0 5 9	...	...	...	...	...	...	1 3 3	0 10 0	0 7 0	0 4 0
Bihar and Orissa Mica	0 8 0	0 4 0	...	0 4 9	0 3 0	...	0 5 0	0 4 0	...	0 4 0	0 3 0	0 2 0	0 15 0	0 4 0	0 3 0	0 3 3
Madras Mica	0 8 0	0 4 0	...	0 3 0	0 3 3	...	0 5 0	0 4 0	...	0 4 0	0 3 0	0 2 0	0 9 0	0 4 0	0 4 0	0 2 0
Central Provinces Manganese	1 4 3	0 6 0	...	...	0 4 0	...	0 15 3	0 4 0	...	0 5 0	0 3 3	0 3 3	1 10 0	0 10 3	0 4 0	0 3 3
Central Provinces Limestone	...	...	...	...	...	...	0 13 0	0 4 0	...	1 2 0	0 4 0	0 3 0	1 6 0	0 9 0	0 3 0	0 3 0
Bihar and Orissa Iron	...	...	...	...	...	...	0 13 3	0 4 3	...	0 11 6	0 4 0	0 3 0	1 7 3	1 3 0	0 4 0	0 4 0
Burma Lead.	15 6 3	1 15 6	...	1 12 0	1 7 0	...	3 14 3	...	...	...	1 2 0	...	3 10 0	2 6 0	1 1 0	...
Burma Tin	6 5 9	1 3 0	...	1 3 0	0 10 3	...	3 12 3	1 2 0	...	1 2 0	0 13 0	0 9 3	3 6 0	1 1 6	0 13 0	...
Punjab Salt.	3 10 0	1 6 3	...	1 4 0	0 6 0	0 8 0	...	...	...	...	...	...	3 5 3	0 14 0	0 7 0	...
Bihar and Orissa China Clay	...	...	...	...	...	...	0 5 0	0 3 0	...	0 4 0	0 3 0	0 2 0	1 3 0	0 6 0	0 4 3	0 3 9
Punjab Slate.	...	...	...	...	...	...	0 7 0	0 5 0	...	0 6 0	0 4 0	...	1 3 0	...	0 6 0	...
United Provinces Stone	...	...	...	...	...	...	0 9 0	0 11 3	...	0 4 0	0 4 0	0 3 3	0 8 0	0 4 0	0 6 3	0 3 0

7

### EMPLOYMENT OF WOMEN WITHDRAWN FROM THE MINE.

The gradual withdrawal of women from the underground workings of coal and other mines, a process which has been going on since 1929 has given rise to the problem of devising suitable kinds of employment for such women on the surface. For a time the problem was not one of serious moment as work was at first readily found on the surface for the women debarred from employment underground. As the number of women for whom it was necessary to find work increased the problem grew in dimensions and latterly has become acute. Many colliery owners are fully alive to the necessity of meeting the situation and some of the larger concerns have devised schemes which give promise of a large measure of success in the achievement of the object in view. As an example of what is being done I may invite attention to the scheme recently put into operation at Kustore colliery in the Jharia coal-field, belonging to the Ranegunge Coal Association, Limited. A welfare centre has been opened at the colliery. In order to make the scheme popular it was considered advisable to concentrate on forms of employment with which women are already familiar and which form part of their normal village life. Paddy husking, wheat grinding and basket making were started and although the scheme has only been in operation for about two months, employment has already been found for about one hundred women. It is confidently anticipated that work will eventually be found for about two hundred and fifty. Hand looms have been installed and experienced men engaged to teach weaving to wives of the "Jola and Tanti" class of miners and others, who are interested. Work is on the contract system. While the scheme aims primarily at providing employment for females, it has the added advantage of a Co-operative Society, as the produce finds a ready sale amongst the employees of the colliery who are assured of fresh and wholesome foodstuff and good cloth at reasonable prices. Even at this early stage the willingness of the women to work at the centre and the ready sale of the produce indicates the appreciation of the scheme by the labour and justifies its expansion. I have included four photographs of the women at work.

### WELFARE WORK AT METALLIFEROUS MINES.

At some of the larger metalliferous mines the arrangements for water supply and sanitation and the interest taken in the general welfare of the workers show commendable progress in recent years. As an example of what has been done I may give some particulars of the amenities provided at the Punjab Portland Cement Company, Limited's Wah limestone mine. About half of the work-people are resident at the mine and for these the company has provided houses constructed in concrete. The quarters consist of a living room, a verandah in front and an enclosed courtyard in the rear containing a cook-house, a bath room and a latrine. The latter operates on the flush system and is connected with a septic tank. Each living room is furnished with a charpoy, a table and a chair. The quarters are electrically lit and a piped water supply is led into the courtyards. The quarters are provided rent-free. There is a well equipped hospital, with a resident doctor. A lady doctor visits the hospital once a week. A sanitary staff of one inspector and six assistants is maintained, who in addition to the ordinary routine duties devote part of their time to anti-malarial work. Provision is made for the education of the children and recreation for all. The women have been





**CASE WEAVING.**



**PADDY SUNNING.**



COTTON WEAVING.



SOAP MAKING.

taught to knit and the result is seen in the many woollen garments worn by the men. A canteen is provided for the use of the mine and factory workers and is very popular.

Similar provision for the comfort and welfare of the work-people has been provided at other large metalliferous mines. At the large majority of the smaller mines, however, housing and sanitary arrangements still leave much to be desired.

**Section II.—Output of Minerals.**

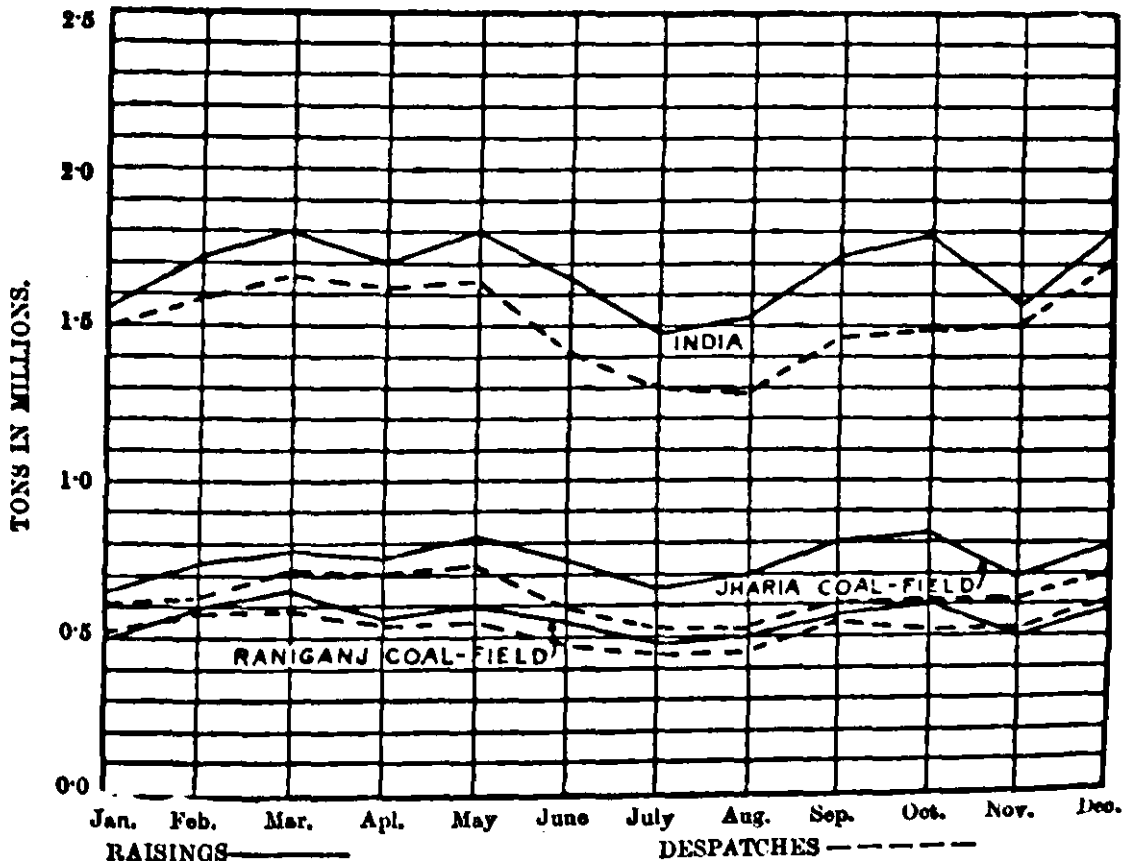
**COAL.**

*Output.*—The statement given below shows the output of coal in the various provinces in British India during the years 1933 and 1934 :—

	Output in tons.	
	1934.	1933.
Assam . . . . .	186,313	192,036
Baluchistan . . . . .	11,771	9,141
Bengal . . . . .	6,159,486	5,691,189
Bihar and Orissa . . . . .	12,322,161	10,939,693
Central Provinces . . . . .	1,438,980	1,234,523
Punjab . . . . .	125,266	94,099
<b>Total</b>	<b>20,243,977</b>	<b>18,160,681</b>

The total output in 1934 was 20,243,977 tons of a declared value of Rs. 5,69,46,179. The increase in the output was 2,083,296 tons, i.e., 11.47 per cent. and the increase in the value Rs. 17,41,971, i.e., over 3 per cent. The opening stocks in 1934 were 1,139,520 tons and the closing stocks 949,625 tons. In the chart which appears below the raisings and despatches of coal are shown month by month :—

**RAISINGS AND DESPATCHES OF COAL MONTH BY MONTH IN 1934.**



It will be seen that the chart follows a somewhat different line from last year. For example, the greatest output was obtained in March and May and there was also a large output in October. Usually the output is greatest in March. Despatches exceeded the raisings in the Raniganj coalfield at the beginning of the year and also at the end of the year.

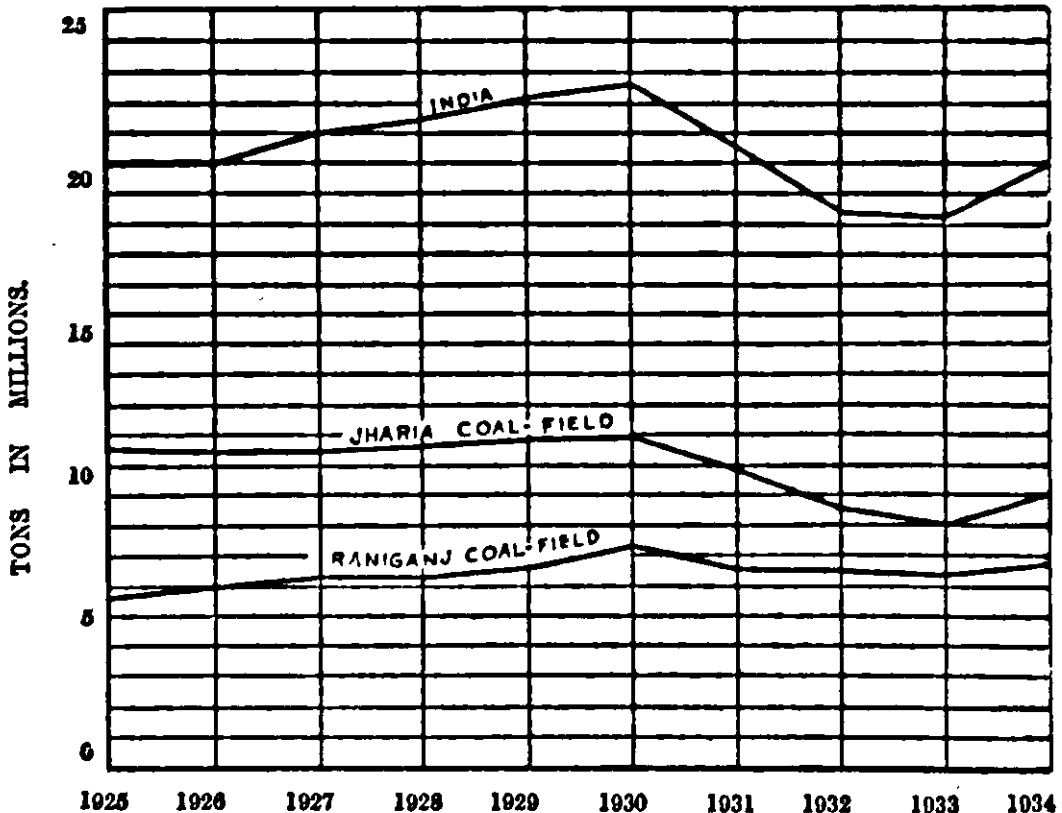
The output in Bihar and Orissa increased by 1,382,468 tons, and in Bengal there was an increase of 468,297 tons. In the Central Provinces the output increased from 1,234,523 tons to 1,438,980 tons. There was an increase of 31,167 tons in the Punjab and an increase of 2,630 tons in Baluchistan. There was a decrease of 5,723 tons in Assam.

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

Coalfield.	1934.	1933.	Percentage increase + or decrease —.
Jharia . . . . .	9,057,546	8,014,949	+13.01
Raniganj . . . . .	6,795,838	6,265,703	+8.46
Bokaro . . . . .	1,299,261	1,304,864	+7.23
Giridih . . . . .	761,010	635,924	+21.24
Karanpura . . . . .	397,147	343,876	+15.49
Pench Valley . . . . .	1,117,942	978,179	+14.29
Assam . . . . .	186,313	192,034	-2.98

The output of the Jharia coalfield increased by more than 13 per cent., the Raniganj coalfield by about 8½ per cent. and the Karanpura coalfield by more than 15 per cent., while the output of the Assam coalfield fell by about 3 per cent. There were increases of output in the Pench Valley coalfield of the Central Provinces of over 14 per cent. and in the Giridih coalfield of over 21 per cent. The accompanying chart shows the variation of the output of coal during the period 1925-34.

CHART SHOWING OUTPUT OF COAL DURING THE PERIOD 1925-34.



It will be seen from the chart that a distinct upward movement in output of coal took place in 1934. Judging from the monthly returns so far received for 1935, the demand for coal is still increasing. Prices however, especially in the Jharia and Raniganj coalfields, did not show any tendency to improve, except in the case of slack coal.

*Despatches.*—The despatches of coal were 18,041,417 tons, and 1,071,552 tons, or 5.94 per cent. of the raisings were consumed on the collieries. The quantity of coal used for coking at the collieries was 1,320,903 tons, and 861,081 tons of soft coke and 79,725 tons of hard coke were made. There was an increase, i.e., 4.48 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 1,398,042 tons of coal were despatched to coke-making plants of this kind in 1934. This quantity is 29,143 tons more than in 1933. 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 exceeded those for 1933 by 1,686,282 tons. A considerable quantity of coal was despatched from stock during the year. In consequence the stocks of coal at the collieries at the end of the year were considerably less than at the beginning. This is a feature of the conditions of the coal trade which may have a healthy and stimulating effect in the near future.

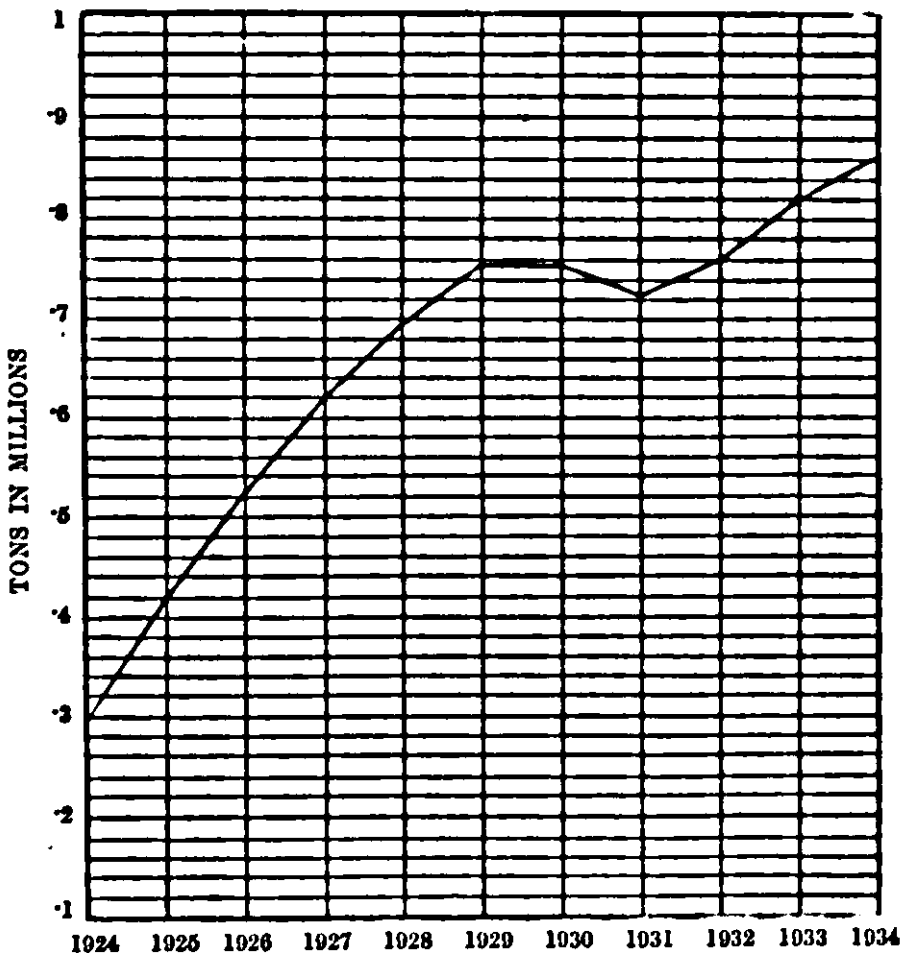
The following figures giving the average value per ton of coal put into wagons in various districts may be of interest:—Assam, Rs. 8 as. 5-9; Baluchistan, Rs. 5 as. 8-3; Bengal, Rs. 2 as. 12-9; Bihar and Orissa (Jharia Coalfield), Rs. 3 as. 0-7; Central Provinces, Rs. 3 as. 15-5; and the Punjab, Rs. 4 as. 10-6. There was a reduction in the average value per ton of coal in every case except the Central Provinces and Jharia in which there were increases of 2.9 annas and 5.5 annas, respectively. The increase in Jharia was probably due to a larger quantity of the better classes of coal being despatched in 1934, as compared with 1933, and the better prices received for slack coal.

*Trade Conditions.*—Although there was an increased demand for coal in 1934 as compared with 1933, there was no improvement in the prices received for steam coal. Prices for slack coal however improved considerably, the prices obtained for all grades of small coal being higher by as much as Re. 1 to Rs. 1-8 per ton. The increased demand for slack coal was due to a considerable demand for that class of coal for brick-burning purposes and for cement factories due to the activity in building operations in the areas affected by the earthquake which occurred in Bihar in January 1934. Increased activity in Iron and Steel Works also played a part in the increased demand for coal and slack coal for coking purposes. The coal trade in the Central Provinces enjoyed a year of prosperity, mainly due to an increase in the quantity of coal consumed on the railways. Prices, there, were maintained at the level obtained at the close of 1933.

*Coal Grading Board and Soft Coke Cess Committee.*—During the year the Indian Coal Grading Board maintained the same standard of good work. The quality of coal exported was generally satisfactory. The quantity of coal exported under the supervision of the Board during the year was 1,900,204 tons, as against 1,896,155 tons during 1933. The Indian Soft Coke Cess

Committee continued their vigorous propaganda for popularising soft coke as a domestic fuel. Additional propaganda centres were opened and the activities of the Committee were extended to Orissa and Madras. As a result of the propaganda work the demand for soft coke continued to increase. The research work for improving the methods of manufacture of soft coke entrusted to the Principal, Indian School of Mines, Dhanbad, is progressing satisfactorily. During the year 1934, 860,478 tons of soft coke were despatched from the coalfields, as compared with 823,073 tons during 1933. Out of the output for 1934, 830,746 tons were despatched from mines in the Jharia coalfield, a greater quantity than the whole of the output of soft coke for 1933. Prices were fairly well maintained. The accompanying graph shows the development of the soft coke industry during the last ten years.

DESPATCHES OF SOFT COKE FROM 1924 TO 1934



*Use of Electricity both at Coal Mines and at other Mines.*—The number of coal mines using electrical energy was 119, as compared with 120 in the previous year, and the aggregate horse power employed at coal mines increased from 74,430 to 77,491. The increase was due to partial re-installation of motors withdrawn in 1933 owing to reduction in output and trade depression. During the year electrical plant was installed and brought into operation in five additional coal mines, two in the Central Provinces and three in Bihar and Orissa; five mines using electricity were closed.

Electricity was used at 26 metalliferous mines, as against 18 mines in 1933 and 15 mines in 1932; the aggregate horse power employed was 9,943, as against 9,169 in the previous year, showing an increase from last year of 8.4 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 I, Tables Nos. 7, 8 and 9.

*Explosives.*—During the year 2,363,492 lb. of gunpowder, 59,564 lb. of high explosives, and 79,667 lb. of “permitted” explosives were used at coal mines. These figures compare with 1,977,575 lb. of gunpowder, 64,112 lb. of high explosives and 84,802 lb. of “permitted” explosives used in 1933. In addition 94,223 lb. of liquid oxygen explosives were used. A statement of the kind and quantity of explosives used during the year in the different kinds of mines under the Act is given in Appendix I, Table No. 12.

*Coal Cutting Machines.*—The number of coal cutting machines in use was 106, as compared with 105 in use in 1933 and 157 in 1932. All the machines in use were worked by electricity. 31 machines were at work in the Jharia coalfield, 70 in the Raniganj coalfield, and 5 in the Central Provinces. There was thus no further decrease in the number of these machines in use during the year. Coal cutting machines were in use in 38 mines, as against 39 mines in 1933, and the total area undercut was 6,235,481 square feet, as compared with 6,980,646 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 1934, 94 mechanical ventilators were in use, the number being 88 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. 22,759 safety lamps were in use in 1934, as compared with 21,094 in 1933.

#### IRON ORE.

The production of iron ore was 834,477 tons, valued at Rs. 14,10,154, as compared with 653,239 tons, valued at Rs. 14,78,202 in 1933.

#### MANGANESE ORE.

There was an increase of 168,042 tons in the output of manganese ore, the figures of production being 221,282 tons, valued at Rs. 14,02,233, as compared with 53,240 tons, valued at Rs. 2,31,432 in 1933. The average reported value per ton of manganese ore produced rose from Rs. 4.35 in 1933 to Rs. 6.34 in 1934. The corresponding value in 1932 was Rs. 6.07. There was considerable improvement in the manganese industry during the year 1934. Owing chiefly to the improvement in the steel trade in the United Kingdom, the year 1934 was a much better year for the manganese industry than 1933. In consequence a number of mines which had been closed resumed production. The production of manganese ore in 1934 was over four times as much as it was in 1933. There was also an improvement in prices. The Central Provinces Manganese Ore Company, Limited, despatched a total of 333,623 tons as follows:—145,835 tons to Calcutta; 105,016 tons to Vizagapatam;

37,177 tons to Bombay ; 20,017 tons to Tatanagar ; and 25,578 tons of other sales on f.o.r. basis. The quantity despatched by the company in 1933 was 178,384 tons, so that the despatches in 1934 were nearly double those in 1933. The f.o.b. price of the ore exported was 7.04 annas per unit for the first half and 7.24 annas per unit for the second half of the year. There was an increase in the tonnage of ore exported from Vizagapatam. The increase is due, to some extent, to the relatively low cost of Vizagapatam as a port combined with the good loading arrangements which have been installed at the port. Towards the end of 1934 there was a tendency for prices to stiffen due, it is believed, to less Russian ore coming on the market.

#### LEAD-SILVER ORE.

The output of lead-silver ore from the Bawdwin mine in the Northern Shan States, Burma, was 443,489 tons, as compared with 454,791 tons in 1933. The decrease was 2.49 per cent. 70,560 tons of refined lead ; 1,255 tons of antimonial lead ; 5,792,019 ounces of refined silver ; 744 ounces of refined gold ; 11,000 tons of copper matte ; and 3,951 tons of nickel speiss were produced. The experimental zinc plant at the Namtu mill produced 68,838 tons of zinc concentrates.

The average values of metals extracted were as follows :—Refined lead Rs. 148-8-1 per ton ; refined antimonial lead, Rs. 165-8-0 per ton ; refined silver Rs. 1-4-7 per troy ounce.

The quantities of materials used for the purpose of fluxes were as follows :—Iron ore, 20,911 tons ; limestone, 15,994 tons ; quartz rock, 7 tons.

#### SILVER.

14 ounces of silver, valued at Rs. 19 were produced from the Lova gold and copper mine in the Manbhum district.

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

#### GOLD.

The output of gold in 1934 was 114 ounces which was obtained from the Manbhum and Singbhum districts of Bihar and Orissa. In addition to this, 744 ounces of refined gold was produced at the Bawdwin mine.

#### TIN AND WOLFRAM ORES.

The output of tin ore was 3,890 tons, valued at Rs. 68,23,045, as compared with 3,209 tons, valued at Rs. 45,87,653 in 1933. 1,333 tons of wolfram ore, valued at Rs. 15,18,015 were produced, as compared with 836 tons, valued at Rs. 4,22,332 in 1933.

#### CHROMITE ORE.

The production of chromite ore was 9,356 tons, valued at Rs. 1,27,427, as compared with 9,770 tons, valued at Rs. 1,42,434 in 1933.



## COPPER ORE.

The output of copper ore was 328,676 tons, valued at Rs. 34,19,869, as compared with 201,722 tons, valued at Rs. 22,12,966 in 1933. The whole of the production came from the mines belonging to the Indian Copper Corporation, Limited, in the Singhbhum district of Bihar and Orissa. The production of refined copper amounted to 6,300 tons, as compared with 4,800 tons in 1933. The production of yellow metal sheet and circles at the rolling mills was 8,180 tons involving the use of 5,256 tons of copper. The average selling prices of ingots and yellow metal were Rs. 599 and Rs. 584 per ton, respectively, as compared with Rs. 599 and Rs. 631 per ton in 1933. Development of the Mosaboni and Dhobani mines is proceeding in depth and in both mines large reserves of ore have been exposed.

As mentioned in an earlier paragraph 11,000 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, 68,838 tons of zinc concentrates were produced for shipment. The production in 1933 was 61,432 tons.

## GEMS.

21,622 carats of rubies, valued at Rs. 36,011 and 153 carats of sapphires valued at Rs. 330, were mined in the Katha district in Burma.

## MICA.

The quantity of mica consigned was 55,555 cwt., valued at Rs. 20,67,473, as compared with 41,005 cwt., valued at Rs. 16,79,045 in 1933. The increase was 35.48 per cent. The output of dressed mica in 1934 was 59,998 cwt., as compared with 43,240 cwt. in 1933.

The quantities of mica and splittings shipped in 1933 and 1934 are as follows :—

	Cwt.	Rs.
1933 . . . . .	35,925	31,01,630
1934 . . . . .	55,702	48,94,398

In addition 26,476 cwt. of "pattern cut" and scrap having a value of Rs. 4,12,443 were shipped, as compared with 17,043 cwt., valued at Rs. 2,11,227 of the same stuff in 1933.

## ROCK-SALT.

The production of rock-salt was 154,955 tons, as compared with 145,838 tons in the previous year.

**LIMESTONE.**

The reported production of limestone was 940,860 tons, valued at Rs. 11,17,309, as compared with 1,120,110 tons, valued at Rs. 13,64,043 in 1933.

**STONE.**

Returns were submitted by the owners of two hundred and ten stone mines, and the figures of production were as follows:—2,131,615 tons of igneous rock; 88,142 tons of laterite; 69,181 tons of sandstone; 28,244 tons of gravel; and 6,454 tons of murum. The total production was 2,323,636 tons, as compared with 1,782,218 tons in 1933.

**CLAYS.**

From the thirty-one clay mines from which figures were obtained 52,628 tons of fire-clay, 16,014 tons of china clay and 47,556 tons of ordinary clay were produced.

**OTHER MINERALS.**

The production of other minerals was as follows:—7,390 tons of slate, valued at Rs. 1,53,484; 11,859 tons of magnesite, valued at Rs. 71,208; 8,330 tons of gypsum, valued at Rs. 14,179; 2,656 tons of barytes, valued at Rs. 25,993; 2,159 tons of steatite, valued at Rs. 25,406; 370 tons of ochre, valued at Rs. 3,513; 533 tons of felspar, valued at Rs. 5,878; 59 tons of apatite, valued at Rs. 885; 508 cwt. of asbestos, valued at Rs. 4,140; and 13,019 tons of sand, valued at Rs. 9,292. Small quantities of fuller's earth, beryl and graphite were also produced.

**Section III.—Accidents.**

During the year 1934 at mines regulated by the Indian Mines Act, 1923, there were 177 fatal accidents which is 35 more than in 1933 and 23 less than the average number in the preceding five years.

In addition to the fatal accidents there were 679 serious accidents involving injuries to 692 persons, as compared with 655 serious accidents involving injuries to 670 persons in the previous year. No record is maintained of minor accidents. The so-called "serious" accidents reported are those in which an injury has been sustained which involves, or in all probability will involve, the permanent loss of or injury to the sight or hearing or the fracture of any limb or the enforced absence of the injured person from work for a period exceeding twenty days. Two hundred and nine persons were killed and 725 persons were seriously injured. The latter figure includes 33 persons injured in fatal accidents. The number of persons killed was 56 more than in 1933. One hundred and ninety-three persons killed were men and 16 were women. In two cases six lives; in one case five lives; in five cases three lives; and in eight cases two 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 .	125	142	12	1.30	1.07	517	485	44	4.45	3.93
Open workings.	29	29	3	0.75	0.25	35	30	6	0.78	0.49
Surface . . .	23	23	1	0.49	0.07	127	115	12	2.57	0.87

There was an all-round increase in the death rate of men, and an all-round decrease in the death rate of women. The causes of the fatal accidents have been classified as follows :—

	No. of fatal accidents.	Percentage of total number of fatal accidents.
Misadventure . . . . .	117	66.10
Fault of deceased . . . . .	24	13.56
Fault of fellow workmen . . . . .	10	5.65
Fault of subordinate officials . . . . .	13	7.34
Fault of management . . . . .	12	6.78
Faulty material . . . . .	1	0.57
	<u>177</u>	<u>100.00</u>

I have analysed the serious accidents and find that out of the total of 725 persons seriously injured 2 were permanently totally disabled, 73 were permanently partially disabled and 650 were only temporarily disabled.

*Fire-damp.*—The year was free from any serious explosion or ignition of fire-damp, there being only three ignitions causing injuries to three persons.

*Falls of roof and sides.*—Falls of roof and sides caused 104 fatal accidents and 154 serious accidents. As compared with the figures under this head in the previous year the total number of accidents increased from 243 to 258; the number of persons killed increased from 84 to 133; and the number of persons seriously injured decreased from 174 to 160. In two cases six persons, in one case five persons, and in three cases two persons were killed by falls of roof in depillaring areas; while in three cases three persons and in one case two persons were killed by falls of roof in galleries. The accidents by falls of sides included one in which three persons and three in which two persons were killed. The increase in the number of persons killed in 1934 by falls of roof and sides as compared with the number of lives lost in 1933 from the same causes may be attributed in large measure to the increase in output of coal and number of persons employed and also to the increased proportion of output got from the extraction of pillars. Two of the accidents by falls of roof are described in detail later on in this report.

*In shafts.*—There were 4 fatal accidents and 16 serious accidents in shafts, as compared with 3 fatal accidents and 16 serious accidents in the previous year. In one case a winding engineman caused an overwind of the ascending cage. The cage was arrested in the head-gear by the detaching hook. There was one occupant in the cage and he was seriously injured and later died. This accident is described later on in this report. In one accident a miner fell out of the cage and in another a miner jumped out of the cage before it had reached the bottom of the shaft.

*Explosives.*—There were 13 fatal accidents and 11 serious accidents caused by explosives. In the previous year the figures were 10 and 25, respectively. One accident in which two miners were killed was caused by the upsetting of a box of loose gunpowder in a mica mine due to an earthquake shock. In another accident three persons were killed as a result of a new shot hole being drilled into an unexploded charge from a previous shot. An explosion occurred with the result stated. One accident in which one person was killed occurred due to the inaccurate clinching of a detonator to a piece of fuse. The attachment of a detonator to a fuse is an operation which should always be carried out with due regard to the danger of the operation. Two accidents occurred, involving the death of one person in each case, through a shot discharging into an adjacent gallery. Three of the above accidents are described in detail later on in this report.

*Haulage.*—There were 20 fatal accidents and 155 serious accidents on haulage roads. The accidents due to haulage have been classified as follows:—

Classification.	Fatal.	Serious.	Total.
Haulage rope breaking . . . . .	..	2	2
Coupling chains and hooks breaking . . . . .	2	..	2
Drawbars breaking . . . . .	..	..	..
Couplings becoming detached . . . . .	1	3	4
Riding on sets (authorised) . . . . .	..	5	5
Riding on sets (unauthorised) . . . . .	4	4	8
Allowing tubs to run uncontrolled . . . . .	3	8	11
While hand-tramming tubs . . . . .	5	36	41
While guiding tubs on a curve . . . . .	1	3	4
Following derailments or while rereiling tubs . . . . .	1	42	43
While coupling or uncoupling tubs . . . . .	..	15	15
While resting on or loitering about haulage roads . . . . .	1	5	6
Crushed against tubs, sides of roadways, doors, etc. . . . .	..	10	10
Unclassified . . . . .	2	22	24
<b>Total</b> . . . . .	<b>20</b>	<b>155</b>	<b>175</b>

Under the first three causes, which include all accidents due to breakdown in material, there has been a decided reduction in the number of accidents there being only four in 1934, as compared with 12 in 1933. As this type of accident often proves fatal, this is a welcome improvement and indicates that the regular inspection of couplings and drawbars under By-law 64 is having good results.

There has also been a reduction in the number of accidents due to couplings becoming detached.

Accidents due to riding on sets have increased from 5·7 per cent. of the total in 1933 to 7·5 per cent. in 1934. All four fatal accidents occurred to men who were illegally riding on tubs. The practice of authorising men to ride on haulage sets merely to signal in case of a derailment is still occasionally carried on and it should be discouraged. The only occasion when men should be authorised to ride on sets is when a number of loading points, a considerable distance apart, are served by one haulage engine and it is necessary for the trolley-men to travel between these points for the purpose of assembling the tubs for haulage purposes.

All three fatal accidents due to allowing tubs to run uncontrolled occurred at the top of haulage inclines. The provision of interlocking stop blocks and derailing switches would greatly minimise the risk of the occurrence of such accidents.

Accidents occurring while hand-tramming tubs form a large percentage of the total. They were due in most cases to carelessness. In my Annual Report for 1933 special mention was made of accidents due to guiding tubs round curves and means to avoid them. The figures for 1934 reveal a reduction in the number of accidents due to this cause as compared with 1933. This is satisfactory and it is to be hoped that in time the practice of guiding tubs round curves because of badly laid tracks will cease altogether.

Accidents due to derailments or whilst re-railing tubs show an increase over the figures for 1933, and in this connection I invite attention to the remarks with respect to haulage tracks on page 18 of my Annual Report for 1933.

*Underground Machinery.*—One fatal and 11 serious accidents were caused by underground machinery.

*Sundries Underground.*—Fourteen fatal accidents and 200 serious accidents were due to miscellaneous causes underground.

*Surface Machinery.*—Three fatal accidents and 13 serious accidents were caused by surface machinery.

*Boilers and Pipes Bursting.*—There were three serious accidents from this cause.

*Surface Railways and Tramways.*—Eleven fatal accidents and 65 serious accidents took place on surface railways and tramways. In four cases, in which one person was killed in each, the accident was due to persons crossing colliery sidings and being crushed or run over by wagons.

*Electricity.*—There were three serious accidents attributable to the use of electricity. There were also two non-statistical fatal accidents by electricity.

*Miscellaneous on the surface.*—Seven fatal accidents and 45 serious accidents of this kind took place on the surface.

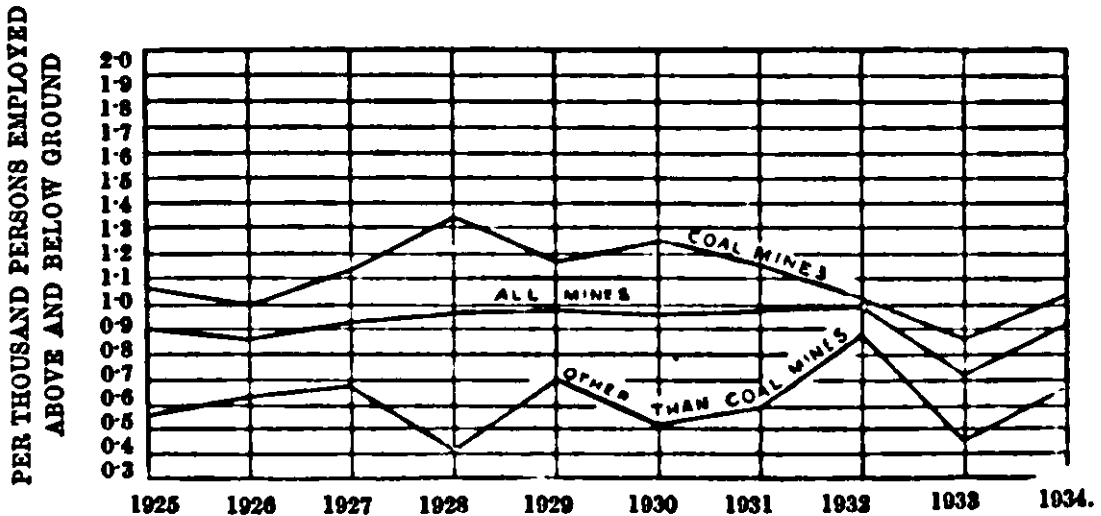
*Accidents excluded from the statistics.*—Thirty-two accidents causing 33 deaths were excluded from the statistics for reasons which are given in Appendix II. In four cases in which one life was lost in each case the accident was due to the victims sleeping too close to a fire resulting in his or her receiving burning injuries sufficient to cause death. In eight cases, which involved the death of one person in each case, the accident took place in

quarries or tanks used for bathing purposes. Two accidents resulted from electrocution through the victims attempting to climb electric transmission posts.

*Death rates.*—The death rate per thousand persons employed above and below ground was 0.91 which was less than the rate in 1932 and more than in 1933. The average rate for the preceding five years was 0.93. At coal mines the rate was 1.04, as compared with 0.86 in 1933. At mines other than coal mines the rate was 0.67, as compared with 0.47 in 1933.

The chart below shows graphically the variation in the death rate during the decade 1925-34.

CHART SHOWING THE DEATH RATE  
FROM ACCIDENTS DURING THE PERIOD 1925-1934.



The death rate per million tons raised at coal mines was 7.76, while that of the preceding five years was 8.45.

Deaths occurring in each class of mines were as follows :—

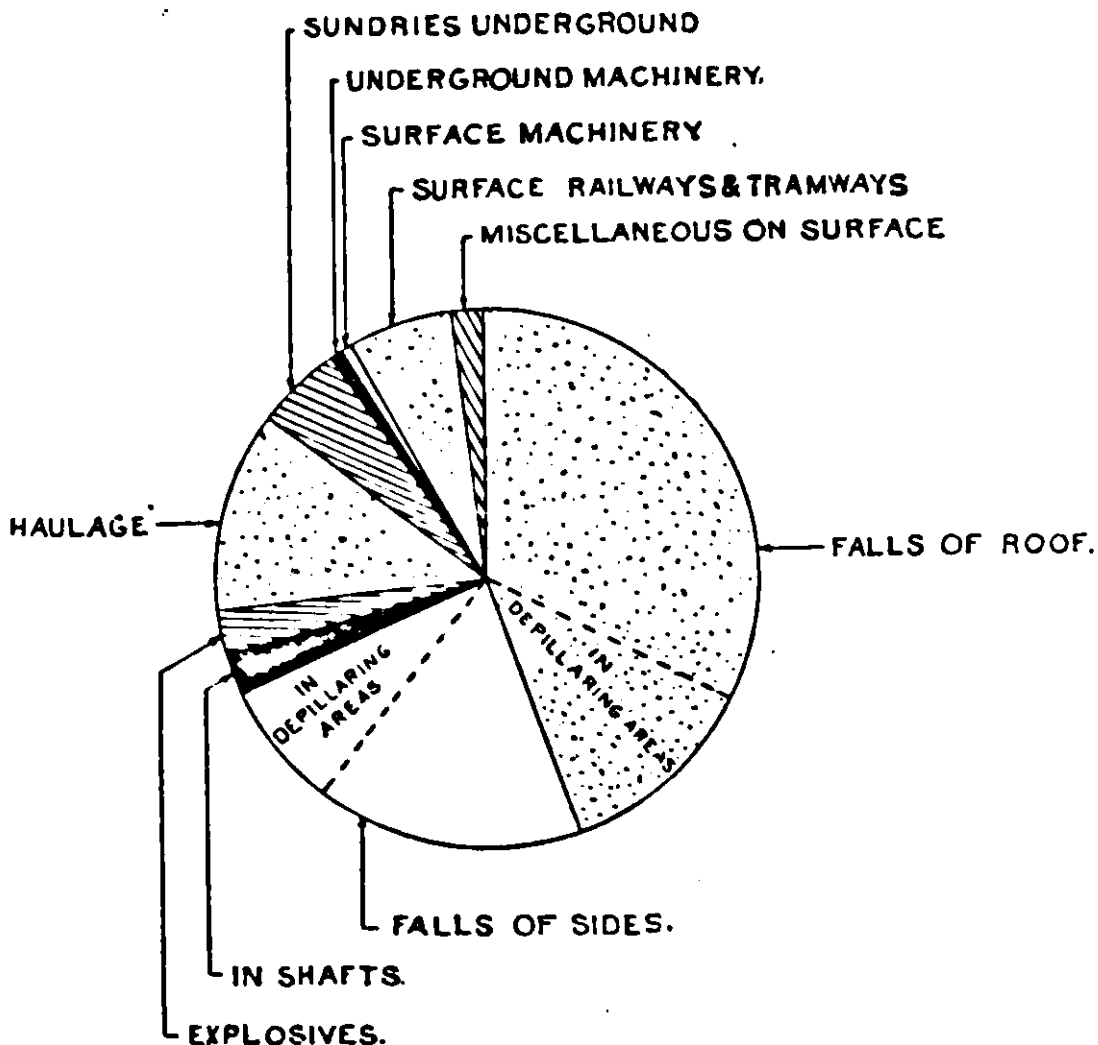
157 in coal mines, 1 in an iron ore mine, 8 in mica mines, 4 in silver-lead mines, 14 in tin and wolfram mines, 7 in limestone mines, 9 in stone mines, 6 in a copper mine, 1 in a salt mine, 1 in a chromite ore mine, and 1 in a clay mine.

Seventy-three persons lost their lives by falls of roof ; 60 by falls of sides ; 4 in shafts ; 16 by explosives ; 20 by haulage ; 15 by other accidents underground and 21 on the surface.

The accompanying chart shows the relative importance of the various causes of accidents during the year. It will be noted that falls of roof and sides were responsible for more than half of the persons killed. The pro-

portion of accidents from these causes in depillaring operations have been shown by sub-division of the sectors for accidents by falls of roof and sides.

CHART SHOWING.  
DISTRIBUTION OF CAUSES OF PERSONS KILLED IN AND ABOUT COAL MINES IN THE  
YEAR 1934.



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

#### FALLS OF ROOF.

*No. 7.—The Poriapur Collieries Limited's Poriapur coal mine.*

(Six persons killed.)

The seam in which this accident occurred is known as the Kasta or Poriapur seam. It attains a thickness of 34 feet and at the place where the acci-

dent occurred it is steeply inclined at an angle of 33 degrees. The coal of the upper 22 feet of the seam is inferior in quality and contains numerous bands of shale and for that reason only the bottom 12 feet of the seam was being worked. The accident occurred in an area in which pillars were being extracted. The pillars were about 50 feet square in size. The system of extracting pillars consisted of driving a "split", about 24 feet wide from the rise side of a pillar to the dip in the centre of the pillar. Two ribs or stooks, 12 feet wide were thus formed, one on each side. The rib or stook on the goaf side of the pillar was then extracted, and during the extraction of the second rib the adjoining pillar was being split. At a point about 10 feet from the floor of the seam there is a band of hard carbonaceous shale which attains a maximum thickness of 9 inches. Between this shale band and the parting, which occurs at a height of 12 feet and forms the roof of the working, there is a layer, 18-inches, of clean coal. At some points in the mine the galleries were made underneath the shale band and at others the band and the 18 inches of coal above it were taken down. In the areas from which pillars were being extracted it was found necessary to take down the band of shale and the coal above it or to support these on timber. In some parts the band of shale and the 18 inches of coal have often been found so strong and so firmly attached to the roof that explosives had to be used in order to take them down. In removing pillars it was customary to support the band of shale and coal until an area of sufficient size had been exposed to facilitate the shale band and coal above it being worked. Plan No. 1 shows the place of the accident and the circumstances attending the accident were as follows:—

The day shift miners of the day on which the accident occurred were employed at the points C, D and E shown in the plan. The extraction of stook C had almost been completed. The extraction of stook D had been commenced and the split E had been driven a distance of about 25 feet. Everything went well on the day shift but naturally the amount of work done exposed some expanse of roof shale and coal. The day shift overman met the night shift overman at the entrance to the mine. He did not say anything about the necessity for having props set. The night shift overman made his first examination at about 6-30 p.m. and the miners of the night shift reached the place of accident at about 9 p.m. There were eight miners in the place. The night shift overman had considered that props were necessary and according to his statement he ordered the eight miners to wait until props had been set at the point D. He then proceeded to the other working places in the mine to give instructions to other miners before going out of the mine to call out a timberman to set props. At 10-30 p.m. a fall of roof occurred resulting in five miners being killed outright and one was so severely injured that he died shortly afterwards.

As may be seen from the plan, the band of shale, and coal, from 18 inches to 2 feet thick, had been exposed over an area 12 feet square by the extraction of stook D. This band was unsupported and free to move on three sides. On the fourth side it was supported by the stook which was being extracted. At the rise side and under the edge of the band two props had been set on the previous day but these props were insufficient to support the band. The extent of the fall was 12 feet by 9 feet and the two props were dislodged. At the time of the accident one of the deceased was said to have been cutting coal, three were loading coal into baskets, one was sitting down and the



man who died after the accident was standing at the edge of the area. From the fact that the deceased had loaded no coal it was apparent that they had just commenced work when the accident took place.

The Inspector of Mines who enquired into the accident considered that the miners had got impatient after waiting sometime for the overman to bring a timberman to set the props and had commenced work.

The Inspector of Mines considered that the accident was one which should not have occurred and that although the deceased appeared to have disregarded the order of the night shift overman the main responsibility for the accident rested on the night shift overman and also on the day shift overman. It was clear that at the end of the day shift the place was unsafe and that props should have been set during the day shift. If it was unsafe at the end of the day shift it was still unsafe at the beginning of the night shift and no work should have been permitted until props had been set or the band of shale and coal taken down. The Inspector of Mines considered the day shift overman was more blameworthy than the night shift overman. Accordingly he suspended the Sirdar's Certificate of the day shift overman for a period of six months and the Sirdar's Certificate of the night shift overman for a period of three months.

The Inspector of Mines considered that the practice of carrying the band of shale and coal on props was unsound. I also inspected the mine sometime after the accident and agreed with the Inspector. We considered that as the bands of shale and coal had to be taken down at some time in the course of working, the best plan was to take them down as the face advanced. The manager agreed to adopt this practice in future.

The Inspector of Mines also considered that systematic timbering should be adopted and he called upon the manager under Regulation 68 to formulate suitable rules for setting supports systematically. These rules were eventually approved and put into operation.

Another recommendation made by the Inspector of Mines was that there should be timbermen available both on the day and night shifts. Attention was also drawn to the correct angle to which props should be set. A number of props in other parts of the mine had been set too vertically and the manager was advised to instruct timbermen as to the proper angle at which props should be set.

Lessons to be learnt from this accident are :—(1) that roof coal or stone bands which readily part from the roof above it should be taken down as the face advances, and where such roof coal or bands have to be carried on props the props should be set systematically ; (2) there should always be skilled timbermen available on every shift wherever it is necessary that props may be required at any time ; (3) in steep seams props should not be set vertically but nearly normal to the inclination of the seam. They should also be set tightly.

*No. 22.—The Katras Jharriah Coal Company, Limited's Seebpore coal mine.*

(Five persons killed and one injured.)

This accident occurred in the workings of Ponati seam which is 15 feet thick and is graded at 1 in 12. The seam lies at a depth of 250 feet from the surface.

The accident occurred in an area from which pillars were being extracted. The pillars were 60 to 70 feet square and the method of extraction is to drive two splits at right angles through the pillar, thus forming four small pillars or stooks. These stooks are then extracted one by one. As the stook is extracted timber props are set until the stook has been reduced to small dimensions after which shot holes are prepared in the stook. Half of the timber is then withdrawn and the shots fired and then the rest of the timber is withdrawn and the roof is allowed to collapse up to the rows of props which are known as breakers. These breakers are used to prevent the roof falling over a larger area than is desired. The time taken for the roof to fall varies with the kind of roof. If the stook is not blasted out at the end, the roof has a tendency to hang instead of falling. The disadvantage of this method is that after the shots are fired a lot of loose coal is left lying in the goaf constituting a considerable temptation to the miners to go in and remove it. Even with the strictest supervision miners have been known to recover coal from the goafed area when none of the supervising staff was present.

At the time of the accident only the first stook of the first pillar of a new depillaring area had been extracted. During the day shift on the day of the accident the extraction of the stook had been nearly completed and the remaining portion of it was blasted and the timber withdrawn, under the supervision of an assistant in charge. After some of the timbers had been withdrawn a portion of the roof fell in. The goaf was then fenced off.

When the day shift sirdar handed over charge to the night shift sirdar the roof in the goaf was on weight. When the miners of the night shift came down to work the sirdar told them not to work in that area until he had arrived. During his absence, however, six miners went inside the fence (*see* Plan No. 2) with the object of removing the loose coal and, while they were there, there was a large fall of coal and stone from the roof over an area of 30 feet square. Five persons were killed and one was seriously injured.

Coal Mines Regulation 82 states that "No person shall work in any place other than a place in which he has been ordered to work by an official of the mine or by any person in whose charge he has been placed by an official of the mine", and Regulation 148 reads "No person shall remove or pass through any fence, or remove or pass any danger signal, unless specially so authorised by the manager or an officer empowered by the manager in that behalf". Both of those regulations were violated and the deceased paid the penalty.

The Inspector of Mines who enquired into the accident considered that additional supervising staff should be appointed and made the following recommendations:—(1) that a person superior to a sirdar should be appointed to take charge of the night shift; and (2) that there should be at least one sirdar on each shift for each depillaring area.

#### IN SHAFTS (OVERWINDING).

*No. 105.—The Seebpore Coal Company, Limited's Pretoria coal mine.*

(One person killed.)

The shaft in which this accident occurred is 430 feet deep. It has a steel head-gear 32 feet high and is generally used for winding coal only. The

winding gear is driven by a direct acting steam engine having a drum, 6½ feet in diameter. Loaded tubs of coal had been raised for some time; there was then an interval after which signals were given that men were ready to ascend. The engine started at a slow speed but it appeared to have attained a high speed very soon. The winding engineman failed to slow down the speed in the ordinary course with the result that the cage travelled for a distance of 23 feet above the pit bank when it was arrested and suspended in the head-gear by the detaching hook.

Judging from the results it appears that the cage must have been travelling at a very high speed presumably because the engineman had lost control of the engine. As a result of the overwind, the cage, its gates and a part of the engine room were damaged. It was found that there was one person on the cage and he was seriously injured on the head due to the sudden stoppage of the cage. There was no one in the descending cage. As already stated there was an interval between the raising of the loaded tubs and the signals given for the raising of men. It is conjectured, therefore, that the enginemen may have been drowsy at the time of raising the cage containing the men. The winding engine was examined and it was found that it was in order. The winding engineman was afterwards prosecuted by the agent of the colliery for negligence and for violation of Coal Mines Regulation 146 and Bye-law 69. Winding enginemen in India are on the whole extremely reliable and it is not often that accidents due to overwinding occur.

BY EXPLOSIVES.

No. 110.—Messrs. F. F. Chrestien and Company, Limited's Gamuria (Kalukambi) mica mine.

(Two persons killed and one injured.)

This accident was peculiar in as much as it is conjectured to have been indirectly caused by the earthquake shock which occurred at 1 a.m. on 20th January 1934. It should be noted that this was not the main shock which occurred on the afternoon of the 15th January but another lesser shock which occurred afterwards. Shortly before the time of the accident a shotfirer entered the mine carrying a wooden box containing 3½ lb. of loose gunpowder. He placed the powder box on a wooden strut which had been fixed across a working place at a point about 2 feet from the floor. An earth tremor occurred and caused the box of gunpowder to fall from the strut. Some of the gunpowder was spilt from the box which had a loosely fitting lid. The powder came in contact with a miner's candle and was ignited. Subsequently the whole of the contents of the box exploded, and as a result one person was so severely burnt that he died shortly afterwards and another who was also burnt contracted pneumonia and died.

The box containing the gunpowder was not as secure as it ought to have been. Although the use of loose gunpowder is not prohibited by the Metalliferous Mines Regulations, mainly because it is used in metal mines to a much less extent than in coal mines, it is much better and safer to carry gunpowder into the mine in the form of cartridges and to use a box with a tight fitting lid.

The management afterwards agreed to use cartridges and a better form of box.

No. 111.—*The Indian Copper Corporation, Limited's Dhobani copper mine.*

(Three persons killed.)

The circumstances leading up to this accident were as follows:—

An authorised shotfirer along with his helper entered a rise working place in the mine and found that 21 shot holes had been drilled ready for blasting. He charged and fired eight shot holes. Afterwards the remaining thirteen shot holes were charged and fired. The explosive used was blasting gelatine. The holes were 4'-6" to 5' in depth and 3 to 6 cartridges were put into each hole. A length of 8 feet of fuse was used for each charge. After lighting the fuses the shotfirer descended to the level. He and his assistant counted the shots as they went off. They made a count of only twelve however. They waited an hour for the smoke to clear and because of the possibility of a misfire the shotfirer climbed into the rise gallery and made an examination. He stated that he found no signs of a misfire and found the face cleared and squared off as it would be after a successful blast. Later he left the mine and he afterwards stated in evidence at the enquiry into the accident that he reported a misfire to the shift boss. The latter, however, denied that a misfire was reported to him. On the following morning three persons entered the rise gallery in which blasting had been done as described. The shift boss also entered the rise gallery and made an examination of the face. He did not see any sign of a shot not having done its work. He visited the place again later on and found that a number of shot holes in a new round of 20 holes had been drilled by three miners. The three miners were using a compressed air drill and were drilling the eighteenth hole when an explosion occurred which killed one of them instantly and injured the remaining two so severely that they died on the same afternoon. It was evident, therefore, that on the previous day a misfire had occurred. In view of the fact that the working face had been examined both by the shotfirer and by the shift boss it was not considered that the shotfirer had been guilty of a violation of the regulations.

The Inspector of Mines, No. 1 Circle, however, considered that it was the practice in such places to fire too many shots at one time and that because of the large number of shots fired, it was difficult to count them. He also considered that the shotfirer had been to some extent guilty of negligence, in that his examination of the place of accident after the blasting was perfunctory, especially in view of the fact that he was doubtful of a misfire. The Mine Superintendent afterwards agreed to limit the number of shots to be fired in one round to no more than ten except in special cases as in large drifts and shafts. He also suspended the shotfirer from his work for one month.

In mines such as the one in question the material to be blasted is very hard and it is necessary to fire a number of shots at once. The greater the number of shots fired at one time the more difficult it is to detect a misfire and also there is more danger to the shotfirer in his having to light a large number of shots at one time. It is, therefore, always advisable to keep the number of shots fired at one time to as low as possible.

*No. 116.—The West Jamuria Coal Company, Limited's West Jamuria coal mine.*

(One person killed.)

This accident occurred as a result of a shot fired in one gallery breaking through into a gallery which was about to be connected and fatally injuring a miner who was working in the adjacent gallery. When the shot hole in which the shot which caused the accident was fired was being drilled, the overman instructed the miner who was drilling the hole and who was also an authorised shotfirer to withdraw the miners from the adjacent level and to fence the level in accordance with the regulations. Apparently, however, the shotfirer did not take any steps to withdraw the miners from the adjacent level or to fence the place. There were four miners working in that level and all of them stated that they received no warning that a shot was to be fired.

The accident is completely covered by Regulations 109 and 110 which require that sufficient warning shall be given to all persons likely to be endangered by the firing of a shot and that no blasting shall be done in any one of the two working places which have approached to within 10 feet of one another unless the workmen have been withdrawn from the other working and the same has been fenced.

Criminal proceedings were instituted by the manager of the colliery against the shotfirer.

#### HAULAGE.

*No. 125.—The Amalgamated Coalfields Limited's Jatachappa coal mine.*

(One person killed.)

While a haulage attendant was riding on a set of loaded tubs which was being hauled up an incline, his lamp was extinguished and he slipped and fell between two of the tubs. He sustained serious injuries. He contracted pneumonia from which he died four days later. Deceased was not authorised to ride on the tubs and there was no necessity for his doing so. Several accidents have occurred in this way, and I invite attention to this type of accident with a view to impressing on managers the necessity for greater strictness in dealing with unauthorised riding on tubs.

#### SURFACE MACHINERY.

*No. 159.—The Indian Copper Corporation, Limited's Mosaboni copper mine.*

(One person killed.)

This accident resulted from a surface worker being caught between a conveyor belt and an idler pulley. He received injuries which were not considered at the time to be serious, but nine days later he contracted acute tetanus from which he died after another three days.

I have mentioned this accident in order to draw attention to the advisability of anti-tetanus injections in all cases where it is likely that the wounds may become septic. A considerable number of accidents occurred during the year in which death resulted from tetanus and in which if anti-tetanus injections had been given at the time of the accident, lives might have been saved.

#### ON SURFACE RAILWAYS AND TRAMWAYS.

*No. 165.—The Equitable Coal Company, Limited's Jamuria coal mine.*

(One person killed.)

Two miners were about to cross a colliery siding in broad day light. A loaded wagon was being pushed by twelve men under a supervisor who was authorised under Regulation 151. The supervisor warned the two miners not to cross in front of the wagon, but one of them, who appeared to be in a hurry, attempted to do so. He was caught between the loaded wagon and two other wagons and was crushed between the buffers and killed. Several accidents of this nature have occurred and in nearly every case the accident could have been avoided if the person involved had waited or had been more careful.

#### NON-STATISTICAL.

*No. 2.—The Marine Coal Company, Limited's Kirkend coal mine.*

(One person killed.)

A boiler fireman lay down close to a fire and fell asleep. His clothing caught fire and he was so severely burnt that he died three days later. It is possible that deceased was to some extent under the influence of liquor before the accident. Several accidents of this nature have occurred and all of them could have been avoided with ordinary precautions.

*No. 18.—The New Beerbhun Coal Company, Limited's Chinchuria coal mine.*

(One person killed.)

A boy, aged 7 years, climbed a post of a transmission line to secure a bird. He received an electric shock and also severe burns on his right leg and succumbed to his injuries seventeen days later. The transmission line was protected with barbed wire for a distance of 9 feet from a point 3 feet above ground. In spite of this, the boy negotiated the barbed wire and climbed the post. Accidents of this nature occur from time to time. Persons wilfully climb electric transmission line posts to get at bird's nests. Such accidents are apparently due to ignorance of the danger involved or to rashness.

**Section IV.—Prosecution and Amendments to the Act, Regulations, Rules and orders made thereunder.**

**PROSECUTIONS.**

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

The managing contractors (three) and the manager of a coal mine in the Raniganj coal-field were prosecuted for failing to provide a second outlet in the mine, for failing to provide protective roofing at the bottom of a shaft and for failing to fence properly the top of a shaft. The three managing contractors were fined Rs. 60 each and the manager Rs. 40.

The owner and temporary manager of a coal mine in the Jharia coal-field were prosecuted for failing to maintain a correct register of persons employed underground and for employing a greater percentage of women underground than was permissible. The owner was fined Rs. 50 and the temporary manager Rs. 10.

The owners (two) and manager of a coal mine in the Jharia coal-field were prosecuted for allowing a female child of about 10 years of age to carry coal from underground and for allowing other children to be present underground. They were each fined Rs. 25.

The contractor and temporary manager of a clay mine in the Burdwan district were prosecuted for failing to slope the sides of a pit in such a manner as to prevent danger from falls of material, and for wilfully omitting to take steps necessary for the safety of persons employed in the mine. They were fined Rs. 50 each.

The owner of a mica mine in the Hazaribagh district was prosecuted for not submitting a notice of opening of the mine though work had been in progress for some time, for not appointing a manager and for not having ambulance appliances available. He was fined Rs. 100.

The owner and agent of a mica mine in the Hazaribagh district were prosecuted for employing persons in sinking shafts and making drives in a mica dump where the ground was not safe, and for not taking steps to make these shafts and drives safe with suitable timber work or other means of support. The owner was fined Rs. 15 and the agent Rs. 10.

The owner and manager of a mica mine in the Hazaribagh district were prosecuted for working the mine without a second outlet and for not keeping the roof of a drive secure. The owner was acquitted and the manager fined Rs. 25.

The agent and manager of a mica mine in the Gaya district were prosecuted for not providing a second outlet to the mine and for not providing an adequate amount of ventilation in the workings of the mine. They were fined Rs. 25 each.

The owner of a coal mine in the Jharia coal-field was prosecuted for working the mine in contravention of the orders of the Chief Inspector of Mines in India without a manager holding either a first or second class manager's certificate. He was fined Rs. 25.

For a similar offence the owners (three) of a coal mine in the Jharia coal-field were prosecuted. They were fined Rs. 20 each.

The agent and temporary manager of a coal mine in the Jharia coal-field were prosecuted for failing to bring the plans of the mine up to date within the preceding six months and for employing women underground in excess of the percentage allowed. They were fined Rs. 10 each.

The owner and manager of a coal mine in the Raniganj coal-field were prosecuted for failing to maintain the roof of an incline in a secure and safe condition, for failing to provide a proper gate on the incline and for failing to post copies of the abstract of the Act, Regulations and Rules in English and Bengali at the mine. The owner was fined Rs. 60 and the manager Rs. 40.

The owner, agent and manager of a coal mine in the Jharia coal-field were prosecuted for failing to maintain a correct register of persons employed underground and for employing a greater percentage of women underground than was permissible. The owner, who is a minor, was acquitted and the agent and manager were fined Rs. 200 each.

The owner of a coal mine in the Jharia coal-field was prosecuted for failing to submit within the prescribed date a correct plan of the discontinued workings of the mine. He was fined Rs. 15.

For a similar offence the owners (three) of a coal mine in the Jharia coal-field, and the owners (three) of a mica mine in the Nellore district were prosecuted. The case against the former was dropped as the plan was subsequently submitted. The latter were acquitted.

The manager of a coal mine in the Jharia coal-field was prosecuted for failing to fence securely an archway below the landing level of a pit, which was an entrance to the shaft, for failing to fence the edges of the goaves and for not observing the systematic timbering rules as proposed by this department and agreed to by the manager. He was fined Rs. 200.

The owner and manager of a coal mine in the Raniganj coal-field were prosecuted for failing to produce constantly an adequate amount of ventilation in the mine and for not keeping a runaway switch in working order. They were fined Rs. 100 each.

The owner and manager of a coal mine in the Jharia coal-field were prosecuted for employing persons to work in inclines which were in a dangerous condition, for employing a greater percentage of women underground than was permitted and for not fencing off the dangerous inclines. The owner was fined Rs. 200 and the manager acquitted.

The owners (three) and manager of a coal mine in the Jharia coal-field were prosecuted for failing to keep in stock a sufficient quantity of timber supports for the purpose of carrying out depillaring operations underground in a safe manner and for extracting pillars in the workings of seams in a dangerous manner. They were each fined Rs. 50.

The owner and manager of a coal mine in the Jharia coal-field were prosecuted for employing miners underground in driving ordinary galleries for development, although no second outlet was provided and also because there was no person in authority underground when the work was in progress. The owner was fined Rs. 15 and the manager Rs. 10.



The temporary manager and overman of a coal mine in the Raniganj coal-field were prosecuted for permitting persons to be employed in the mine after the termination of their shift hours. They were fined Rs. 20 each.

The owner of a tin mine in the Mergui district was prosecuted for failing to submit a notice concerning a fatal accident at his mine within the prescribed time. He was fined Rs. 50.

Seven prosecutions against seven owners and an agent were instituted for failure to submit annual returns within the prescribed date. The seven owners were convicted and fines aggregating Rs. 201 were imposed. The agent was acquitted.

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

A shotfirer of a coal mine in the Raniganj coal-field was prosecuted for firing a shot at the face of a gallery which had reached a point  $5\frac{1}{2}$  feet from the face of another gallery and for negligently omitting to withdraw the miners from the latter gallery. The case was dropped as the accused could not be traced.

A shotfirer and a contractor's mukadum (sirdar) of a coal mine in the PENCH Valley coal-field were prosecuted, the former for firing a shot within 10 feet of another working place before withdrawing the work-people and for not fencing the entrance to the adjacent gallery before the shot was fired. The mukadum was prosecuted for not complying with the orders issued to him, inasmuch as through his negligence a miner entered the gallery and was fatally injured. The shotfirer was fined Rs. 30 and the mukadum acquitted.

A shotfirer of a coal mine in the PENCH Valley coal-field was prosecuted for negligently omitting to remove work-persons to a safe distance before firing two shots, thereby causing an injury to one person. He was fined Rs. 10.

Two haulage attendants of a coal mine in the PENCH Valley coal-field were prosecuted for failing to put a stop block in position after a set of full tubs had been landed and uncoupled at the top of an endless rope haulage with the result that the last tub ran wild down the incline and injured seriously two platelayers one of whom succumbed to his injuries shortly after. They were fined Rs. 40 each.

An on-setter of a coal mine in the Jharia coal-field was prosecuted for signalling a cage containing persons to the surface without placing the gate in position, with the result that a trolleyman fell out and was killed instantly. The accused has absconded and the case is still pending.

A winding engineman of a coal mine in the Raniganj coal-field was prosecuted for causing through negligence an overwind of an ascending cage for a distance of about 23 feet. The cage was arrested in the headgear by the detaching hook and was damaged, thereby causing the death of an assistant fitter who was the only occupant of the cage. Judgment has not been passed as the accused has absconded and has not yet been traced.

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

In Notifications Nos. M-1265(1) and M-1265(2), dated the 26th June 1934, issued by the Government of India, Department of Industries and Labour,

the Governor General in Council was pleased to make certain amendments in the Coal and Metalliferous Mines Regulations, 1926. Notification No. M-1265(1) was amended by Notification No. M-1265, dated the 19th July 1934. The notifications are reproduced in Appendix IV, Statements Nos. 3, 4 and 5.

By the end of the year bye-laws under Section 32 of the Act had been established at five hundred and seventy-eight coal mines and nine mines other than coal.

## Section V.—General Remarks.

### UNDERGROUND LIGHTING.

The attention of owners, agents and managers of mines is invited to the Coal Mines General Regulations (Lighting) 1934 which have been brought into force in Great Britain for improvement of lighting conditions below ground. It is well-known that most of the safety lamps in common use at present give a very poor light usually not more than 0.5 candle power. Apart from prevention of the disease commonly known as miners' nystagmus, good lighting has a very important bearing on the reduction of accidents and efficiency in working. After 31st December 1936, all flame and electric safety lamps in use in British mines must, when new, comply with the minimum standard of lighting prescribed, namely that at the end of nine hours' continuous burning, the mean spherical candle power shall not be less than 0.75 for all types of safety lamps (other than cap lamps) and the mean candle power over the horizontal angle of distribution shall not be less than 1.5. Some of the new approved lamps give from 3 to 4 candle power. It may be noted that deterioration in the lighting power of safety lamps in use is chiefly due to lack of intelligence and care on the part of the lamp room staff in the cleaning, maintenance and repair of the lamps.

I propose at an early date to require all new safety lamps to be of a standard required by the British Lighting Regulations.

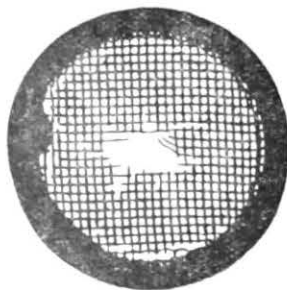
Lighting from power mains is another method of improving illumination underground; this method under suitable conditions and with adequate precautions offers decided advantages over hand lamps.

Suitable lamps are particularly necessary for the use of sirdars and overmen. A good light is essential for inspection purposes and particularly in thick seams where it is difficult to see the roof and the sides of galleries. At a number of open light mines overmen and sirdars are not provided with adequate lights in order to enable them to carry out in a proper manner the inspections required under Regulation 70. In cases that have been brought to my notice I have pressed the management to provide their overmen and sirdars with acetylene lamps. Such lights are necessary for inspection purposes in high seams.

### EXAMINATION OF THE GAUZES OF FLAME SAFETY LAMPS.

In my report for 1933 a description was given of an ignition of inflammable gas at the Burrakur Coal Company, Limited's Saltore colliery. It was presumed that the gas had been ignited by a defective safety lamp, the defect

being in the gauzes of the lamp. The accompanying illustration is a photograph of the top of one of the gauzes used in the lamp. It will be seen that there is a large hole in the centre of the gauze and broken wires round the periphery. A gauze in such a condition would be of no use in preventing an explosion inside the lamp from being transmitted to the external atmosphere, which is the prime function of the gauze protection.



Damaged gauze of a safety lamp which caused an ignition of inflammable gas.

It is, therefore, imperative that safety lamp gauzes, when in use, should be carefully and minutely examined daily in the manner described in the account of the ignition mentioned, *i.e.*, by thorough cleaning and by holding up each gauze separately in front of the eye and towards a good light. All gauzes which show signs of deterioration should be discarded.

#### EFFECT OF THE EARTHQUAKE OF JANUARY 15TH, 1934, ON THE MINES IN BIHAR AND ORISSA.

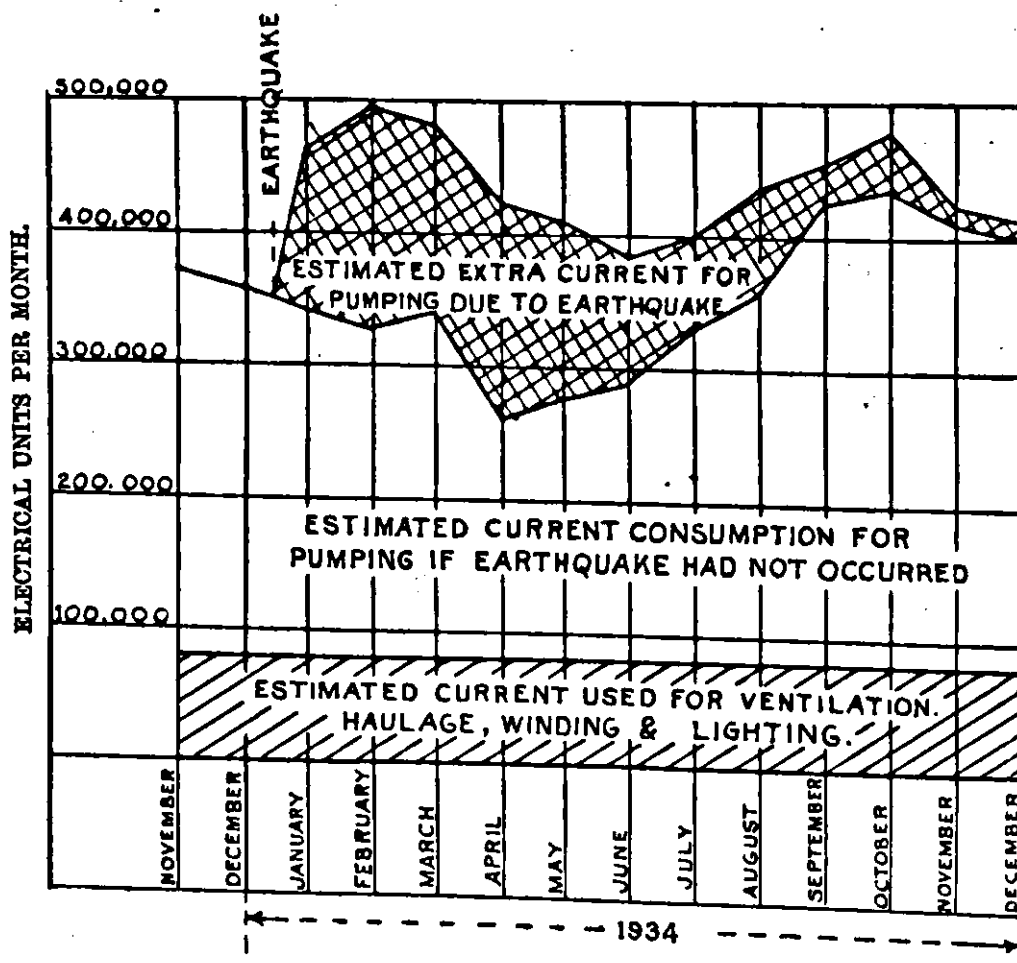
Apparently only one accident occurred which could reasonably be ascribed to the effects of the earthquake and this took place in a mica mine. This accident is described on page 25 of this report, and it was not due to the major disturbance but to a minor tremor which occurred on January 20th. Sundry reports were received of falls of side from pillars of coal in the Jharia coalfield but none of these resulted in an accident. The most important effect of the earthquake in the Jharia coalfield was a phenomenal increase in the amount of water flowing into the deeper workings of some of the mines.

At one large colliery in the Jharia coalfield, for example, the quantity of water pumped in January 1934 was over 96 million gallons, as compared with about 50 million gallons in January 1933. As the earthquake occurred on the 15th of the month the amount of water entering the workings of the mine during the second half of the month was probably nearly three times that for the same month of the previous year. The total quantity of water pumped at the colliery in 1934 was 896 million gallons, as compared with 617 million gallons in 1933. As the year progressed the increase of water got less but even at the end of the year the effect was noticeable.

Another example of the same phenomenon was shown at another large colliery in the same coalfield. The chart below shows the additional electric current used for pumping attributed to the earthquake. I am indebted to

the Chief Mining Engineer of the colliery for permission to use the chart. The mine is normally a heavily watered one and the chart is not only of interest in showing the increase of current for pumping due to the earthquake but also the very large electric current consumption in a large heavily watered colliery.

CHART SHOWING  
CONSUMPTION OF ELECTRICITY AT A LARGE COLLIERY IN THE JHARIA  
COAL-FIELD.



Many other collieries in the Jharia coalfield had also to deal with an increased inflow of water. A similar effect though on a smaller scale was seen in some of the coal mines in the Raniganj and Giridih coal-fields.

It can well be understood that the greater quantity of water to be pumped added considerably to the expense and difficulty of working the mines which were affected.

## STEMMING MATERIAL FOR USE IN SHOT FIRING.

In February 1934 I issued the following circular to owners, agents and managers of coal mines inviting attention to the valuable properties of a mixture of sand and clay for stemming purposes:—

“Recent investigations in Great Britain, the results of which appear in a paper contributed by Ritson and Stafford to the Institution of Mining Engineers (Transactions, Volume LXXXII, part 6, pages 497-512) and of a further paper read before the Midland Institute on January 20, 1933, have shown that ordinary clay stemming is frequently ineffective in preventing blown-out shots. It has been proved that clay stemming is often ejected from the shot hole at the time of the firing of the charge and that a mixture of sand and clay forms a much more effective preventative of the flame and shock of the explosive being ejected from the shot hole. The sand should be coarse-grained. The best size has been found to be under 5 I. M. M. mesh (0.1 in.) and over 50 I. M. M. mesh (0.01 in.), but any coarse sand, such as is used for making concrete, containing only a small amount of fine dust is quite suitable. A good quality of clay is required and the mixture should in that case consist of 75 per cent. of sand and 25 per cent. of clay. It has been found that the most reliable method of making the mixture is to dry the clay at 105° C. and then grind it in a stone dust mill or other form of grinder so that all will pass a 50 I. M. M. mesh sieve. A quantity of calcium chloride of about 3 to 5 per cent. adds to the effectiveness of the mixture as stemming. If clay of a good quality cannot be obtained 40 per cent. of clay and 60 per cent. of sand with about 5 per cent. of calcium chloride may be used. Calcium chloride is a hygroscopic substance and keeps the mixture sufficiently soft for stemming. The advantages claimed for sand-clay stemming are as follows:—

- (1) It reduces the risk of ignition of firedamp.
- (2) There is a reduction in the amount of noxious fumes.
- (3) The stemming increases the efficiency of blasting, resulting in a saving of explosives.
- (4) The material is most convenient to use and, unlike clay, will not harden in storage.

As there have been several instances in recent years in Indian coal mines of the ignition of gas by blown-out shots of “permitted” explosives I would recommend the proposed mixture of sand and clay to all users of “permitted” explosives.

Since then I have received particulars of tests made which bear out the contention that a mixture of sand and clay is more effective as a stemming material than clay alone.

At a large colliery in the Central Provinces where much blasting is done it has been found that the consumption of gunpowder has been reduced from 0.35 lb. to 0.22 lb. per ton of coal produced by the use of a stemming material composed of 75 per cent. sand and 25 per cent. clay.

Tests carried out at a large colliery in the Jharia coalfield showed somewhat similar results. I have found that the clay or "mutti" available at many of the collieries in the Jharia coalfield contains intrinsically a considerable proportion of sand particles.

#### USE OF CONVEYORS FOR TRANSPORTING AND LOADING COAL UNDERGROUND.

The gradual withdrawal of women and their ultimate exclusion from the underground workings of coal mines may be expected in the near future to stimulate the introduction of mechanical loaders, for the expeditious handling of coal underground. A mechanical conveyor was in use for several years at a colliery in the Raniganj coalfield but its use was eventually discontinued. During 1934 a mechanical belt conveyor was installed at Sripur colliery belonging to the Lodna Colliery Company (1920) Limited in the Raniganj coalfield. The length of the conveyor is 650 feet and the width of the belt, which is maintained in the form of a trough by rollers, is 36 inches. The conveyor is capable of handling 200 tons per hour and at present at peak periods 100 tons per hour is dealt with. It is designed for the coal to be loaded on the belt by means of baskets. The conveyor is in use in a seam, 15 feet high in which pillars are being extracted on a "short-wall" system. The development work is carried out in advance of the conveyor and the extraction of pillars follows immediately behind. The operations of development and pillar extraction are, therefore, carried out more or less simultaneously. The area from which coal is extracted is enclosed within a panel. The line of the conveyor is electrically lit and the pillar extraction area is also flood-lighted with high powered lamps. The conveyor is electrically driven. Such an arrangement allows of the rapid and intensive extraction of the coal. The photograph shows part of the conveyor as it appears in the mine.

#### HEALTH AND SANITATION.

The Asansol Mines Board of Health held two special and eleven ordinary meetings during the year. Dr. L. Sen was Chief Sanitary Officer during the year. The birth rate in the Mining Settlement fell from 31.3 in 1933 to 29.1 per thousand during 1934. The death rate rose from 18.2 to 22.3 per thousand. The rise in mortality from fevers including malaria and respiratory diseases, particularly pneumonia, was particularly noticeable. The health of the colliery population, i.e., miners and their families, continued to be good. The epidemic of cholera which raged in other parts of India during the year had its repercussion in the Mining Settlement. There were 355 attacks and 151 deaths from cholera, as against 89 cases and 29 deaths during the previous year. Vigorous efforts on the part of the sanitary staff were made to check the epidemic; 73,819 inoculations being carried out during the year, as against 22,493 in 1933. The effect of mass inoculation as a preventative measure was particularly seen in areas showing immunity from cholera infection in the face of the epidemic. There were 130 attacks and 23 deaths from small-pox during the year, as against 247 attacks and 33 deaths during the previous year. 50,363 vaccinations were performed during the year of which 13,840 were primary and 36,523 re-vaccinations. There were three maternity and infant welfare centres situated near important groups of collieries, managed by the Board of Health during the year, each in charge of a trained Health



CONVEYING COAL UNDERGROUND BY BELT CONVEYOR.

Visitor. A whole time lady superintendent was in charge of the welfare Scheme. A Health and Baby Week was organised in eight different areas under the joint auspices of the Board of Health and the local Health and Baby Welfare Society. Besides a travelling Health Exhibition, Baby Shows were organised and special training in first-aid, home nursing and mothercraft was arranged for boys and girls. Two additional leprosy clinics were opened during the year making a total of eight, four of which were managed by the Board of Health and four by the Asansol Leprosy Relief Association. A re-organised scheme has been approved of providing for eleven trained health visitors and as many clinics for treatment of cases. Sanction has been obtained for the appointment of an additional leprosy officer to ensure efficient supervision. Definite improvement was noticeable in two of the areas taken up for intensive anti-malaria work. A third area, including an important group of collieries, was taken in hand during the year.

During the year the Jharia Mines Board of Health held twelve ordinary, five special meetings and three joint meetings with the Jharia Water Board. Major C. S. Ryles was Chief Medical Officer up to 14th March when he proceeded on leave preparatory to retirement. Dr. A. N. Chatterjee officiated in the post until 8th April when Dr. P. L. Whig took charge to the end of the year. The estimated population of the Settlement was 530,022 persons. The death rate was 18.27 per thousand, as compared with 13.34 in the previous year. There was an outbreak of cholera in the coal-field, there being 916 cases with 413 deaths, as compared with 119 cases with 29 deaths in the previous year. The number of deaths on the collieries from cholera was 51 as compared with 7 in the previous year. The total number of anti-cholera inoculations performed was 35,001, which is a record in the history of this area. There were 959 cases of suspected small-pox with 71 deaths, as compared with 960 cases with 79 deaths in the previous year. Many samples of food were analysed in the Board's laboratory and prosecutions were ordered in all cases of adulteration. The improvement effected in the colliery housing was maintained but the moratorium granted in 1926 still continued in force. The Board's Maternity and Child Welfare Scheme was further extended. A fully equipped Maternity centre was opened at Jharia, the largest town of the coalfield. During the year the Dhanbad Municipality also engaged a maternity nurse for child welfare work within its area. Anti-leprosy work continued in full activity.

The Jharia Water Board continued to function throughout the year. The total quantity of water supplied to the Jharia coalfield during the year 1934 was about 484 million gallons as under :—

	Gallons.
1. Collieries	404,055,000
2. Non-colliery premises (domestic and non-domestic supply)	29,930,000
3. Bazars of Jharia, Katras, and Kirkend, and other places supplied free through stand posts	49,640,000
	<hr/>
	483,625,000

During the year I received many reports from provincial and district Medical Officers of Health appointed as Inspectors of Mines. 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.	
	1934.	1933.
Jharia Coalfield—		
Jealgors . . . . .	42.33	55.51
Topchanchi . . . . .	46.26	57.70
Raniganj Coalfield—		
Asansol . . . . .	44.46	54.11
Giridih Coalfield—		
Giridih . . . . .	51.49	80.06

It will be seen that the rainfall in the above three coalfields was lower in 1934 than in 1933.

## AMBULANCE WORK.

Classes in First-Aid were held at ten centres in the Jharia coalfield and also in the mining areas of Singhbhum and Hazaribagh. In all 102 persons attended the classes and 66 certificates were awarded. In the Raniganj coalfield classes were held at ten centres, 187 persons attending. One hundred and sixty-eight persons completed the course and were examined and 144 were awarded certificates. I wish to express my thanks to the lecturers and examiners for the work performed by them during the year both in the Jharia and Raniganj coalfields 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 ORISSA AND THE CENTRAL PROVINCES.

The Bengal Mining Board held two meetings during the year. Among the subjects discussed at the meetings and by correspondence were :—(a) certain proposed amendments in the coal mines and metalliferous mines regulations ; (b) letter from the Government of India on the subject of exemptions of certain classes of mines from the provisions of the Indian Mines Act, 1923 ; (c) proposals of the Local Government for the election of a member to the reformed Bengal Legislative Council from the Coal Mining Labour Constituency ; and (d) proposed extension of the Indian Soft Coke Cess Act, 1929, for five years from the 1st January 1935. 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 and Orissa Mining Board did not meet during the year. One subject was dealt with by correspondence, viz., the Recommendations of the Royal Commission on Labour in regard to the improvement of sanitary conditions in coal mines. The non-official members of the Board were Messrs. J. B. Argyle, A. L. Ojha and J. Mackie.

The non-official members of the Mining Board for mines other than coal mines in Bihar and Orissa were Messrs. G. A. Young and F. G. Percival.

The Central Provinces Mining Board held no meetings during the year nor were there any subjects dealt with by correspondence. The non-official members of the Board were Messrs. R. S. Davies, L. H. Bartlett, C.B.E., Rai Bahadur Mathura Prasad and Rai Sahib Radeshiam Wahi.

#### 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 J. B. Wardlaw. The local examiners appointed were Messrs. J. McCrae and L. Millar for coal mine managers' first class certificates; Messrs. W. B. Penman 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 all the examinations.

One first class certificate of competency to manage a coal mine was granted in lieu of a British certificate of the same class. At the examinations for coal mine managers' certificates held at Dhanbad in February and March, 61 candidates sat for first class certificates and 63 for second class certificates. Ten certificates of the first class and ten also of the second class were granted. At the examination for coal mine surveyors' certificates of competency held at Dhanbad in November, 29 candidates attended the examination. Eight of them were successful.

One hundred and eighty-four persons were examined for coal mine sirdars' certificates of competency and 156 certificates were granted. Out of 297 holders of sirdars' certificates examined in gas testing 192 were successful and their certificates were duly endorsed to that effect. 328 holders of sirdars' certificates appeared for re-examination in eyesight and hearing, 322 were successful and their certificates were duly endorsed. Under Coal Mines Regulation 49 the certificates of six sirdars were suspended for periods varying from three months to six months. During the year 10 duplicate sirdars' certificates and 34 duplicate discs were issued.

The approval of the Board was accorded to the recognition, for the purposes of Coal Mines Regulation 38, of the Orissa School of Engineering, Cuttack, in respect of the Diploma of Subordinate Civil Engineer, as exempting from the practical experience of surveying required other than the practical experience of surveying the underground workings of a mine on condition that students who wish to sit for the mine surveyors' examination should have their certificates endorsed by the Principal to the effect that such students have had at least three months practical experience of surveying in or about a mine during the long vacations of the School.

#### MINING EDUCATION.

At the Indian School of Mines, Dhanbad, the number of students on the roll at the commencement of the session (1933-34) was 51, and at the commencement of the session (1934-35) the total number of students on the roll

was 54. The results of the Diploma and Certificate examinations held in July 1934 were as follows:—

Diploma or Certificates.	No. of candidates.	No. of successful candidates.
Diploma of Associateship in Geology . . . . .	3	3 (2 in Class I, 1 in Class II).
Diploma of Associateship in Mining Engineering . . . . .	11	10 (2 in Class I, 8 in Class II).
Certificate in Geology . . . . .	2	2
Certificate in Coal Mining . . . . .	8	7
Certificate in Metal Mining . . . . .	3	3

The mine surveying camp was pitched at Bhulanbararee colliery during the month of November 1934, and 34 students of the second, third and fourth years and one special student were in attendance. Visits and tours of inspection were paid to the mica mines of Kodarma, the copper and iron mines of Singhbhum and to many local collieries and places of geological interest in the neighbourhood. At the examinations held by the Board of Examiners under the Indian Mines Act in February and March 1934 eight former students obtained the first class coal mine managers' certificates and seven obtained the second class coal mine managers' certificates. Twentynine passed students of the School were placed in employment during the year. Two former students of the School were appointed as Assistant Inspectors of Mines and one former student was appointed as surveyor in the Department of Mines. Research work on the methods of manufacture of soft coke and the nature and constitution of Indian coals was carried out at the School.

In the Department of Mining and Metallurgy at the Benares Hindu University there were 72 students on the roll at the commencement of the session 1934-35. Of these, 22 were in the first year, 18 in the second year, 5 in the third year mining, 9 in the third year metallurgy, 6 in the fourth (final) year mining, and 12 in the fourth (final) year metallurgy classes. Three students passed the final examination for the degree of B. Sc. in mining and 7 in metallurgy. Up to date, the total number of mining graduates is 21 and the total number of metallurgy graduates is 25. During the summer vacation 40 students were sent to various mines and works for practical training. A systematic investigation of the coals of India which was commenced in the laboratories of the department during the session 1933-34, was continued during the year.

No advanced evening classes in mining were held in the Raniganj coalfield. Such classes, however, continued to be held under the auspices of the Government of Bihar and Orissa at Jharia and Sijua in the Jharia coalfield. The total number of students attending the classes at the two centres of Jharia and Sijua was 51, of whom 22 attended the third year classes. Eleven of the third year students appeared at the final examination and six were successful. In both provinces 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 in the Jharia coalfield five. Classes in gas testing were also held at Sitarampur in the Raniganj coalfield and at Jharia in the Jharia coalfield for the training of colliery sirdars and shotfirers in gas testing. Special classes in

mine surveying preparatory for the examination for the mine surveyors' certificates of competency were held in the Jharia coalfield from the middle of August to the middle of October.

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

Advanced classes . . . . .	14
Elementary classes . . . . .	11

These classes were well attended and appear to fill a long felt want in the Pench Valley coalfield. They constitute the only means by which local students are able to obtain tuition and instruction in mining.

#### 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 1934, was 334. In addition to the annual meeting, five ordinary general meetings were held for the reading and discussion of papers. Illustrated lantern lectures were delivered by Mr. J. B. Auden on "The North Bihar Earthquake of the 15th January 1934" and by Lieut-Colonel F. J. Maitland King on "Map Reproduction". Several excursions were made to engineering works and collieries.

Three parts of the Transactions were published. The Government of India prize and the Institute gold medal were awarded to Dr. A. M. Heron for his paper on "The Mineral Resources of Rajputana"; the Institute silver medal to Dr. A. W. G. Bleeck for his paper entitled "Some experiences on the use of Drilling Fluids in the Yenangyaung Oilfield, Upper Burma"; and the Institute bronze medal to Mr. K. L. Bholia for his paper on "A Short Note on the Beryl Deposits of Ajmer-Merwara". The Pickering medal presented by the Institute for the best student in mining at the Indian School of Mines was awarded to Mr. T. C. Seth and the Hayden medal for the best student in geology was awarded to Mr. Justin Paul. Dr. F. G. Percival was appointed to serve on the Governing Body of the Indian School of Mines. Mr. R. R. Simpson served on the Council of the Institute of Fuel, London, and Dr. M. S. Krishnan acted as the joint representative of the Institute and the Geological, Mining and Metallurgical Society of India on the Committee appointed by the Indian Science Congress to draft the constitution of the proposed Indian Academy of Sciences.

During the course of the year the Subsidence Committee collected further information.

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

The number of members of the National Association of Colliery Managers, Indian Branch, at the beginning of the year was 84. Some of the subjects dealt with by the Council during the year were :—(1) scheme for the education of subordinate staff in coal mines; (2) recommendations of the Coal Dust Committee; (3) roads in the coalfields; and (4) prosecutions under the Indian

Mines Act. A number of papers of technical interest were read during the year, one being by Mr. W. Kirby, Inspector of Mines, No. 1 Circle, on "Underground Fires in Coal Mines", and another by Mr. H. M. Mitra, Electric Inspector of Mines, on "Electric Signalling in Mines". Mr. J. T. Caldwell represented the Association on the Jharia Mines Board of Health and Mr. W. McDonald on the Asansol Mines Board of Health. Mr. B. Starks Field represented the Association on the Subsidence Committee of the Mining and Geological Institute of India.

(c) *The Indian Mine Managers Association.*

The membership of the Indian Mine Managers Association at the end of the year was 200. Among the subjects dealt with during the year were :— (1) recommendations of the Coal Dust Committee ; (2) deposition of examination fees ; (3) amendments of the Workmen's Compensation Rules, 1924 ; (4) Fuel Research Board ; (5) conditions of employment of colliery managers ; (6) elimination of women from underground ; and (7) excise policy of Government of Bihar and Orissa. Excursions were arranged by the Council to Messrs. F. F. Chrestien & Company, Limited's mica mines, Kulti Iron Works, Bhulanbararee colliery and other places, and a paper on "Rescue Work in Indian Mines" by Mr. S. K. Ghose of the Indian School of Mines was read and discussed. Mr. B. K. Bose represented the Association on the Jharia Mines Board of Health and the Subsidence Committee, Mr. M. M. Mukherjee on the Asansol Mines Board of Health, 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. A. S. Mittra was elected as a representative to the Mining Education Advisory Board.

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

The Board held three meetings during the year when various matters of interest to the railways and collieries were discussed. For the first two months of the year Mr. T. A. Wetherell of the National Association of Colliery Managers was Chairman of the Board and for the rest of the year Mr. B. K. Bose of the Indian Mine Managers Association was the Chairman.

## 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 and Orissa. The total number of members on the roll is 7,517. The bulk of the members are miners although some are skilled and unskilled manual labourers and also clerical staff. The rates of subscription varies from one anna to four annas per month. The Union claims to have assisted workmen in connection with compensation and wage dispute cases. It has also conducted lantern lectures in various collieries on temperance, hygiene, sanitation, maternity and child welfare schemes. 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 1,737 members, mainly miners and manual workers. The rates of subscription vary from one anna to Rs. 1-8 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 and Orissa. The number of members is stated to be about 2,500. 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 and the extent of drinking amongst the miners.

## VISITORS TO THE COALFIELDS.

In October representatives of the All India Women's Conference visited the Raniganj and Jharia coalfields for the purpose of acquiring first-hand knowledge of the conditions in coal mines, specially with regard to women workers. The party visited Raniganj coalfield on the 4th and 5th October and Jharia coalfield on the 6th and 7th October.

In December Mr. K. Kuriyan, an Indian Officer of the staff of the International Labour Office, Geneva, visited Jharia coalfield for the purpose of seeing something of Indian labour conditions. He visited Kustore colliery and went underground for the purpose on the 7th December accompanied by the Chief Inspector of Mines.

## OFFICIAL DUTIES, 1934.

Dr. D. Penman was Chief Inspector of Mines and as a temporary measure continued to hold charge of the post of Principal, Indian School of Mines. He was on leave out of India from 21st June to the end of the year.

Mr. J. H. Lang, Inspector of Mines, was on deputation to Burma from 1st January to 16th March and held charge of No. 2 Circle from 17th March to 20th June. He officiated as Chief Inspector of Mines from 21st June to the end of the year.

Mr. W. Kirby, Inspector of Mines, No. 1 Circle, was on leave out of India from 3rd April to 28th July. He was permitted to prefix the Easter Holidays from 30th March to 2nd April to his leave.

Mr. N. Barraclough, Inspector of Mines, without circle, held charge of No. 2 Circle from 1st January to 16th March and again from 30th July to the end of the year. He held charge of No. 1 Circle from 30th March to 28th July.

Mr. H. M. Mitra, Electric Inspector of Mines, was on leave from 19th March to 31st May.

Mr. G. S. Cameron, Junior Inspector of Mines, officiated as Inspector of Mines, No. 2 Circle, from 21st June to 29th July.

Mr. N. G. Chatterjee, Junior Inspector of Mines, was on duty throughout the year.

Mr. H. K. Chatterjee, Junior Inspector of Mines, was on leave out of India from 6th August to 29th October.

Mr. A. Young, Junior Inspector of Mines, was on duty throughout the year.

Messrs. V. S. Chopra and S. S. Grewal were appointed as Assistant Inspectors of Mines with effect from 8th September.

The number of coal mines worked during the year was 490, which is 11 less than in the previous year. The number of metalliferous (including stone, etc.) mines at work was 1,185, as compared with 923 in 1933.

During the year 989 mines were inspected, many of them being inspected several times; 2,604 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 or managers desirous of obtaining advice on safety matters. In the major coalfields a large portion of the time of the Inspectors is occupied in investigating cases of actual or threatened damage to dwelling houses and roads by reason of the underground workings of coal mines and in dealing with underground fires.

Orders were issued as follows :—

Section, Regulation or Rules.	Number of Orders.
Under Sections 19(1) and 19(2)	7
Under Metalliferous Mines Regulation 21(1)	3
Under Coal Mines Regulation 23(c)	8
Under Coal Mines Regulation 50(5)	5

Orders were withdrawn as follows :—

Section, Regulation or Rules.	Number of cases.
Under Sections 19(1) and 19(2)	2

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

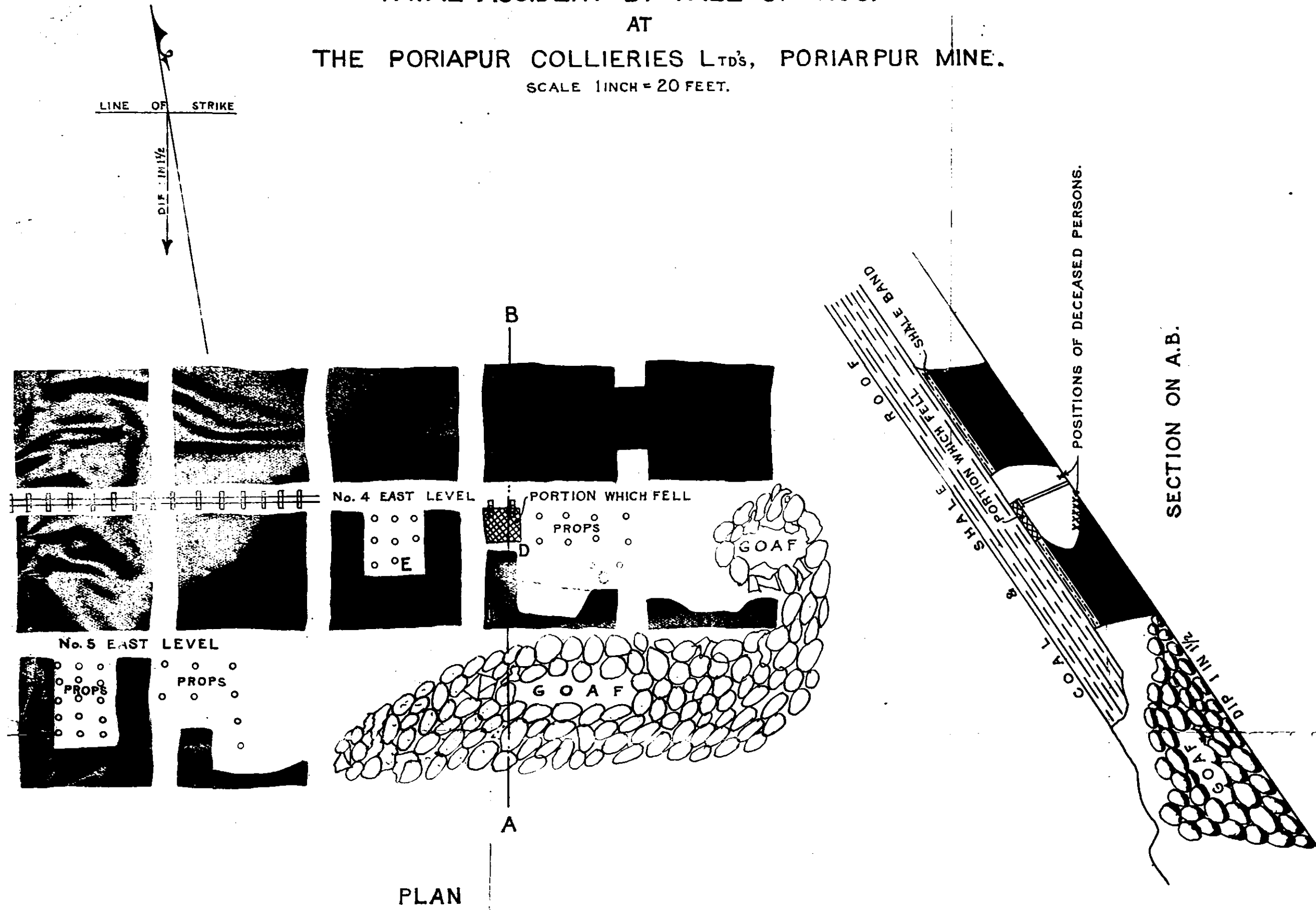
Regulation.	Number of cases.
Under Coal Mines Regulation 15(1)	6
Under Coal Mines Regulation 53	4
Under Coal Mines Regulation 76	3
Under Coal Mines Regulation 88	1
Under Coal Mines Regulation 116	3
Under Coal Mines Regulation 123	4
Under Metalliferous Mines Regulation 24(f)(1)	1
Under Metalliferous Mines Regulation 74	1
Under Metalliferous Mines Regulation 96	1

Relaxation granted by the Government of the Punjab :—

Under Rule 101 of the Indian Electricity Rules, 1922	1
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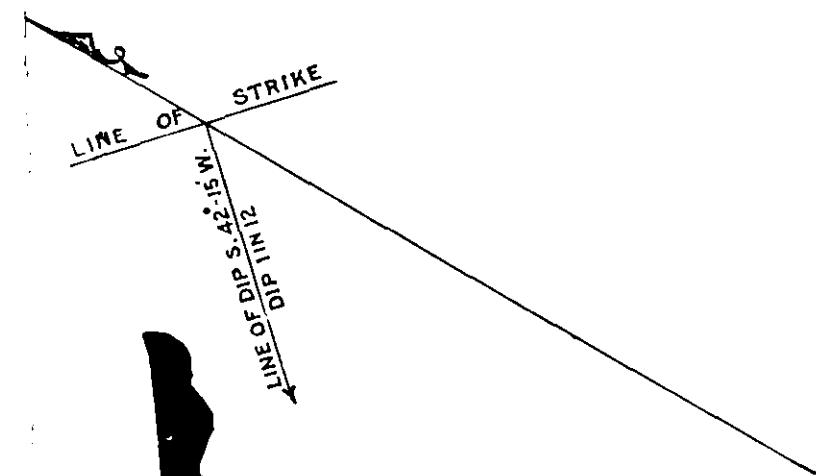
PLAN AND SECTION ILLUSTRATING REPORT ON  
 FATAL ACCIDENT BY FALL OF ROOF  
 AT  
 THE PORIAPUR COLLIERIES LTD'S, PORIARPUR MINE.

SCALE 1 INCH = 20 FEET.

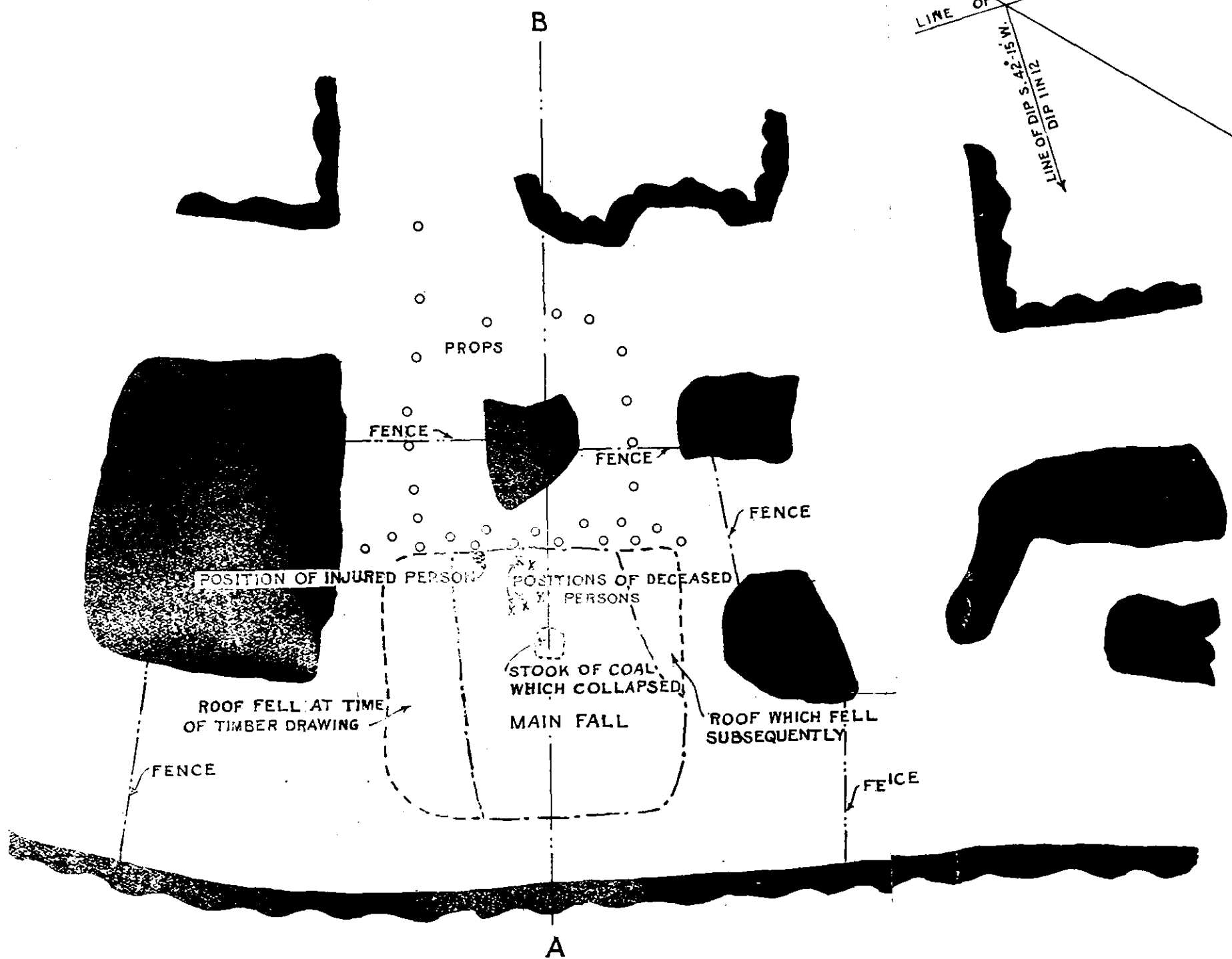
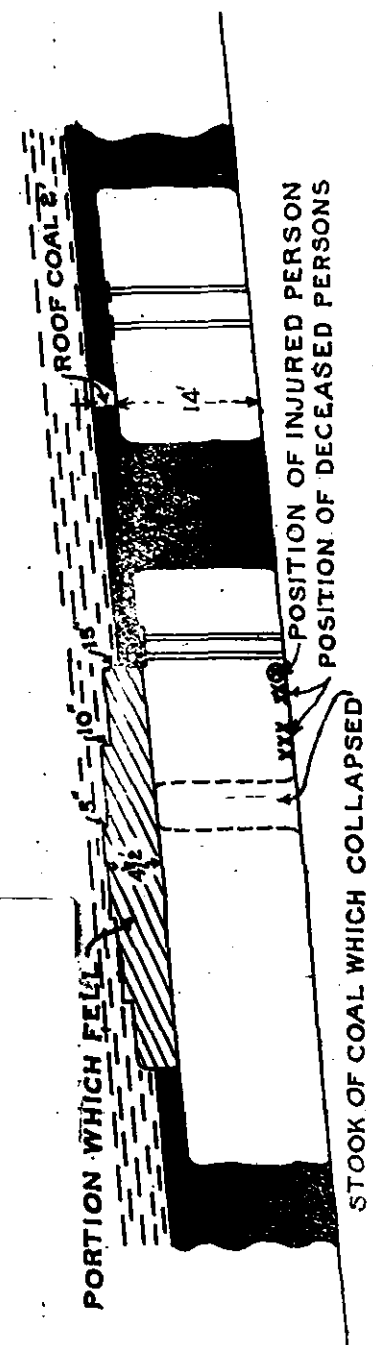




PLAN AND SECTION ILLUSTRATING REPORT ON  
 FATAL ACCIDENT BY FALL OF ROOF  
 AT  
 THE KATRAS JHARIA COAL Co. LTD'S SEEBPUR MINE.  
 SCALE 1 INCH = 20 FEET.



SECTION ON A.B.



Information was received of thirteen underground fires ; four subsidences caused by collapse of underground workings ; four ignitions of inflammable gas and two irruptions of water.

The number of original cases under the Land Acquisition (Mines) Act, 1885, at the end of 1934 stood at 691, seventeen of which were cases dealt with during the year. There were five applications for modifications of restrictions and two complaints of violations of restrictions, all of which were dealt with. The Act applies to Bengal and Bihar and Orissa only. In other provinces where Government owns the minerals, 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.*

## STATISTICS OF MINES

Table  
Number of workers and output of minerals during the

Province.	District and Mineral field.	Total Output, Tons.	Average number of							
			Underground.						Females.	Total Males and Females.
			Males.							
Overmen and Sirdars.	Coal-cutters.	Loaders.	Other skilled labour.	Other unskilled labour.	Total Males.					
Assam	Lakhimpur, Makum coalfield	164,623	55	314	268	300	266	1,043	—	1,043
	Naga Hills, Nazira „	21,691	14	30	17	30	63	154	—	154
	Total	186,313	69	244	305	230	340	1,197	—	1,197
Baluchistan	Kalat . . . . .	1,253	2	5	5	—	—	13	—	13
	Quetta-Pishin, Bor Range coalfield.	6,358	6	30	32	—	—	60	—	60
	Sitj, Khost coalfield . .	4,161	6	43	43	4	—	95	—	95
Total	11,771	16	67	80	4	—	167	—	167	
Bengal .	Bankura	8,100	6	36	14	6	3	64	4	68
	Birbhum } Raniganj coalfield	500	2	6	6	—	—	16	—	16
	Burdwan }	6,150,478	300	13,503	5,001	3,301	5,370	29,131	3,910	33,041
Total	6,159,486	668	13,861	5,111	3,207	5,373	29,209	3,914	33,123	
Bihar and Orissa.	Manbhum— Raniganj coalfield (part of)	531,506	73	1,523	372	356	616	2,939	357	3,296
	Jharla „	8,999,096	1,006	17,653	9,063	4,094	6,291	26,107	5,060	43,167
	Hazaribagh— Jharla coalfield (part of)	58,450	9	140	60	23	23	272	29	301
	Bokaro „ . . .	1,399,261	61	1,063	531	119	343	2,127	122	2,249
	Giridih „ . . .	761,010	133	3,464	1,079	230	708	5,609	106	6,115
	Karanpura „ . . .	293,713	15	604	25	44	60	748	175	863
	Ranchi— Karanpura coalfield (part of)	3,434	1	—	—	1	—	3	—	3
Sambalpur— Hingir Bampur coalfield	22,126	2	51	63	10	9	134	—	134	
Carried over	12,164,659	1,280	24,527	11,301	4,876	8,045	40,938	6,189	56,127	

DIX I.  
AND MINERALS.

## No. 1.

year 1934 at mines under the Indian Mines Act.

persons employed daily in and about the mines.

Overmen and Sidars.	Open workings.							Total -Underground and Open workings.	Surface.						Grand Total.	
	Males.					Females.	Total Males and Females.		Males.				Females.	Total Males and Females.		
	Coal-cutters.	Loaders.	Other skilled labour.	Other unskilled labour.	Total Males.				Clerical and supervising staff.	Skilled labour.	Unskilled labour.	Total Males.				
A.L.																
...	...	...	...	...	...	...	...	1,043	15	61	204	360	103	403	1,446	
...	...	...	...	...	...	...	...	154	13	33	48	04	1	95	240	
...	...	...	...	...	...	...	...	1,197	28	114	282	304	104	408	1,605	
...	...	...	...	...	...	...	...	13	...	...	...	...	...	...	13	
...	...	...	...	...	...	...	...	60	...	...	12	...	...	12	72	
1	...	...	...	...	3	...	3	16	...	2	...	...	...	2	100	
1	...	...	...	2	3	...	3	170	...	2	12	...	...	14	164	
1	3	3	3	2	10	7	17	85	2	5	14	21	6	29	114	
...	...	...	...	...	...	...	...	14	1	2	3	5	1	6	30	
11	33	8	12	51	115	30	184	32,105	1,168	2,081	5,465	9,337	2,933	12,290	44,495	
12	36	10	14	63	125	46	171	31,294	1,191	2,691	5,491	9,363	2,962	12,325	44,819	
7	51	5	6	17	66	48	134	3,430	107	354	410	771	377	1,145	4,576	
81	363	68	35	178	665	281	946	44,113	1,480	3,007	10,437	15,534	5,029	20,563	64,676	
1	2	1	...	1	5	3	7	308	21	43	117	161	76	237	365	
59	1,912	907	50	1,204	4,041	875	4,916	7,165	192	479	1,177	1,948	339	2,186	9,351	
4	80	7	4	4	109	78	187	6,303	37	149	664	920	180	1,070	7,373	
1	246	165	68	311	791	155	946	1,809	52	116	763	441	107	549	2,357	
1	22	...	...	...	23	11	34	36	1	...	19	20	4	24	60	
...	...	...	...	...	...	...	...	134	...	10	16	35	14	49	183	
104	2,576	1,183	172	1,715	5,720	1,450	7,170	63,297	1,950	4,677	13,123	19,750	6,096	25,846	89,143	

APPEN  
STATISTICS OF MINES

Table  
Number of workers and output of minerals during the

Province.	District and Mineral field.	Total Output.	Average number of							Total Males and Females.
			Underground.							
			Males.						Females.	
			Overmen and Birdars.	Coal cutters.	Loaders.	Other skilled labour.	Other unskilled labour.	Total Males.		
	Brought forward	Tons. 12,164,688	1,289	24,527	11,201	4,876	3,048	49,938	4,189	CO 56,127
Bihar and Orissa—contd.	Southal Parganas—									
	Jainty coalfield . . .	42,717	17	170	102	43	40	372	36	408
	Raniganj coalfield (part of).	114,756	19	467	16	47	61	632	80	712
	Total	12,322,161	1,325	25,164	11,321	4,966	3,149	50,943	4,305	57,247
Central Provinces.	Chanda . . . . .	221,036	52	1,326	839	66	460	2,634	221	3,055
	Chhindwara, Peneh Valley coalfield.	1,117,042	90	3,008	1,121	609	715	5,543	618	6,161
	Total	1,438,078	122	4,334	2,000	677	1,175	8,377	839	9,216
Punjab	Jhelum, Salt Range coalfield	54,809	41	243	147	113	208	749	...	749
	Mianwali .. . . .	64,066	19	107	109	19	48	301	...	301
	Ebhapur .. . . .	5,371	9	26	...	3	15	47	...	47
	Total	124,246	69	376	256	135	268	1,097	...	1,097
	Grand Total (Coal) for 1934	20,243,977	2,262	44,065	19,133	9,219	15,310	89,989	11,068	101,047
	Grand Total of preceding year.	18,160,681	2,151	42,366	17,041	8,300	14,016	83,676	12,669	96,565
	Difference	+2,083,296	+111	+1,699	+2,092	+919	+1,292	+6,313	-1,631	+4,482

DIX I—contd.

AND MINERALS—contd.

No. 1—contd.

year 1934 at mines under the Indian Mines Act—contd.

persons employed daily in and about the mines.

Open workings.								Total Under-ground and Open workings.	Surface.						Grand Total.	
Males.					Females.	Total Males and Females.	Males.				Females.	Total Males and Females.				
Overmen and Sirdars.	Coal-cutters.	Loaders.	Other skilled labour.	Other unskilled labour.			Total Males.		Clerical and supervising staff.	Skilled labour.			Unskilled labour.	Total Males.		
AL—contd.																
104	2,570	1,153	173	1,715	5,720	1,450	7,170	63,297	1,950	4,677	13,123	19,750	6,096	25,845	89,143	
..	..	..	..	..	..	..	..	408	31	70	46	147	28	160	577	
..	..	..	..	..	..	..	..	712	23	43	106	183	66	248	960	
104	2,570	1,153	173	1,715	5,720	1,450	7,170	64,417	2,014	4,790	13,278	20,079	6,169	26,262	90,679	
..	..	..	..	..	..	..	..	2,055	49	63	362	474	102	576	2,631	
..	..	..	..	..	..	..	..	6,161	168	670	1,217	2,055	561	2,616	8,777	
..	..	..	..	..	..	..	..	9,316	217	733	1,679	2,529	663	3,192	12,408	
6	21	7	..	10	44	..	44	793	43	80	247	360	..	369	1,162	
..	..	..	..	..	..	..	..	301	26	6	173	204	16	230	521	
..	..	..	..	..	..	..	..	47	6	4	50	60	..	60	107	
6	21	7	..	10	44	..	44	1,141	73	90	470	633	16	649	1,790	
133	2,033	1,176	186	1,780	5,802	1,496	7,388	108,435	3,523	8,420	31,060	33,013	9,928	42,940	151,375	
134	3,143	804	193	1,443	5,717	1,798	7,515	104,080	3,439	7,984	19,856	31,279	9,348	40,627	144,707	
-11	-510	+366	-7	+337	+178	-302	-137	+4,355	+84	+436	+1,218	+1,733	+550	+2,313	+6,668	



## DIX I—contd.

## AND MINERALS—contd.

## No. 1—contd.

year 1934 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.	Miners.	Other skilled labour.	Other unskilled labour	Total Males.				Clerical and super- vising staff.	Skilled labour.	Unskilled labour.	Total Males.			
<b>ORE</b>														
72	1,850	105	465	2,492	1,177	3,669	3,699	141	171	770	1,092	463	1,545	5,214
...	...	...	...	...	...	...	...	7	3	33	42	...	42	42
1	...	4	159	164	...	164	164	2	2	150	154	11	165	329
1	...	4	159	164	...	164	164	9	5	182	196	11	207	371
73	1,850	109	624	2,656	1,177	3,833	3,833	150	176	952	1,278	474	1,752	5,685
49	1,165	30	294	1,538	778	2,313	2,313	115	107	700	922	261	1,183	3,496
+24	+685	+79	+330	+1,118	+402	+1,520	+1,520	+35	+69	+252	+356	+213	+569	+2,069
<b>ORE</b>														
16	158	3	81	208	111	319	319	7	6	36	49	89	138	457
...	...	...	...	...	...	...	...	8	4	31	38	11	49	49



APPEN  
STATISTICS OF MINES

Table  
Number of workers and output of minerals during

Province.	District and Mineral field.	Total Output.	Average number of persons employed							
			Underground.					Total Males.	Females.	Total Males and Females.
			Males.							
			Foremen and Mates.	Miners.	Other skilled labour.	Other unskilled labour.				
<b>MANGANESE</b>										
Central Provinces		Tons.								
	Balaghat . . .	131,243	13	316	...	83	412	...	412	
	Bhandara . . .	51,949	...	...	...	...	...	...	...	
	Nagpur . . .	2,828	...	...	...	...	...	...	...	
	Total . . .	196,025	13	316	...	83	412	...	412	
Madras . . .	Vizagapatam . . .	20,145	...	...	...	...	...	...	...	
	Grand Total (Manganese Ore) for 1964.	221,262	13	316	...	83	412	...	412	
	Grand Total of preceding year.	53,340	2	...	...	4	6	...	6	
	Difference . . .	+168,042	+11	+316	...	+79	+406	...	+406	

DIX I—*contd.*AND MINERALS—*contd.*No. 1—*contd.*the year 1934 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 super- vising staff.	Skilled labour.	Unskilled labour.	Total Males.			
<b>ORE—<i>contd.</i></b>														
43	945	4	58	1,050	895	1,945	2,357	15	25	259	299	320	619	2,976
39	609	...	30	668	603	1,271	1,271	2	11	117	130	98	228	1,499
10	210	...	..	220	199	419	419	7	8	60	75	36	111	530
82	1,764	4	88	1,938	1,697	3,635	4,047	24	44	436	501	454	958	5,005
11	539	2	8	560	268	828	828	6	17	7	30	5	35	863
109	2,461	9	127	2,706	2,076	4,782	5,194	40	71	510	621	559	1,180	6,374
43	979	13	25	1,060	774	1,834	1,840	27	57	191	275	159	434	2,274
+68	+1,482	-4	+102	+1,646	+1,302	+2,948	+3,854	+18	+14	+319	+346	+400	+746	+4,109



DIX I—*contd.*AND MINERALS—*contd.*No. 1—*contd.*year 1934 at mines under the Indian Mines Act—*contd.*

daily in and about the mines.

	Open workings.					Surface.								
	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.	Females.	Total Males and Females.		
ORE.														
1	...	...	39	40	40	...	3,017	55	179	245	479	...	479	3,496
	1	...	48	44	44	...	2,923	59	184	256	499	...	499	3,421
	...	...	-4	-4	-4	...	+95	-4	-5	-11	-20	...	-20	+75
AD.														

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.					Females.	Total Males and Females.	
			Foremen and Mates.	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.			
Burma . . .	Northern Shan States.	Tons. 1,235	...	...	...	...	<b>ANTIMONIAL</b>			
	Total of preceding year.	1,485	...	...	...	...	...	...	...	
	Difference . . .	-250	...	...	...	...	...	...	...	
Bihar and Orissa.	Manbhum . . .	Ounces. 14	...	...	...	...	...	<b>SIL</b>		
			...	...	...	...	...	Figures included		
Burma . . .	Northern Shan States.	5,792,019	...	...	...	...	...	Figures included		
	Grand Total (Silver) for 1934.	5,792,033	...	...	...	...	...	...	...	
	Grand Total of preceding year.	6,054,069	...	...	...	...	...	...	...	
	Difference . . .	-262,036	...	...	...	...	...	...	...	
Bihar and Orissa.	Manbhum . . .	Ounces. 51	1	8	2	6	17	...	<b>GO</b>	
	Singbhum . . .	63	1	6	...	...	7	...	17	
	Total . . .	114	2	14	2	6	24	...	24	
Burma . . .	Northern Shan States.	744	...	...	...	...	...	Figures included		
	Grand Total (Gold) for 1934.	858	2	14	2	6	24	...	24	
	Grand Total of preceding year.	267	4	18	28	...	48	...	48	
	Difference . . .	+591	-2	-4	-24	+6	-24	...	-24	









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.		
Baluchistan	Zhob . . . .	Tons. 2,346	...	...	...	...	...	<b>CHROMITE</b>	
Bihar and Orissa	Singhbhum . . .	7,010	...	...	...	...	...	...	
	Grand Total (Chromite Ore) of 1934.	9,356	...	...	...	...	...	...	
	Grand Total of preceding year.	9,770	...	...	...	...	...	...	
	Difference . . .	-414	...	...	...	...	...	...	
Bihar and Orissa.	Singhbhum . . .	Tons. 828,676	2	400	...	1,850	1,752	...	1,752
	Total of preceding year.	201,722	2	22	344	940	1,308	...	1,308
	Difference . . .	+126,954	...	+378	-344	+410	+444	...	+444

DIX I—contd.

AND MINERALS—contd.

No. 1—contd.

year 1934 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.	
Fore men and Males.	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.				Clerical and supervis- ing staff.	Skilled labour.	Unskilled labour.	Total Males.			
<b>ORE.</b>														
2	30	1	8	36	..	36	36	3	..	10	13	..	13	40
46	439	57	65	597	581	1,178	1,178	14	23	11	48	49	97	1,275
48	459	58	68	638	581	1,214	1,214	17	23	21	61	49	110	1,324
48	468	65	42	643	582	1,225	1,225	18	25	23	66	53	118	1,843
...	-29	-7	+26	-10	-1	-11	-11	-1	-3	-2	-5	-3	-8	-19
<b>ORE.</b>														
...	...	...	...	...	...	...	1,752	28	217	466	711	324	1,035	2,787
...	...	...	...	...	...	...	1,308	22	209	286	517	225	742	2,050
...	...	...	...	...	...	...	+444	+6	+8	+180	+194	+99	+293	+737





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.		
		Cwt.						MI	
Bihar and Orissa.	Gaya . . . . .	12,679	48	765	600	152	1,565	...	1,565
	Hazaribagh . . . . .	83,300	509	5,635	852	1,483	8,479	...	8,479
	Monghyr . . . . .	...	...	...	...	...	...	...	...
	Total . . . . .	45,979	557	6,400	1,452	1,635	10,044	...	10,044
Madras	Nellore . . . . .	9,114	41	306	184	159	640	...	640
	Nilgiris . . . . .	75	1	11	1	6	19	...	19
	Total . . . . .	9,189	42	317	185	165	659	...	659
Rajputana	Ajmer-Merwara . . . . .	387	3	24	...	...	27	...	27
	Grand Total (Mica) for 1934.	55,553	602	6,741	1,557	1,800	10,730	...	10,730
	Grand Total of preceding year.	41,005	437	5,415	1,369	1,687	8,898	...	8,898
	Difference . . . . .	+14,550	+165	+1,326	+228	+113	+1,832	...	+1,832

DIX I—*contd.*AND MINERALS—*contd.*No. I—*contd.*year 1934 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.														
10	131	51	51	243	9	252	1,817	69	95	8	172	19	191	2,008
53	395	84	97	629	129	758	9,237	293	397	471	1,161	399	1,560	10,797
...	...	...	48	48	...	48	48	...	...	...	...	...	...	48
63	526	135	106	920	138	1,058	11,102	362	492	479	1,333	418	1,751	12,853
25	154	115	176	470	404	874	1,514	37	122	108	267	311	578	2,092
...	...	...	...	...	...	...	19	1	2	4	7	2	9	28
25	154	115	176	1,330	404	874	1,533	38	124	112	274	813	587	2,120
2	12	2	...	16	4	20	47	...	13	...	13	...	13	60
90	692	262	372	2,326	546	1,962	12,632	400	629	591	1,620	731	2,351	15,033
86	613	317	390	1,406	379	1,785	10,683	326	462	466	1,254	622	1,876	12,559
+4	+79	-66	-28	+920	+167	+167	+1,999	+74	+167	+125	+366	+109	+475	+2,474



DIX I—contd.

AND MINERALS—contd.

No. 1—contd.

year 1934 at mines under the Indian Mines Act—contd.

daily in and about the mines.

L.P.	Open workings.							Total Underground and Open workings.	Surface.						Grand Total.
	Males.					Females.	Total Males and Females.		Males.				Females.	Total Males and Females.	
	Foremen and Mates.	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.				Clerical and supervising staff.	Skilled labour.	Unskilled labour.	Total Males.			
1	21	..	..	22	2	24	851	1	76	322	399	5	404	1,255	
..	..	..	..	..	..	..	79	..	..	75	75	..	75	154	
..	..	..	..	..	..	..	138	..	11	72	88	..	83	221	
1	21	..	..	22	2	24	1,068	1	87	469	567	5	562	1,630	
1	12	..	..	13	3	16	913	1	78	328	407	..	407	1,320	
..	+9	..	..	+9	-1	+8	+185	..	+9	+141	+150	+5	+155	+310	
SITE.															
12	185	..	383	580	234	814	814	14	78	10	102	11	113	927	
18	105	34	298	455	249	704	704	12	17	82	111	15	126	830	
-6	+80	-34	+85	+125	-15	+110	+110	+2	+61	+72	-9	-4	-13	+87	







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.		
		Tons.						SLA	
Punjab . . .	Gurgaon . . .	1,207	...	...	...	...	...	...	
	Kangra . . .	4,805	...	...	...	...	...	...	
	Total . . .	6,012	...	...	...	...	...	...	
	Grand Total (Slate) for 1934.	7,390	...	...	...	...	...	...	
	Grand Total of preceding year.	8,060	...	...	...	...	...	...	
	Difference . . .	-870	...	...	...	...	...	...	
		Tons.						LIME	
Bihar and Orissa.	Hazribagh . . .	77	...	...	...	...	...	...	
	Ranchi . . .	12,769	...	...	...	...	...	...	
	Shahabad . . .	279,751	...	...	...	...	...	...	
	Singbhum . . .	188	...	...	...	...	...	...	
	Total . . .	292,785	...	...	...	...	...	...	
Bombay . . .	Sukkur . . .	8,499	...	...	...	...	...	...	
Burma . . .	Amherst Northern States.	507	...	...	...	...	...	...	
	Shan States.	17,296	...	...	...	...	...	...	
	Total . . .	17,803	...	...	...	...	...	...	
Central Provinces.	Bilaspur . . .	584	...	...	...	...	...	...	
	Jubbulpore . . .	400,414	...	...	...	...	...	...	
	Yeotmal . . .	9,170	...	...	...	...	...	...	
	Total . . .	410,168	...	...	...	...	...	...	

## DIX I—contd.

## AND MINERALS—contd.

## No. 1—contd.

year 1934 at mines under the Indian Mines Act—contd.

daily in and about the mines.

Open workings.							Total Underground and Open workings.	Surface.						Grand Total.	
Males.					Females.	Total Males and Females.		Males.				Females.	Total Males and Females.		
Foremen and Mates.	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.				Clerical and supervis- ing staff.	Skilled labour.	Unskilled labour.	Total Males.				
TE—contd.	11	81	29	18	69	...	89	89	1	...	2	3	...	8	92
	49	90	80	119	338	...	338	338	...	...	...	...	...	...	388
	60	121	109	137	427	...	427	427	1	...	2	3	...	3	430
	83	176	165	178	602	37	639	639	1	...	2	3	...	3	642
	81	174	213	144	612	55	667	667	1	3	3	12	...	13	679
	+2	+2	-48	+34	-10	-18	-28	-28	...	-3	-6	-9	...	-9	-37
STONE.	...	...	...	32	32	...	32	32	...	...	...	...	...	...	32
	1	72	1	8	82	11	93	93	4	6	2	12	10	22	115
	81	327	74	781	1,263	211	1,474	1,474	89	124	205	418	56	474	1,948
	1	6	...	2	9	8	17	17	...	...	...	...	...	...	17
	83	465	75	823	1,386	230	1,616	1,616	93	130	207	430	66	496	2,112
	5	103	2	58	163	40	203	203	4	10	15	29	...	29	232
	8	...	2	2	4	...	4	4	1	...	...	1	...	1	5
	8	...	4	111	118	...	118	118	...	...	...	...	...	...	118
	3	...	6	113	122	...	122	122	1	...	...	1	...	1	123
	1	4	1	5	11	8	19	19	1	...	...	1	...	1	20
	67	471	148	578	1,562	1,740	3,302	3,302	36	64	343	442	161	623	3,925
	3	...	...	27	80	9	89	89	6	...	15	21	...	21	60
	71	475	147	910	1,603	1,757	3,360	3,360	42	64	358	464	181	645	4,005

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.						
Madras	Coimbatore	Tons. 69,859	...	...	...	...	...	...	<b>LIME</b>	
Punjab	Attock	101,622	...	...	...	...	...	...		
	Jhelum	8,184	...	...	...	...	...	...		
	Rawalpindi	32,000	...	...	...	...	...	...		
	Total	141,746	...	...	...	...	...	...		
	Grand Total (Limestone) for 1934	940,860	...	...	...	...	...	...		
	Grand Total of preceding year.	1,120,110	...	...	...	...	...	...		
	Difference	-179,250	...	...	...	...	...	...		
Bengal	Birbhum	Tons. 184,526	...	...	...	...	...	...		<b>STONE (CHIEFLY IGNEOUS)</b>
Bihar and Orissa	Bhagalpur	130	...	...	...	...	...	...		
	Gaya	67,023	...	...	...	...	...	...		
	Manbhum	88,211	...	...	...	...	...	...		
	Monghyr	46,595	...	...	...	...	...	...		
	Palaman	4,778	...	...	...	...	...	...		
	Shahabad	32,915	...	...	...	...	...	...		
	Sonthal Parganas	724,298	...	...	...	...	...	...		
	Singhbhum	87,961	...	...	...	...	...	...		
	Total	953,931	...	...	...	...	...	...		
Bombay	Bombay	75,015	...	...	...	...	...	...		
	Bombay Suburban	22,390	...	...	...	...	...	...		
	Hyderabad	...	...	...	...	...	...	...		
	Kaira	25,340	...	...	...	...	...	...		
	Karachi	1,414	...	...	...	...	...	...		
	Suktur	50,967	...	...	...	...	...	...		
	Surat	83,505	...	...	...	...	...	...		
	Thana	27,502	...	...	...	...	...	...		
	Total	266,133	...	...	...	...	...	...		

DEX I—contd.

AND MINERALS—contd.

No. 1—contd.

year 1934 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 Matos.	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>														
2	...	...	188	160	143	283	263	...	...	...	...	...	...	263
5	...	...	165	170	...	170	170	3	3	41	47	...	47	217
...	...	...	...	...	...	...	...	1	...	49	50	...	50	50
5	15	...	...	20	...	20	20	5	3	152	160	...	160	180
10	15	...	165	190	...	190	190	9	6	242	257	...	257	447
174	996	230	2,222	3,624	2,130	5,754	5,754	149	210	822	1,181	247	1,428	7,162
188	913	266	2,711	4,068	2,690	6,758	6,758	128	158	751	1,037	269	1,306	8,064
-14	+85	-26	-489	-444	-560	-1,004	-1,004	+21	+52	+71	+144	-22	+122	-582
<b>ROCK)</b>														
1	294	56	94	385	9	394	394	31	183	249	463	82	545	939
3	...	6	7	16	...	16	16	2	...	2	4	...	4	20
37	309	29	225	600	299	899	899	5	...	...	5	...	5	904
4	82	35	10	132	...	132	132	4	5	77	86	...	86	218
4	...	40	137	191	99	280	280	1	1	7	9	...	9	289
1	...	...	28	29	6	35	35	2	...	...	2	...	2	37
12	1	1	162	166	81	247	247	...	...	...	...	...	...	247
63	749	495	529	1,836	168	2,024	2,024	140	707	457	1,364	513	1,877	3,901
19	173	49	285	526	314	840	840	6	1	105	112	55	167	1,007
143	1,315	655	1,373	3,486	987	4,473	4,473	160	774	648	1,582	568	2,150	6,623
3	60	32	67	162	...	162	162	6	...	...	6	73	79	241
...	...	...	31	31	...	31	31	2	19	38	59	...	59	90
...	...	...	37	37	...	37	37	...	...	...	...	...	...	37
2	4	4	...	10	...	10	10	5	4	90	99	10	109	119
...	13	...	14	27	3	30	30	...	...	4	4	...	4	34
12	61	104	...	177	...	177	177	4	5	70	79	53	132	309
8	24	53	165	270	168	438	438	5	1	...	6	...	6	444
5	...	...	81	86	56	142	142	5	...	...	5	...	5	147
30	162	193	415	800	227	827	1,027	27	29	202	258	136	394	1,421

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.		
			<b>STONE (CHIEFLY IGNEOUS)</b>						
Burma	Bassein . . . . .	2,605	...	...	...	...	...	...	
	Kyanke . . . . .	3,700	...	...	...	...	...	...	
	Lower Chhindwin . . . . .	82	...	...	...	...	...	...	
	Mandalay . . . . .	11,500	...	...	...	...	...	...	
	Meiktila . . . . .	2,500	...	...	...	...	...	...	
	Mergui . . . . .	221	...	...	...	...	...	...	
	Tavoy . . . . .	4,699	...	...	...	...	...	...	
	Thaton . . . . .	161,938	...	...	...	...	...	...	
Toungoo . . . . .	18,015	...	...	...	...	...	...		
	<b>Total</b> . . . . .	<b>205,260</b>	...	...	...	...	...	...	
Central Provinces.	Akola . . . . .	10,900	...	...	...	...	...	...	
	Saugar . . . . .	658	...	...	...	...	...	...	
	<b>Total</b> . . . . .	<b>11,558</b>	...	...	...	...	...	...	
Delhi . . . . .	Delhi . . . . .	11,000	...	...	...	...	...	...	
Madras	Chingleput . . . . .	63,155	...	...	...	...	...	...	
	East Godavari . . . . .	10,695	...	...	...	...	...	...	
	Guntur . . . . .	57,738	...	...	...	...	...	...	
	Kistna . . . . .	9,707	...	...	...	...	...	...	
	Madura . . . . .	500	...	...	...	...	...	...	
	Bamnad . . . . .	2,400	...	...	...	...	...	...	
	South Arcot . . . . .	35	...	...	...	...	...	...	
	Trichinopoly . . . . .	30,000	...	...	...	...	...	...	
	<b>Total</b> . . . . .	<b>174,330</b>	...	...	...	...	...	...	
Punjab	Jhang . . . . .	7,000	...	...	...	...	...	...	
	Jhelum . . . . .	96,000	...	...	...	...	...	...	
	Kangra . . . . .	79,538	...	...	...	...	...	...	
	Mianwali . . . . .	23,003	...	...	...	...	...	...	
	Sheikhpura . . . . .	12,050	...	...	...	...	...	...	
	<b>Total</b> . . . . .	<b>219,671</b>	...	...	...	...	...	...	

DIX I—contd.

AND MINERALS—contd.

No. 1—contd.

year 1934 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.	Total Males and Females.	Males.				Females.	Total Males and Females.			
Firemen and mates.	Miners.	Other skilled labour.	Other unskilled labour.			Clerical and supervising staff.			Skilled labour.			Unskilled labour.	Total Males.	
...	26	...	...	26	...	26	26	...	...	...	...	...	26	
...	...	...	20	20	20	40	40	...	1	...	...	...	41	
...	...	...	76	76	...	76	76	...	20	...	...	...	96	
...	...	28	85	72	...	72	72	...	...	...	...	...	72	
3	6	5	12	20	...	20	20	...	...	...	...	...	20	
1	2	2	15	17	10	27	27	...	...	...	...	...	27	
...	...	...	112	112	170	282	282	...	...	...	...	...	282	
48	1,266	79	869	1,757	50	1,807	1,807	24	3	...	27	...	1,834	
...	...	15	60	75	10	85	85	11	...	...	11	...	96	
47	1,900	129	609	2,175	260	2,435	2,435	56	3	...	59	...	2,494	
3	...	...	68	71	56	127	127	1	...	...	1	...	128	
1	4	4	10	19	7	26	26	...	...	...	...	...	26	
4	4	4	78	90	63	153	153	1	...	...	1	...	154	
2	...	...	21	23	...	23	23	7	...	80	37	10	47	
1	...	509	58	567	399	966	966	23	...	101	124	66	1,156	
1	4	56	15	76	43	119	119	...	...	...	...	...	119	
...	45	84	121	201	45	246	246	2	2	110	114	...	360	
...	40	...	...	40	20	60	60	2	...	20	22	...	84	
...	...	...	5	5	10	15	15	...	...	...	...	...	15	
...	15	...	...	15	...	15	15	...	...	...	...	...	15	
...	...	...	2	2	...	2	2	...	...	...	...	...	2	
...	...	216	...	216	160	376	376	...	...	...	...	...	376	
2	104	815	201	1,122	677	1,799	1,799	27	2	231	260	66	2,125	
8	13	1	74	96	...	96	96	...	...	14	22	...	96	
8	118	1	199	326	35	351	351	3	5	534	534	120	373	
...	...	...	...	...	...	...	...	...	...	...	...	...	654	
...	...	...	30	33	12	45	45	...	...	...	...	...	45	
...	...	42	88	80	...	80	80	1	4	8	18	...	88	
19	181	44	341	535	37	572	572	4	9	556	569	120	1,261	





## DIX I—contd.

## AND MINERALS—contd.

## No. 1—contd.

year 1934 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.				Total Males.	Clerical and supervising staff.	Skilled labour.	Unskilled labour.				Total Males.
<b>ROCK—contd.</b> those for Felspar.														
4	10	...	56	70	25	95	95	6	...	...	6	...	6	101
5	...	...	60	65	...	65	65	5	...	31	36	...	36	101
16	256	...	126	398	86	484	484	33	91	196	320	106	426	910
10	...	...	226	236	83	319	319	5	2	1	8	...	8	327
35	266	...	468	769	194	963	963	49	93	228	370	166	476	1,439
233	3,576	1,596	3,630	9,335	2,454	11,839	11,839	362	1,093	2,144	3,590	1,088	4,687	16,526
156	2,200	1,535	3,661	7,552	2,066	9,618	9,618	212	456	2,122	2,790	600	3,390	13,006
+127	+1,376	+361	-81	+1,633	+388	+2,221	+2,221	+150	+637	+22	+809	+468	+1,297	+3,518
<b>STONE.</b>														
2	92	16	169	219	23	242	242	...	...	...	...	...	...	242
4	10	10	46	72	...	72	72	3	...	...	3	...	3	75
6	2	4	16	28	8	36	36	1	2	3	6	...	6	42
7	...	1	34	42	35	77	77	...	1	...	1	...	1	78
13	2	5	50	70	43	113	113	1	3	3	7	...	7	120
19	44	31	267	361	66	427	427	4	3	3	10	...	10	437
12	26	21	168	247	42	289	289	2	7	19	28	9	37	326
+7	+18	+10	+79	+114	+24	+138	+138	+2	-4	-16	-15	-9	-27	+111
<b>RITE.</b> those for Stone.														
...	8	...	...	8	...	8	8	...	...	...	...	...	...	8
...	8	...	...	8	...	8	8	...	...	...	...	...	...	8
3	...	8	58	69	63	132	132	1	...	4	5	...	5	137
3	8	8	58	77	63	140	140	1	...	4	5	...	5	145
3	10	7	48	68	72	140	140	1	4	...	5	4	9	149
...	-2	+1	+10	+9	+11	...	...	...	-4	+4	...	-4	-4	-4

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					Females.	Total Males and Females.
			Underground.						
			Males.						
			Foremen and Mates.	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.		
Hihar and Orissa.	Singhbhum . . .	Tons 6,618	GRA						
Madras	Chingleput . . .	19,891	} Figures included						
United Provinces	Jhansi . . .	1,735							
	Grand Total (Gravel) for 1934.	28,244						...	...
	Grand Total of preceding year.	4,304	...	...	...	...	...		
	Difference . . .	+23,940	..	..	...	...	...		
Bombay	Bombay Suburban	Tons 4,600	MU						
United Provinces.	Allahabad . . .	55	} Figures included						
	Jhansi . . .	1,799							
	Total . . .	1,854							
	Grand Total (Murrum) for 1934.	6,454	...	...	...	...	...		
	Grand Total of preceding year.	4,804	...	...	...	...	...		
	Difference . . .	+2,150	...	...	...	...	...		





## DIX I—contd.

## AND MINERALS—contd.

## No. 1—contd.

year 1934 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.			
ND															
2	34	..	..	36	19	55	53	2	..	23	25	..	25	80	
...	...	...	4	4	...	4	4	...	...	1	1	...	1	5	
2	84	...	4	40	19	59	59	2	...	24	26	...	26	85	
2	47	..	8	52	25	77	77	3	...	31	34	...	34	111	
...	-13	...	+1	-12	-6	-18	-18	-1	...	-7	-8	..	-8	-26	
CLAY															
2	311	72	7	392	64	456	456	3	13	16	32	8	40	496	
1	84	...	...	35	23	58	58	1	5	16	22	13	35	93	
2	25	...	1	26	8	34	36	2	...	45	47	24	71	107	
5	370	72	8	453	95	550	550	6	18	77	101	45	146	696	



DIX I—*contd.*AND MINERALS—*contd.*No. 1—*contd.*year 1934 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>CLAY—<i>contd.</i></b>															
4	...	...	153	157	83	260	250	...	...	34	36	8	39	289	
...	...	...	...	...	...	...	6	...	...	...	...	...	...	6	
9	370	72	161	612	188	800	806	8	18	111	137	48	185	921	
168	130	8	271	577	262	839	839	6	18	87	106	29	135	974	
-159	+240	+64	-110	+35	-74	-39	-33	+2	+5	+24	+31	+19	+50	+17	
<b>CLAY.</b>															
...	...	...	18	18	2	20	20	...	...	28	28	5	33	53	
20	105	2	130	257	465	722	722	23	35	117	175	151	326	1,048	
20	105	2	118	275	467	742	742	23	35	146	203	156	359	1,101	
1	5	4	11	21	...	21	64	1	1	17	19	...	19	88	
...	...	5	10	15	...	15	15	...	...	...	...	...	...	15	
1	3	...	...	4	...	4	4	...	...	...	...	...	...	4	
22	113	11	169	315	467	782	825	24	36	162	223	156	378	1,203	
24	140	3	229	396	435	831	876	26	34	198	258	211	469	1,345	
-2	-27	+8	-60	-61	+32	-49	-51	-2	+2	-36	-36	-55	-91	-142	



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.		
Assam . . .	Lakhimpur . . .	Tons 10,835	...	...	...	...	..	CL ...	
Bengal . . .	Burdwan . . .	3,236	...	...	...	...	...	...	
Bihar and Orissa.	Manbhum . . .	3,279	Figures included in those						
Burma . . .	Thaton . . .	1,368	...	...	...	...	...	...	
Central Provinces.	Jubbulpore . . .	1,800	...	...	...	...	...	...	
Punjab . . .	Attock . . .	26,938	Figures included in those						
	Grand Total (Clay) for 1934.	47,556	...	...	...	...	...	...	
	Grand Total of preceding year.	40,236	...	...	...	...	...	...	
	Difference	+7,320	...	...	...	...	...	...	
Bihar and Orissa.	Manbhum . . .	Tons. 180	...	...	...	...	...	BARY ..	
Madras . . .	Anantapur . . .	100	...	...	...	...	...	...	
	Cuddapah . . .	1,959	...	...	...	...	...	...	
	Kurnool . . .	417	2	9	...	3	14	14	
	Total . . .	2,476	2	9	...	3	14	14	
	Grand Total (Barytes) for 1934.	2,656	2	9	...	3	14	14	
	Grand Total of preceding year.	2,720	2	9	...	...	11	11	
	Difference	-64	...	...	...	+3	+3	+3	

DIX I—contd.

AND MINERALS—contd.

No. 1—contd.

year 1934 at mines under the Indian Mines Act—contd.

daily in and about the mines.

Open workings.							Total Underground and Open workings.	Surface.						Grand Total.
Males.				Females.	Total Males and Females.	Males.				Females.	Total Males and Females.			
Foremen and Mates.	Miners.	Other skilled labour.	Other unskilled labour.			Total Males.		Clerical and supervising staff.	Skilled labour.			Unskilled labour.	Total Males.	
AK.														
1	...	...	22	23	8	31	81	...	...	...	...	...	...	31
1	86	...	15	52	15	67	67	1	7	...	8	...	8	75
for Fire clay.														
...	...	...	5	5	...	5	5	...	...	...	...	...	...	5
1	...	2	15	18	15	33	33	...	...	...	...	...	...	33
for Limestone.														
3	36	2	57	98	33	136	136	1	7	...	8	...	8	144
2	...	15	31	48	38	86	86	...	7	...	7	...	7	93
+1	+36	-13	+23	+50	...	+50	+50	+1	...	...	+1	...	+1	+51
TES.														
1	45	1	...	47	37	84	84	...	2	26	28	...	28	112
1	20	...	...	21	13	34	34	...	...	46	46	...	46	80
...	81	10	21	112	44	156	156	11	10	21	42	84	126	282
...	...	...	...	...	...	...	14	...	...	...	...	14	14	28
1	101	10	21	133	57	190	204	11	10	67	88	98	186	390
2	146	11	21	180	94	274	288	11	12	93	116	98	214	502
1	35	19	57	112	40	152	163	6	...	43	49	91	140	303
+1	+111	-8	-36	+68	+54	+122	+125	+5	+12	+50	+67	+7	+74	+199





**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.		
Madras . . .	Trichinopoly . . .	Tons. 55	<b>GYP</b>						
			...	...	...	...	...	...	...
Punjab . . .	Jhelum . . .	8,275	Figures included in						
	Grand Total (Gypsum) for 1934-	8,330	...	...	...	...	...	...	...
	Grand Total of preceding year.	8,061	...	...	...	...	...	...	...
	Difference . . .	+ 269	...	...	...	...	...	...	...
Rajputana . . .	Ajmer-Merwara . . .	Tons. 55	<b>BER</b>						
			..	...	...	...	...	...	...
	Total of preceding year.	824	...	...	...	...	...	...	...
	Difference . . .	- 269	...	...	...	...	...	...	...
Bihar and Orissa	Singbhum . . .	Cwt. 400	<b>AS</b>						
			...	...	...	...	...	...	...
Madras . . .	Cuddapah . . .	108	...	9	5	...	14	...	14
	Grand Total (Asbestos, for 1934.	508	...	9	5	...	14	...	14
	Grand Total of preceding year.	...	...	...	...	...	...	...	...
	Difference . . .	+ 508	...	+9	+5	...	+14	...	+14

DIX I—*contd.*AND MINERALS—*contd.*No. 1—*contd.*year 1934 at mines under the Indian Miner Act—*contd.*

daily in and about the mines.

Open workings.							Total Males and Females.	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.	
<b>SUM.</b>														
...	...	...	20	20	...	20	20	...	...	...	...	...	...	20
<b>those for Salt.</b>														
...	...	...	20	20	...	20	20	...	...	...	...	...	...	20
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	+20	+20	...	+20	+20	...	...	...	...	...	...	+20
<b>YL.</b>														
3	...	37	23	63	...	63	63	1	...	...	1	...	1	64
3	56	6	...	65	3	68	68	...	...	...	...	...	...	68
...	-56	+31	+23	-2	-3	-5	-5	+1	...	...	+1	...	+1	-4
<b>BESTOS</b>														
6	45	3	...	54	...	54	54	...	...	13	18	9	22	76
...	9	14	4	27	17	44	58	5	1	4	19	11	21	79
6	54	17	4	81	17	98	112	5	1	17	23	20	43	155
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
+6	+54	+17	+4	+81	+17	+98	+112	+5	+1	+17	+23	+20	+43	+155

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 Matees.	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.		
Central Provinces.	Betul . . . . .	Tons. 99	...	...	...	...	...	GRAP ...	
	Total of preceding year.	...	...	...	...	...	...	...	
	Difference . . . . .	+99	...	...	...	...	...	...	
Rajputana	Ajmer-Marwara . . . . .	Tons. 533	1	4	...	8	13	FELS 13	
	Total of preceding year.	677	1	5	...	...	6	6	
	Difference . . . . .	-144	...	-1	...	+8	+7	+7	
Burma	Katha { Rubies . . . . . Sapphires . . . . .	Carats 21,622 153	...	...	...	...	...	GE ...	
	Total of preceding year. { Rubies Sapphires	1,108 ...	...	...	...	...	...	...	
	Difference { Rubies Sapphires	+20,519 +153	...	...	...	...	...	...	
	Grand Total (Metaliferous Mines) for 1934.	...	753	10,445	1,993	5,843	19,034	135	19,169
	Grand Total of preceding year.	...	577	,038	2,098	4,967	15,650	110	15,790
	Difference . . . . .	...	+180	+2,407	-105	+876	+3,354	+25	+3,379
Grand Total (All Minerals) for 1934.	...	...	...	...	...	109,023	11,193	120,216	
Grand Total of preceding year.	...	...	...	...	...	99,556	12,799	112,355	
Difference . . . . .	...	...	...	...	...	+9,467	-1,606	+7,861	

DIX I—*contd.*

AND MINERALS—*concl'd.*

No. 1—*concl'd.*

year 1934 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.
HITE.														
...	...	...	4	4	...	4	4	...	...	...	...	...	...	4
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	+4	+4	...	+4	+4	...	...	4	...	...	...	+4
PAR														
2	6	5	...	19	2	15	28	...	...	...	...	...	...	28
2	16	...	...	18	3	21	27	...	...	...	...	...	...	27
...	-10	+5	...	-5	-1	-6	+1	...	...	...	...	...	...	+1
MS.														
2	49	...	...	58	...	58	53	...	...	...	...	...	...	53
...	20	...	...	20	...	20	20	...	...	...	...	...	...	20
+2	+29	+2	...	+33	...	+33	+33	...	...	...	...	...	...	+33
1,035	15,402	4,916	11,186	32,539	10,677	43,216	62,335	1,513	3,123	7,109	11,744	3,877	15,621	78,006
906	9,609	4,060	10,614	25,149	8,923	34,072	49,862	1,150	2,059	6,128	9,337	2,601	11,938	61,600
+69	+5,893	+856	+573	+7,390	+1,754	+9,144	+12,523	+363	+1,064	+980	+2,407	+1,276	+3,683	+16,206
...	...	...	...	38,431	12,173	50,604	170,820	...	...	...	44,756	13,805	58,561	229,381
...	...	...	...	30,866	10,721	41,587	153,942	...	...	...	40,616	11,949	52,565	206,507
...	...	...	...	+7,565	+1,462	+9,017	+16,878	...	...	...	+4,140	+1,856	+5,996	+23,674



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.	
Assam	Makum . . .	Tons. 1,177	...	317	1,494	..	...	93	93	1,587
	Nazira . . .	125	..	149	274	..	...	1	1	275
	Total . . .	1,302	...	466	1,768	...	...	94	94	1,862
Baluchistan	Sor Range . .	36	...	...	36	...	...	...	...	36
	Khost . . .	101	7	3	111	...	...	...	...	111
	Mach Bolan Pass	10	...	...	10	...	...	...	...	10
	Total . . .	147	7	3	157	...	...	...	...	157
Bengal . . .	Raniganj . .	40,890	128	10,217	51,215	5,581	99	3,822	9,502	60,737
Bihar and Orissa.	Raniganj . .	5,200	68	1,083	6,353	717	30	589	1,336	7,689
	Jharis . . .	53,609	617	16,612	70,838	7,155	381	6,144	13,680	84,518
	Bokaro . . .	2,851	4,509	1,802	9,162	221	1,066	501	1,908	10,970
	Giridih . . .	5,957	138	823	6,917	471	127	151	749	7,666
	Karainpura . .	871	786	603	2,260	120	103	360	675	2,935
	Hingir-Rampur	186	...	58	239	...	...	51	51	290
	Jainty . . .	369	...	118	487	42	...	15	57	544
	Total . . .	69,043	6,118	21,095	96,256	8,726	1,819	7,811	18,356	114,612
Central Provinces.	Ballarpur . .	2,807	...	466	3,273	244	...	110	354	3,627
	Pench Valley .	7,183	34	2,281	9,498	858	36	752	1,646	11,144
	Total . . .	9,990	34	2,747	12,771	1,102	36	862	2,000	14,771
Punjab	Salt Range . .	1,385	65	665	2,015	...	...	26	26	2,041
Grand Total . .		122,757	6,353	35,093	164,203	15,409	1,954	12,615	29,978	194,180

## DIX I.

## No. 1.-A.

on a day in the selected week in February 1935.

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.		
436	...	46	482	...	...	7	7	489	2,076
47	...	32	79	...	...	...	...	79	354
463	...	78	561	...	...	7	7	568	2,430
3	...	...	3	...	...	...	...	3	39
8	2	...	10	...	...	...	...	10	121
1	...	...	1	...	...	...	...	1	11
12	2	...	14	...	...	...	...	14	171
3,463	...	616	4,069	933	...	327	1,260	5,329	66,068
233	...	32	265	79	...	50	129	394	8,088
1,071	49	317	1,437	222	15	163	400	1,837	26,358
969	232	157	1,358	5	11	23	39	1,397	12,367
3,157	6	112	3,275	165	9	43	217	3,492	11,158
825	66	47	438	48	27	14	89	525	8,460
...	...	...	...	...	...	...	...	...	290
...	...	1	1	1	...	...	1	2	546
5,763	353	666	6,772	520	62	293	675	7,647	122,259
329	...	90	419	42	...	27	69	489	4,115
977	3	186	1,166	118	2	85	205	1,371	12,515
1,306	3	276	1,585	100	2	112	274	1,859	16,630
75	...	2	77	...	...	...	...	77	2,118
11,062	358	1,638	13,078	1,613	64	739	2,416	15,494	209,674



## DIX I—contd.

## No. 2.

each important mining field during the year 1934.

Open workings.						Surface.			
Overmen and Birdars. — Foremen and Mates.	Miners.	Loaders.	Skilled Labour.	Un- skilled Labour.	Females.	Clerical and Supervising Staff.	Skilled Labour.	Un- skilled Labour.	Females.
48	44	45	45	46	45	54	32	51	51
47	41	40	40	51	41	53	51	44	50
45	41	40	44	40	39	48	45	38	40
...	...	...	...	...	...	51	50	50	43
34	42	39	...	27	...	46	44	45	54
36	...	...	...	36	...	...	48	32	...
...	...	...	...	...	...	55	54	53	52
40	40	...	45	40	38	47	46	47	47
43	45	...	45	46	46	48	48	48	47
50	46	...	48	44	46	50	50	48	46
49	50	...	51	49	48	50	51	50	48
48	48	...	48	46	48	46	48	48	48
46	...	...	...	46	...	54	54	54	...
50	49	...	50	49	47	49	49	50	48
40	54	...	...	...	27	54	46	46	27
44	42	...	48	46	46	48	46	48	47
43	39	...	42	44	...	48	...	48	...
46	43	...	...	46	44	47	41	42	42

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 .	Makum . . .	...	164,622	164,622	151,259	10,565	2,698
	Nasira . . .	176	21,691	21,667	19,505	1,177	...
Baluchistan .	Baluchistan . .	1,629	11,771	13,400	12,255	...	...
Bengal (and part of Bihar and Orissa).	Raniganj .	293,102	6,795,838	7,088,940	6,432,587	407,591	37,725
Bihar and Orissa.	Jharia . . .	684,615	9,057,546	9,742,161	7,467,498	467,327	1,264,383
	Bokaro . . .	27,788	1,390,261	1,427,044	1,355,249	50,769	16,097
	Karanpura . .	12,152	397,147	409,299	394,714	8,520	...
	Giridih . . .	99,614	761,010	860,624	671,707	23,458	...
	Jainty . . .	1,342	42,717	44,059	26,629	12,070	...
	Hingir-Rampur .	1,056	28,128	29,184	22,999	3,350	...
Central Provinces.	Pench Valley .	13,029	1,117,942	1,130,971	1,054,002	61,384	...
	Chanda . . .	1,933	321,038	322,971	291,381	20,717	...
Punjab . . .	Salt Range . .	3,089	125,206	128,355	120,632	4,504	...
	Total 1934	1,139,520	20,243,977	21,383,497	18,041,417	1,071,552	1,320,903

DIX I—*contd.*

## No. 3.

the output of Coal and Coke, 1934.

		Coke.									
Coal despatched to coke factories.	Closing stocks.	Opening stocks.		Coke made.		Despatches.		Colliery consumption.		Closing stocks.	
		Hard.	Soft.	Hard.	Soft.	Hard.	Soft.	Hard.	Soft.	Hard.	Soft.
Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
...	...	...	...	539	...	516	...	23	...	...	...
...	1,185	...	...	...	...	...	...	...	...	...	...
...	1,145	...	...	...	...	...	...	...	...	...	...
...	211,037	526	969	2,363	26,305	2,772	26,349	...	339	117	586
1,367,512	522,953	12,197	9,786	71,499	831,066	72,067	830,746	392	1,044	11,217	9,062
2,359	4,909	417	...	5,324	3,690	5,613	3,383	18	...	115	307
...	6,065	...	...	...	...	...	...	...	...	...	...
28,171	165,459	...	...	...	...	...	...	...	...	...	...
...	5,860	...	...	...	...	...	...	...	...	...	...
...	1,835	...	...	...	...	...	...	...	...	...	...
...	15,585	...	...	...	...	...	...	...	...	...	...
...	10,873	...	...	...	...	...	...	...	...	...	...
...	3,219	...	...	...	...	...	...	...	...	...	...
1,398,042	949,625	13,140	10,755	79,725	831,061	80,968	860,478	458	1,863	11,449	9,975

## APPENDIX I—contd.

Table No. 4.

Numbers of mines opened, closed and inspected, during the year 1934.

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.
Assam .	Lakhimpur—Makum Coalfield	4	4	...	...	...	4	14
	Naga Hills—Nazira ..	1	...	1	...	...	1	3
Baluchistan .	Baluchistan Coalfield . . .	15	...	15	8	2	18	14
Bengal (and part of Bihar and Orissa).	Raniganj Coalfield . . . .	184	148	41	17	11	193	709
Bihar and Orissa.	Jharia Coalfield . . . .	214	167	47	15	18	251	1,214
	Bokaro .. . . .	5	5	...	...	...	5	18
	Karanpura Coalfield . . . .	5	8	2	...	...	4	11
	Giridih Coalfield . . . .	6	3	3	1	1	2	5
	Jainty .. . . .	7	1	6	1	1	10	13
	Hingir-Bampur Coalfield . . . .	1	1	...	...	...	1	1
Central Provinces.	Panch Valley Coalfield . . . .	21	14	7	1	...	20	81
	Chanda Coalfield . . . .	6	6	...	...	...	6	13

APPENDIX I—*contd.*Table No. 4—*contd.*Numbers of mines opened, closed and inspected, during the year 1934—*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 . . .	21	...	21	9	5	19	20
	Grand Total (Coal) for 1934 . . .	490	347	143	52	33	529	2,065
	Grand Total of preceding year . . .	501	355	146	48	60	509	2,253
	Difference . . .	-11	-8	-3	+4	-27	+20	-188
<b>IRON ORE.</b>								
Bihar and Orissa	Singhbhum . . . . .	3	..	3	1	...	3	5
Burma . . .	... . . . .	3	...	3	...	...	...	...
	Grand Total (Iron Ore) for 1934 . . .	6	...	6	1	...	3	5
	Grand Total of preceding year . . .	5	...	5	...	...	3	4
	Difference . . .	+1	...	+1	+1	...	-1	+1
<b>MANGANESE ORE.</b>								
Bihar and Orissa	Singhbhum . . . . .	7	...	7	2	...	5	...
Bombay . . .	Panoh Mahals . . . . .	1	1	...	...	...	...	...



APPENDIX I—*contd.*Table No. 4—*contd.*Numbers of mines opened, closed and inspected, during the year 1934—*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>MANGANESE ORE—<i>contd.</i></b>								
Central Provinces.	...	13	...	13	10	..	6	6
Madras	Vizagapatam . . . . .	5	1	4	1	...	...	...
	Grand Total (Manganese Ore) for 1934.	26	2	24	13	...	11	11
	Grand Total of preceding year.	17	2	15	7	2	12	13
	Difference . . . . .	+9	...	+9	+6	-2	-1	-2
<b>LEAD ORE.</b>								
Burma . . . . .	Northern Shan States . . . . .	1	1	...	...	...	1	9
	Total of preceding year . . . . .	2	2	...	...	...	2	12
	Difference . . . . .	-1	-1	...	...	...	-1	-3
<b>GOLD.</b>								
Bihar and Orissa	...	3	...	3	...	3	2	2
	Total of preceding year . . . . .	4	...	4	2	...	3	3
	Difference . . . . .	-1	...	-1	-2	+3	-1	-1
<b>TIN AND WOLFRAM ORE.</b>								
Burma . . . . .	...	269	10	259	97	15	94	129
	Total of preceding year . . . . .	199	7	192	78	16	63	67
	Difference . . . . .	+70	+3	+67	+19	-1	+31	+42

## APPENDIX I—contd.

Table No. 4—contd.

Numbers of mines opened, closed and inspected, during the year 1934—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 . . . . .	5	...	5	1	...	4	4
Bihar and Orissa	Singhbhum . . . . .	11	..	11	2	...	5	5
	Grand Total (Chromite Ore) for 1934.	16	...	16	3	...	9	9
	Grand Total of preceding year	13	...	13	6	...	8	8
	Difference . . . . .	+3	...	+3	-3	...	+1	+1
<b>COPPER ORE.</b>								
Bihar and Orissa	Singhbhum . . . . .	2	2	...	...	...	2	8
	Total of preceding year . . . . .	2	2	...	1	...	2	4
	Difference . . . . .	...	..	..	-1	...	...	+4
<b>GEMS.</b>								
Burma	Katha . . . . .	3	3	...	2	...	2	2
	Total of preceding year . . . . .	1	..	1	1	...	...	...
	Difference . . . . .	+2	+3	-1	+1	...	+2	+2



APPENDIX I—*contd.*Table No. 4—*contd.*Numbers of mines opened, closed and inspected, during the year 1934—*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	..	..	2	2
	Total of preceding year	3	..	3	..	..	2	2
	Difference	..	..	..	..	..	..	..
<b>STEATITE.</b>								
Bihar and Orissa.	... . . . .	4	..	4	..	..	2	2
Central Provinces.	Jubbulpore . . . . .	4	..	4	1	..	..	..
Madras . . .	Nellore . . . . .	2	..	2	..	..	2	2
United Provinces.	Hamirpur . . . . .	15	..	15	4	12	..	..
	Grand Total (Steatite) for 1934	28	..	25	5	12	4	4
	Grand Total of preceding year	18	..	18	10	4	21	30
	Difference	+7	..	+7	-5	+8	-17	-26

APPENDIX I—*contd.*Table No. 4—*contd.*Numbers of mines opened, closed and inspected, during the year 1934—*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 and Orissa.	...	10	..	10	2	3	5	5
Punjab	...	13	...	13	1	3	12	12
	Grand Total (Slate) for 1934	23	...	23	3	6	17	17
	Grand Total of preceding year	24	...	24	6	2	18	23
	Difference	-1	...	-1	-3	+4	-1	-11
<b>LIMESTONE.</b>								
Bihar and Orissa.	...	11	...	11	4	...	9	11
Bombay	Sukkur	1	...	1	1	...	1	1
Burma	...	4	...	4	...	...	2	2
Central Provinces.	...	20	2	18	7	5	11	13
Madras	Coimbatore	1	...	1	1	...	1	1
Punjab	...	3	1	2	...	1	4	4
	Grand Total (Limestone) for 1934	40	3	37	13	6	28	32
	Grand Total of preceding year	43	3	40	6	13	36	43
	Difference	-3	...	-3	+7	-7	-8	-11

## APPENDIX I—contd.

Table No. 4—contd.

Numbers of mines opened, closed and inspected, during the year 1934—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 . . .	Birbhum . . . . .	4	...	4	...	...	2	2
Bihar and Orissa.	... . . . .	100	...	100	42	9	59	65
Bombay . . .	... . . . .	21	1	20	3	2	6	7
Burma . . .	... . . . .	19	...	19	5	1	12	13
Central Provinces.	... . . . .	2	...	2	...	...	...	...
Delhi . . .	Delhi . . . . .	1	...	1	1	...	...	...
Madras . . .	... . . . .	17	...	17	7	2	10	11
Punjab . . .	... . . . .	12	...	12	2	2	6	6
United Provinces.	... . . . .	19	...	19	3	3	7	7
	Grand Total (Stone) for 1934 . . .	195	1	194	63	19	102	111
	Grand Total of preceding year . . .	150	2	148	35	15	125	138
	Difference . . . . .	+45	-1	+46	+28	+4	-23	-27
<b>LATERITE.</b>								
Barma . . .	Toungoo . . . . .	1	...	1	...	...	...	...
Central Provinces.	Jubbulpore . . . . .	4	...	4	1	1	2	2
	Grand Total (Laterite) for 1934 . . .	5	...	5	1	1	2	2
	Grand Total of preceding year . . .	4	...	4	1	...	...	...
	Difference . . . . .	+1	...	+1	...	+1	+2	+2

APPENDIX I—*contd.*Table No. 4—*contd.*Numbers of mines opened, closed and inspected, during the year 1934—*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 and Orissa.	Shahabad . . . . .	4	...	4	...	1	4	5
Burma . . .	Toungoo . . . . .	1	...	1	...	...	...	...
United Provinces.	... . . . .	5	..	5	1	1	5	5
	Grand Total (Sandstone) for 1934.	10	...	10	1	2	9	10
	Grand Total of preceding year.	8	...	8	3	...	8	8
	Difference	+2	...	+2	-2	+2	+1	+2
<b>FIRE CLAY.</b>								
Bihar and Orissa.	... . . . .	8	...	8	...	1	2	2
Central Provinces.	Jubbulpore . . . . .	3	1	2	1	...	2	3
Punjab . . .	Jhelum . . . . .	1	...	1	...	...	1	1
	Grand Total (Fire Clay) for 1934	12	1	11	1	1	5	6
	Grand Total of preceding year.	11	1	10	4	...	7	8
	Difference	+1	...	+1	-3	+1	-2	-2

## APPENDIX I—contd.

Table No. 4—contd.

Numbers of mines opened, closed and inspected, during the year 1934—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 and Orissa.	...	6	...	6	1	...	4	4
Delhi	Delhi	6	...	6	5	4	7	7
Madras	Nellore	1	...	1	1	...	1	1
Rajputana	Ajmer-Merwara	1	...	1	...	...	1	1
	Grand Total (China Clay) for 1934.	14	...	14	7	4	18	18
	Grand Total of preceding year	17	...	17	9	8	19	20
	Difference	-3	...	-3	-2	-4	...	-7
				<b>CLAY.</b>				
Assam	Lakhimpur	1	...	1	...	...	...	...
Bengal	Burdwan	2	1	1	...	1	1	2
Burma	Thaton	1	...	1	...	...	1	1
Central Provinces.	Jubbulpore	1	...	1	...	...	...	...
	Grand Total (Clay) for 1934	5	1	4	...	1	2	3
	Grand Total of preceding year	8	1	2	1	...	...	...
	Difference	+2	...	+2	-1	+1	+2	+3



APPENDIX I—*contd.*Table No. 4—*contd.*Numbers of mines opened, closed and inspected, during the year 1934—*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>OCHRE.</b>								
Bihar and Orissa	Manbhum . . . . .	1	...	1	1	...	...	...
Central Provinces.	Chanda . . . . .	1	...	1	...	...	1	1
Madras . . . . .	Nellore . . . . .	1	...	1	1	...	...	...
United Provinces.	Banda . . . . .	1	...	1	...	...	...	...
	Grand Total (Ochre) for 1934 .	4	...	4	2	...	1	1
	Grand Total of preceding year.	2	...	2	...	...	2	2
	Difference .	+2	...	+2	+2	...	-1	-1
<b>BARYTES.</b>								
Bihar and Orissa	Manbhum . . . . .	1	...	1	1	...	...	...
Madras . . . . .	... . . . .	8	...	8	1	1	1	1
	Grand Total (Barytes) for 1934.	9	...	9	2	1	1	1
	Grand Total of preceding year .	8	...	8	3	...	5	5
	Difference .	+1	...	+1	-1	+1	+4	-4

APPENDIX I—*contd.*Table No. 4—*contd.*Numbers of mines opened, closed and inspected, during the year 1934—*contd.*

PROVINCE.	District and Mineral field.	Number of mines under the scope of the Act.	NUMBER OF MINES.				INSPECTIONS.	
			Worked under mechanical power.	Net worked by mechanical power.	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
<b>APATITE.</b>								
Madras . . .	Trichinopoly . . . . .	1	...	1	1	...	...	...
	Total of preceding year . . . . .	1	...	1	...	1	...	...
	Difference	...	...	...	+1	-1	...	...
<b>GYP SUM.</b>								
Madras . . .	Trichinopoly . . . . .	1	...	1	1	...	...	...
	Total of preceding year . . . . .	...	...	...	...	...	...	...
	Difference	+1	...	+1	+1	...	...	...
<b>BERYL.</b>								
Rajputana . . .	Ajmer-Merwara . . . . .	2	...	2	2	...	2	2
	Total of preceding year . . . . .	2	...	2	1	2	2	3
	Difference	...	...	...	+1	-2	...	-1
<b>ASBESTOS.</b>								
Bihar and Orissa	Singhbhum . . . . .	3	...	3	3	3	...	...
Madras . . .	Cuddapah . . . . .	2	...	2	2	2	...	...
	Grand Total (Asbestos) for 1934	5	...	5	5	5	...	...
	Grand Total of preceding year . . . . .	...	...	...	...	...	...	...
	Difference	+5	...	+5	+5	+5	...	...

## APPENDIX I—contd.

Table No. 4—conold.

Numbers of mines opened, closed and inspected, during the year 1934—conold.

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.
Central Provinces.	Betal . . . . .	1	...	1	1	1	...	...
	Total of preceding year . . . . .	...	...	...	...	...	...	...
	Difference . . . . .	+1	...	+1	+1	+1	...	...
Rajputana . . . . .	Ajmer-Merwara . . . . .	4	...	4	...	2	2	2
	Total of preceding year . . . . .	4	...	4	2	...	2	3
	Difference . . . . .	...	...	...	-2	+2	...	-1
Bengal . . . . .	Burdwan . . . . .	1	...	1	...	...	...	...
	Jubbulpore . . . . .	1	...	1	...	..	1	1
	Grand Total (Sand) for 1934 . . . . .	2	...	2	...	...	1	1
Central Provinces.	Grand Total of preceding year . . . . .	2	...	2	2	...	...	...
	Difference . . . . .	...	...	...	-2	...	+1	+1
	Grand Total (Metalliferous Mines) for 1934 . . . . .	1,185	58	1,192	460	243	457	539
Central Provinces.	Grand Total of preceding year . . . . .	923	39	894	376	183	422	521
	Difference . . . . .	+262	+14	+248	+104	+60	+35	+18
	Grand Total (All Minerals) for 1934 . . . . .	1,675	400	1,275	532	276	986	2,601
Central Provinces.	Grand Total of preceding year . . . . .	1,424	394	1,030	424	243	981	2,774
	Difference . . . . .	+251	+6	+245	+108	+33	+55	-173

## 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 slate, magnesite, steatite, clay, fuller's earth, ochre, barytes, apatite, stone, asbestos, gypsum, felspar, beryl and gems.

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 ozs. 28:	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Troy. ozs.
1925	19,969,041	710,347	45,363	614,232	125,366	...	...	772½	529,376	21,336	2,307	321,864	4,831,669
1926	20,093,024	857,000	41,461	827,222	123,901	1,053	9,508	751	600,363	16,446	2,568	362,904	5,103,705
1927	21,108,976	878,521	43,061	1,132,235	145,311	2,395	5,010	530	1,068,391	17,066	2,656	450,777	6,004,596
1928	21,515,796	716,626	44,629	1,404,578	145,543	7	16,055	623	1,366,754	17,167	2,777	443,654	7,401,729
1929	22,308,174	750,908	49,487	1,313,647	148,496	30	76,831	1,061	1,436,395	21,054	3,384	464,561	7,380,517
1930	22,683,861	923,678	63,519	1,143,313	147,376	30	123,740	1,509	1,133,893	30,498	3,001	530,119	7,054,206
1931	20,514,697	347,373	46,177	862,226	134,916	..	153,636	969	590,176	14,938	2,552	397,679	5,900,400
1932	18,719,587	88,119	32,643	723,378	150,286	50	175,375	848	673,434	7,865	2,067	372,566	5,908,058
1933	18,160,681	58,340	41,005	1,129,110	145,838	267	301,723	836	653,239	9,770	3,309	454,791	6,064,069
1934	20,243,977	321,283	55,555	940,960	154,955	853	328,676	1,333	834,477	9,356	3,590	443,489	5,792,033

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 1925 to 1934 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.
1925 . . . . .	Tons. 19,969,041	173,140	186	9.31	1.07
1926 . . . . .	20,093,024	170,628	171	8.51	1.00
1927 . . . . .	21,108,976	165,213	181	8.57	1.10
1928 . . . . .	21,515,796	164,139	218	10.18	1.33
1929 . . . . .	22,308,174	165,658	194	8.70	1.17
1930 . . . . .	22,683,861	169,001	211	5.30	1.25
1931 . . . . .	20,514,697	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	6.88	0.86
1934 . . . . .	20,243,977	151,375	157	7.76	1.04

## 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	185	7	197	506	180	...	...	...	180	686
Bokaro . . . . .	723	325	325	167	1,053	2,593	425	971	...	90	1,466	4,079
Central Provinces . . . . .	...	65	92	...	123	280	65	660	206	4	935	1,215
Giridih . . . . .	165	868	...	270	464	1,277	817	3,048	111	2	3,976	5,255
Jharia . . . . .	3,093	925	1,472	1,158	1,405	8,053	7,543	19,220	2,243	1,228	30,234	38,267
Karanpura . . . . .	...	75	825	95	327	1,322	...	355	4	...	359	1,681
Punjab . . . . .	...	...	25	...	...	25	...	12	...	...	12	37
Ranganj . . . . .	2,460	1,240	490	711	640	5,541	5,940	12,109	2,588	123	20,710	26,251
<b>Total</b> . . . . .	<b>6,442</b>	<b>3,135</b>	<b>3,414</b>	<b>2,408</b>	<b>4,199</b>	<b>19,597</b>	<b>14,970</b>	<b>36,375</b>	<b>5,102</b>	<b>1,447</b>	<b>57,894</b>	<b>77,491</b>

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	686	...	...	...	...	686
Bengal . . . . .	42	23,950	...	...	1	50	24,000
Bihar and Orissa . . . . .	65	51,603	...	...	5	3,091	54,694
Burma . . . . .	...	...	1	3,662	9	1,268	4,950
Central Provinces . . . . .	9	1,215	...	...	5	408	1,623
Madras . . . . .	...	...	...	...	3	357	857
Punjab . . . . .	1	37	...	...	2	1,067	1,124
<b>Total</b> . . . . .	<b>119</b>	<b>77,491</b>	<b>1</b>	<b>3,662</b>	<b>25</b>	<b>6,281</b>	<b>87,434</b>

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.
						Electricity.		
						A. C.	D. C.	
Goodman . . . . .	..	52	52	..	..	38	19	52
Hardy . . . . .	5	..	..	..	5	5	..	5
Mavor and Coulson . . . . .	45	..	23	22	..	44	1	45
Sullivan . . . . .	..	4	4	..	..	4	..	4
<b>Total</b> . . . . .	<b>50</b>	<b>56</b>	<b>79</b>	<b>22</b>	<b>5</b>	<b>86</b>	<b>20</b>	<b>106</b>

Jharia coalfield . . . . . 31 machines } Total number of square feet  
 Raniganj coalfield . . . . . 70 " } undercut—82,35,481.  
 Central Provinces coalfield . . . . . 5 " }

Table No. 10.

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

Assam.	Baluchistan.	Bengal.	Bihar and Orissa.	Central Provinces.	Punjab.	Total.
7	..	27	50	10	..	94

Table No. 11.

Number of safety lamps in use at Coal Mines under the Indian Mines Act.

Assam.	Baluchistan.	Bengal.	Bihar and Orissa.	Central Provinces.	Punjab.	Total.
1,598	6	12,439	8,803	..	3	22,759

8,270 were locked by lead rivets and 14,489 by magnetic means.

APPENDIX I—*conold.*

Table No. 12.

Statement of explosives used during the year 1934 at mines under the Indian Mines Act.

Name of explosives.	Quantity of explosives used, in lb., in :—								Total.
	Coal mines.	Mica mines.	Manga- nese mines.	Lead ore mines.	Tin and Wolfram ore mines.	Lime- stone mines.	Stone mines.	Other mines.	
Dynamite . . .	29,281	80,733	6,865	...	7,436	3,270	14,780	25,127	167,492
Gelignite . . .	80,263	33,325	13,866	136,993	24,467	4,837	6,543	481,974	784,228
Monobel . . .	21,386	...	...	...	...	5,150	...	...	26,536
Stonobel . . .	57,934	...	...	...	...	...	...	...	57,934
Bobbinite . . .	6	...	...	...	...	...	...	...	6
Samsonite . . .	100	...	...	...	...	...	...	...	100
Baunkol . . .	241	...	...	...	...	...	...	...	241
Liquid Oxygen . . .	94,223	...	...	...	...	...	...	...	94,223
Gunpowder . . .	2,363,492	7,350	9,324	..	...	198,782	116,038	155,884	2,845,865
Picric Powder . . .	...	...	...	...	...	...	1,726	...	1,726
Number of detonators used.	473,652	880,978	146,309	222,807	155,750	14,909	101,959	728,103	2,724,467

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

**Table No. 1.**  
**Fatal Accidents during the year 1934.**

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.</b>						
<b>(a) Falls of roof—(73 deaths).</b>						
1	25th January, 2-15 P. M.	Datia mine, Junnordeo P. O., Central Provinces.	Amalgamated Coal- fields, Ltd.	Babulal Gond, (m.), 24, Coal-cutter.	Coal	While a miner was working at the face of a gallery, he was struck by a mass of shale, 6' x 4' x 4'-6", which fell from a "slip" in the roof—a height of 10 feet. He was killed instantly. Inspection and inquiry made.
2	26th January, 10-45 A. M.	Gopalichuck West mine, Kuannda P. O., Bihar and Orissa.	Gopalichuck Coal Co., Ltd.	Bhikan Meah, (m.), 45, Coal-cutter.	Coal	A miner was loading coal in a gallery, when about 15 cwts. of roof coal fell from a height of 15 feet and he was seriously injured. He died four hours later. Inspection and inquiry made.
3	27th January, 4 A. M.	Central Kurkend mine, Kusunda P. O., Bihar and Orissa.	Central Kurkend Coal Co., Ltd.	Pitam Turi, (m.), 36, Coal-cutter.	Coal	A miner was sitting in a gallery adjoining a depillaring area, when a mass of roof, 3' x 2' x 2'-3" thick, fell on him, inflicting serious injuries from which he afterwards died. Inspection and inquiry made.
4	8th February, 10-15 P. M.	East Bhalgora mine, Jharra P. O., Bihar and Orissa.	East Bhalgora Col- liery Co.	Piyu Kamin, (f.), 22, Coal-carrier. Bhukhal Bauri, (m.), 33, Coal-cutter.	Coal	The deceased and two other persons were engaged in cutting and carrying coal at the back of a gallery, 8 feet wide, when a mass of roof stone, 15' x 4'-5" x 2', fell from a pronounced "slip" at a height of 8 feet. The deceased were killed on the spot and another person was seriously injured. Inspection and inquiry made.
5	9th February, 12 noon.	Ledo Valley mine, Margherita P. O., Assam.	Assam Railways and Trading Co., Ltd.	Charki Makrani, (m.), 38, Miner.	Coal	Deceased was watching the roof of an "opening" from the end of a road supported by girders when some roof coal broke away from above the girders, rolled into the opening and under the girders. He was buried under 3 feet of coal and was suffocated. Inspection and inquiry made.



**APPENDIX II—contd.**

**Fatal Accidents during the year 1934.—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>						
6	20th February, 8-30 P. M.	New Jinagora mine, Jharia P. O., Bihar and Orissa.	New Jinagora Coal Co., Ltd.	Bhabi Korin, (f.), 35, Coal-carrier.	Coal	Deceased was filling slack in a gallery, when a piece of stone, 2' x 2' x 3", fell on her from the roof at a height of 6½ feet. She was severely injured and died eleven days afterwards. Inspection and inquiry made.
7	21st February, 10-30 P. M.	Poriapur mine, Churulia P. O., Bihar and Orissa.	Poriapur Collieries Ltd.	Girish Manjhi, (m.), 29, Hupna Manjhi, (m.), 30, Labsa Manjhi, (m.), 22, Dhara Manjhi (m.), 30, Lodhia Manjhi, (m.), 20, Chamm Manjhi, (m.), 26, Coal-cutters.	Coal	While six miners were at work in a depillaring area a mass of roof coal, 12' x 9' x 1' fell on them from a height of 10 feet. Five were killed instantly and the sixth was fatally injured. Inspection and inquiry made.
8	23rd February, 3 P. M.	Jamadoba mine, Jealgora P. O., Bihar and Orissa.	Tata Iron & Steel Co., Ltd.	Johan Bilaspuri. (m.), 52, Loader.	Coal	While a miner was dressing coal from the side of a pillar after blasting, a slab of stone, 8' x 6' x 5", fell from the roof at a height of 12 feet and struck a loader who was assisting him. The loader received serious injuries which proved fatal one and half hours later. Inspection and inquiry made.
9	16th March, 1 A.M.	Jamadoba mine, Jealgora P. O., Bihar and Orissa.	Tata Iron & Steel Co., Ltd.	Birbal Roy, (m.), 34, Labourer.	Coal	Deceased had entered a goaf in order to recover a prop which had just been withdrawn, when a triangular mass of roof stone, 16' x 10' x 4' thick, fell on him from pronounced "slips" at a height of 8 feet. He was killed instantly. Inspection and inquiry made.

10	17th March, 11-30 A.M.	Kalithan Gurgaon mine, Bhojudih P. O., Bihar and Orissa.	K. B. Seal & Sons.	Rabi Roy, (m.), 42, Basu Bauri, (m.), 25, <i>Coal-cutters.</i> Deba Gope, (m.), 20, <i>Labourer.</i>	Coal	A number of persons were employed in supporting the roof of a level in a seam, 8 feet thick, and inclined at 1 in 13, when a mass of roof stone, 30' x 8' x 1', fell without warning from a pronounced "slip". The deceased were killed instantly. Inspection and inquiry made.
11	18th March, 11 A.M.	Kustore mine, Kusanda P. O., Bihar and Orissa.	Raneegunge Coal Association, Ltd.	Wali Mohammad, (m.), 26, <i>Mason.</i>	Coal	While preparing the ground for building a brick wall underground, a mason was killed instantly and another was seriously injured by a slab of stone, 9' x 3' x 1', which fell from the roof at a height of 7 feet. Inspection and inquiry made.
12	19th March, 2-30 P.M.	Sripur mine, Kalipahari P. O., Bengal.	Lodna Colliery Co. (1920) Ltd.	Gopal Kahar, (m.), 44, <i>Sirdar.</i> Lodha Passi, (m.), 25, <i>Coal-cutter.</i>	Coal	While a sirdar and four other persons were testing the roof in a depillaring area the roof suddenly collapsed over an area of 50' x 50'. The sirdar was fatally injured and two others were seriously injured—one subsequently dying from his injuries. Inspection and inquiry made.
13	20th March, 11-30 A.M.	Makerwal mine, Trag P. O., Punjab.	C. B. Petman and E. S. L. Ishar Das Kapur.	Shadi Khan, (m.), 25, <i>Coal-cutter.</i>	Coal	Deceased was working at the face of a gallery 5' high and dipping at 1 in 1½, when a piece of stone 1' x 6' x 6' fell from the roof and struck him on the back. He sustained a serious injury which proved fatal. Inspection and inquiry made.
14	3rd April, 4-30 P.M.	Palachaurai mine, Junnordeo P. O., Central Provinces.	D. Nargolwala	Dhauoo Gond, (m.), 40, <i>Coal-cutter.</i>	Coal	While a miner was dressing the roof in a gallery 7'-6" high, he was struck by a piece of stone, 5' x 2' x 10' which fell from the roof. He sustained injuries to which he succumbed three days later. Inspection and inquiry made.
15	4th May, 12 noon.	Loyabad mine, Bansjora P. O., Bihar and Orissa.	Burrakur Coal Co., Ltd.	Ghanu Gope, (m.), 36, <i>Stone-cutter.</i>	Coal	While some miners were cleaning debris from near the face of a stone drift preparatory to setting props to support the roof, a slab of stone 4' x 3' x 9' fell from the roof and seriously injured one of them. He died from pneumonia five days later. Inspection and inquiry made.
16	16th May, 2 A.M.	Chapni Khas mine, Charanpur P. O., Bengal.	Maharaja Srish Chandra Nandi.	Khendi Mejhian, (f.), 18, <i>Loader.</i>	Coal	While a woman was loading slack coal in a gallery 8 feet high she was struck by a piece of shale 3' x 2' x 2" which fell from the roof. She was severely injured and died three days later. Inspection and inquiry made.
17	19th May, 3-30 A.M.	Ghorawari mine, Junnordeo P. O., Central Provinces.	Hirdagarh Col- lieries, Ltd.	Beni Mowasi, (m.), 23, <i>Coal-cutter.</i>	Coal	While a miner was at work in a depillaring area, he was struck by a mass of stone, 6' x 5' x 2' which fell from the roof—a height of 14 feet. He was killed instantly. Inspection and inquiry made.

**APPENDIX II—contd.**

**Fatal Accidents during the year 1934—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>						
18	24th May, 11-30 P.M.	Damoderpur mine, Nandi P. O., Bengal.	Bengal Coal Co., Ld.	Badonu Mejhian, (f.), 30, <i>Coal-carrier.</i>	Coal	While loading coal in a depillaring area a female worker was killed by a mass of roof stone, 12' x 5' x 6' thick, which fell, without warning, from a height of 12 feet. Inspection and inquiry made.
19	7th June, 11-30 A.M.	Gambhira (No. 2 North) mine, Dandot P. O., Punjab.	Executors of the Estate of late Lala Sankardas.	Hassanali, (m.), 35, <i>Coal-cutter.</i>	Coal	Deceased was working in the face of a seam 1' 6" thick when a stone, 4' x 3' x 1' fell from the roof and killed him instantly. Inspection and inquiry made.
20	12th June, 5-45 A.M.	Jamadoba mine, Jalgora P. O., Bihar and Orissa.	Tata Iron & Steel Co., Ld.	Peary Korain, (f.), 42, <i>Loader.</i>	Coal	While a female loader was filling a basket with coal in a gallery 10 feet high, a mass of stone 10' x 3' x 1' fell from the roof at a point where a fault crossed the gallery. She was struck and killed instantly by the falling stone. Four props which were set under the stone were dislodged. Inspection and inquiry made.
31	12th June, 9-45 A.M.	Mosaboni mine, Ghatsila P. O., Bihar and Orissa.	Indian Copper Corporation, Ld.	Abdul Razak, (m.), 25, <i>Pipe fitter.</i>	Copper	A pipe fitter was ordered to repair a water pipe in a stope where he was warned by a fellow worker that the place was unsafe. He insisted on carrying out his orders and was killed by a mass of roof stone which fell from a height of five feet. Inspection and inquiry made.
22	12th June, 11-30 P.M.	Seebpur mine, Charanpur P. O., Bengal.	Katras Jherriah Coal Co., Ld.	Durga Gope, (m.), 39, Gurudyal Kamar, (m.), 34, <i>Labourers</i> Moral Gope, (m.), 31, Ramdhani Gope, (m.), 32, <i>Loaders.</i> Jetha Gope, (m.), 39, <i>Timber Mistry.</i>	Coal	While a number of persons were removing coal from a 'goaf' from which the props had been withdrawn and which was fenced off, the roof collapsed over an area of 30' x 30'. Three persons were killed and completely buried; two other persons were fatally and one seriously injured. Inspection and inquiry made.

23	17th June, 1 A.M.	East Ballihari mine, Kusunda P. O., Bihar and Orissa.	K. D. Wroah	Gobind Kahar, (m.), 32, <i>Propping Mistry.</i>	Coal	Deceased was engaged in withdrawing props from a depillaring area, when a mass of roof stone fell from a height of 12 feet and he was killed instantly. Inspection and inquiry made.
24	22nd June, 4-15 P.M.	Standard (Jharis Khas Section) mine, Jharis P. O., Bihar and Orissa.	Standard Coal Co., Ld.	Nandalal Kurmi, (m.), 30, <i>Labourer.</i>	Coal	After withdrawing props in a seam 25 feet thick, a timber man returned to the depillared area to recover his lamp and was fatally injured by a mass of coal weighing about 2 cwts. which fell from the roof. Inspection and inquiry made.
25	25th June, 10 P.M.	Bhurangya mine, Mohuda P. O., Bihar and Orissa.	Bhurangya Coal Co.	Harkhu Meah, (m.), 35, <i>Coal-cutter.</i>	Coal	While a miner was cutting coal from a "stook" in a depillaring area a mass of stone, 25' x 14' x 2', fell from the roof in the goaf, dislodged a number of props and involved part of his working place. He was struck by the edge of the falling stone and killed instantly. Inspection and inquiry made.
26	30th June, 12-15 A.M.	Majri mine, Warora P. O., Central Provinces.	Jamai Majri Coal Co., Ld.	Pocha Manifar, (m.), 25, <i>Coal-cutter.</i>	Coal	While dressing down the roof after shortfiring a miner was killed by a mass of shale which fell from a height of 6 feet. Inspection and inquiry made.
27	7th July, 1 P.M.	Loyahad mine, Ransjora P. O., Bihar and Orissa.	Burrakur Coal Co., Ld.	Padu Mahato, (m.), 23, <i>Loader.</i>	Coal	In order to take down roof coal and shale 1 foot in thickness in a gallery 7 feet high, a miner cut along one side for a distance of 10 feet. While a loader was filling a basket the remaining coal and shale, 10' x 5' x 1', fell and he received severe injuries from which he subsequently died. If the roof had been taken down in a proper manner the accident would not have occurred. Inspection and inquiry made.
28	16th July, 4 P.M.	Khas Jharis mine, Jharis P. O., Bihar and Orissa.	Khas Jharis Col- liery Co.	Jangal Bilaspuri, (m.), 25, Joti Bauri, (m.), 28, Antu Gope, (m.), 32, <i>Coal cutters;</i> Dulesari Bilaspuri, (f.) 20, Kofi Baurin, (f.), 30, Bundi Bilaspuri, (f.), 28, <i>Coal-carriers.</i> Hoppni Mejhian, (f.), 35, <i>Loader.</i>	Coal	While work was in progress in a depillaring area in a seam 18 feet thick, a mass of coal, 28' x 15' x 2', fell from the roof adjacent to the pillar under extraction. Two miners and three female coal carriers were struck and killed instantly by the falling coal and another miner succumbed to injuries shortly afterwards. If the overhanging coal had been taken down as the extraction of the pillar proceeded, the accident would not have occurred. Inspection and inquiry made.
29	10th August, 1 P.M.	Saltore mine, Diehgarh P. O., Bihar and Orissa.	Burrakur Coal Co., Ld.	Hoppni Mejhian, (f.), 35, <i>Loader.</i>	Coal	While two loaders were filling their baskets in a gallery, a mass of coal, 22' x 4' x 2' fell from the roof—a height of 6 feet. One of the loaders was killed instantly, and the other was seriously injured. Inspection and inquiry made.

APPENDIX II—*contd.*

Fatal Accidents during the year 1934—*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—<i>contd.</i></b>						
<b>(a) Falls of roof—<i>contd.</i></b>						
30	22nd August, 10-30 P.M.	Mudidih mine, Bijua P. O., Bihar and Orissa.	Burrakur Coal Co., Ld.	Babu Lal Bhar, (m.), 55, <i>Sirdar.</i>	Coal	While a small pillar of coal was being extracted, a fall of roof in an adjacent goaf area caused the 'stock' and the roof in the working place to collapse. A sirdar who was supervising the work of extraction was fatally injured and a miner seriously injured. Inspection and inquiry made.
31	August, 1-15 A.M.	Sitalpur mine, Dishergarh P. O., Bengal.	Bengal Coal Co., Ld.	Seo Gope, (m.), 26, <i>Coal-cutter.</i>	Coal	A miner left his allotted working place and entered another gallery where roof coal was being cut. As he approached a fence 15 feet beyond the place where the roof coal was actually being cut, a mass of coal, 15' x 3' x 1'-3", fell from a height of 12 feet. He was struck by a piece of the falling coal and fatally injured. Inspection and inquiry made.
32	3rd September, 3 P.M.	Kustore mine, Kusunda P. O., Bihar and Orissa.	Raneegunge Coal Association, Ld.	Chotoo Beldar, (m.), 28, <i>Coal-cutter.</i>	Coal	Deceased was widening a main haulage road, 12 feet high by standing on a "bench" of side coal, when a small piece of roof stone fell and struck him. He fell face downwards off the "bench" when a piece of coal rolled off the "bench" and struck him on the back, inflicting serious injuries from which he died seven weeks later. Inspection and inquiry made.
33	7th September, 10-45 A.M.	Standard (Jharis Khas Section) mine, Jharis P. O., Bihar and Orissa.	Standard Coal Co., Ld.	Sashi Roy, (m.), 26, <i>Coal-carrier.</i>	Coal	Deceased entered a fenced gallery, about 20 feet high, when a mass of roof coal, weighing several tons fell on him and killed him instantly. Inspection and inquiry made.
34	9th September, 5-30 A.M.	Mosaboni mine, Ghatsila P. O., Bihar and Orissa.	Indian Copper Corporation, Ld.	Nanda Behera, (m.), 25, <i>Blaster.</i>	Copper	While dealing with a misfired shot a blaster was killed by a mass of stone, 5' x 2' x 8" thick, which fell from a height of 5½ feet. Inspection and inquiry made.
35	11th September, 1 A.M.	Sodepur mine, Sunderchak P. O., Bengal.	Bengal Coal Co., Ld.	Bansu Kole, (m.), 26, <i>Coal-cutter.</i>	Coal	Three miners and some loaders were at work in a depillaring area, in a seam 14 feet thick, when practically without warning several hundred tons of roof collapsed in the goaf and crushed part of the pillar on which they were working. With the exception of one miner who was struck by the falling stone and killed instantly, all managed to escape. Inspection and inquiry made.

36	12th September, 7-30 P.M.	Jamuria mine, Charanpur P.O., Bengal.	Equitable Coal Co., Ld.	Ram Mahato, (m.), 35, Baiju Mahato, (m.), 32, Dhobi Mahato; (m.), 33, Loaders.	Coal	An overman, a tub-checker and two loaders were escorting an indisposed loader out of a mine. While they were passing along a haulage road, a mass of roof coal, about 19' x 8' x 1' 6" thick, fell on them, without any warning, from a height of 10 feet. Two loaders were killed instantly and the indisposed loader was fatally injured. The tub-checker sustained serious injuries. Inspection and inquiry made.
37	19th September, 1 P.M.	Makerwal mine, Trag P.O., Punjab.	C. B. Petman and R. S. L. Ishar Das Kapur.	Rashid Khan, (m.), 40, Coal-cutter.	Coal	Deceased was working in a gallery 4 feet high when a stone 2'-6" x 2' x 1' fell from the roof. He received injuries which proved fatal. Inspection and inquiry made.
38	24th October, 12 noon.	Chandametta mine, Parasia P.O., Central Provinces.	Pench Valley Coal Co., Ld.	Badgoo Gond, (m.), 20, Coal-cutter	Coal	While sitting in a gallery which was being timbered on account of a fault a miner was fatally injured by a mass of shale weighing about one ton which fell from a height of 6 feet. Inspection and inquiry made.
39	29th October, 4-30 P.M.	Dishergarh West mine, Dishergarh P. O., Bengal.	Equitable Coal Co., Ld.	Hari Bauri, (m.), 50, Coal-cutter.	Coal	While a miner was at work in a gallery adjacent to a depillaring area a mass of coal and shale 3' x 1' - 6" x 1' fell from between props supporting the roof. He was struck and received injuries to which he succumbed one and half hours later. Inspection and inquiry made.
40	31st October, 9-30 A.M.	Sripur mine, Kalipahari P.O., Bengal.	Lodna Colliery Co. (1920), Ld.	Maiku Passi, (m.), 40, Coal-cutter.	Coal	While a miner was drilling a hole in roof coal in a gallery 9 feet high, a small piece of coal weighing about 10 lbs. fell from the roof and he sustained slight injuries. He contracted Pneumonia sixteen days after the accident and died six weeks afterwards. Inspection and inquiry made.
41	31st October, 4-15 P.M.	Budroochuck mine, Sijua P.O., Bihar and Orissa.	Budroochuck Coal Mining Co., Ld.	Samni Mejhian, (f.), 23, Coal-carrier.	Coal	While loading coal in a gallery, deceased was killed by a fall of roof, 13' x 7' x 2', which fell from a height of 8 feet. Inspection and inquiry made.
42	10th November, 5 P.M.	Upper Jeeenagora mine, Jharua P. O., Bihar and Orissa.	New East India Press Co., Ld.	Bihary Dhobey, (m.), 40, Coal-cutter.	Coal	Deceased was driving a gallery, 8' x 8', through a pillar of coal, when a mass of roof coal, 8' x 5' x 3', fell on him from between two "slips". He was killed instantly. If the overman had carried out the manager's instructions and supported the roof coal, the accident would have been avoided. The overman's certificate was suspended for six months. Inspection and inquiry made.
43	13th November, 12-50 P.M.	Gopalichuck West mine, Kusanda P. O., Bihar and Orissa.	Gopalichuck Coal Co., Ld.	Kelal Meah, (m.), 40, Loader.	Coal	While deceased was returning to his working place, a triangular piece of coal, 3' x 2' and 2" thick, fell from the roof of a gallery, 7 feet high. He sustained injuries to which he succumbed about a week later. Inspection and inquiry made.

APPENDIX II—contd.

Fatal Accidents during the year 1934—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—(73 deaths)—concl'd.</b>						
44	22nd November, 12-30 P.M.	North Jharis mine, Jharis P. O., Bihar and Orissa.	Keshavlal Madhovji	Bhikhu Rauri, (m.), 45. Saita Rauri, (m.), 20, <i>Coal-cutters.</i> Robj Rauri, (m.), 30, <i>Coal-carrier.</i>	Coal	A number of miners were engaged in cutting floor coal at the junction of three galleries, when a mass of roof coal, 20' x 12' x 7' thick, fell from a "slip" at a height of 21 feet. Two of them were killed on the spot and another sustained serious injuries to which he succumbed three hours later. A fourth person was seriously injured. The certificate of the sirdar who was partly to blame for the accident was suspended for three months. Inspection and inquiry made.
45	30th November, 1-30 P.M.	Victoria mine, Kulti P. O., Bengal.	New Beerbhoom Coal Co., Ld.	Mohan Singh, (m.), 33, <i>Labourer.</i> Kashiram Kachhi, (m.), 37, <i>Coal-cutter.</i>	Coal	While sitting in a gallery at the edge of a depillaring area, the deceased were killed instantly and another person was seriously injured by a mass of stone, 12'6" x 4'6" x 8" thick, which fell unexpectedly from the roof of a gallery 7 feet high. Inspection and inquiry made.
46	13th December, 10 A.M.	Lodna mine, Jharis P. O., Bihar and Orissa.	Lodna Colliery Co. (1920). Ld.	Chota Lal Tewari, (m.), 21, <i>Underground sirdar.</i>	Coal	Due to a goaf being on "weight" a mass of roof stone fell and dislodged a prop in an adjoining gallery, which struck deceased as he was approaching the place, killing him on the spot. Inspection and inquiry made.
47	24th December, 11 A.M.	Sripur mine, Kalipahari P. O., Bengal.	Lodna Colliery Co. (1920). Ld.	Uttam Kahar, (m.), 35, Chaitu Weah, (m.), 30, <i>Loaders.</i>	Coal	While a gang of loaders was at work in a depillaring area, a "bump" occurred in the adjacent goaf, causing a fall of several tons of roof stone and a simultaneous fall of some coal from the side of a pillar under extraction. Four of them were seriously injured by pieces of stone and coal and two succumbed to their injuries shortly afterwards. Inspection and inquiry made.
48	27th December, 12-30 P.M.	Chowrassie mine, Dishergarh P. O., Bihar and Orissa.	Equitable Coal Co., Ld.	Banka Manjhi, (m.), 32, <i>Coal-cutter.</i>	Coal	While working in a depillaring area, a miner was killed instantly by a mass of several tons of roof coal that fell unexpectedly from a height of 12 feet. The fall exposed a pronounced cleat in the coal. Inspection and inquiry made.

49	30th December, 8-3) P.M.;	Bawdwin mine, Namtu P. O., Burma.	Kurma Corporation, Ld.	Kyu Chank Fu, (m.) 27, Trucker.	Silver- lead- zinc.	While a trammer, pushing a car underground, was passing the junction of four roadways he was struck by a mass of rock estimated to weigh 3-4 tons, which fell from the roof—a height of 7 feet. He was fatally injured. Inspection and inquiry made.
(b) Falls of sides—(60 deaths).						
50	5th January, 8-15 P.M.	Jamadoba mine, Jalgora P.O., Bihar and Orissa.	Tata Iron and Steel Co., Ld.	Ramji Bilaspuri, (m.) 25, Coal-carrier.	Coal	While deceased was at work in a depillaring area a mass of coal, 4' x 3' x 1', fell upon him from the side of a pillar at a height of about 9 feet. He sustained serious injuries and died seven hours later. Inspection and inquiry made.
51	12th January, about 3 A.M.	Kustore mine, Kusunda P.O., Bihar and Orissa.	Raneegunge Coal Association, Ld.	Roshmi Turin, (f.), 16, Coal-carrier.	Coal	While carrying coal from a working place, deceased was struck by a piece of coal, measuring 1' 6" x 1' 3" x 1' which fell from the side of a pillar. She sustained a serious injury and died two and half hours later. Inspection and inquiry made.
52	20th January, 1 P.M.	Kajora mine, Kajoragram P. O., Bengal.	Roy Dutt & Co.	Bhutel Manjhi, (m.), 40, Coal-cutter.	Coal	After undercutting the side of a main gallery for a length of 4 feet, a miner was wedging the portion down when a mass of coal about 4' x 4' x 1' 6" thick, broke off the side from a height of 6 feet. He was struck and killed instantly by the falling coal. Inspection and inquiry made.
53	3rd February 10-45 A.M.	Bhulanbararee mine, Pathardih P.O., Bihar and Orissa.	Bhulanbararee Coal Co., Ld.	Koriar Chamar, (m.), 54, Coal-cutter.	Coal	While a group of miners were sitting in a carrying road waiting for a prop to be set in their working place, a mass of coal weighing about 4 to 5 tons fell from the side of a pillar. One man received an injury which proved fatal and another sustained slight injuries to his feet. Inspection and inquiry made.
54	15th February, 1-45 A.M.	Lodna (Nos. 4 & 5 pits) mine, Jharis P.O., Bihar and Orissa.	Lodna Colliery Co. (1920), Ld.	Dalu Banri, (m.), 42, Coal-cutter.	Coal	Deceased with others was sitting down in a gallery, 20 feet high, when a mass of side coal, 12' x 6' x 1'-3", fell from a "slip" at a height of 8 feet. Deceased sustained injuries to which he succumbed about a day later and another person sustained serious injuries. The certificate of a sirdar, who was held to be partly to blame, was suspended for six months. Inspection and inquiry made.
55	15th February, about 6-30 A.M.	Kustore mine, Kusunda P.O., Bihar and Orissa.	Raneegunge Coal Association, Ld.	Sukram Pasi, (m.), 25, Coal-carrier.	Coal	After hearing a warning that blasting operations were to be conducted in an adjacent place, a miner continued to load coal in his working place. When the shot was fired, a mass of coal 8' x 4' 6" x 2', fell from the face and he sustained injuries which proved fatal. Inspection and inquiry made.



APPENDIX II—contd.

Fatal Accidents during the year 1934—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>(b) Falls of sides (60 deaths)—contd.</b>						
56	23rd February, 8 A.M.	Lodna mine, Jharua P.O., Bihar and Orissa.	Lodna Colliery Co. (1930), Ld.	Sukar Roy, (m.), 36, Coal-cutter.	Coal	While two miners were dressing down the corner of a pillar, some coal fell away and dislodged a "sprag" which was supporting the side of an adjacent pillar. About 15 cwts. of coal fell from the side of this pillar and inflicted fatal injuries to one man and serious injuries to the other. Inspection and inquiry made.
57	12th March, 11 A.M.	Jamuria mine, Charanpur P.O., Bengal.	Equitable Coal Co., Ld.	Magal Kora, (m.), 50, Sirdar.	Coal	After a shot had been fired in a stock in a depillaring area the sirdar and a shot-firer were returning to make an examination of the place when a mass of coal, 3' x 3' x 11', fell from the corner of an adjacent pillar. The sirdar who was 10 feet from the corner was struck by the falling coal and fatally injured. Inspection and inquiry made.
58	16th March, 7 A.M.	Bonai mine, Baniganj P.O., Bengal.	Burma & Co., Ld.	Dwarka Nunia, (m.), 45, Fireclay cutter.	Fireclay	While at work in a fireclay pit, a miner was struck by a mass of earth, 3'-6" x 3'-6" x 1'-6", which fell from the side—a height of 3'-6". He was fatally injured. Inspection and inquiry made.
59	17th March, 4-30 P.M.	Phularitand mine, Katraagarh P.O., Bihar and Orissa.	Chandanmull Indrakumar.	Raju Mahata, (m.), 32, Coal-cutter.	Coal	Deceased had entered a depillaring area and undercut the side of a pillar when a mass of coal, 6' x 5' x 3', fell from the side and struck him. He received injuries which proved fatal four hours later. Inspection and inquiry made.
60	6th April, 8 A.M.	Gopalichuck West mine, Kusunda P.O., Bihar and Orissa.	Gopalichuck Coal Co., Ld.	Natia Kurmi, (m.), 32, Coal-cutter.	Coal	While a miner was sitting at the side of a pillar in a depillaring area, a mass of coal, 8' x 3' x 1', fell from the side and killed him instantly. Inspection and inquiry made.
61	23rd April, 2-30 P.M.	Sripur mine, Kalipahari P.O., Bengal.	Lodna Colliery Co. (1920), Ld.	Ramji Passi, (m.), 40, Sirdar.	Coal	While supervising the dressing of coal after blasting, a sirdar was severely injured by a lump of coal which fell from the side on his foot. He died three days later. Inspection and inquiry made.

63	1st May, 3-15 P.M.	Bawdwin mine, Nambu P.O., Burma.	Burma Corporation, Ld.	Yang See Foo, (m.), 21, Miner.	Silver- lead- zinc.	While a miner was climbing from one floor of a stope to the next he was struck by a piece of ore weighing 5 lbs. which fell from the side—a height of 6 feet. He was killed instantly. Inspection and inquiry made.
63	12th May, 2-46 A.M.	Chowrasia mine, Dishergarh P.O., Bihar and Orissa.	Equitable Coal Co., Ld.	Chunaram Manjhi, (m.), 48, Coal-cutter.	Coal	In a depillaring area, a sudden weight in the goaf caused about 8 tons of coal to burst off a stook. Deceased, who was cutting floor coal by the side of the stook, was struck by the coal and sustained fatal injuries. Inspection and inquiry made.
64	12th May, 6-30 A.M.	Dhemo Main mine, Sitarampur P.O., Bengal.	Dhemo Main Collieries, Ld.	Fagu Meah, (m.), 31, Coal-carrier.	Coal	While working in a depillaring area deceased was killed and a miner injured by a mass of coal, weighing about 80 cwt., which fell from a height of 8 feet. Inspection and inquiry made.
65	13th May, 1-30 P.M.	Karjara mine, Wazirganj P. O., Bihar and Orissa.	East Indian Railway (Seth Isser Das, Contractor).	Phagoo Bhuiya, (m.), 48, Labourer.	Stone	While four persons were taking shelter under the shade of an overhanging side of an abandoned quarry, a mass of loose earth, collapsed on them. One of them was killed instantly. The others escaped without injuries. Inspection and inquiry made.
66	16th May, 2 P.M.	Poriapur mine, Churulia P. O., Bihar and Orissa.	Poriapur Collieries, Ltd.	Gopal Manjhi, (m.), 38, Coal-cutter.	Coal	While levering coal off a stook in a fenced off area a miner was fatally injured by a piece of coal which struck him on the legs. Inspection and inquiry made.
67	26th May, 6-30 P.M.	Makerwal mine, Trag P. O., Punjab.	C. B. Petman and E. S. L. Ishar Das Kapur.	Habib Ullah, (m.), 23, Coal-cutter.	Coal	A miner was working in a seam 10 feet thick, in a depillaring district, and had undercut the coal to a depth of 2 ft. The coal was soft and friable, and without warning, a mass 8' x 5' x 1' fell from above the undercut killing him instantly. Inspection and inquiry made.
68	27th May, 10 P.M.	Acsasura mine, Tisri P. O., Bihar and Orissa.	Digri Ram Kamal- pati Ram.	Mahabir Singh, (m.), 15, Labourer.	Mica	While a gang of 13 persons were at work in a quarry, a fall of side, measuring 20' x 13' x 5', occurred from a height of 24 feet. One of the gang received injuries which proved fatal a few hours later. Inspection and inquiry made.
69	28th May, 6-30 A.M.	Ya-daung mine, Bokpyin P. O., Burma.	In Sit Yan.	Mg. Po Thone, (m.), 45, Mg. Hpone, (m.), 20, Tributors.	Tin	While a miner was at work on a ledge or bench, 15 feet long, and 9 feet above the floor of a quarry, the earth which formed the bench suddenly collapsed and fell, partially burying a miner who was at work in the quarry below. He expired while he was being extricated. Another miner was fatally injured. Inspection and inquiry made.
70	30th May, 8-30 A.M.	Sripur mine, Kalipahari P. O., Bengal.	Lodna Colliery Co. (1920), Ltd.	Karu Meah, (m.), 35, Loader.	Coal	While some men were loading coal in a depillaring area a 'bump' occurred in the goaf causing a mass of coal to fall from the side of a pillar. One person was fatally and another seriously injured by the falling coal. Inspection and inquiry made.

APPENDIX II—contd.

Fatal Accidents during the year 1934—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>(b) FALLS OF ROOF AND SIDES—contd.</b>						
<b>Falls of Sides—contd.</b>						
71	1st June, 12 noon.	Gularia mine, Domchanch P. O., Bihar and Orissa.	Shymkant Lal and Srikant Lal.	Ugan Singh, (m.), 35, Dump picker.	Mica	While working in an excavation, 12 feet deep, deceased was buried by a mass of mine waste which fell from the side. He was dead when extricated. Inspection and inquiry made.
72	6th June, 5-30 A.M.	Lodna mine, Jharia P. O., Bihar and Orissa.	Lodna Colliery Co. (1920), Ltd.	Mulai Chamar, (m.), 44, Loader	Coal	While a coal loader was entering a depillaring area in a seam 24 feet thick, a mass of coal weighing about 1½ tons fell from the side of a pillar under extraction. He was struck and killed instantly by the falling coal. Inspection and inquiry made.
73	28th June, 4-30 P.M.	Standard (Jharia Khas Section) mine, Jharia P. O., Bihar and Orissa.	Standard Coal Co., Ld.	Shambhn Nath Mullick, (m.), 32, Coal-cutter.	Coal	While dressing the corner of a pillar in a gallery, 11 feet high, a miner caused a mass of coal, measuring 2'-6" x 2' x 1', to fall away from a height of 9 feet. He was struck by the falling coal and received serious injuries from which he died four days later. Inspection and inquiry made.
74	28th June, 10-30 P.M.	Burma Dhemu mine, Sitarampur P. O., Bengal.	Burma Dhemu Coal Co., Ld.	Daharu Meah, (m.), 39, Coal-cutter.	Coal	While deceased was cutting roof coal, a piece of coal about 6' x 3' x 5' thick, fell from a height of 7 feet and killed him instantly. Inspection and inquiry made.
75	30th June, 8 P.M.	Kurbaree mine, Giridih P. O., Bihar and Orissa.	Government of India, Railway Department. (E. I. Railway).	Kodo Chamar, (m.), 34, Coal-cutter.	Coal	While a miner was engaged in cutting coal from the side of a pillar with a view to splitting it preparatory to depillaring, a bump occurred and released a mass of coal, estimated at half a tub, from a cleat at a height of about 8 feet. He received injuries to which he succumbed sixteen days later. Inspection and inquiry made.
76	4th July, 4 P.M.	Tiloritand mine, Pachamba P. O., Bihar and Orissa.	Sednull Remchwar Lal.	Domau Dusadh, (m.), 25, Miner.	Mica	While two persons were working at the bottom of an excavation, 20 feet deep cut through an old dump, they were buried by a mass of the mine waste which fell from the side. One was suffocated and another person received serious injuries. Inspection and inquiry made.

77	18th July, 4 P.M.	Kalyanpur mine, Banjar P. O., Bihar and Orissa.	Kalyanpur Lime- stone Works, Ld.	Burti Ahirin, (f.), 40, Loader.	Lime- stone.	While a female loader was sitting near her working placed wedge shaped mass of shale, fell on to her from a height of 15 feet. She sustained injuries due to which she died three days later. Inspection and inquiry made.
78	23rd July, 4 P.M.	Sankari mine, Domchanch P. O., Bihar and Orissa.	Naraindas Agar- walla.	Fagoonia Teli, (m.), 19, Miner.	Mica	Deceased was attempting to extract mica from the side of an excavation when a mass of earth, fell upon him. He received serious injuries which proved fatal eight hours later. Inspection and inquiry made.
79	11th August, 11-45 A.M.	Chaung-Chan-Thein mine, Bokpyin P. O., Burma.	Shwe Thein .	Shan Oh, (m.), 30, Tributor.	Tin	While at work in a sluicing channel a tributor was buried by a mass of earth and stone, which fell from the side above. He was killed instantly. Inspection and inquiry made.
80	11th August, 2-30 P.M.	Standard (Benahir Section) mine, Jharia P. O., Bihar and Orissa.	Standard Coal Co., Ld.	Prabhu Kurmi, (m.), 25, Coal-cutter.	Coal	Deceased entered his working place by passing through a fence before the overman had pronounced it safe for working. While he was in the place a mass of coal fell from a pillar side dislodging three props one of which struck him and killed him instantly. Inspection and inquiry made.
81	13th August, 7-30 P.M.	Kustore mine, Kusunda P. O., Bihar and Orissa.	Raneegunge Coal Association, Ld.	Sahas Ram, (m.), 35, Coal-cutter.	Coal	In the process of extracting a pillar of coal, in a seam 14 feet thick, a mass of coal, 8'x5'x3', fell unexpectedly and three persons employed there were seriously injured. Deceased succumbed to his injuries five hours later. Inspection and inquiry made.
82	21st August, 9-30 A.M.	Bwabin mine, Tavoy P. O., Burma.	Daw Mya Thu	Atmaram, (m.), 30, Tributor.	Tin	While a tributor was at work in an open cast excavation he was buried by a mass of earth, which fell from the side—a height of 16 feet. He was killed instantly. Inspection and inquiry made.
83	22nd August, 2 P.M.	Bhangia Gursote mine, Japla P. O., Bihar and Orissa.	Sone Valley Port- land Cement Co., Ld.	Ram Nandan Ahir. (m.), 34, Loader	Limestone	While a miner working in a quarry a mass of red clay fell from the side on him and inflicted serious injuries to which he succumbed four days later. Inspection and inquiry made.
84	26th August, about 7 A.M.	Kustore mine, Kusunda P. O., Bihar and Orissa.	Raneegunge Coal Association, Ld.	Gana Bauri, (m.), 38, Loader.	Coal	Deceased went into a fenced area to answer a call of nature and while there was killed by a mass of coal weighing about 6 tons which fell from the side of a pillar. Inspection and inquiry made.
85	27th August, 7 A.M.	Ramgarh Jharia mine, Nuckhurkee P. O., Bihar and Orissa.	Virji and Bhagwanji Ranchhod Thacker	Jothi Gaujoo, (m.), 20, Earth-cutter.	Coal	Deceased was cutting earth in a quarry, when a measure- ment pillar, 15' high, toppled over and fell upon him, killing him instantly. Inspection and inquiry made.
86	27th August, 5 P.M.	San Shay mine, Morlabau P. O., Burma.	Mrs. Hla Aung, M.B.E.	Mg. Sain Thwin, (m.), 31, Labourer.	Tin and wolfram	While at work in an open excavation a labourer was struck by a mass of earth and stone which fell from a height of 8 feet. He was killed instantly. Inspection and inquiry made.

APPENDIX II—contd.

Fatal Accidents during the year 1934—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>(b) Falls of sides—contd.</b>						
87	3rd September, 6 A.M.	Kanbank mine, Kanbank P. O., Burma.	Kanbank Mines, Ld.	Samo, (m.), 32, Tributor,	Tin and wolfram	While a labourer was walking through a water channel, he was buried by a mass of earth, which fell from the side. He died from suffocation. Inspection and inquiry made.
88	5th September, 9-45 P.M.	Ledo Valley mine, Ledo P. O., Assam.	Assam Railways and Trading Co., Ld.	Erphanali Md., (m.), 30, Loader.	Coal	While coal was being removed from an 'opening' 40 feet square and 16 feet high a mass of coal weighing about 1 ton fell from the side. A coal loader was struck and killed instantly by the falling coal. Inspection and inquiry made.
89	7th September, 6 A.M.	Pok-Pok mine, Panng P. O., Burma.	B. B. Fernandez	Mg. Po Sein, (m.), 40, Labourer.	Tin	While at work in a sluicing drain 6 feet deep, a labourer was struck by a boulder, 5' x 4' x 2' - 6", which fell from the side. He was so severely crushed that he died almost immediately. Inspection and inquiry made.
90	7th September, 5 P.M.	Gazlitand mine, Sijua P. O., Bihar and Orissa.	New Maabhoom Coal Co., Ld.	Biran Nut, (m.), 35, Coal-cutter.	Coal	While deceased was levering down some coal from the side of a pillar under extraction, a mass of coal, weighing about 2 tons, fell from the side and dislodged a prop which struck him. He sustained serious injuries to which he succumbed shortly afterwards. Inspection and inquiry made.
91	8th September, 11-10 A.M.	Kymore mine, Kymore P. O., Central Provinces.	C. P. Cement Co., Ld.	Siddha Kole, (m.), 30, Labourer. Samana Kole, (m.), 6, Nil. Indranis Kolin, (f.), 22, Labourer.	Lime- stone.	In a quarry, a gang of workers and a child were halting during the recess of work when a few layers of stone together with the overlying soil, measuring about 50' x 25' x 2' - 6" thick, broke off a cleavage plane, slid down a distance of about 23 feet and finally slipped off the top of a bench 4½ feet high. Two workers and the child were buried in the fall and suffocated. Another worker sustained serious injuries. Inspection and inquiry made.

93	8th September, 11 A.M.	Standard (Jharia Khas section) mine, Jharia P. O., Bihar and Orissa.	Standard Coal Co., Ld.	Sukhs Ahir, (m.), 32, Coal-cutter.	Coal	While standing watching a companion at work in a gallery underground, deceased was struck on the right foot by a piece of coal 2' x 1' x 1', which fell from the pillar side. The injury necessitated amputation of the foot and deceased died six months after the operation as the result of phthisis caused by diminished vitality following the accident. Inspection and inquiry made.
93	18th September, 8-45 P.M.	Kustore mine, Kusunda P. O., Bihar and Orissa.	Raneegunge Coal Association, Ld.	Paramu Chamar, (m.), 30, Coal-carrier.	Coal	While a miner was working in a depillaring area, he was struck by a mass of coal weighing about 1 ton which fell from a "slip" in the working place and he sustained injuries which proved fatal. Inspection and inquiry made.
94	24th September, 1 P.M.	Lodna (Nos. 4 & 5 Pita) mine, Jharia P. O., Bihar and Orissa.	Lodna Colliery Co. (1920), Ld.	Dwarika Kuiri, (m.), 26, Coal-cutter.	Coal	A miner was dressing down coal from near the top of a pillar in a gallery 25 feet high when a mass of coal suddenly fell and dislodged the ladder on which he was standing. He fell to the ground and sustained injuries which proved fatal. Inspection and inquiry made.
95	6th October, 12-30 A.M.	Khas Kenda mine, Chora P. O., Bengal.	Khas Kenda Col- liery, Ld.	Kabil Bauri, (m.), 84, Kiran Bauri, (m.), 32, Coal-cutters.	Coal	Two miners were deputed to dress the side of a gallery 14 feet high which was insecure. They undercut the bottom of the insecure part and released a mass of coal 19' x 7' x 1' which fell killing one instantly and injuring the other fatally. If they had dressed the side from ladders as they were instructed to do the accident would not have occurred. Inspection and inquiry made.
96	10th October, 11 P.M.	Bara-Golai mine, Margherita P. O., Assam.	Assam Railways and Trading Co., Ld.	Lurkoo Bhumiz, (m.), 30, Coal-cutter.	Coal	While a miner was at work in an "opening" 40' x 36' a mass of coal and shale weighing about one ton fell from the side from a height of 16 feet. He was struck and killed instantly. Inspection and inquiry made.
97	1st November, 8-30 A.M.	Lodna mine, Jharia P. O., Bihar and Orissa.	Lodna Colliery Co. (1920), Ld.	Budhai Pashi, (m.), 27, Coal-cutter.	Coal	While assisting to dress roof coal after blasting, deceased was crushed under a mass of coal, weighing about a ton, which fell from the side of an adjoining pillar 22 feet high. Inspection and inquiry made.
98	6th November, 9 A.M.	Ledo Valley mine, Ledo P. O., Assam.	Assam Railways and Trading Co., Ld.	Uldoo Makrani, (m.), 39, Coal-carrier.  Dadkarim Makrani, (m.), 33, Coal-loader	Coal	While coal was being loaded in an 'opening' 30' x 20' a mass of coal weighing about 1 ton fell from the side from a height of 18 feet. One loader was killed instantly and another received injuries from which he died three hours later. Inspection and inquiry made.
99	12th November, 11 A.M.	Hermyingyi mine, Hermyingyi P. O., Burma.	Consolidated Tin Mines of Burma, Ld.	Mg. Hpo Thaik, (m.), 38, Tributor.	Tin and wolfram.	While at work in a sluicing channel a tributor was partially buried by a mass of earth and stones which fell from the side a height of 22 feet. He was fatally injured. Inspection and inquiry made.

**APPENDIX II—contd.**

**Fatal Accidents during the year 1934—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>						
<i>(b) Falls of sides—concl'd.</i>						
100	13th November, 2-5 A.M.	Hermyingyi mine, Hermyingyi P. O., Burma.	Consolidated Tin Mines of Burma, Ld.	Su Leek Chye, (m.), 42, <i>Tributor.</i>	Tin and wolfram.	While a tributor, on his way out of a mine was passing along an under-ground drive, he was struck by a piece of stone, 3' x 3' x 3', which fell from the side. He was killed instantly. Inspection and inquiry made.
101	17th November, 3-50 A.M.	Ratibaty mine, Kalipahari P. O., Bengal.	Ratibaty Collieries, Ld.	Bodi Kora, (m.), 24, <i>Coal-cutter.</i>	Coal	While a miner was robbing coal from the overhanging side of a pillar, a mass of coal, 7' x 2' x 1' thick, fell from a height of 9 feet killing him instantly. Inspection and inquiry made.
102	8th December, 4 P.M.	Bagdigi mine, Jharia P. O., Bihar and Orissa.	Anderson Wright & Co., Ld.	Kheroo Meah, (m.), 24, <i>Loader.</i>	Coal	Deceased was sitting in a gallery when a piece of coal, 10' x 9' x 6' fell on him unexpectedly from the side of a pillar at a height of 13 feet. He sustained serious injuries to which he succumbed eight days later. Inspection and inquiry made.
103	15th December, 2 P.M.	Zingyaik mine, Katun P. O., Burma.	Mg. Nyun U.	Ma On, (f.), 30, <i>Tributor.</i>	Wolfram	Contrary to orders a woman and her husband were working in an old sluicing channel when a mass of earth, 8' x 6' x 1'6", fell from the side—a height of 12 feet and struck the woman causing injuries to which she succumbed six days later. Inspection and inquiry made.
104	30th December, 5 P. M.	Palawchaungpywa mine, Palaw P. O., Burma.	Eu Gwan Kyin.	Mg. Ba Kywet, (m.), 32, <i>Not employed.</i>	Tin	Deceased was undercutting the side of an opencast excavation when he was partially buried by a mass of earth, which fell from a height of 3 feet. He was fatally injured. Inspection and inquiry made.
<b>IN SHAFTS (OVERWINDING)—(1 death).</b>						
105	29th May, 1-45 A.M.	Pretoria mine, Charanpur P.O., Bengal.	Seehpore Coal Co., Ld.	Chulai Meah, (m.), 48, <i>Assistant filter.</i>	Coal	A winding engineman caused an overwind of the ascending cage in a shaft 430 feet deep for a distance of about 23 feet when the cage was arrested in the headgear by the detaching hook. Deceased who was the only occupant of the cage, was seriously injured, and died shortly afterwards. Inspection and inquiry made.

**IN SHAFTS (WHILST ASCENDING OR DESCENDING BY MACHINERY)—(2 deaths).**

106	10th February, 10-30 A.M.	Khas Chhalbelpur mine, Searsol Rajbari P.O., Bengal.	U. N. Pandey	Nanku Mahato, (m.), 35, <i>Coal-utter.</i>	Coal	Deceased jumped off a bucket when it had nearly reached the bottom of a shaft 312 feet deep. In falling, he struck his head against another bucket at the pit bottom and sustained fatal injuries. Inspection and inquiry made.
107	2nd March, about 2-30 P.M.	Kustore mine, Kusunda P.O., Bihar and Orissa.	Rancegunge Coal Association (Ld.)	Budhan Dhaikar, (m.), 35, <i>Gateman.</i>	Coal	Deceased was killed by falling out of a cage while it was ascending a shaft. If the gate provided for fencing the end of the cage had been used, the accident would not have occurred. Inspection and inquiry made.

**IN SHAFTS (FALLING DOWN SHAFT)—(1 death).**

105	16th October, 7-35 A.M.	Sitalpur mine, Dishergarh P.O., Bengal.	Bengal Coal Co., Ld.	Tarini Singh, (m.), 88, <i>Labourer.</i>	Coal	In order to change a winding rope a cage had been lowered on beams laid across the shaft top and the signal had been given to lower the winding rope so that the bridle chains could be detached. Instead of lowering the winding rope was raised by the unbalanced load of the other cage due to incorrect operation of the electric winder and deceased who was standing on the cage was thrown into the shaft when the bridle chains were tightened. He fell 820 feet to the shaft bottom and was killed instantly. Inspection and inquiry made.
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**BY EXPLOSIVES—(16 deaths).**

109	3rd January, 4-30 P.M.	Jatasahr mine, Rajauli P.O., Bihar and Orissa.	Chatturam Darsan- ram.	Dhani Ram, (m.), 30, <i>Shot-firer.</i>	Mica	A shot-firer was clinching a detonator to a piece of fuse on the surface, when the detonator accidentally exploded. The concussion in turn exploded two cartridges of dynamite and another detonator which were lying close by. The shot-firer sustained injuries to which he succumbed two hours later, while two coolies who were in the vicinity were seriously injured. Inspection and inquiry made.
110	20th January, 1 A.M.	Gamaria mine, Kodarma P.O., Bihar and Orissa.	F. F. Chrestien & Co., Ld.	Bhatu Singh, (m.), 20, Ghiridhari Singh, (m.), 22, <i>Misers.</i>	Mica	During an earthquake shock, a wooden box containing 3½ lbs. of loose gunpowder fell from a strut stretched across a drive 2 feet from the floor. Some of the powder was spilt from the box, and was ignited by a candle nearby and in turn the contents of the box was also ignited. Of three persons who were in the vicinity, two were fatally burnt and one seriously. Inspection and inquiry made.
111	28th March, 12-15 P.M.	Dhobani mine, Ghateila P.O., Bihar and Orissa.	Indian Copper Cor- poration, Ld.	Sheik Abdul, (m.), 30, Mundri Kullen, (m.), 21, Bhokhan Bahadur, (m.), 35, <i>Machine drillers.</i>	Copper	While a shot-hole was being drilled in an underground gallery, the drill struck a quantity of gelatine left unexploded from a previous shot, and an explosion occurred. Three drillers were working in the place. One was killed instantly while the remaining two received injuries which proved fatal. Inspection and inquiry made.



APPENDIX II—contd.

Fatal Accidents during the year 1934—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>BY EXPLOSIVES—contd.</b>						
112	5th March, 11-30 A.M.	Khajura mine, Beghunathpur P. O., Bihar and Orissa.	Bose and Basant Bam.	Bahadur Khan, (m.), 24, Miner.	Stone ..	While deceased was breaking a mass of stone, weighing about a ton and a half, an explosion of an old undetected charge of explosives occurred, and he received serious injuries which proved fatal three days later. Two other persons were seriously injured. Inspection and inquiry made.
113	20th April, 5-15 A.M.	Damus mine, Bamanwara P. O., Central Provinces.	Kanhan Valley Coal Co., Ltd.	Vishnu, (m.), 80, Loader.	Coal .	Five shots had been fired at the face of a gallery which was about to connect with another gallery, but through the negligence of the shot-firer and the person who had been deputed to watch the latter gallery, a miner entered and was fatally injured by pieces of coal as the shots burst through. Inspection and inquiry made.
114	28th April, 11-30 A.M.	Lakshminarasimha mine, Sydapuram P. O., Madras.	T. Poliah Naidu and A. Lakshamma.	Soorapak Pottivadu, (m.) 85, Miner	Mica .	In the course of re-opening an old tunnel, a miner inadvertently caused a concealed misfired shot to explode. He was fatally injured by a sharp piece of stone projected by the blasting. Three other persons were also injured by pieces of stone. Inspection and inquiry made.
115	27th May, 10 A.M.	Jojuhatu mine, Chaibasa P. O., Bihar and Orissa.	Mangilall Bangta .	Soma Ho, (m.), 21, Miner.	Chromite	Deceased and a companion had taken shelter at a point 240 feet from a spot where blasting operations were in progress when a piece of rock was projected into the air and struck him on the head killing him instantly. His companion received minor superficial injuries. Inspection and inquiry made.
116	10th July, 4-15 P.M.	West Jamuria mine, Charanpur P. O., Bengal.	West Jamuria Coal Co., Ltd.	Bhadoo Bauri, (m.), 36, Coal-cutter.	Coal .	A shot was fired at the face of a gallery which had reached a point 54 feet from the face of another gallery. The shot-firer negligently omitted to withdraw the miners from the latter gallery with the result that when the shot went off, it blew through and one of the miners was fatally injured. Inspection and inquiry made.
117	29th August ..	Sevalia mine, Sevalia P. O., Bombay.	Sayaji Iron Works	Alefkhan, (m.), 60, Stone breaker.	Stone .	Deceased was engaged in breaking a stone with a heavy hammer when flying pieces of the stone hit him on the head and chest causing fatal injuries.

118	22nd September, 6-30 A. M.	Khajura mine, Raghunathpur P. O., Bihar and Orissa.	Bose and Basan Ram.	Dasrath Bauri, (m.), 35, Labourer.	Stone	A shot firer's assistant was fatally burnt by a quantity of loose gun-powder, in a canister, which was accidentally ignited. Inspection and inquiry made.
119	2nd October, 3-30 A. M.	Ghorawari mine, Junnordeo P. O., Central Provinces.	Hirdagarh Collieries, Ld.	Ronia Tali, (m.), 15, Loader.	Coal	A shot when fired blew through into an adjacent gallery and a piece of coal was projected a distance of 50 feet, struck a loader who was sitting there and killed him instantly. Inspection and inquiry made.
120	19th October, 4 A.M.	Hermyingyi mine, Hermyingyi P. O., Burma.	Consolidated Tin Mines of Burma. Ld.	Maung Din, (m.), 30, Blaster.	Tin and wolfram.	After a round of 13 shots had been fired in an underground-drive, a blaster and his mate returned to the place, where it is presumed they attempted to reblast a socket with too short a length of fuse, when the charge exploded and both were seriously injured. The blaster succumbed to his injuries six weeks later. Inspection and inquiry made.
121	3rd December, 10-30 A.M.	Standard (Benahir section) mine, Jharia P. O., Bihar and Orissa.	Standard Coal Co., Ld.	Madho Passi, (m.), 24, Coal-cutter.	Coal	Deceased crossed a fence against the shot-firer's order and returned to a gallery where a shot had hung fire. On reaching the place, the shot exploded, killing him on the spot. Inspection and inquiry made.
<b>HAULAGE—(20 deaths).</b>						
122	12th January, 6-55 P.M.	Jarangdih mine, Bokaro P. O., Bihar and Orissa.	Bombay, Baroda and Central India Railway and M. and S. N. Railway.	Sita Prosad, (m.), 20, Trammer.		Deceased was thrusting against a mine car standing on a curve, in anticipation of it being lowered, when it was raised instead. The mine car became derailed and he was crushed against a prop and died as the result of his injuries. Inspection and inquiry made.
123	7th February, 12-30 P.M.	Bokaro mine, Bokaro P. O., Bihar and Orissa.	East Indian and Bengal Nagpur Railways.	Nandlal Bhuiya, (m.), 30, Earth-cutter.	Coal	While running alongside a rake of eight loaded trams deceased slipped and fell between two of the trams. He sustained serious injuries and died as a result two hours later. Inspection and inquiry made.
124	17th March, 11 P.M.	Iklehra mine, Parasia P. O., Central Provinces.	Amalgamated Coal- fields, Ld.	Shankaria, (f.), 45, Coal-filler.	Coal	While a female coal loader was travelling up a haulage road the rope was set in motion. She became confused and instead of taking refuge in a manhole she ran up the road, lost her light, and was then knocked down and seriously injured by a set of tubs. She died from injuries six days later. Inspection and inquiry made.
125	25th March, 5 A.M.	Jatachappa mine, Parasia P. O., Central Provinces.	Amalgamated Coal- fields, Ld.	Alladin Mussalman, (m.), 28, Trammer.	Coal	While a trammer was riding on a set of loaded tubs, which was being hauled up an incline, his light was extinguished and he slipped and fell between two tubs. He sustained serious injuries and contracted double pneumonia from which he died four days later. He was not authorised to ride on the sets. Inspection and inquiry made.

APPENDIX II--contd.

Fatal Accidents during the year 1934--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--contd.</b>						
126	27th April, 3-30 P.M.	Lodna (Nos. 4 & 5 Pits) mine, Jharia P. O., Bihar and Orissa.	Lodna Colliery Co. (1920), Ld.	Faguni Bhuiya, (m.), 24, Trolleyman.	Coal	While a rake of four loaded tubs was being lowered down a haulage drift, graded at 1 in 7, a coupling broke and the tubs ran wild. The four tubs crashed into some stationary tubs and a hookman who was working at the foot of the drift was killed instantly. Inspection and inquiry made.
127	16th May, 6-30 P.M.	Katras mine, Katrasgarh P. O., Bihar and Orissa.	Burrakur Coal Co., Ld.	Bhikhan Meah, (m.), 20, Trammer.	Coal	While three empty tubs were being jiggered on a gradient of 1 in 9, one of them became uncoupled, and ran about 150 feet to the bottom of the "jig", where it struck a trammer and killed him instantly. Inspection and inquiry made.
128	23rd June, 2-25 P.M.	Khewra mine, Khewra P. O., Punjab.	Government of India.	Imam Din, (m.), 35, Miner.	Salt	Deceased was walking along an underground haulage road when a train of mine cars, pushed by a locomotive, knocked him down and he sustained injuries which proved fatal. If he had used the travelling road provided, this accident would not have occurred. Inspection and inquiry made.
129	29th June, 9-15 A.M.	Chandametta mine, Parasia P. O., Central Provinces.	Pench Valley Coal Co., Ld.	Galjharis Mehra, (m.), 25, Labourer.	Coal	After a set of full tubs had been landed at the top of an endless rope haulage the banksmen failed to put the stop block in position with the result that when the tubs were uncoupled the last tub ran wild down the incline. Two platelayers who were walking on the incline were seriously injured by the runaway tub, one of them dying shortly after. Inspection and inquiry made.
130	7th July, 3 A.M.	Sitalpur mine, Dishergarh P. O., Bengal.	Bengal Coal Co., Ld.	Gopal Mochi, (m.), 19, Door-attendant.	Coal	A door-attendant was caught by a descending set of loaded tubs on an underground haulage road and killed instantly. Inspection and inquiry made.
131	24th July, 1-40 P.M.	Monoharbahal mine, Asansol P. O., Bengal.	Chandanmull Indra- kumar.	Nilmoni Dasadh, (m.), 23, Trammer.	Coal	Whilst a trammer was taking a loaded tub along a tramline in a gallery underground, he was run into from behind by another loaded tub which had "run wild". He was fatally injured. Inspection and inquiry made.

182	16th August, 8-55 A.M.	Hindustan Lalpeth mines, Chanda P. O., Central Provinces.	Birla Brothers, Ltd.	Lachma Ella, (m.), 25, Tramper.	Coal	While riding up a haulage incline on a tub a tramper was thrown off and fatally crushed between the tub and the side of a pillar. He was not authorised to ride on tubs. Inspection and inquiry made.
183	15th September, 10-30 P.M.	Sirka mine, Argada P. O., Bihar and Orissa.	South Karanpura Coal Co., Ltd.	Birshahi Karmali, (m.), 25, Trolleyman.	Coal	While two trammers were guiding two empty tubs round a curve leading from a haulage, dipping 1 in 3, the tubs were derailed and deceased was crushed between the tubs and the corner of a pillar, and killed instantly. Inspection and enquiry made.
184	22nd September, 5 P.M.	Poidih mine, Sunderchak P. O., Bengal.	Bengal Coal Co., Ltd.	Amulya Bauri, (m.), 27, Tramper.	Coal	While attempting to ride on a set of tubs, a tramper lost his balance and fell in front of it. He was dragged forward and fatally injured by the moving set. Inspection and inquiry made.
185	5th October, 12-15 A.M.	Mahakali mine, Chanda P. O., Central Provinces.	Aboobaker Abdul Bahman & Co.	Mallaya Balaya, (m.), 24, Labourer.	Coal	While assisting to push four full tubs along a level deceased stumbled and received serious injuries to his leg. He contracted tetanus from which he died one month later. If an anti-tetanus injection had been given at the time it occurred this accident might not have terminated fatally. Inspection and inquiry made.
186	24th October, 8-30 P.M.	Churulia mine, Churulia P. O., Bengal.	Churulia Coal Co., Ltd.	Raman Mochi, (m.), 35, Tramper.	Coal	When a rake of 9 empty tubs was about to be lowered down a haulage incline dipping at 1 in 4 the front tub, which had not been coupled, ran amain. After it had gone 300 feet it struck a tramper who was walking down the haulage road and killed him instantly. Inspection and inquiry made.
187	5th November, 1 P.M.	Kurhurbaree mine, Giridih P. O., Bihar and Orissa.	Government of India, Railway Department. (E. I. Railway).	Bhatoo Meah, (m.), 36, Tramper.	Coal	While pushing two loaded tubs into a cage, a tramper was struck by a third loaded tub which approached him from behind. He was fatally injured. Inspection and inquiry made.
188	13th November, 5 A.M.	Datla mine, Junnordeo P. O., Central Provinces.	Amalgamated Coal- fields, Ltd.	Sham Sunder, (m.), 35, Tramper.	Coal	While a set of six full tubs was being hauled up an incline, rising 1 in 4, a coupling broke causing five tubs to run back and be overturned by the drag. A tramper who was present received injuries from which he died ten days later. Inspection and inquiry made.
189	15th December, 4 P.M.	Datla mine, Junnordeo P. O., Central Provinces.	Amalgamated Coal- fields, Ltd.	Imrat Kirar, (m.), 23, Tramper.	Coal	While riding up an incline on a set of full tubs a tramper fell in front of the set and was seriously injured. He died seven weeks later. He was not authorised to ride on the tubs. Inspection and inquiry made.
140	17th December, 4-30 P.M.	Datla mine, Junnordeo P. O., Central Provinces.	Amalgamated Coal- fields, Ltd.	Kapoorchand Gaoli, (m.), 25, Roller attendant.	Coal	A haulage attendant was fatally injured when a set of eight empty tubs ran wild from the top of the incline. If the attendant at the top of the incline had not opened the stop blocks before the engineman was ready this accident would not have occurred. Inspection and inquiry made.

**APPENDIX II—contd.**

**Fatal Accidents during the year 1934—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—concl'd.</b>						
141	27th December, 5-30 A. M.	Chandametta mine, Parasia P. O., Central Provinces.	Fench Valley Coal Co., Ltd.	Haria Kole, (m.), 22, <i>Trammer.</i>	Coal	While pushing a tub deceased's foot slipped down between the rail and a loose plank covering the return wheel of an endless rope haulage. His foot was caught by the wheel and he received injuries from which he died ten days later. Inspection and inquiry made.
<b>BY UNDERGROUND MACHINERY—(1 death).</b>						
142	19th May, 12-30 A. M.	Katras mine, Katrasgarh P. O., Bihar and Orissa.	Burrakur Coal Co., Ltd.	Hhatoo Kahar, (m.), 40, <i>Pump driver.</i>	Coal	The driver of a three-throw ram pump driven by a 10 H. P. motor passed through a fence while the pump was working and was killed. The pump was properly fenced and guarded. Inspection and inquiry made.
<b>SUNDRIES UNDERGROUND—(14 deaths).</b>						
143	16th January, 3-30 P. M.	Sripur mine, Kalipahari P. O., Bengal.	Lodna Colliery Co. (1920), Ltd.	Moti Turi, (m.), 22, <i>Loader.</i>	Coal	While a number of miners and loaders were engaged in the extraction of coal from a pillar, the roof in the goaf commenced to "weight". The sirdar ordered all the men to withdraw, but deceased when running out with a basket of coal on his head, tripped and fell heavily on the floor. He sustained serious injuries to his head and died two hours later. Inspection and inquiry made.
144	26th January, 7-30 A. M.	Victoria mine, Kulti P. O., Bengal.	New Beerbhoom Coal Co., Ltd.	Chiman Roy, (m.), 29, <i>Trammer.</i>	Coal	While full tubs were being marshalled by hand in an underground level, a piece of coal fell off a tub on to the foot of deceased causing a slight cut wound. He died seven days later, but it is not clear that the injury received was the cause of death. Inspection and inquiry made.
145	23rd March, 11-30 A. M.	Bawdwin mine, Namtu P. O., Burma.	Burma Corporation, Ltd.	Keshbir Thapa, (m.), 45, <i>Labourer.</i>	Silver-lead-zinc.	While assisting to unload heavy timber from a cage, a miner ruptured his internal organs, and died three days later. Inspection and inquiry made.
146	29th March, 2-30 P. M.	Kendadih mine, Mohulia P. O., Bihar and Orissa.	Tata Iron & Steel Co., Ltd.	Jadu Santal, (m.), 27, <i>Labourer.</i>	Schist Rock.	A tree was about to be felled in an opencast working, when a strong wind which was blowing at the time, uprooted it. In falling it struck two men and injured them. One man died one hour later as the result of his injuries. Inspection and inquiry made.

147	6th April, 10-45 A.M.	Godhur mine, Kusunda P. O., Bihar and Orissa.	Kanga & Co.	Munshi Bhuiya, (m.), 27, <i>Onsetter.</i>	Coal	While an onsetter was engaged in repairing a tramline at the bottom of a shaft, he slipped and broke his left leg in falling. He died from shock an hour later. Inspection and inquiry made.
148	28th June, 4-30 P.M.	Lutchipur mine, Sitarampur P. O., Bengal.	Promode Ranjan Sarker.	Nanku Singh, (m.), 58, <i>Loader.</i>	Coal	While a miner was proceeding along a gallery, a piece of roof coal 2' - 9" x 1' - 9" x 1' - 9" fell from a height of 8½ feet. In avoiding the falling coal he tripped and struck his head against a stone pack wall sustaining fatal injuries. Inspection and inquiry made.
149	12th July, 4-30 A.M.	Jamadoba mine, Jeaigora P. O., Bihar and Orissa.	Tata Iron & Steel Co., Ltd.	Karia Ruhidass, (m.), 24, <i>Loader.</i>	Coal	While deceased was filling his basket near the face of a pillar under extraction, a fall took place in an adjoining goaf. He was running away, when he stumbled and fell, sustaining minor injuries. Pneumonia supervened, and he died sixteen days later. Inspection and inquiry made.
150	21st July, 8 A.M.	Rajdhbar mine, Bowlia P. O., Bihar and Orissa.	Taja Singh	Nake Mohammad, (m.), 35, <i>Loader.</i>	Lime- stone.	Deceased was struck and fatally injured by a piece of stone, 4' x 2' - 4" x 1' - 3", which was rolled down from a height of 18 feet. Inspection and inquiry made.
151	21st July, 3-45 P.M.	Wah mine, Wah P. O., Punjab.	Punjab Portland Cement Co., Ltd.	Fatah, (m.), 50, <i>Jack hammer driller.</i>	Lime- stone.	Deceased was working in a limestone quarry when a large stone, 6' x 3' - 6" x 3', slipped from a heap of stones and fell on him. He was killed instantly. Inspection and inquiry made.
152	16th August, 4-35 P.M.	Bawdwin mine, Namtu P. O., Burma.	Burma Corpora- tion, Ltd.	Labu, (m.), 31, <i>Labourer.</i>	Silver- lead- zinc.	A labourer was standing on the top of a mine car in an underground level and had just removed an obstruction from the door of a waste chute, when there was a sudden rush of waste and water which knocked him off the car. At the same time the car was tilted over and he was crushed between the car and the timber posts of the level. He was fatally injured. Inspection and inquiry made.
153	31st October, 11-30 A.M.	Ekra Khas mine, Bansjora P. O., Bihar and Orissa.	Maharaja S. C. Nandi.	Tulsi Chamar, (m.), 45, <i>Coal-utter.</i>	Coal	A miner was levering down coal from the top bench of a pillar, 25 feet high, under extraction, when a mass of coal weighing about 1 cwt. struck and dislodged a prop which on falling hit deceased, inflicting fatal injuries. Inspection and inquiry made.
154	1st November, 3-30 A.M.	Begunia mine, Barakar P. O., Bengal.	K. C. Thapar	Bhuesan Bhagti, (m.), 40, <i>Coal-utter.</i>	Coal	While a miner was working a hand pump near the face of a gallery 9 feet high a mass of stone 10' x 3' x 1' - 3" fell from the roof at a "slip" dislodging two props. In jumping clear of the falling stone he fell and sustained lacerated wounds. The wounds turned septic and he died in hospital four months later. Inspection and inquiry made.
155	1st November, 5-40 P.M.	Ena mine, Jharra P. O., Bihar and Orissa.	North West Coal Co., Ltd.	Laloo Mahato, (m.), 48, <i>Labourer.</i>	Coal	While withdrawing props in a depillaring area deceased was struck by the end of a "bunton" with which the props were being dislodged. He received injuries from which he died 8 days later. Inspection and inquiry made.

APPENDIX II—*contd.*

Fatal Accidents during the year 1934—*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>SUNDRIES UNDERGROUND—<i>contd.</i></b>						
156	10th December, 8-30 A.M.	Yaw-dan-swe mine, Yinyein P. O., Burma.	Khan Bahadur Ibrahim.	Indra Bahadur, (m.), 32, Labourer.	Stone	While a labourer was at work on a quarry face, 30 feet above the ground the safety rope to which he was attached, broke, and he fell a distance of 15 feet. He sustained injuries to which he succumbed eighteen days later. Inspection and inquiry made.
<b>BY SURFACE MACHINERY—(3 deaths).</b>						
157	10th May, 7-30 A.M.	Jcetpur mine, Bhaga P. O., Bihar and Orissa.	Bengal Iron Co., Ltd.	Kalu Jesoara, (m.), 40, Hoist driver.	Coal	The driver of a small hoist, used for raising and lowering tubs from the pit top to a stock dump, climbed on to one of the hoist cages to oil a rope wheel. He instructed an unauthorised person to raise the cage slightly but the cage was raised to its full height and he was crushed between the top of the cage and part of the headgear. He died about a fortnight later from the injuries he received. Inspection and inquiry made.
158	1st July, 8 A.M.	Hinduchaung mine, Kyaukmedaung P. O., Burma.	Tavoy Tin Dredging Co., Ltd.	Maung Sit, (m.), 40, Winchman.	Tin	While engaged in greasing the gearing of a winch, a winchman had his right forearm caught in the gearing. He died following amputation of the limb. Inspection and inquiry made.
159	18th September, 5 A.M.	Mosaboni mine, Ghatsila P. O., Bihar and Orissa.	Indian Copper Corporation, Ltd.	Fremchand, (m.), 25, Labourer.	Copper	While attending a conveyor belt on the surface a cooly received injuries to his elbow which was caught between the belt and an idler pulley. He contracted tetanus from which he died twelve days later. If an anti-tetanus injection had been given at the time of the accident his life might have been saved. Inspection and inquiry made.
<b>ON SURFACE RAILWAYS AND TRAMWAYS BELONGING TO THE MINE—(11 deaths).</b>						
160	13th January, 4-15 P.M.	Kongon & Borjan mine, Kongyu P. O., Assam.	Nazira Coal Co., Ltd.	Bhujol, (m.), 31, Bucketman.	Coal	While on duty, a bucketman fell through an opening (which had been left for empty buckets to pass) on the platform of a ropeway station to the ground 31 feet below. He died of his injuries half an hour later. It is presumed that he was caught by an empty bucket which slipped on to the moving rope and knocked him over a short fence to the ground. Inspection and inquiry made.

161	3rd February, 6 P.M.	Gua mine, Gua Bihar and Orissa.	Indian Iron & Steel Co., Ltd.	Gorai Kishan, (m.), 24, Driller.	Iron ore .	While crossing a self acting incline on the surface, deceased was knocked down by a descending skip. He sustained serious injuries and died twenty-four hours later. Inspection and inquiry made.
162	16th June, 10-30 A.M.	Chandametta mine, Parasia P. O., Central Provinces.	Pench Valley Coal Co., Ltd.	Kuma Maharan, (f.), 20, Loader.	Coal .	Two wagons were standing on a siding when a third one was handshunted against them. Deceased who was standing between the first two wagons, ready to shunt the first one, was crushed between them and killed. Inspection and inquiry made.
163	17th August, 10-20 A.M.	Lodna mine, Jharia P. O., Bihar and Orissa.	Lodna Colliery Co. (1920), Ltd.	Mangal Meah, (m.), 51, Trolleyman.	Coal .	Deceased was standing at a crossing on a surface haulage road with a gradient of 1 in 50, while a set of empty tubs was gravitating down the road. The first tub became derailed and struck deceased. He sustained a fractured leg, and gangrene supervened, resulting in his death about a month later. Inspection and inquiry made.
164	18th August, 2 A.M.	Kurhurbaree mine, Giridih P. O., Bihar and Orissa.	Government of India, Railway Department (E. I. Railway).	Karma Bhuiya, (m.), 46, Labourer.	Coal .	While a railway wagon was being shunted by an engine into a loading line, deceased was struck by the moving wagon, and received injuries which proved fatal two days later. Inspection and inquiry made.
165	26th August, 10 A.M.	Jamuria mine, Charanpur P. O., Bengal.	Equitable Coal Co., Ltd.	Jaroo Gori, (m.), 32, Loader.	Coal .	Although warned not to do so deceased crossed a railway siding in front of a moving wagon and he was crushed between the buffers of two loaded wagons. Inspection and inquiry made.
166	28th August, 7-30 A.M.	Datia mine, Junnordeo P. O., Central Provinces.	Amalgamated Coal- fields, Ltd.	Ramdulary Ahir, (m.), 28, Tramper.	Coal .	A surface trammer who had gone in between two standing wagons to answer a call of nature was caught between the buffers when another wagon, which was being handshunted, bumped into these standing on the line. He received injuries from which he died next day. Inspection and inquiry made.
167	17th September, 8-30 A.M.	Makerwal mine, Trag P. O., Punjab.	C. B. Petman and R. S. L. Ishar Das Kapur.	Mangat Ram, (m.), 25, Locomotive fireman.	Coal .	Deceased, who was left in charge of a steam locomotive, is suspected of having tampered with the brakes, following which the engine and a water bogie ran wild down a grade of 1 in 23. He was severely burnt when the engine overturned at a curve and died three days later as the result of his injuries. Inspection and inquiry made.
168	24th October, 2-45 P.M.	Chandametta mine, Parasia P. O., Central Provinces.	Pench Valley Coal Co., Ltd.	Patiram Gond, (m.), 48, Coal-cutter.	Coal .	While walking along a surface endless rope haulage at the end of his shift a miner was fatally injured by being run into by a set of full tubs. Inspection and inquiry made.
169	30th October, 6-45 A.M.	Jogta mine, Sijua P. O., Bihar and Orissa.	Agabeg Brothers .	Sukhani Beldar, (m.), 32, Loader.	Coal .	Deceased was assisting to handshunt two empty wagons on a surface railway, when his foot was caught in the "points". Before he could release it he was run over and sustained serious injuries to which he succumbed almost immediately. Inspection and inquiry made.



**APPENDIX II—contd.**

**Fatal Accidents during the year 1934—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>ON SURFACE RAILWAYS AND TRAMWAYS BELONGING TO THE MINE—(11 deaths)—contd.</b>						
170	23rd December, 5 P.M.	Makerwal mine, Trag P. C., Punjab.	C. B. Petman and E. S. L. Ishar Das Kapur.	Iqbal Chand, (m.), 21, Munshi.	Coal	A train of tubs being drawn by a locomotive on the surface railway of a mine became derailed. The tubs struck deceased and killed him.
<b>MISCELLANEOUS ON SURFACE—(7 deaths).</b>						
171	2nd February, 1 A.M.	Datia mine, Junnordeo P. O., Central Provinces.	Amalgamated Coal-fields Ltd.	Mahadeo Brahman, (m.), 25, Tippler Foreman.	Coal	Deceased went to sleep beside a fire which had been kindled near a tippler. His clothing was ignited and he was fatally burnt. Inspection and inquiry made.
172	16th May, 4-30 P.M.	Makerwal mine, Trag P. O., Punjab.	C. B. Petman and E. S. L. Ishar Das Kapur.	Abdulla Jan, (m.), 40, Blacksmith.	Coal	Deceased was superintending operations on an aerial ropeway, when a capstan winch which was being used to take the strain of the cable rope, broke across the base and a piece of metal struck him on the head. The injury proved fatal. Inspection and inquiry made.
173	18th June, Noon.	Gharibwal (Jutana) mine, Jutana P. O., Punjab.	North Western Railway.	Saiden, (m.), 22, Quarry worker.	Stone	Deceased was quarrying stone from the face of a cliff when he fell a distance of 100 feet and sustained injuries which proved fatal. Inspection and inquiry made.
174	29th June, 10 A.M.	Shanthe mine, Palaw P. O., Burma.	Mg. Hlaing Pa	Haw Fook, (m.), 40, Tributor.	Tin	A tributor whilst inspecting a flume line was seized by a fit of apoplexy, and fell to the ground—a height of 25 feet, from whence he fell a further 25 feet down the hill side. He was killed instantly. Deceased was said to be subject to apoplectic fits. Inspection and inquiry made.
175	31st August, 10 A.M.	Bakudih mine, Barharwa P. O., Bihar and Orissa.	Eastern Bengal Railway.	Kartara, (m.), 30, Labourer.	Stone	While deceased, with others, was engaged near a railway in stacking heavy boulders with the help of a derrick, a train came in and struck one of the gny-ropes. The derrick post collapsed and struck deceased on his back injuring him fatally. Inspection and inquiry made.

176	15th November, 12 Noon.	Tinpahar mine, Tinpahar P. O., Bihar and Orissa.	Seth Teomal	Sarjoo Ram, (m.), 20, <i>Stone-breaker.</i>	Stone	While deceased was picking up stones at the foot of a hill, the sides of which are highly inclined, a boulder, about 30 lbs in weight, rolled down and struck deceased on his head killing him instantly. Inspection and inquiry made.
177	28th November, 10 A.M.	Lodna mine, Jharia P. O., Bihar and Orissa.	Lodna Colliery Co. (1920), Ltd.	Bangalee Chamar, (m.), 47, <i>Surface carter.</i>	Coal	Deceased was alone in an excavation about 4 feet deep, filling sand into a basket, when a mass of overburden, 6' x 2' x 1'-6" thick, fell on him. When extricated he was dead. Inspection and inquiry made.

APPENDIX II—*contd.*

Fatal Accidents during the year 1934—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Reason for exclusion.	Cause of accident and remarks.
<b>FATAL ACCIDENTS NOT INCLUDED IN THE STATISTICS—(33 deaths).</b>							
1	21st January, 2 A.M.	Jamuria mine, Charanpur P. O., Bengal.	Equitable Coal Co., Ld.	Ram Kishen Lalla, (m.), 26, <i>Coal-cutter.</i>	Coal	Not a mining accident.	While a miner was sleeping in a dwelling his clothing was set on fire by a lamp. He was severely burnt and died from his injuries twelve days later. Inspection and inquiry made.
2	5th March, 4 A.M.	Kirkend mine, Kusunda P. O., Bihar and Orissa.	Marine Coal Co., Ld.	Lokhn Turi, (m.), 30. <i>Boiler- fireman.</i>	Coal	Not a mining accident.	Deceased was sleeping near a fire in his dwelling, when his clothing caught fire. He was severely burnt and died three days later. Inspection and inquiry made.
3	6th March, 2 P.M.	Kyankutaung mine, Tavoy P. O., Burma.	Quah Hun Cheong.	Mg- Po Thwan, (m.), 20, <i>Labourer.</i>	Tin	Not a mining accident.	During tree felling operations in the jungle a labourer was running away in order to avoid a tree which was falling. He was struck, however by the branch of another tree which was broken off by some jungle creeper which had intertwined itself round both trees. He was fatally injured. Inspection and inquiry made.
4	10th March, 11 A.M.	East Bhalgora mine, Jharia P. O., Bihar and Orissa.	East Bhalgora Col- liery Co.	Puna Sudi, (m.), 35.	Coal	Not a mining accident.	Deceased was attempting to climb a tree on the edge of an old goaf when he slipped and fell a distance of 30 feet into the goaf. He sustained serious injuries to which he succumbed ten days later. Inspection and inquiry made.
5	18th March, 2-30 P.M.	Lodna (Nos. 4 and 5 Pits) mine, Jharia P. O., Bihar & Orissa.	Lodna Colliery Co. (1920), Ld.	Jamuna Korin, (f.), 35, <i>Coal-carrier.</i>	Coal	Not a mining accident.	Deceased was found drowned in an abandoned incline, containing 9 feet of water. Inspection and inquiry made.
6	Probably 18th March.	Bhalgora mine, Jharia P. O., Bihar & Orissa.	Bhalgora Coal Co., Ld.	Not known, (m.), 30.	Coal	Not em- ployed.	Deceased was found dead at the bottom of an incline cutting, 50 feet deep. The incline cutting was properly fenced. Inspection and inquiry made.
7	Probably 23rd April.	Bhalgora mine, Jharia P. O., Bihar & Orissa.	Bhalgora Coal Co., Ld.	An unknown person, (m.), 40. Not employed	Coal	Not a mining accident.	The dead body of an unknown person was found on the slope of the cutting of a disused incline, inside the fence wall. Inspection and inquiry made.

8	4th May	Sitalpur mine, Dishergarh P. O., Bengal.	Bengal Coal Co., Ld.	Jitkalia Noonian, (f.), 30, Coal-carrier.	Coal	Not a mining accident	A female was found drowned in a well. Inspection and inquiry made.
9	18th May 9 P.M.	Sodepur (9 & 10 Pits) mine, Sitarampur P. O., Bengal.	Bengal Coal Co., Ld.	Miton Gope, (m.), 27, Tramper.	Coal	Not a mining accident	While crossing a railway line, not belonging to the colliery, a trammer was run over and fatally injured. Inspection and inquiry made.
10	25th May, 9-30 A.M.	Pure Jharia mine, Jharia P. O., Bihar and Orissa.	Pure Jharia Colliery Co.	Bedan Mnohi, (f.), 10.	Coal	Not a mining accident.	While bathing in an old quarry, which contained water about 15 feet deep, and is regularly used for bathing purposes, deceased was drowned. Inspection and inquiry made.
11	5th June, 9 A.M.	Central Jeenagora mine, Jharia P. O., Bihar and Orissa.	Central Jeenagora Coal Co., Ld.	Bhusi Kanoo, (f.), 22, Kishan Shao, (m.), 64.	Coal	Not a mining accident.	The deceased were drowned while bathing in an old quarry containing 9 feet of water. Inspection and inquiry made.
12	5th June, 12 midnight.	Jamuria mine, Charanpur P. O., Bengal.	Equitable Coal Co., Ld.	Dil Mohammed, (m.), 30, Loader.	Coal	Not a mining accident.	Deceased fell down a shaft 450 feet deep. As the shaft was securely fenced it was assumed that he had either deliberately climbed through the fence and jumped down the shaft or that he had been thrown down. Inspection and inquiry made.
13	7th June, 12-30 P.M.	Central Kurkend mine, Kusunda P. O., Bihar and Orissa.	Central Kurkend Coal Co., Ld.	Fakir Chandra Dey, (m.), 28, Peon.	Coal	Not a mining accident.	While bathing in a tank which is regularly used for bathing purposes, deceased was drowned. Inspection and inquiry made.
14	14th June, 10 A.M.	Pure Kajora mine, Kajoragram P. O., Bengal.	Pure Kajora Coal Co., Ld.	Ramu Bauri, (m.), 7.	Coal	(Not employed.	A child was run over and fatally injured by two wagons which were set in motion when another wagon, which was being handshunted, collided with them. Inspection and inquiry made.
15	4th July, 4-30 P.M.	South East Baraboui mine, Charanpur P. O., Bengal.	Maharaja S. C. Nandi.	Budhu Manjhi, (m.), 33, Coal-cutter.	Coal	Not a mining accident.	While a miner was bathing in an accumulation of water one foot deep he was seized by an apoplectic fit, and fell face first into the water. He was suffocated. Inspection and inquiry made.
16	18th July	Nowki Ghiadhar mine, Jhumri Telaiya P. O., Bihar and Orissa.	Chatturam Darsanram.	Karu Meah, (m.), 35.	Mica	Not employed.	It is presumed that while in the act of stealing mica from a discontinued mine, deceased was killed by a fall of roof. Inspection and inquiry made.

APPENDIX II—contd.

Fatal Accidents during the year 1934—contd.

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Reason for exclusion.	Cause of accident and remarks.
<b>FATAL ACCIDENTS NOT INCLUDED IN THE STATISTICS—(33 deaths)—contd.</b>							
17	21st July, about 8-30 A.M.	Kankane mine, Banejora P. O., Bihar and Orissa.	Eastern Coal Co., Ltd.	Raghnath Manjhi, (m.), 25, Coal-cutter.	Coal	Not a mining accident.	With the object of obtaining a bird's nest deceased climbed a post carrying electric transmission wires. He received an electric shock and burns from which he subsequently died. The system was 3 phase, 6600 volts A. C., earthed neutral. Inspection and inquiry made.
18	30th July, 10 A.M.	Chinohuria mine, Asansol P. O., Bengal.	New Beerbhoom Coal Co., Ltd.	Debai Dhangar, (m.), 7, Not employed.	Coal	Not employed.	The deceased boy climbed a post of a transmission line to secure a dead bird. He received an electric shock and also burns on his right leg. He succumbed to his injuries one month and seventeen days later. The system was 3 phase, 2,200 volts A. C., earthed neutral. Inspection and inquiry made.
19	7th August, 8-30 A.M.	Kuchwar mine, Bunjari P. O., Bihar and Orissa.	S. G. Bose	Nankoo Meah, (m.), 32, Labourer.	Limestone.	Not a mining accident.	Deceased jumped into a well and was drowned.
20	15th August, 2-30 P.M.	West Jambad mine, Kajoragram P. O., Bengal.	South Jambad Coal Co., Ltd.	Jitoo Manjhi, (m.), 46, Coal-cutter.	Coal	Not a mining accident.	The body of deceased was found reclining against the side of a ladder shaft on the 6th platform from the top. Death was due to heart failure. Inspection and inquiry made.
21	26th August, Night.	Isabella mine, Nudkharkee P. O., Bihar and Orissa.	Isabella Coal Co.	Lachmanis Beldarin, (.), 22, Labourer.	Coal	Do.	The decomposed body of deceased was found at the bottom of a pumping shaft, 50 feet deep. Inspection and inquiry made.
22	4th September, 11 A.M.	Phularitand mine, Katrasgarh P. O., Bihar and Orissa.	Chandanmull Indrakumar.	Musamat Kadiran, (f.), 70,	Coal	Not employed.	Deceased, who was deaf, was crossing a surface tram line graded at 1 in 50, when she was knocked down by a gravitating loaded tub. She sustained serious injuries to which she succumbed twelve hours later. Inspection and inquiry made.
23	4th September, 5-30 P.M.	Korrabad-Nodiha mine, Churulia P. O., Bihar and Orissa.	Trans-Adjai Collieries, Ltd.	Sheik Jamadar, (m.), 28, Shot-firer.	Coal	Not a mining accident.	While examining the effect of blasting in a gallery, a shot-firer suddenly died of heart failure. Inspection and inquiry made.

24	15th September, 9-15 A.M.	Lakurka mine, Katraagarh P. O., Bihar and Orissa.	Lakurka Coal Co., Ld.	Sasama (m.), 2.	Coal	Not employed.	Deceased was run over and killed by a loaded tub which was being pushed on a surface tram line. Inspection and inquiry made.
25	15th September, 3-45 P.M.	Darla mine, Junnordeo P. O., Central Provinces.	Amalgamated Coal-fields, Ld.	Ashgar Khan, (m.), 8.	Coal	Not employed.	While in search of a marble a boy crawled under the return wheel of a surface endless rope haulage. He was caught by the wheel and killed. Inspection and inquiry made.
26	Not known	Dhori mine, Bokaro P. O., Bihar and Orissa.	Bokaro and Ramgur, Ld.	Unknown person, (m.), 30.	Coal	Not employed.	The decomposed body of an unknown person was found floating on the surface of water in an abandoned quarry which is used regularly for bathing purposes. Inspection and inquiry made.
27	9th November	Mudidih mine, Sijua P. O., Bihar and Orissa.	Burrakur Coal Co., Ld.	Unknown, (m.), 28.	Coal	Not employed.	Deceased was found drowned in a disused quarry, containing thirteen feet of water. Inspection and inquiry made.
28	15th November, 3 A.M.	West Jamuria mine, Charanpur P. O., Bengal.	West Jamuria Coal Co., Ld.	Tulshi Mejhian (f.), 36, Coal-carrier.	Coal	Not a mining accident.	While a female coal-carrier was at work underground she died of heart failure. The conditions under which she was working were normal. Inspection and inquiry made.
29	30th November, 1-30 P.M.	Dishergarh West mine, Dishergarh P. O., Bengal.	Equitable Coal Co. Ld.	Badla Bauri, (m.), 9.	Coal	Not employed.	A boy climbed over the fence surrounding the return wheel of a surface sand haulage and was caught by the rope and wheel. He was severely injured and died one and half hours later. Inspection and inquiry made.
30	4th December, 10 P.M.	Angarpathra mine, Katraagarh P. O., Bihar and Orissa.	Angarpathra Colliery Co.	Bhikani Kamia, (f.), 36, Coal-carrier.	Coal	Not a mining accident.	Deceased was sleeping near a coal fire in her dwelling when her clothing caught fire. She was severely burnt and died three weeks later. Inspection and inquiry made.
31	20th December.	Kurhurbaree mine, Giridih P. O., Bihar and Orissa.	Government of India, Railway Department, (E. I. Railway).	Nankoo Donadh (m.), 33, Coal-cutter.	Coal	Not a mining accident.	Deceased was found drowned in an old excavation of a working quarry. Inspection and inquiry made.
32	31st December, 1 A.M.	Bhuggutdih mine, Jharua P. O., Bihar and Orissa.	Bengal Nagpur Coal Co., Ld.	Bhado Bhuiya, (m.), 40, Trolleyman.	Coal	Not a mining accident.	Deceased fell asleep near a coal fire. His clothing caught fire and he was severely burnt and died eight days later. Inspection and inquiry made.

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.	
Assam . . . . .	Lakhimpur—M a k n m coalfield.	4	5	...	...	...	...	5	
	Naga Hills—Nazira coalfield.	1	...	...	...	1	...	1	
Bengal (and part of Bihar and Orissa).	Raniganj coalfield .	37	47	3	...	...	2	52	
Bihar and Orissa	Jharis coalfield .	56	53	8	1	...	4	66	
	Bokaro „	2	1	...	1	...	...	2	
	Karanpura „	1	1	...	...	...	...	1	
	Giridih „	3	2	...	...	...	1	3	
Central Provinces	Chanda . . . . .	3	3	...	...	...	...	3	
	Chhindwara—P e n c h Valley coalfield.	17	12	1	...	...	3	17	
Punjab . . . . .	Salt Range coalfield .	7	4	...	...	...	3	7	
Total (Coal) .		131	128	12	2	...	14	1	157

DIX II—*contd.*

## No. 2.

regulated by the Indian Mines Act, during the year 1934.

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.					
AL															
4.79	...	...	3.46	47	37	...	...	...	9	1	47	35.47	...	24.81	32.50
..	..	10.53	4.02	1	..	..	..	..	1	..	1	..	..	10.53	4.02
1.38	...	0.15	0.55	118	84	11	...	...	19	1	115	2.63	...	1.46	1.21
1.40	1.05	0.19	1.01	228	181	22	...	...	27	4	234	4.67	..	1.49	3.59
0.45	0.20	...	0.21	45	25	2	6	1	9	2	45	12.01	1.42	5.08	4.61
1.6	..	..	0.41	4	3	..	..	..	1	..	4	3.47	..	1.75	1.65
0.33	...	0.98	0.41	15	13	1	..	..	1	..	15	3.29	..	0.98	2.03
0.98	...	...	0.63	2	2	...	...	...	..	..	2	0.65	...	...	0.55
2.11	...	1.53	1.94	64	41	6	...	...	15	2	64	7.63	...	6.50	7.29
5.34	...	8.18	6.02	8	8	...	...	...	3	..	3	6.68	...	8.1	6.88
1.39	0.27	0.35	1.04	527	391	42	6	1	83	10	535	4.29	0.95	2.21	8.53



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.							
			Under-ground.		Open workings.		Surface.		Total.	
			Males.	Females.	Males.	Females.	Males.	Females.		
Bihar and Orissa . . .	Singbhum . . .	1	...	...	...	...	1	...	1	IRON
Central Provinces . . .	.....	...	...	...	...	...	...	...	...	MANGANESE
Madras . . . . .	Vizagapatam . . .	...	...	...	...	...	...	...	...	
	Total (Manganese ore)	...	...	...	...	...	...	...	...	
Burma . . . . .	Northern Shan States .	4	4	...	...	...	...	...	4	LEAD
Burma . . . . .	.....	18	1	...	10	1	2	...	14	TIN AND
Bihar and Orissa . . .	Singbhum . . .	1	...	...	1	...	...	...	1	CHROMITE

## DIX II—contd.

## No. 2—contd.

regulated by the Indian Mines Act, during the year 1934—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>															
...	...	064	019	3	..	...	...	...	3	..	3	...	...	194	058
<b>ORE</b>															
...	...	...	...	6	...	...	1	...	4	1	6	...	028	522	120
...	...	...	...	1	...	...	..	..	1	...	1	...	...	2857	116
..	..	...	...	7	...	...	1	...	5	1	7	...	021	502	110
<b>ORE</b>															
134	...	...	114	78	72	...	...	...	6	...	78	2419	...	1253	2231
<b>WOLFRAM ORE</b>															
052	121	227	118	10	1	...	2	...	6	1	10	052	022	794	024
<b>ORE</b>															
...	085	...	078	...	..	...	...	...	...	..	...	...	...	...	..

Table

## Statement of fatal and serious accidents in and about Mines

Provinces.	District and Mineral field.	Number of separate fatal accidents.	FATAL								
			Number of deaths.								
			Under-ground.		Open workings.		Surface.		Total.		
			Males.	Females.	Males.	Females.	Males.	Females.			
Bihar and Orissa . . .	Singhbhum . . . . .	4	5	...	...	1	...	<b>COPPER</b>		6	
Bihar and Orissa . . .	.....	6	2	...	4	...	1	...	<b>MI</b>		7
Madras . . . . .	Nellore . . . . .	1	1	...	...	...	...	...	...	1	
	Total (Mica) . . . . .	7	8	...	4	...	1	...			8
Punjab . . . . .	Jhelum . . . . .	1	1	...	...	...	...	...	<b>SA</b>		1
Bihar and Orissa . . .	Shahabad . . . . .	3	...	...	2	1	...	...	<b>LIME</b>		3

DIX II—contd.

No. 2—contd.

regulated by the Indian Mines Act, during the year 1934—contd.

ACCIDENTS.				SERIOUS ACCIDENTS.													
Death rate per 1,000 persons employed.				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 and Surface.		Underground.		Open workings.		Surface.		Underground.	Open workings.		Surface.	Underground, Open workings and Surface.		
					Males.	Females.	Males.	Females.	Males.	Females.							
<b>ORE</b>																	
2.85	...	0.97	2.15	6	5	...	...	...	1	...	6	2.85	...	0.97	2.15		
<b>CA</b>																	
0.20	3.78	0.57	0.54	7	11	...	...	...	...	...	11	1.10	..	...	0.66		
1.56	...	...	0.48	...	...	...	...	...	...	...	...	...	...	...	...		
0.28	2.05	0.43	0.53	7	11	...	...	...	...	...	11	1.03	...	...	0.73		
<b>LT</b>																	
1.21	...	...	0.90	8	5	2	...	...	1	...	8	8.46	...	2.48	6.37		
<b>STONE</b>																	
...	2.04	...	1.54	1	...	...	...	1	...	...	1	...	0.68	...	0.51		

Table  
Statement of fatal and serious accidents in and about Mines

Province.	District and Mineral field.	Number of separate fatal accidents.	FATAL						
			Number of deaths.						
			Under-ground.		Open workings.		Surface.		Total.
			Males.	Females.	Males.	Females.	Males.	Females.	
Central Provinces	Jubbulpore . . . .	1	..	..	2	1	..	..	3
Madras . . . .	Coimbatore . . . .	..	..	..	..	..	..	..	..
Punjab . . . .	.....	1	..	..	1	..	..	..	1
Burma . . . .	Northern Shan States .	..	..	..	..	..	..	..	..
	Total (Limestone)	5	..	..	5	2	..	..	7
									<b>STO</b>
Bihar and Orissa . .	.....	6	..	..	4	..	2	..	6
Bombay . . . .	Kaira . . . .	1	..	..	1	..	..	..	1
Madras . . . .	Chingleput . . . .	..	..	..	..	..	..	..	..
Punjab . . . .	Jhelum . . . .	1	..	..	..	..	1	..	1
Burma . . . .	Thabon . . . .	1	..	..	1	..	..	..	1
	Total (Stone)	9	..	..	6	..	3	..	9

DIX II—contd.

No. 2—contd.

regulated by the Indian Mines Act, during the year 1934—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>STONE—contd.</b>															
...	0.91	...	0.76	3	...	...	6	2	...	...	8	...	2.42	...	2.04
...	...	...	...	2	...	...	1	1	...	...	2	...	7.60	...	7.60
...	5.26	...	2.24	3	...	...	1	...	2	...	3	...	2.26	7.78	6.71
...	...	...	...	1	...	...	1	...	...	...	1	...	8.47	...	8.47
...	1.22	...	0.97	15	...	...	9	4	2	...	15	...	2.26	1.40	2.09
<b>NE</b>															
...	0.89	0.98	0.91	2	...	...	1	...	1	...	2	...	0.22	0.45	0.80
...	160.00	...	8.40	...	...	...	...	...	...	...	...	...	...	...	...
..	...	...	..	2	...	...	2	...	...	...	2	...	2.07	...	1.78
..	...	45.45	2.68	...	...	...	...	...	...	...	...	...	...	...	...
..	0.55	...	0.53	8	...	...	7	...	2	...	9	...	3.87	74.07	4.91
...	0.51	0.64	0.54	12	...	...	10	...	3	...	13	...	0.84	0.64	0.79

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 and Orissa . . . . .	Sambalpur . . . . .	...	...	...	...	...	...	...	...	<b>FIRE</b>
Central Provinces . . . . .	Jubbulpore . . . . .	...	...	...	...	...	...	...	...	
	Total (Fire clay) . . . . .	...	...	...	...	...	...	...	...	
Bengal . . . . .	Burdwan . . . . .	1	...	...	1	...	...	...	...	<b>CL</b> 1
Bihar and Orissa . . . . .	Monghyr . . . . .	...	...	...	...	...	...	...	...	<b>STA</b>
Madras . . . . .	Salem . . . . .	...	...	...	...	...	...	...	...	<b>MAGN</b>
	<b>Grand Total (All minerals).</b>	177	142	12	29	3	22	1	209	

## DIX II—contd.

## No. 2—concl'd.

regulated by the Indian Mines Act, during the year 1934—concl'd.

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>															
...	..	...	...	1	...	..	...	...	1	...	1	...	...	14.08	9.35
...	...	...	...	2	...	...	1	...	1	...	2	...	4.00	6.85	2.87
...	...	...	...	3	...	...	1	...	2	...	3	...	1.25	10.82	3.03
<b>AY.</b>															
...	14.93	...	18.33	...	...	...	...	...	...	...	...	...	...	...	...
<b>TE.</b>															
...	...	...	...	1	...	...	1	...	...	...	1	...	5.24	...	5.24
<b>ESITE</b>															
...	...	...	...	2	...	...	...	1	1	...	2	...	1.22	6.84	2.16
1.28	0.83	0.39	0.91	679	485	44	30	6	115	12	692	4.40	0.71	2.17	3.02



APPENDIX II—*concl.*

Table No 3.

Statement of fatal accidents in Mines regulated by the Indian Mines Act, during the year 1934, classified according to cause of accident.

Mineral worked.	Number of separate fatal accidents.	Number of persons killed.									Death rate per 1,000 persons employed.				
		Explosions and ignitions of fire-damp.	Falls of roof.	Falls of side.	In shafts.	By explosives.	Haulage.	Underground machinery.	Miscellaneous underground.	Surface.	Total deaths.	Underground.	Open workings.	Surface.	Underground, Open workings and Surface.
Coal . . . . .	181	...	70	37	4	4	19	1	8	14	157	1.39	0.27	0.35	1.04
Iron Ore . . . . .	1	...	...	...	...	...	...	...	...	1	1	...	...	0.64	0.19
Lead Silver . . . . .	4	...	1	1	...	...	...	...	2	...	4	1.34	...	...	1.14
Tin and Wolfram . . . . .	13	...	...	11	...	1	...	...	...	3	14	0.52	1.21	1.27	1.18
Chromite Ore . . . . .	1	...	...	...	...	1	...	...	...	...	1	...	0.85	...	0.78
Copper Ore . . . . .	4	...	2	...	...	3	...	...	...	1	6	2.85	...	0.97	2.15
Mica . . . . .	7	...	...	4	...	4	...	...	...	...	8	0.28	2.05	0.43	0.53
Salt . . . . .	1	...	...	...	...	...	1	...	...	...	1	1.21	...	...	0.89
Limestone . . . . .	5	...	...	5	...	...	...	...	2	...	7	...	1.22	...	0.97
Stone . . . . .	9	...	...	1	...	3	...	...	2	3	9	...	0.51	0.64	0.54
Clay . . . . .	1	...	...	1	...	...	...	...	...	...	1	...	14.93	...	18.33
<b>Total 1934 . . . . .</b>	<b>177</b>	<b>...</b>	<b>73</b>	<b>60</b>	<b>4</b>	<b>16</b>	<b>20</b>	<b>1</b>	<b>14</b>	<b>21</b>	<b>209</b>	<b>1.26</b>	<b>0.38</b>	<b>0.39</b>	<b>0.91</b>
<b>Total of preceding year</b>	<b>142</b>	<b>6</b>	<b>40</b>	<b>44</b>	<b>3</b>	<b>10</b>	<b>25</b>	<b>...</b>	<b>10</b>	<b>13</b>	<b>153</b>	<b>1.09</b>	<b>0.38</b>	<b>0.29</b>	<b>0.74</b>
<b>Difference . . . . .</b>	<b>+35</b>	<b>-6</b>	<b>+33</b>	<b>+16</b>	<b>+1</b>	<b>+6</b>	<b>-5</b>	<b>+1</b>	<b>+4</b>	<b>+8</b>	<b>+56</b>	<b>+0.19</b>	<b>+0.45</b>	<b>+0.10</b>	<b>+0.17</b>

## APPENDIX III.

Statement of prosecutions under the Indian Mines Act, and Indian Penal Code, during the year 1934.

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	Burdwan . . .	1	2	2	Regulations 88, 89 and 91 of the Indian Metaliferous Mines Regulations, 1926.	
	Do. . . .	1	1	1	Regulations 3 (3) of the Indian Coal Mines Regulations, 1926.	
	Do. . . .	1	4	4	Regulations 53, 53 (h) and 137 of the Indian Coal Mines Regulations, 1926.	
	Do. . . .	1	2	2	Regulations 67 and 138 of the Indian Coal Mines Regulations, 1926, and Rule 24-A of the Bengal Government Rules made under section 30 of the Indian Mines Act, 1923.	
	Do. . . .	1	1	...	Regulations 110 and 146 of the Indian Coal Mines Regulations, 1926.	Case dropped as the accused could not be traced.
	Do. . . .	1	2	2	Regulations 92 and 121 of the Indian Coal Mines Regulations, 1926.	
	Do. . . .	1		2	Bye-law 50 made under section 32 of the Indian Mines Act, 1923, read with sections 23B (1) and 28 of the Indian Mines Act.	
	Do. . . .	1	1	...	Regulation 146 of the Indian Coal Mines Regulations, 1926, and Bye-law 69 made under section 32 of the Indian Mines Act, 1923.	Pending as accused has not been traced yet.

APPENDIX III—*contd.*

Statement of prosecutions under the Indian Mines Act, and Indian Penal Code, during the year 1934—*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 and Orissa.	Gaya . . . . .	1	1	1	Regulation 3 (1) of the Indian Metalliferous Mines Regulations, 1926.	
	Giridih . . . . .	1	1	1	Bye-law 8 made under section 32 of the Indian Mines Act, 1923.	
	Hazaribagh . . . . .	1	1	1	Regulation 4 of the Indian Metalliferous Mines Regulations, 1926, read with sections 14 and 15 of the Indian Mines Act, 1923 and Rule 8 of the rules made by the Bihar and Orissa Government under section 30 of the Indian Mines Act, 1923.	
	Do. . . . .	1	2	2	Regulation 42 of the Indian Metalliferous Mines Regulations, 1926.	
	Do. . . . .	1	2	1	Regulations 4 and 23 of the Indian Metalliferous Mines Regulations, 1926.	One of the accused was acquitted.
	Do. . . . .	1	2	2	Regulations 23 and 50 of the Indian Metalliferous Mines Regulations, 1926.	
	Do. . . . .	1	3	...	Regulation 17 of the Indian Coal Mines Regulations, 1926.	The case was withdrawn.
	Manbhum . . . . .	1	3	3	Section 26 of the Indian Mines Act, 1923.	
	Do. . . . .	1	1	1	Section 15 of the Indian Mines Act, 1923 and Orders issued under the provision to Regulation 23 of the Indian Coal Mines Regulations, 1926.	
	Do. . . . .	1	3	3	Regulation 23 of the Indian Coal Mines Regulations, 1926.	

APPENDIX III—*contd.*

Statement of prosecutions under the Indian Mines Act, and Indian Penal Code, during the year 1934—*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 and Orissa— <i>contd.</i>	Manbhum . . .	1	2	2	Regulation 15 (4) of the Indian Coal Mines Regulations, 1926, and Notification No. M-1066, dated 7th March 1929 made under section 29 (J) of the Indian Mines Act, 1923.	
	Do. . . . .	2	5	4	Section 28 of the Indian Mines Act, 1923, and Regulation 149 of the Indian Coal Mines Regulations, 1926, and Notification No. M-1055, dated 7th March 1929 made under section 29 (J) of the Indian Mines Act, 1923.	One of the accused was acquitted.
	Do. . . . .	1	1	1	Regulation 17 of the Indian Coal Mines Regulations, 1926.	
	Do. . . . .	1	2	2	Regulation 8 (3) of the Indian Coal Mines Regulations, 1926.	
	Do. . . . .	1	1	1	Regulation 8 (2) of the Indian Coal Mines Regulations, 1926.	
	Do. . . . .	1	1	1	Regulations 65, 137 and 139 of the Indian Coal Mines Regulations, 1926.	
	Do. . . . .	1	2	1	Section 19 (2) of the Indian Mines Act, 1923, Notification No. M-1075 dated 7th March 1929 made under section 29 (J) of the Indian Mines Act, 1923, and Regulation 139 of the Indian Coal Mines Regulations, 1926.	One of the accused was acquitted.
	Do. . . . .	1	4	4	Rule 23 of the Rules made by the Bihar and Orissa Government under section 30 of the Indian Mines Act, 1923, read with section 16 of the Indian Mines Act, 1923, and Regulation 67 of the Indian Coal Mines Regulations, 1926.	

## APPENDIX III—concl'd.

Statement of prosecutions under the Indian Mines Act, and Indian Penal Code, during the year 1934—concl'd.

Province.	District.	Number of prosecutions.	Number of persons prosecuted.	Number of persons convicted.	Number of Regulations, and Rules and Sections of the Act contravened.	REMARKS.
Bihar and Orissa—concl'd.	Mapbhum . . .	1	2	2	Regulation 53 of the Indian Coal Mines Regulations, 1926, and Bye-law 31 made under section 32 of the Indian Mines Act, 1923.	
	Do. . .	1	1	...	Bye-law 82 made under section 32 of the Indian Mines Act, 1923.	Pending as accused has absconded and has not yet been traced.
Burma . . .	Mergui . . .	1	1	1	Section 20 of the Indian Mines Act, 1923, read with Regulation 18 of the Indian Metalliferous Mines Regulations, 1926.	
Central Provinces.	Chhindwara . . .	1	2	1	Regulations 143, 146 and 110 of the Indian Coal Mines Regulations, 1926.	One of the accused was acquitted.
	Do. . .	1	1	1	Regulations 100 and 146 of the Indian Coal Mines Regulations, 1926.	
	Do. . .	1	2	2	Bye-law 86 made under section 32 of the Indian Mines Act, 1923, and Regulation 146 of the Indian Coal Mines Regulations, 1926.	
	Jubbulpore . . .	1	1	1	Regulation 3 (2) of the Indian Metalliferous Mines Regulations, 1926.	
Madras . . .	Nellore . . .	1	3	...	Regulation 13 of the Indian Metalliferous Mines Regulations, 1926.	All the accused were acquitted.
United Provinces.	Hamirpur . . .	2	2	2	Regulation 3 (1) of the Indian Metalliferous Mines Regulations, 1926.	
TOTAL . . .		87	67	54		

## 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 and Orissa 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 the North-West Frontier Province.	3. Such mines in Bihar and Orissa 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 Punjab.	4. All mines in Bombay.
5. All mines in Rajputana.	5. All mines in Burma.
6. All mines in the United Provinces.	6. All mines in the Central 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 1934.

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.
Park, Edward Bennet . . .	369	12th November 1934	2397	26th July 1929.

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 1934—*contd.*

Certificates granted to holders of British certificates of competency—*contd.*

## (b) SECOND CLASS.

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*Nil.*

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## (c) SURVEYORS' CERTIFICATES.

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*Nil.*

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## INDIAN CERTIFICATES.

## (a) FIRST CLASS.

Name.	No. of certificate.	Date of certificate.	REMARKS.
Chopra, Vidya Sagar . . . . .	217	20th April 1934.	
Tooley, Bal Ram . . . . .	218	Ditto.	
Grewal, Sarwan Singh . . . . .	219	Ditto	
Singh, Harnam . . . . .	220	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 1934—*contd.*

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

Name.	No. of certificate.	Date of certificate.	REMARKS.
Datey, Lakman Krishna . . . . .	221	20th April 1934.	
Dey, Suresh Chandra . . . . .	222	Ditto.	
Bhaduri, Satya Charan . . . . .	223	Ditto.	
Kanotra, Mehanga Mal . . . . .	224	Ditto.	
Knight, George Vivian . . . . .	225	Ditto.	
Sharma, Champa Ram . . . . .	226	Ditto.	

## (b) SECOND CLASS.

Name.	No. of certificate.	Date of certificate.	REMARKS.
Sachdev, Harbans Singh . . . . .	494	20th April 1934.	
Sharma, Champa Ram . . . . .	495	Ditto.	
McCue, Neil Bertram . . . . .	496	Ditto.	
Banerjee, Mohima Ranjan . . . . .	497	Ditto.	
Singh, Ajit . . . . .	498	Ditto.	
Ohri, Banwari Lal . . . . .	499	Ditto.	
Sabhlak, Krishan Lal . . . . .	500	Ditto.	
Sharma, Lakshi Ram . . . . .	501	Ditto.	
Gandhi, Gopal Krishna . . . . .	502	Ditto.	
Fell, Meredith George . . . . .	503	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 1934—*concl'd.*

INDIAN CERTIFICATES—*concl'd.*

## (c) SURVEYORS' CERTIFICATES.

Name.	No. of certificate.	Date of certificate.	REMARKS.
Badhwar, Inder Jit . . . . .	74	2nd February 1935.	
Ohri, Banwari Lal . . . . .	75	Ditto.	
Ghoah, Braja Kanta . . . . .	76	Ditto.	
Tooley, Bal Ram . . . . .	77	Ditto.	
Das Gupts, Khagendra Mohan . . . . .	78	Ditto.	
Saohdev, Harbans Singh . . . . .	79	Ditto.	
Srinivasan, G. . . . .	80	Ditto.	
Dhown, Chaman Lal . . . . .	81	Ditto.	

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

## Statement No. 3.

## NOTIFICATION.

*Simla, the 26th June 1934.*

**No. M.-1265 (1).**—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 the following further amendment, having been previously published as required by sub-section (1) of section 31 of the said Act, shall be made in the Indian Coal Mines Regulations, 1926, namely:—

After regulation 69 of the said Regulations, the following regulations shall be inserted, namely:—

“ 69A. Every footpath along which loads are carried in open workings by human agency shall comply with the following requirements—

- (a) its breadth shall not be less than three feet;
- (b) its slope shall not be greater than 1 vertical to 2 horizontal;
- (c) at every place where its slope exceeds 1 vertical to 4 horizontal reasonably level steps shall be provided such that the vertical height of every step does not exceed seven inches and the dimension of every step measured horizontally from the edge to the back is not less than fourteen inches.

*Explanation.*—Gang-planks used for loading wagons shall not be deemed to be part of a footpath for the purposes of this regulation; provided that every gang-plank shall be so inclined or constructed as to give a secure foot-hold.

96B. Where women are employed in carrying loads, the weight of the loads, and the height and distance to which they have to be carried shall not be such as to involve risk of injury to the health of the women. If any dispute arises as to whether risk of injury to health is involved the decision of the Chief Inspector shall be final.”

E. W. PERRY,

*Offg. Joint Secretary to the Government of India.*

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

## Statement No. 4

## NOTIFICATION.

*Simla, the 26th June 1934.*

**No. M.-1265 (2).**—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 amendment, having been previously published as required by sub-section (1) of section 31 of the said Act, shall be made in the Indian Metalliferous Mines Regulations, 1926, namely:—

After regulation 41 of the said Regulations, the following regulations shall be inserted, namely:—

“41A. Every footpath along which loads are carried in open workings by human agency shall comply with the following requirements—

- (a) its breadth shall not be less than three feet ;
- (b) its slope shall not be greater than 1 vertical to 2 horizontal ;
- (c) at every place where its slope exceeds 1 vertical to 4 horizontal reasonably level steps shall be provided such that the vertical height of every step does not exceed seven inches and the dimension of every step measured horizontally from the edge to the back is not less than fourteen inches.

*Explanation.*—Gang-planks used for loading wagons shall not be deemed to be part of a footpath for the purposes of this regulation, provided that every gang-plank shall be so inclined or constructed as to give a secure foot-hold.

41B. Where women are employed in carrying loads, the weight of the loads and the height and distance to which they have to be carried shall not be such as to involve risk of injury to the health of the women. If any dispute arises as to whether risk of injury to health is involved, the decision of the Chief Inspector shall be final.”

**E. W. PERRY,**

*Offg. Joint Secretary to the Government of India.*

APPENDIX IV—*contd.*

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Miscellaneous—*contd.*

## Statement No. 5.

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NOTIFICATION.

*Simla, the 19th July 1934.*

No. M.-1265.—*Corrigendum.*—In the Department of Industries and Labour, Notification No. M.-1265 (1), dated the 25th June 1934, published in Part I of the Gazette of India dated the 30th June 1934, for "96B" read "69B".

E. W. PERRY,

*Offg. Joint Secretary to the Government of India.*

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

## Statement No. 4.

## NOTIFICATION.

*Simla, the 26th June 1934.*

**No. M.-1265 (2).**—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 amendment, having been previously published as required by sub-section (1) of section 31 of the said Act, shall be made in the Indian Metalliferous Mines Regulations, 1926, namely:—

After regulation 41 of the said Regulations, the following regulations shall be inserted, namely:—

“41A. Every footpath along which loads are carried in open workings by human agency shall comply with the following requirements—

- (a) its breadth shall not be less than three feet ;
- (b) its slope shall not be greater than 1 vertical to 2 horizontal ;
- (c) at every place where its slope exceeds 1 vertical to 4 horizontal reasonably level steps shall be provided such that the vertical height of every step does not exceed seven inches and the dimension of every step measured horizontally from the edge to the back is not less than fourteen inches.

*Explanation.*—Gang-planks used for loading wagons shall not be deemed to be part of a foot-path for the purposes of this regulation, provided that every gang-plank shall be so inclined or constructed as to give a secure foot-hold.

41B. Where women are employed in carrying loads, the weight of the loads and the height and distance to which they have to be carried shall not be such as to involve risk of injury to the health of the women. If any dispute arises as to whether risk of injury to health is involved, the decision of the Chief Inspector shall be final.”

**E. W. PERRY,**

*Offg. Joint Secretary to the Government of India.*

APPENDIX IV—*contd.*

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Miscellaneous—*contd.*

## Statement No. 5.

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NOTIFICATION.

*Simla, the 19th July 1934.*

**No. M.-1265.**—*Corrigendum.*—In the Department of Industries and Labour, Notification No. M.-1265 (1), dated the 28th June 1934, published in Part I of the Gazette of India dated the 30th June 1934, for "96B" read "69B".

E. W. PERRY,

*Offg. Joint Secretary to the Government of India.*