



# Report

No. 1 Hanna Mine

REPORT OF COAL MINE DISASTER  
of March 28, 1908,  
AT THE UNION PACIFIC COAL COMPANY'S MINE  
No. 1, Hanna, Wyoming.

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By C.R.Delamater.  
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Directly upon receipt of telegram from Dr. J.A.Holmes in Washington to Mr. A.W.Belden, the writer proceeded to Hanna, Wyo., arriving there at 3.45 p/m. Tuesday, March 31st.

Upon learning that Dr. D.O.Clark, General Manager of the U.P. Coal Company had arrived, I immediately called upon him and obtained his permission to make an investigation, which he gave me and very kindly gave instructions that I be permitted to go fully into all details and be given all information I desired. The following is, therefore, my report of this investigation:

The following is a List of the Officials and thir positions in connection with the Hanna Camp:

- Mr. D.O.Clark, General Manager, U.P.Coal Co.  
Headquarters at Omaha, Neb.  
Arrived at Hanna Monday afternoon, March 30.
- Mr. A.E.Bradbury, Asst. General Manager U.P.Coal Co.,  
Headquarters at Cheyenne, Wyo.  
Arrived at Hanna on Sunday, March 29th.
- Mr. G.L.Black, General Superintendent.  
Headquarters at Rock Springs, Wyo.  
Arrived at Hanna, Sunday March 29th.
- Morgan Griffiths, General Foreman,  
Headquarters at Rock Springs, Wyo.  
Arrived at Hanna Sunday, March 29th.

E.O.Christianson, Mining Engineer,  
 Headquarters at Rock Springs, Wyo.  
 Was in Hanna at the time of the explosions.

Alexander Briggs, Superintendent of Hanna Camp.

Joseph Burton, Foreman of No.1 Mine.

Alfred Dodds, Foreman of No. 2 Mine.

James Knox, Foreman of No. 3 Mine, (No. 3 Mine  
 being closed down since last January, Mr. Knox was  
 acting as gas watch at No.1.

#### GENERAL HISTORY OF DISASTER.

For some weeks prior to the explosions, it had been the custom to operate the mines on Mondays, Wednesdays and Fridays of each week, leaving Tuesdays, Thursdays, Saturdays and Sundays as idle days.

No.1 Mine was in operation as usual on Friday March 20th, and at about 2 a.m. Saturday, March 21st, the night gas watch, J.B.Evans, discovered fire in the coal at the face of No. 10 Entry. As it had gained considerable headway and was beyond his control, he immediately reported to Supt. Briggs and steps were at once taken by him to prepare for fighting the fire. Saturday, March 21st, being an idle day, he took a picked crew of men and during that morning they bratticed off both top and back entry of No.10 at the points marked A and B, fig 1. From his investigation at that time he reported the fire as probably having been started by the last shots fired on Friday, as it appears no one went back after these shots were fired to see that no fire resulted in the coal, and nothing was known of it until the discovery by the night watch as stated above.

The mine was operated as usual on Monday, March 23rd, and Wednesday, March 25th, nothing being done on Tuesday the 24th., either in respect to operation of the mine or fighting the fire in No. 10 entry.

On Thursday, March 26th, (idle day) they succeeded in advancing the stopping A to the point marked C, Fig 1., and on Friday the 27th, the mine was operated as usual.

On Saturday, March 28th, Mr. Briggs took a picked crew of men and again entered the mine with the intention of advancing stopping B and thereafter taking such action and advancing in such manner as conditions he found would warrant.

This crew of men was composed of Mr. Briggs, Joseph Burton, Alfred Dodds, James Knox, six gas watchmen and eight other picked and experienced men. They entered the mine on Saturday, March 28th, and nothing is known of their exact movements from that time until 3:05 p.m., when the first explosion occurred.

Though I was unable at this time to obtain a map of the mine, I include herewith sketches which I made from the mine map on file in the Hanna office and by referring to these sketches (Fig. 1, 2, and 3) the following may be more clearly understood:

The general layout of the Hanna Camp is as follows:

Two seams of coal are mined, the names of which I was unable to learn except that they are locally known as the Hanna seams.

The town of Hanna is on the main line of the Union Pacific R.R., about 134 miles west of Cheyenne, Wyo. No 2 mine is at the western end of the town in one seam, and Nos. 2 and 1 mines are in another seam, the west slope of No. 1 mine coming out to

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the surface at the eastern edge of the Hanna Camp proper. No 3 mine is about 3 miles north east of No.1. The seam opened by these two mines lays as a synclinal trough or to be more exact lays more in the form of an oval shaped bowl, the west slope of No. 1 mine entering at the western outcrop of the seam and on a hill side. The main heading runs almost directly east, dipping at an average of about 14 degrees (see Fig.3) for a distance of some 3000 feet when it starts to rise at an average inclination of about 22 degrees, this eastern outcrop being about 8000 feet from the western a and comes to the surface on a wide flat. The tibble is located at the west slope and all coal is here pulled to the surface by haulage engine and rope. Boiler and engine houses are located at the east slope also for the purpose of hauling the empties up to and dropping the loads down from the entries on the east slope, no coal being hoisted out of the east slope except as required for the boilers. Nos. 1 and 3 mines are not connected in any way.

As will be noted from the list of men making up Dr. Briggs party, the first explosion wiped out the entire force of officials of the Hanna Camp with the exception of Mr. Christianson who was in No.2 mine at the time of the explosion. He came out of No. 2 mine at about 3:30 p.m. or some twenty-five minutes after the first explosion. He naturally found things in a turmoil, but someone had had sufficient presence of mind to wire Dr. D.M.Elias, Wyoming State Mine Inspector of the No.1 District, and it so happened that the telegram reached him in time to catch a train

which brought him into Hanna at 3.45 p.m., or about forty-five minutes after the explosion. Mr. Christianson joined him, and they went together to the west slope where they found the fan house badly wrecked and both the manway and slope badly caved in. The fan itself was not damaged and was running at about 50 R.P.M. (No figures with regard to the quantity of air, etc., are attainable at this time.) They first stopped the fan at this west end and then stopped off the manway and slope with brattice cloth and strips and also repaired the fan house in like manner. They then started up the fan again at a speed of about 50 R.P.M. They then proceeded immediately to the east slope, a distance of some two miles over the hills and here found no damage had been done though the distance from No. 10 entry was much less to this end of the mine than is the west slope. The east fan was still running. It would appear that Mr. Elias in his excitement at this time neglected to organizing<sup>e</sup> the remaining force of men who had collected at the east slope and took no precautions toward leaving a sufficient force at the surface to keep out such people as were not required to carry out the relief work and to make sure that no one took any action without his knowing what they were doing. Instead, he proceeded with Mr. Christianson into the east slope. They succeeded in going as far down the main heading as No. 3 entry and a considerable number of others followed them in. They bratticed all cross cuts and entries as they went in.

All this time the west fan was still running at a speed of

about 50 R.P.M. and the east fan at about 20. Mr. Elias thought the air current too strong and instructed Mr. Christianson to slow it down. Mr. Christianson left him and leaving the mine by the east slope, walked back over the hills to the west end and slowed the fan down to about 15 R.P.M. after which he returned and again joined Mr. Elias at No. 8 entry. They then worked their way on to No. 10 entry where they found the bodies of four men of Mr. Brigg's party. They were Ben Parry, R. Warburton, Peter Monson and Alexander Tennant. The positions in which their bodies were found would indicate that they had some warning of the explosion, as all were face downward with the arms over their heads.

Some of the men who followed Mr. Elias and Mr. Christianson in started with these bodies for the surface and succeeded in reaching safety before the second explosion occurred. Mr. Elias and Christianson remained at the entrance of No. 10 entry for some little time and were planning the best method of procedure. They had decided to stop off No. 10 entry first and then stop off No. 8 entry which had not yet been done. So far as can be learned these are the orders given by Mr. Elias to the men about them and as they were expecting Mr. Griffiths any minute they started out to meet him. They stopped for a while at No. 8 entry and then moved on to No. 5. There were two bad caves in the main heading between Nos. 5 and 8 entries. When they came to No. 5 entry Mr. Elias decided to wait there, but as both were feeling the effects of gas Mr. Christianson tried to persuade Mr. Elias to go to surface for air and wait there for Mr. Griffiths, but this he would not do. Mr. Christianson proceeded on to the surface,

and just after passing out of the east slope met Mat Huhtala who walked back to the boiler house with him, took his safety lamp and started back to enter the mine. This was at about 10:20 p.m. and just as he entered the pit mouth the second explosion occurred. His body was found about 100 feet from the pit mouth and on the trestle between the pit mouth and engine house.

The west slope was so wrecked that the second explosion did but little additional damage here but the east slope, manway and fan house were badly wrecked and the entire east slope seems to be badly caved.

The men in Mr. Brigg's original party were all known and none were saved. Of the men caught in the second explosion, there being no record kept at the time of the men entering the mine, it was necessary to make a house to house canvas of the town before a list could be procured and it is now known that 41 men were caught in the second explosion. This is probably the complete number, unless some strangers entered the mine which is hardly probable. This makes a total of 59 lost of which but five bodies have been recovered.

Upon the arrival of Mr. Clark and staff on Monday, an attempt was made on Wednesday morning April 1st. to open the east slope, some dozen or more experienced men from other camps of the company being brought in for that purpose. Mr. Noah Young, Wyoming State Mine Inspector of No. 2 District, who had arrived during the afternoon of Tuesday, March 31st., advised against this move, but the pit was opened and an advance of 36 feet made where a stopping



was put in of brattice cloth and boards. Four of the men were so overcome, however, that any further attempts to enter the mine were given up and they do not expect to make another attempt for a week or ten days though it is the general opinion that it will be three or four weeks before it will be possible to attempt the recovery of any of the bodies.

The above being a history of the occurrences at the time of the explosions, I submit the following as my own observations of the existing conditions of the mine both before and after the explosions.

As it was impossible to enter the mine, the data given below was obtained by a thorough investigation of the company records and mine maps on file at the Hanna office, and by carefully questioning all parties thoroughly acquainted with the mine and its condition.

I obtained a section of the seam which was taken on Nos. 19 and 21 entries, and though they had no records of the coal in No. 10 entry, they say it is practically the same as that of entries Nos. 19 and 21. This section is shown by Fig. 4.

The mine map and other data will be sent me from Rock Springs as soon as possible. The coal is sub-bituminous. The mine generates a great deal of gas and feeders are frequently encountered in all parts of the mine. There is very little dust and the entire mine is more or less wet though all entries are piped and the mine sprinkled where necessary. They have experienced no explosions or other serious difficulties in either mine No. 2 or 3, but have always had trouble with No. 1 mine. No. 2 mine was first opened

in 1890 and an explosion occurred during the first year, one man losing his life. A second explosion occurred in this mine on June 30th, 1903, 169 men losing their lives. It is reported that this explosion was caused by a blown out shot, though it would appear that they had never really determined the exact truth with regard to this.

Spontaneous combustion of the gob has been frequent in this mine and there are five separate areas of the mine that have been burning for some years. These are indicated on Fig. 2 and from all I have been able to learn, all entries leading to these burning sections of the mine have been sealed and carefully watched. There is little doubt, however, that these stoppings have all been blown down by the two recent explosions which would leave the entire mine open to six fire areas, and as these are distributed quite evenly throughout the mine, great care must be exercised if an attempt is ever made to reopen even if it be only for the purpose of obtaining the bodies therein and making an investigation of the causes of the last two explosions.

From all the evidence I was able to collect, it seems to be the general opinion that Mr. Briggs and his men must have permitted the air to get ahead of them, thereby making an explosive mixture in the fire zone of No. 10 entry which resulted in the first explosion. It is known quite positively that no one was in the west end of the mine at the time, though the fact of the west slope being so completely wrecked and the east slope being barely affected by the first explosion, it is hard to explain when one considers the

greater distance which the west slope is from No. 10 entry.

With regard to the second explosion, about the only satisfactory explanation of this is that some one must have stopped off No. 8 entry before the others had succeeded in stopping off No. 10, and as a result the gases emerging from the entries back of No. 8 (those between Nos. 3 and 8 being still open), and the air, were forced into No. 10 entry where they came into contact with the fire which set off this great volume of gas, the entire mine no doubt being full at this time.

Although this mine in most districts would be considered sufficiently dangerous for the use of safety lamps at all times, I found that the ordinary cap lamp was used, though the men in Mr. Brigg's party all carried safety lamps and so far as I could learn nothing but safety lamps were used by those entering the mine after the first explosion.

An idea of the force of the explosion may be had by the fact that 12 inch timbers from 12 to 16 feet long were blown a distance of 550 feet from both pit mouths, some of them from the east slope passing clear over the engine house.

I expect to obtain the mine inspectors report of the 1903 explosion and will also receive Inspector Young's report of these last explosions, and as this data comes in will forward to Washington immediately. The mine map will be sent from Rock Springs, Wyo., as soon as Mr. Christianson returns there.

In conclusion, Mr. Clark asked that I extend his regards to Dr. Holmes.

Respectfully submitted,

(Signed) G.R. Delamater,

Engineer U.S.G.S.

LIST OF MEN ~~KILLED~~ IN THE TWO EXPLOSIONS

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## FIRST EXPLOSION

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	NAME	OCCUPATION	REMARKS
1	Emil Silfast	Timberman helper	
2	John Ikonen	Rollerman	
3	P. A. Boyd	Pumper	
4	Tom Flint	Mason	
5	Ben Farry	Gas Watch.	Body found
6	R. Warburton	Boss Driver	Body found
7	Gus Rainey	Rope Runner	
8	Pete Monson	Pipeman	Body found
9	Robt. Herron	Gas Watch	
10	W. H. Pascoe	" "	
11	Jack Rimmer	" "	
12	Harvey Lyon	" "	
13	Gabe Lahti	Timberman	
14	Alexander Briggs	Supt. Hanna Camp	
15	Joseph Burton	Foreman No. 1 Mine	
16	J. B. Evans	Gas Watch	
17	James Knox	" "	Foreman No. 3 Mine
18	Alfred Dodds	Foreman No. 2 Mine	

## SECOND EXPLOSION

19	A. Madden	Shot Firer	
20	Jas. Tyner	Miner	
21	T. D. Penn	"	
22	Elmer Johnson	"	
23	Wm. Joki	"	
24	Alex. Tennent	Driver	Body found
25	A. G. Corly	Miner	
26	Chas. Harris	Pumper	
27	Emil Hendrickson	Driver	
28	Jalmer Ollila	Miner	
29	Jonas A. Lynn	Driver	
30	Abel Pura	"	
31	Tony Dodds	Boss Driver	
32	C. X. Hughes	Miner	
33	Henry Foster	Laborer inside	
34	Mat Joki	Miner	
35	Jno. Cookson	Driver	
36	Alfred Halliday	Laborer	
37	Jim Larson	Shot Firer	
38	A. Riley	Driver	
39	Wm. Johnson	Shot Firer	

40	Mat. Huhtala	McGinty Man	Body found
41	Geo. Case	Boiler Man	
42	John Hay	Miner	
43	Andrew Hay	Miner	
44	Henry G. Birchall	"	
45	Andrew Birchall	"	
46	D. Wilson	Timberman	
47	Sam McCormick	Laborer inside	
48	B. L. Frink	Pumper	
49	Pete Travis	Trackman	
50	James Smeaton	Shot Firer	
51	Wm. Burns	Laborer inside	
52	Jno. Tully	" "	
53	Jno. Tate	Shot Firer	
54	D. M. Elias	Wyo. State Mine Inspector, No. 1 Dist.	
55	Frank Collins	Miner	
56	Aug. Lakson	"	
57	Eusti Harrikka	"	
58	Robt. Armstrong	U. P. Signalman	
59	F. C. Burton	Trackman	

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ANALYSIS OF COAL TAKEN FROM EAST SIDE

OF No. 1 MINE

Moisture,	6.38
Volatile Matter	48.43
Fixed Carbon	36.37
Ash	<u>8.82</u>
	100.00