

## UNION PACIFIC RAILROAD COMPANY

FILE NO. \_\_\_\_\_

Mr. M. C. HaberCheyenne

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(cc) Mr. P. J. Lynch  
 Mr. H. E. Humphrey  
 Mr. L. N. Bayless  
 Mr. J. Goffety  
 Mr. D. H. Bland  
 Mr. L. H. Duffell  
 Mr. J. J. Daley  
 Mr. E. H. Bailey

Report of test of Nugget Coal Company's  
 run of mine coal in locomotives 5033 and  
 4005, November 14 to November 19 inclusive.

As indicated in Road Inspector

Mr. E. R. Adams' report of November 9, coal  
 for test purposes for cars UP 88297 and UP 86606  
 was obtained from a fair face sample of  
 run of mine coal from the Nugget Coal  
 Company strip operation near Hanna, Wyoming.

Locomotive 5033 was first used in  
 helper service with regular coal  
 which was obtained from coal chutes.

Chute coal November 14, the date of above run  
 consisted of the following: 2 cars Starbuck, 1 car  
 Superior, 6 cars Reliance, 2 cars Hanna and  
 2 cars Rock Springs.

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This run was made to obtain a basis for comparison with runs made with test coal. On this run locomotive 5033 steamed freely and burned a good fire. The fire was apparently free of clinkers and the amount of ash about average as indicated by the condition of fire at completion of run Cheyenne to Sherman.

On November 15 locomotive 5033 was used Cheyenne to Sherman burning test coal from car UP 88297.

This coal was inspected frequently in the staker conveyor trough as fired. The percentage of impurities was very low and the percentage of slack very high. In observing the fire it was noted that a considerable amount of the finer coal burned in suspension. The fire was somewhat brighter than on previous trip and less smoke was noted in the fire box. The fire bed was thinner and the ash much finer than on the previous trip.



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There was no clinkering observed. The locomotive steamed better burning the test coal than with the coal used on the previous trip. As a check another trip was made with locomotive 5033 November 16 Cheyenne to Sherman with test coal from UP 86606 replacing coal used November 15. Observations and results were essentially the same as on November 15 trip.

On November 18 locomotive 4005 was used as a helper Cheyenne to Sherman burning test coal from UP 88297 and UP 86606. The locomotive steamed freely and burned a thin level fire. As before a considerable amount of the fine coal burned in suspension. The fire was very free of smoke and it was possible to see the entire fire bed most of the time. There was no clinkering and the amount of ash was very fine.

To complete the test, regular

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~~Having of course~~ Hanna coal from car UP 86996 was mixed with the remainder of the test coal and used on locomotive 4005 Cheyenne to Laramie November 19. There was no noticeable difference in the steaming of the locomotive, the fire, fire bed or ash. There was no clinkering and the fire was thin and level. It was possible to see all parts of the fire almost any time. It was noted on both trips with locomotive 4005 that partially burned fuel and ash going over the arch showed no indication of plasticity and none adhered to circulators or crown stays.

This test sample of the Nugget Coal Company's strip coal proved satisfactory for use in locomotives either ~~separately~~ or mixed with regular Hanna coal. Its characteristics are similar to those of regular Hanna coal as indicated by appearance, ash and burning characteristics. It is somewhat more



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fractable than desirable, which <sup>tends to</sup> increase the amount of slack with a consequent increase in free moisture if the coal is stored in the open.

When fired under the conditions encountered on locomotives 5033 and 4005, which may be considered average, no difficulty should be experienced with the strip mine coal as long as the quality is comparable to that of the sample tested.

P. E. Flebbe  
Engineer of Road Tests.

Omaha - November 10, 1948 11 1948

023-032



Mr. J. Gogerty:

(cc: Mr. P. J. Lynch  
Mr. E. H. Bailey  
Mr. P. E. Flebbe)

*Whereat?*

Cars UP 88297 and UP 86606 were loaded with mine run coal at the Nugget Coal Company's strip mine at Hanna on November 10. The coal was billed to the Union Pacific Railroad Company, Cheyenne, Wyoming, attention Mr. P. E. Flebbe, and placarded "Do not divert". This coal was for test purposes as per recent correspondence.

We would like to have one car of this coal burned without mixing with other Hanna coals, and one car burned, mixed with the Hanna coal; the clinkering qualities to be particularly observed when mixed.

Would appreciate a detailed report.

Original Signed  
I. N. BAYLESS

Omaha, November 9, 1948

023-101-02

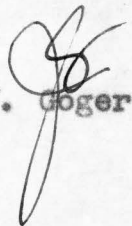
Mr. L. L. Hoeffel:

(CC - Mr. J. J. Daly - Cheyenne  
Mr. P. E. Flebbe ✓)

Arrangements have been made to obtain two cars of Hanna coal from the Nugget Coal Company's strip operations at Hanna, which are being forwarded to Cheyenne billed to Union Pacific attention P. E. Flebbe.

Desire to develop the burning qualities of this coal in steam locomotives when burned alone, as well as when mixed with other Hanna coal.

Arrange to use this coal on helper engines out of Cheyenne; initial test trips to burn this coal only. Also, additional trips to be made mixing this coal with regular Hanna coal for further test and observations. Number of trips required will be dependent upon performance obtained on test trips as reported by Mr. Flebbe.

  
J. Cogerty

Omaha, November 11, 1948

023-101-02

Mr. L. L. Hoeffel:

(CC - Mr. J. J. Daly - Cheyenne  
Mr. P. E. Flebbe )

Supplementing my letter November 9 relative to conducting test on two cars of Hanna coal from Nugget Coal Company strip operations at Hanna.

Mr. Daly should arrange to load this coal on tender with clam shell.

J. Gogerty  
*ms*



*pg 7 c/o Dist 1 man Chisum*

Omaha - November 12, 1948

023-032

Mr. P. J. Lynch:  
Mr. H. E. Shumway:  
Mr. J. Gogerty:  
Mr. E. H. Bailey:  
Mr. P. E. Flebbe:



Following is report of Mr. E. R. Adams, Coal Inspector, Rock Springs, Wyoming, dated November 9, covering loading of two cars of strip mine coal for test purposes from Nugget Coal Company mine near Hanna:

"I have this date observed the loading of two cars of 6" mine run coal - Nos. UP 88297 and UP 88606 - by the Nugget Coal Company at their strip operation.

"The coal in this strip operation is about 200 feet wide and approximately 22 feet thick. In determining a fair face sample of this coal two truck loads were taken from each side and from the middle of the strip.

"At the tipple the coal is dumped from the trucks into a bin and fed into a crusher set at 6 inches. It is then conveyed, by belt, to another bin and loaded from this point into the railroad cars through a round chute.

"This coal contains some impurities. The only means of cleaning is by placing men on the belt line and in the railroad cars. You will understand that a thorough job of cleaning cannot be done in this manner. Also, this tipple is not equipped with a magnetic pulley.

"These two cars of coal loaded for test purposes appeared to be of good quality.

"Mr. Hodge Burress was busy so he sent Mr. William Egan with me to observe this loading. No representative of the railroad was on hand. Mr. Ed Tynsky, Supt. of Nugget Coal Company, accompanied us in this inspection and was cooperative in every respect."

*J. N. Bayler*

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Mr. M. C. Haber

Cheyenne

Nov 21 1948

Supplementing a previous report on the spark arresting qualities of 3900 and 4000 class locomotive front end arrangements which have been modified with 45° deflecting plate.

Locomotive 4005 with modified front end arrangement was used November 19 Cheyenne to Laramie burning regular Hanna coal mixed with test coal from the Nugget Coal Company's strip mine near Hanna Hanna coal, because of its physical characteristics produced more sparks than other coals and this run afforded an unusually good opportunity for observing the spark arresting qualities of the front end arrangement.

Locomotive 3988 double heading with locomotive 4005 and coaled with regular chute coal emitted a constant shower of sparks many of which glowed until after striking the ground. In contrast locomotive 4005 emitted only

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occasional sparks, sometimes singly and sometimes five or six at a time. The spark arresting qualities of the modified front end arrangement can be considered entirely satisfactory and apparently does not impair the steaming qualities of the locomotive as full boiler pressure was easily maintained even when gaining water.

P. C. Hebbe  
Engineer of Road Tests



Omaha, March 16, 1949

Mr. P. E. Flebbe:

Referring to conversation in connection with standing tests being conducted by the Southern Pacific on a 4-8-4 type passenger locomotive at Sacramento:

Attached is Southern Pacific pass D-935792 from Ogden to San Francisco and return. As soon as you have completed a round trip with a locomotive equipped with continuous blow-off connected to injectors, arrange to proceed to Sacramento, contacting this office before you leave so that Southern Pacific officers may be advised accordingly.

M. C. Haber  
*MCH*