Acme Coke
11236 S. Torrence Ave.
Chicago IL 60617

acmecoke.com

Document archive

Wilputte Coal Investigation
Dated: 1994

Recovered from site on Feb 13 2021

KRUPP WILPUTTE CORPORATION

DIVISION OF KRUPP USA, INC.

MEMORANDUM

cc: J. DiMario
C.P. STAFF

TO: Jack Garzella

FROM: A. M. Cameron

DATE: December 7, 1994

SUBJECT: **COAL INVESTIGATION**
KWC REF: 8386

1.0 KWC has been asked to produce a memo describing the investigation of coal blend performed March 2-3, 1994 and June 14-17, 1994. In both cases, stickers and heavy pushes had remarkably increased while no significant changes in coal blends had been made.

2.0 **March 2-3, 1994**

A check of routine tests and operating data revealed no significant changes. The coke size, however, was much reduced and the pieces were highly fissured. This fact strongly suggested the high volume component was the most likely cause. There was no evidence to suggest blending errors.

Elk Run was the high volume component of the blend and a check of historical data revealed no reason to believe that Elk Run was not a satisfactory high volatile coal. Coal chemistry had not changed significantly, but the coal ash was lower than historical values.

A fluidity test done during the period reported a very high, 80,000 DDPM, value. Plotting the fluidity curve revealed two (2) peaks as opposed to an historical single peak - a strong indication that another coal had been added to the blend at the prep plant.

A check of the contraction reported a high minus 48%. Visual examination of the coal revealed a significant number of concoidal appearing pitch like pieces.

All of the above led to the conclusion that Cannel coal had been included in the Elk Run blend. Cannel coal is a virtually non-coking, extremely high fluid, highly contracting coal that was formed from spore material.

2.0 **March 2-3, 1994**

Elk Run was deleted from the blend and replaced by Hernshaw and the sticker problem cleared up.

It was during this period that B10 oven and others suffered wall damage.

3.0 **June 14 - 17, 1994**

Heavy pushing and stickers reappeared in June as attempts were made to decrease coking time. Coking time was extended, and pushing problems became manageable.

Acme checked blend components and found that there had been some shifting in the properties of the Western Canadian Fording and the Maple Meadow L.V. KWC were asked to investigate.

A review of the blend components by KWC confirmed the Acme findings but the small amount of the coal changes seemed disproportionate to the negative effect of the decrease in coking time. It was noted that the source of the Pet Coke was changed from Regina to Sun Oil and the problems were coincident with the change.

Investigation of the Sun Pet coke showed it to be high in fluidity and glassy in appearance.

A test blend that removed the Pet coke (9%) and increased the Maple Meadow L.V. and the Standard Fording was tried June 14, 1994. The pushing problems abated.

A later examination of the Sun Pet coke showed that it was adulterated with pitch. Hence, the high fluidity and poor performance.

In addition. Mr. L. Fish, of Maple Meadow, was contacted by phone and confirmed that M.M. coal mean reflectance had increased and True Energy was the Fire Creek seam.

4.0 Discussions

Acme wishes to increase the operating rate. KWC suggested a coal blend that would produce a large, strong, well contracting coke would be needed to avoid heavy pushing or stickers. The fact that the ovens were devoid of carbon had to be corrected.

The direction should be to reduce the high oxygen Western Canadian coals, substitute a stronger L.V. coal, such as True Energy and introduce an Appalachian mid volatile coal. A return to Regina Pet coke at a lower level would help with size but avoid the Sun Pet coke problem.

The H. V. component should be selected from those seams (e.g., No. 2 gas) that traditionally are carbon producers.

Changes as described above were made and it was then possible to increase production (to 19 hrs. coking time) while maintaining coke size at increased production and at the same time avoiding excessive pushing problems.

5.0 General

The above remarks had to be reconstructed from available data. No detailed notes were kept of the March problem and only a few notes were available from the June discussions. The problems were, however, solved as described.

The current B10 repair dilemma is the result of blending materials being different than expected and suggests that the coal blend components must not only be carefully selected but must also be tested frequently to confirm quality.

Education of Acme's coal suppliers in the context of the very grave consequences of damage to the battery, from changes in coal production quality is one way to insure that further damage is minimized. Long-term relationships with a few suppliers can help to achieve this aim.

App. Tel Can A.M.C./L. Fish

June 17, 1994

Telephone Call - L. Fish/Al Cameron

Regarding: Maple Meadow

- Mean Reflection 1.64 - 1.66 currently
- Expansion +4 to +6%
- Problem with Sulfur specification had to move a face
- Mine 5 faces in different areas
- Do not measure benches to check on ratio of Bench C (shiny coal) to the rest. Suggested that he check this out. Probably reason for higher Ro and expect if amount has increased.

Regarding: True Energy

All True Energy to Acme was Fire Creek. Did mine some strip Sewell but have discontinued and do not intend to resume. Coal is cleaned in the old Poca Division plant of Cannelton at Welch, West Virginia.

A. M. Cameron

AMC/cas

c:\files\8386acme.AMC