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May 3, 1995

R. M. Cole, Kingston Fossil Plant

**KINGSTON FOSSIL PLANT (KIF) - ANNUAL FOSSIL ENGINEERING INSPECTION  
OF ASH DISPOSAL AREAS**

Attached is a report from C. L. Mount to K. W. Burnett dated April 28, 1995, concerning the inspection of Kingston Fossil Plant's ash disposal areas.

This report includes recommendations for corrective work. I concur with these recommendations.



Ralph G. Johnson  
Manager, Fossil Engineering  
LP 2G-C

KWB:CLM:MBW

cc (Attachment):

J. S. Baugh, LP 5H-C  
RIMS, CST 13B-C

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TVA-00005900

April 28, 1995

K. W. Burnett, LP 2G-C

KINGSTON FOSSIL PLANT- ANNUAL FOSSIL ENGINEERING INSPECTION OF ASH DISPOSAL AREAS

1.0 General

1.1 This joint inspection of the ash disposal areas was conducted April 13, 1995 by the following personnel:

Cherie Mount, Fossil Engineering  
Jerry Reed, Fossil Engineering  
Mike Sutton, Fuel By-Products  
James Pridemore, KIF- Yard Operations

1.2 The last inspection was made on April 18, 1994.

1.3 The different areas referenced in this report are designated on the attached print of drawing 10N420.

2.0 Change in Dikes Since Last Inspection

2.1 Dike "C" appears to be stable although there is one wet and rutting area.

2.1.1 The exterior slopes have a good vegetative cover.

2.1.2 There is a good gravel surface on the dike "C" roads.

2.1.3 There is a 150' long area of rutting and standing water on the east side of the stilling pond dike. The ruts are up to 12" deep. (see 8.1) (picture 1)

2.1.4 The inside of Dike "C" (east side and southeast corner of ash disposal area) is being eroded by wave action. (see 8.2)

2.1.5 The concrete around the monitoring wells 5B and 5C along Dike "C" is cracked up. (see 8.3)

2.2 Seepage persists along the exterior slope of the southeast dike. The seepage is collected in an interceptor ditch and routed to an engineered wetland. The water is then pumped to the ash pond. Cattails and other aquatic growth continue to increase in the wetland.

- 2.3 The divider dike at the stilling pool appears to be stable; however, there is some erosion due to wave action evident on the north side of the stilling pond.
- 2.4 The original north dike drainage (now south toe of cell 1) has been lowered to remove the ponding. The road crossing at the east end of the ditch was reworked and the pipe lowered four feet. An additional section of pipe was also added. This allows an extra four foot drop in the 1800-foot ditch.
- 2.5 Runoff water from the top of dredge cell no. 1 dike is forming gullies down to the eastern end of the north dike drainage ditch. The drainage ditch along the north dike is eroding. (see 8.4) (picture 3)

### 3.0 Changes in Pond Operations Since Last Inspection

- 3.1 The bottom ash continues to be sluiced into a channel at the south end of the initial ash pond and removed by dragline. It is then dry stacked on Cell No. 2.
- 3.2 The fly ash continues to be sluiced into a rubber-lined ditch. The lining has deteriorated. Plant personnel have cleaned out the ditch and placed earth fill and riprap on the slopes for approximately 150 feet of the ash sluice ditch. (see 8.5) (picture 2)
- 3.3 The fly ash and bottom ash waters continue to be routed through a spillway skimmer into the stilling basin and then discharged through five of six spillways to the intake channel.
- 3.4 Cell No. 1 (southern cell) is partially full and inactive. The dike elevation is 795. The return spillway is located in the east end.
- 3.5 Cell No. 3 (center cell) has not been dredged into since Fall 1994.
- 3.6 Cell No. 2 (northern cell) is being used to dry stack bottom ash. Bottom ash is being put into Cell No. 2 by means of hauling.

### 4.0 Conditions of Spillways, Skimmers, and Outlets

- 4.1 The plant constructed spillway and skimmer discharging water from the pond area into the stilling pool area appear to be in good condition.
- 4.2 There is some minor accumulation of floating ash in the southeast corner of the stilling pool. (see 8.6) (picture 4)

4.3 Five of the six standard spillways and skimmers in the stilling pool area appear to be in good condition and functioning properly. The spillway on the west end has been raised one section higher than the other five and is not discharging. (picture 4)

4.4 Five of the six outlet pipes were discharging at the time of this inspection and there was no visible loss of ash. The riprap appears to be in good condition at the spillway discharge outlets. (picture 5)

#### 5.0 Chemical Treatment Ponds

5.1 The chemical treatment ponds (iron and copper) are located between North Access Road and the fly ash discharge trench. The chemical ponds are excavated below grade and there are no exterior dikes. Both chemical pond internal dikes are covered with riprap. They appear to be in good condition.

5.2 The copper and iron pond water is discharged periodically by pumping to the bottom ash ditch which flows into the active ash disposal area. The iron pond was last pumped out a few months ago and the copper pond was last pumped out a few years ago.

#### 6.0 Coal Yard Drainage Basin

6.1 The coal yard drainage basin is located at the southwest corner of the coal pile. This basin was excavated below grade; therefore, there are no exterior dikes.

6.2 All discharge from this basin is pumped into the fly ash discharge ditch which flows to the active ash disposal area.

6.3 During the ash pond inspection, runoff was pooled up in the southeast corner of the coal yard. (see 8.7) (picture 6)

#### 7.0 Actions on Recommendations of Last Inspection

7.1 The algae was removed from the skimmer of the western most spillway.

7.2 There were no additional drain pipes added to Dike C across the berms; however, there was no standing water at the time of this inspection.

7.3 The runoff pipes have been cut off and earthfill and riprap have been placed at the outlet end of each pipe along Dike C.

- 7.4 Plant personnel have not replaced the rubber liner; only the first 150' of the fly ash discharge ditch has been replaced with rip rap. (see 8.5)
- 7.5 Plant personnel have added and monitored riprap at the outlet end of the existing dike storm drains. They have also added riprap to the inside of the stilling pool dike; however, waves continue to undercut the inside of the dike. (see 8.8)

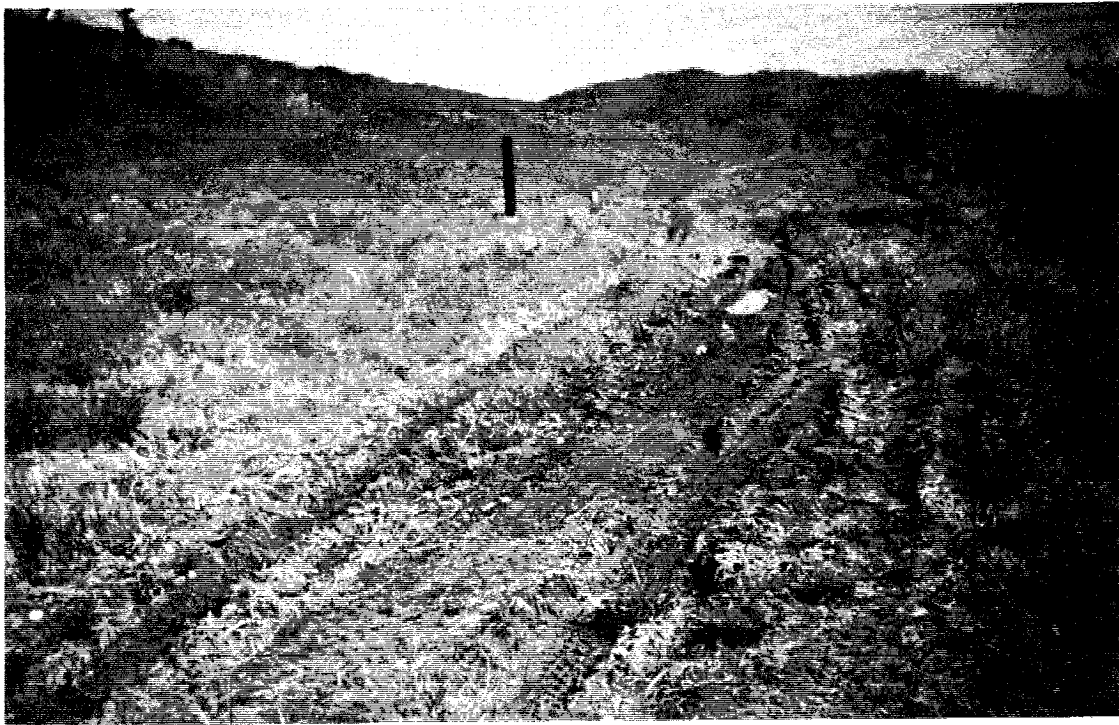
8.0 Recommendations

- 8.1 Plant personnel should repair ruts and continue to monitor the exterior dike slopes for seepage, soft wet spots, animal burrowing, etc. and report any change to Fossil Engineering.
- 8.2 Riprap should be placed in areas where wave erosion has undercut the inside of the ash pond dike.
- 8.3 The concrete around the monitoring wells should be replaced.
- 8.4 Earthfill should be placed in gullies and eroded areas. The area should be graded and the disturbed areas shall be seeded and mulched.
- 8.5 Plant personnel should replace the rubber liner in the fly ash sluice ditch or continue to clean out the ditch and fill with earth liner and riprap as required.
- 8.6 Plant personnel should periodically skim floating ash out of the stilling pond.
- 8.7 Plant personnel should rework the ditch in the coal yard to allow the ponded water to drain into the coal yard runoff pond.
- 8.8 Plant personnel should continue to add and monitor riprap at the outlet end of the existing dike storm drains and on the inside slope of the stilling pool dike to prevent additional erosion.

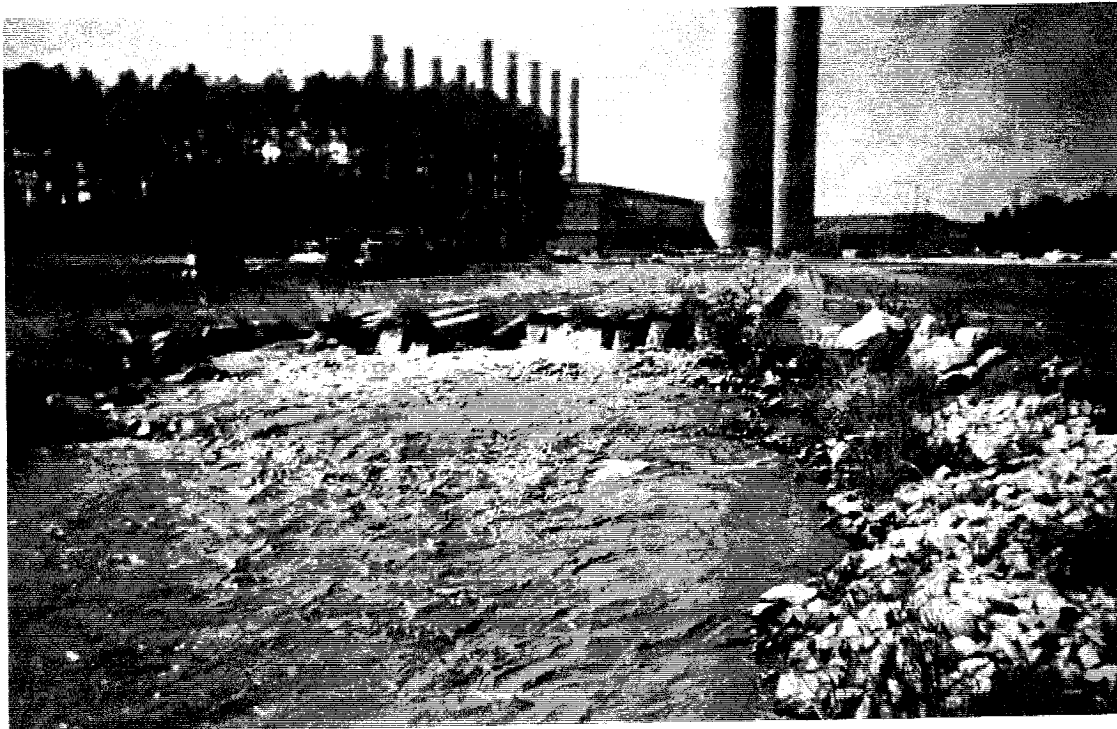
*C.L. Mount*

C.L. Mount  
Site and Environmental Engineering

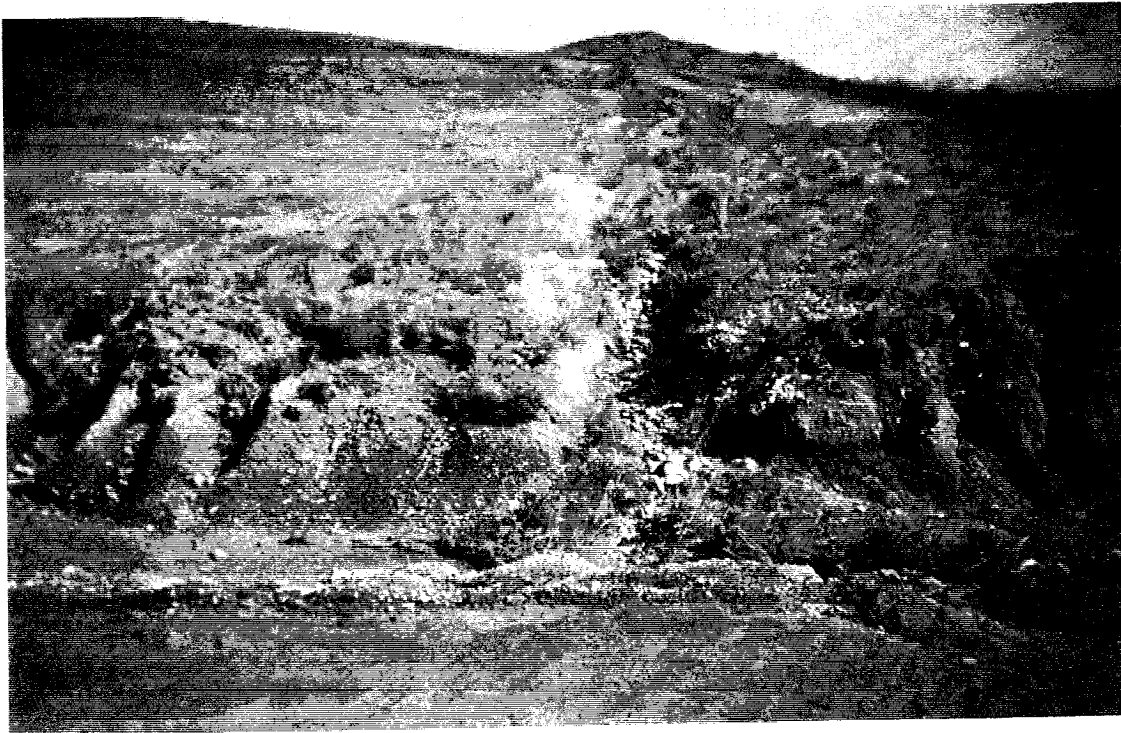
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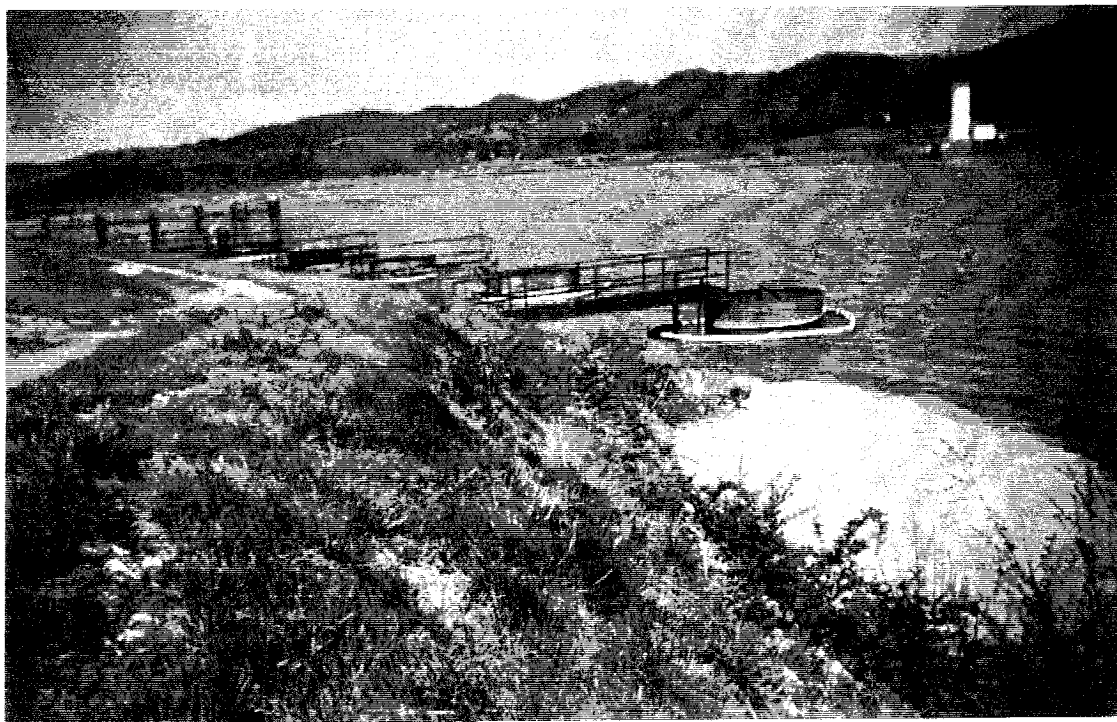
PICTURE 1- Wet, rutted area along Dike "C" should be repaired.



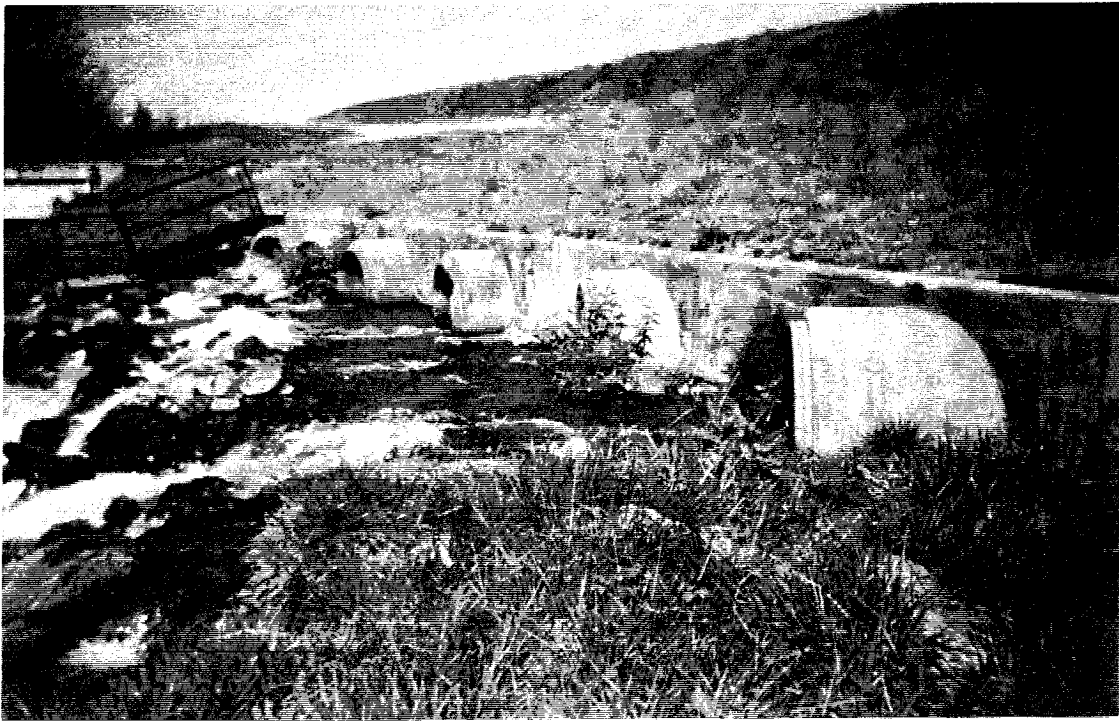
PICTURE 2- The ash sluice ditch should continue to be cleaned out and filled with earth liner and riprap or the rubber liner should be replaced.



PICTURE 3- Gullies and eroded areas along North Dike and drainage ditch should be repaired.



PICTURE 4- Spillways and skimmers appear to be in good condition. There is some floating ash in the stilling pool.



PICTURE 5- Riprap looks good at the spillway discharge outlets.



PICTURE 6- Runoff is pooled up in the southeast corner of the coal yard.