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April 29, 1998

N. W. Burris, BRF 1A- CTT/KIF 1A-KST

KINGSTON FOSSIL PLANT (KIF) - ANNUAL INSPECTION OF WASTE DISPOSAL AREAS

The subject inspection was completed by representatives of Fossil Engineering and Fossil Fuels. The observations from the inspection and recommendations for corrective work are in the attached report.

If you have any questions or need assistance, please contact Keith Elder at Chattanooga extension 6370.

RG Johnson

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

KWB:BKE:ER
Attachment
cc (attachment):
W. D. Hall, LP 1H-C
G. R. MacDonald, LP 5H-C
R. L. Pope, KIF 1A-KST
EDMS, WR 4Q-C

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TENNESSEE VALLEY AUTHORITY
KINGSTON FOSSIL PLANT

ANNUAL INSPECTION OF WASTE DISPOSAL AREAS

Prepared By: Keith Elder
Date: April 28, 1998

KINGSTON FOSSIL PLANT
NPDES PERMIT NO. TN0005452
ANNUAL ASH POND DIKE INSPECTION
1998

INTRODUCTION

The ash pond dikes and toe areas at KIF were inspected for structural stability on March 30, 1998. The inspection was conducted by Keith Elder of TVA Fossil Engineering. He was accompanied by Jim Huber and Melissa Hedgecoth of TVA Fossil Fuels. The previous inspection was performed on March 25, 1997.

ACTIVE ASH DISPOSAL AREA AND DREDGE CELLS

Active Ash Disposal Area

Plant operations continues to manage this area the same as during the last inspection. Bottom ash is sluiced into a channel south of the disposal area where it deposits and is removed by drag line to be used for dike construction. Fly ash is sluiced into a channel west of the bottom ash channel. Both channels flow north into the active ash pond where the fly ash settles out and accumulates. The fly ash is periodically dredged into one of three cells located in the western half of the disposal area. The dikes of these cells are raised using bottom ash to provide more capacity for dredged fly ash as needed. The sluice water flows into the stilling pool via two plant constructed spillways. From the stilling pool the water discharges into the plant intake channel via 5 standard spillways. At the time of the inspection, only four of the spillways were operating. The western spillway was raised above the level of the other four and was not discharging.

All exterior dike slopes around this area were in sound condition with excellent vegetative cover. The vegetation had been mowed and no signs of trees were present on any dike slopes. No new sloughs were detected, and the previously identified ones had not changed. There was evidence of wave erosion on the interior dike slopes of the stilling pond. The divider dike between the active pond and the stilling pool was in good condition with minor erosion on its slopes. Two areas of note were found--along the eastern dike and along the southern dike west of the bridge. Otherwise, these slopes had good vegetative cover. The dike roads were in good condition with the exception of two segments that were rutted along the southeastern dike--one west of the bridge over the intake channel and one adjacent to the anoxic limestone drain southwest of the engineered wetlands.

The engineered wetland along the southeast dike was functioning normally, receiving the seepage that collects in the anoxic limestone drain from the toe of the slope. A portion of the limestone drain appeared to be clogged, and the ground was saturated for approximately 100 feet.

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Dredge Cells

All three dredge cells were inactive at the time of inspection. Material was being reclaimed from Cell 1 for use in the construction of the Stage B dike around Cell 2. When construction is complete, the new top of dike elevation for Cell 2 will be the same elevation as the tops of dike for Cells 1 and 3 (796 ft).

The dike slopes around this area were all stable and had excellent vegetative cover. Plant operations continue to do a commendable job of mowing the slopes. The previously identified minor slough on the west end of dike "C" had not changed in size or appearance. An area of ponded water was along the toe of the northwest dike in the ditch between the road and the dredge cells. Two erosion gullies were noted adjacent to the perimeter ditch along the northwest corner of Dredge Cell 2.

There is an area between the perimeter ditch and dike "C" that was used for material reclamation to construct the dredge cell dikes. As a result, the area contains some regions that do not drain well. There is no earth cover or vegetation in this area. Plant personnel plan to cover this area in conjunction with covering the slopes of the Stage B dike later this year.

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I certify under penalty of law that I have personally examined and am familiar with the information submitted herein; and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. See 18 U.S.C. Section 1001 and 33 U.S.C. Section 1319. (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)

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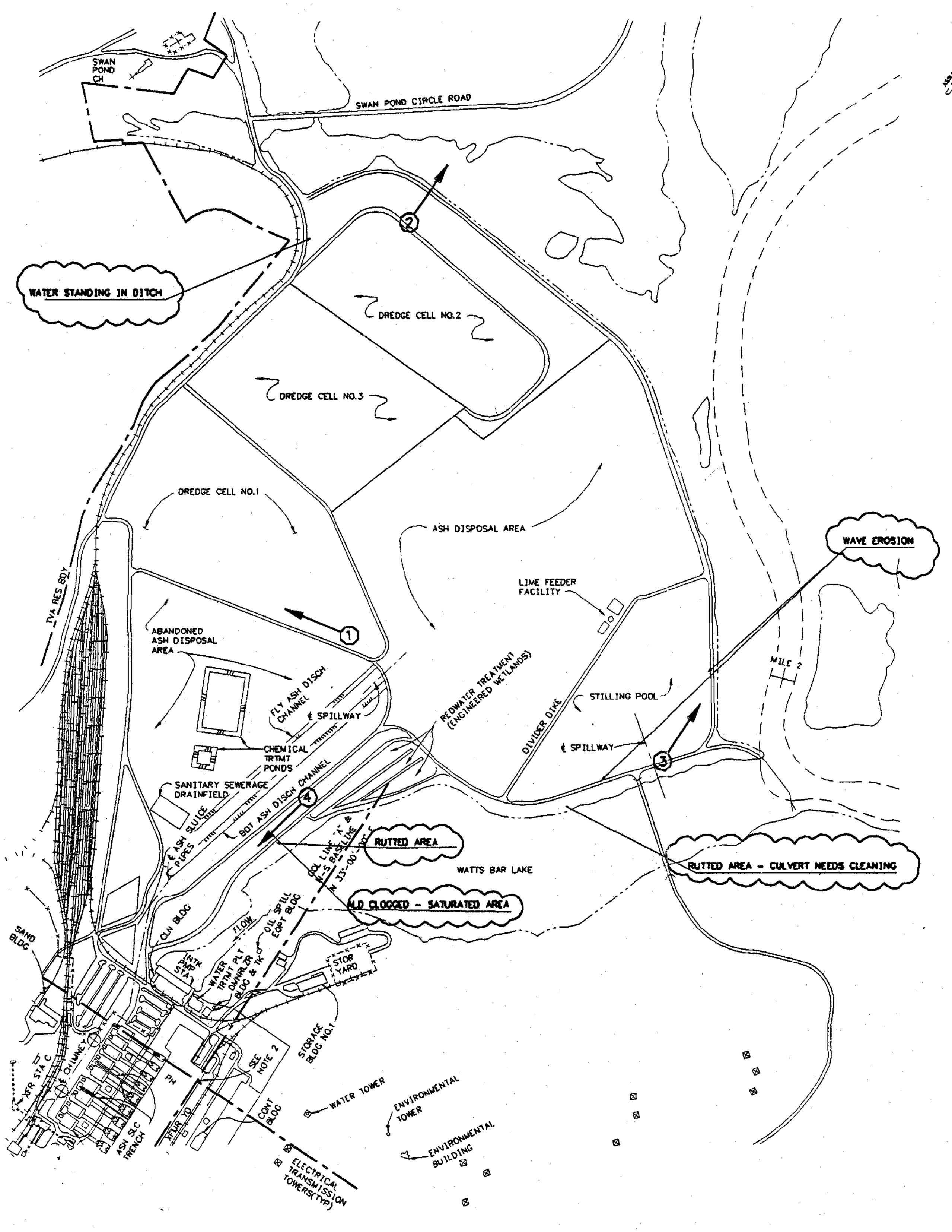
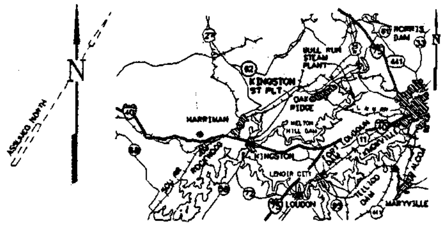
SIGNATURE OF PRINCIPAL/EXECUTIVE OFFICER OR AGENT

Tue Apr 2[illegible]0:38 1998 \\CHACHAFHE1\CADNET\QUEUE\sam_[illegible]f Keith Elder D:\ACADDwg\dwgKIF\ashpond.prf





LOCALITY MAP

NOTES:

1. TOPOGRAPHY TRACED FROM KELSH PLOTTED FROM APRIL 1974 AERIAL PHOTOGRAPHS AND FROM USGS 7.5 MINUTE QUADRANGLE (HARRIMAN, TN 125-NE AND LENOIR CITY, TN 130-SE) ENLARGED. CONTOUR INTERVAL SHOWN IS 10 FEET.
2. THE TENNESSEE STATE COORDINATES AT THE INTERSECTION OF THE N-S AND E-W BASELINES ARE NORTH 501,604.16 AND EAST 2,439,236.05.
3. FOR PROPOSED AND TEMPORARY FEATURES SEE DWG 10E202-01.

← ① PHOTO TAKEN AT THIS LOCATION IN THIS DIRECTION.

TOPOGRAPHY TRACED BY M.P. TERMON 1/30/1981

R		RWA	TMJ	RWA	VWD	VWD	RGJ	WDH			
ELECTRONICALLY RESTORED DRAWING											
REV. NO.	DATE	DSGN	DRWN	CHKD	SUPV	RVWD	APPD	ISSD	PROJECT ID	AS CONST	REV CD

DISCIPLINE INTERFACE

SCALE: NONE EXCEPT AS NOTED

YARD

ASH DISPOSAL AREA
1998 ANNUAL INSPECTION

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:
	MPT	CPJ	CPJ		ROB	

KINGSTON FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING

AUTOCAD R14	DATE 04/28/81	36	C	API98	R

TASK COMPLETED BY:

REV NO. ELECTRONICALLY RESTORED DRAWING
THIS DRAWING HAS BEEN COMPLETELY REDRAWN
AND SUPERSEDES :(10E200-01 R3)

PLOT FACTOR:4800
W-TVA

C.A.D. DRAWING
DO NOT ALTER MANUALLY

36 C API98

FOR PLANT USE ONLY
OTHER AREAS INSPECTED, ACTIONS ON PREVIOUS RECOMMENDATIONS / CURRENT RECOMMENDATIONS AND PHOTOGRAPHS

CHEMICAL TREATMENT PONDS

The chemical treatment ponds are located southwest of the active ash pond. Both ponds were excavated and have no exterior slopes. The internal dike slopes are covered with riprap. These slopes were in good condition.

COAL YARD DRAINAGE BASIN

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. All discharge from this basin is pumped into the fly ash discharge ditch which flows to the active ash disposal area. The slopes appeared to be in good condition.

ACTIONS ON RECOMMENDATIONS OF LAST INSPECTION

- Plant personnel continue to keep the vegetation on the slopes mowed on a regular basis.
- A good vegetative cover has been established on the slopes of the Stage A lift of Dredge Cell 2.
- Plant personnel have continued to monitor any erosion gullies along the dredge cell dike slopes and have repaired them as necessary.
- Plant personnel have continued to monitor any seeps or sloughs along Dike "C".
- The dike storm drain outlet at the north end of the ash disposal area had been repaired. The other outlets had riprap cover and were in good condition.

RECOMMENDATIONS

- Plant personnel should repair the areas of wave erosion on the interior dikes of the stilling pool by placing riprap in the problem areas where the slope has a visible vertical face of 1 foot or more.
- The ruts along the southeastern roads should be repaired by scraping away the soft material, replacing with firm clay material, and compacting. The drainage culvert under the road west of the bridge should either be replaced or cleaned out so that the area will drain and prevent future rutting.
- The drainage ditch at the toe of the northwest corner of the area should be graded to drain. Any disturbed areas resulting from this work should be seeded and mulched.

FOR PLANT USE ONLY
OTHER AREAS INSPECTED, ACTIONS ON PREVIOUS RECOMMENDATIONS / CURRENT RECOMMENDATIONS AND PHOTOGRAPHS

- The seep from the anoxic limestone drain should be repaired. A plan for this work has been discussed with the plant, and a repair is scheduled for this summer.

- Plant personnel should continue to monitor any known seep and slough areas for material movement. Please notify Fossil Engineering immediately if any change is noted.

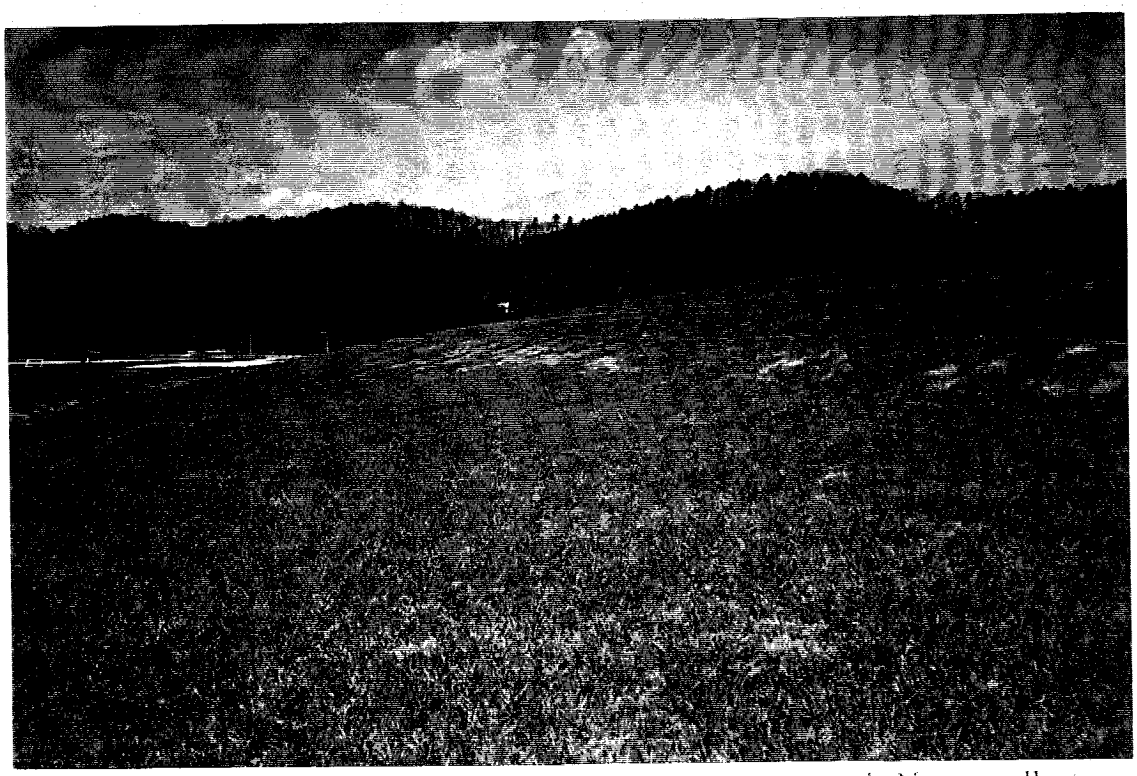


Figure 1. Southern dredge cell dike exterior slope looking westward. Note excellent cover and manicure.

Figure 2. Area of erosion in perimeter ditch in northern corner of Dredge Cell 2.

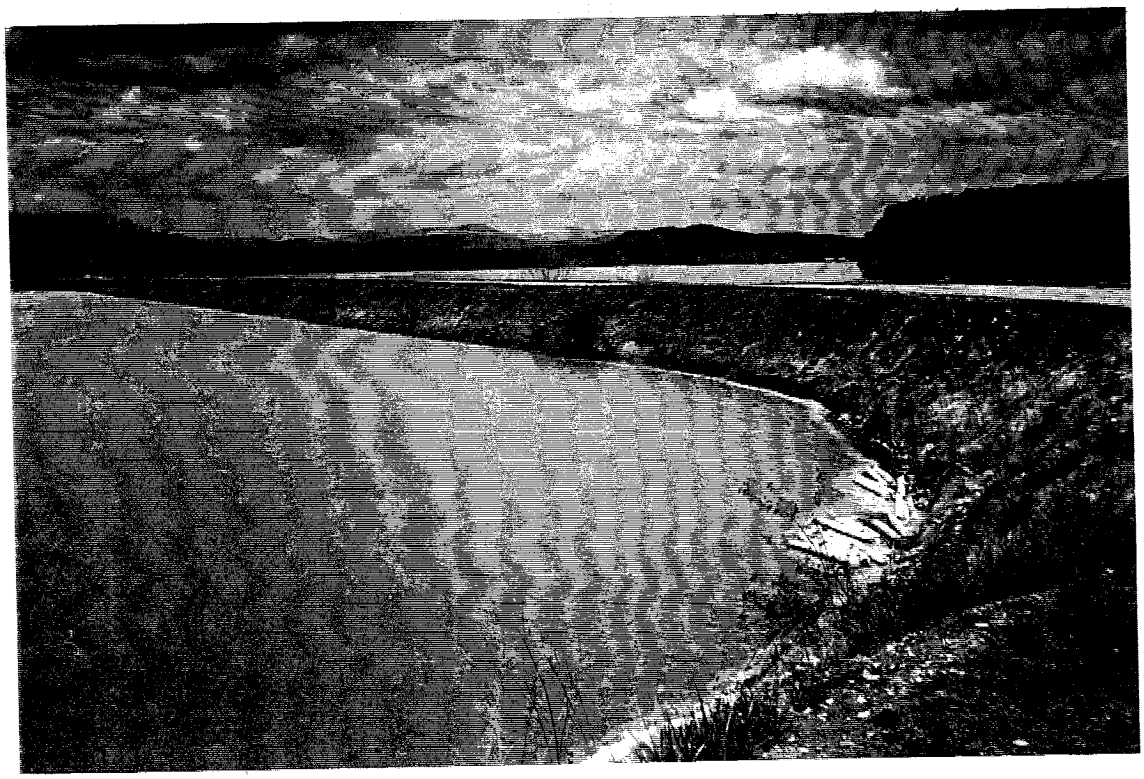


Figure 3. Wave erosion on northern interior slope of the stilling pond.

Figure 4. Rutting on access road south of the engineered wetlands due to ALD clog.