



70-143

**Nuclear Fuel Services, Inc.** ERWIN, TENNESSEE 37650

(615) 743-9141

February 21, 1985

85 FEB 27 110:23

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

PDR  
Return  
to 39655

U. S. Nuclear Regulatory Commission  
Division of Fuel Cycle and Material  
Safety, NMSS  
Washington, DC 20555

Attention: W. T. Crow, Acting Chief  
Uranium Fuel Licensing Branch

- Reference:
- 1) Docket No. 70-143; SNM-124
  - 2) Letter from R. L. Ideker to R. G. Page dated 11/20/84 transmitting results of Railroad Area Soil Decontamination Project

Gentlemen:

We have recently been advised that the Seaboard Systems Railroad, Clinchfield Division intends to build an additional rail line to the east of their existing lines. Construction of the new line will impact the decontaminated area described in Reference 2. Thus, we request NRC action on Reference 2 as expeditiously as possible.

We appreciate your prompt attention. If there are any questions, please call me.

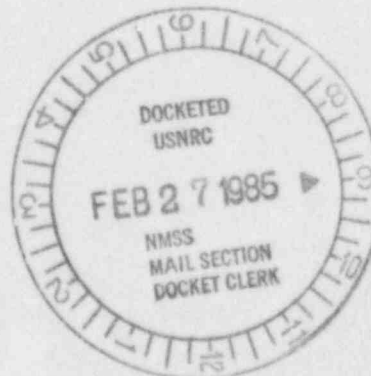
Very truly yours,

R. L. Ideker, Manager  
Safety & Decommissioning

RLI:tlw:bm

Enclosure - Reference (2)

cc: Dr. J. Nelson Grace  
U. S. NRC, Region II  
101 Marietta St. NW  
Suite 2900  
Atlanta, GA 30323



FEE EXEMPT

INFORMATION CATEGORY

UNCLASSIFIED

CLASSIFIED

8503110230 850221  
PDR ADOCK 05000143  
C PDR

2/21/85  
REVIEWED BY DATE

24882



**Nuclear Fuel Services, Inc.** ERWIN, TENNESSEE 37650-9718

21G-84-0329  
GOV-01-55-04

(615) 743-9141

November 20, 1984

ACF#446

Date: 11/20/84 By: [Signature]

Distribution:

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

U.S. Nuclear Regulatory Commission  
Division of Fuel Cycle and Material  
Safety, NMSS  
Washington, D.C. 20555

Attention: R. G. Page, Chief  
Uranium Fuel Licensing Branch

Reference: (1) Docket No. 70-143; SNM-124  
(2) Amendment No. 8, SNM-124 dated July 25, 1980

NRC File  
F. K. Guinn  
R. L. Ideker  
R. P. Droke  
K. D. Hensley  
C. L. Brown  
H. Bailey  
B. L. Griffith  
T. Lee  
Document Control  
Info. Copy

Gentlemen:

Pursuant to the requirements of License SNM-124, Condition No. 8, Reference 2, we hereby submit our final survey report on the Soil Decontamination Project. With this report, we request your expeditious evaluation and release of the area.

Within 30 days of the receipt of your release, we will submit stabilization and monitoring plans and procedures as further required by Reference 2.

If you have any questions or require further information, please contact Mr. D. E. Gergely or me.

R. L. Ideker, Manager  
Safety & Decommissioning

- RLI/tlw

Attachments

INFORMATION CATEGORY

UNCLASSIFIED

CLASSIFIED

[Signature] 11/20/84  
REVIEWED BY DATE

~~8412200565~~ Lp.

FINAL REPORT

SOIL DECONTAMINATION PROJECT  
(RAILROAD AREA ON NORTHWEST SIDE OF PLANT)

November, 1984

Nuclear Fuel Services, Inc.  
Erwin, TN 37650-9718

~~8412200579~~ 6pp.

## I. Background and Summary

In the early years of operation at the Nuclear Fuel Services, Inc. (NFS) fuel processing plant near Erwin, Tennessee, plant waste water discharges were made, after treatment, to Banner Spring Branch. These waste water discharges were monitored and complied with all state and federal regulatory limits, however, they contained low level concentrations of uranium and thorium. After several years of operation, the course of Banner Spring Branch was altered to its present location. The previous stream bed soil contained low-level sediments of these nuclides. (Attachment I to this report is a chronicle of the correspondence relating to this project).

As part of a voluntary agreement with the Nuclear Regulatory Commission (NRC), NFS has decontaminated the old stream bed and adjacent property soil and moved the low-level contaminated soil to a mound located within a fenced area on NFS property. That mound will be stabilized and monitored at a minimal level until final disposition is determined. A total of 119,000 cubic feet of soil has been moved, and the soil remaining is within NRC target release criteria for both concentration and direct exposure.

## II. Data Summary

Attachment II to this report is a summary of the present data indicating the total alpha concentrations and direct radiation measurements which are related to this project. These data reflect the most recent measurements after the final excavation was completed.

All area concentrations (gross alpha average of any adjacent four 25' x 25' grid areas) have now been reduced below the target release criterion contained in item 5 of Attachment I with the exception of the area immediately adjacent to groundwater well #7. As outlined in item 12 of Attachment I, excavation could not be reasonably accomplished near the well without compromising the well construction. The average for the entire railroad property area is now 10.5 pCi/gm, approximately 35% of the target release criterion.

All area direct exposure measurements (see Attachment II) are also below the target release criterion contained in item 3 of Attachment I. Entire railroad property averages for these measurements at 1 meter and at the surface are 8.7 uR/hr and 9.5 uR/hr respectively.

ATTACHMENT 1

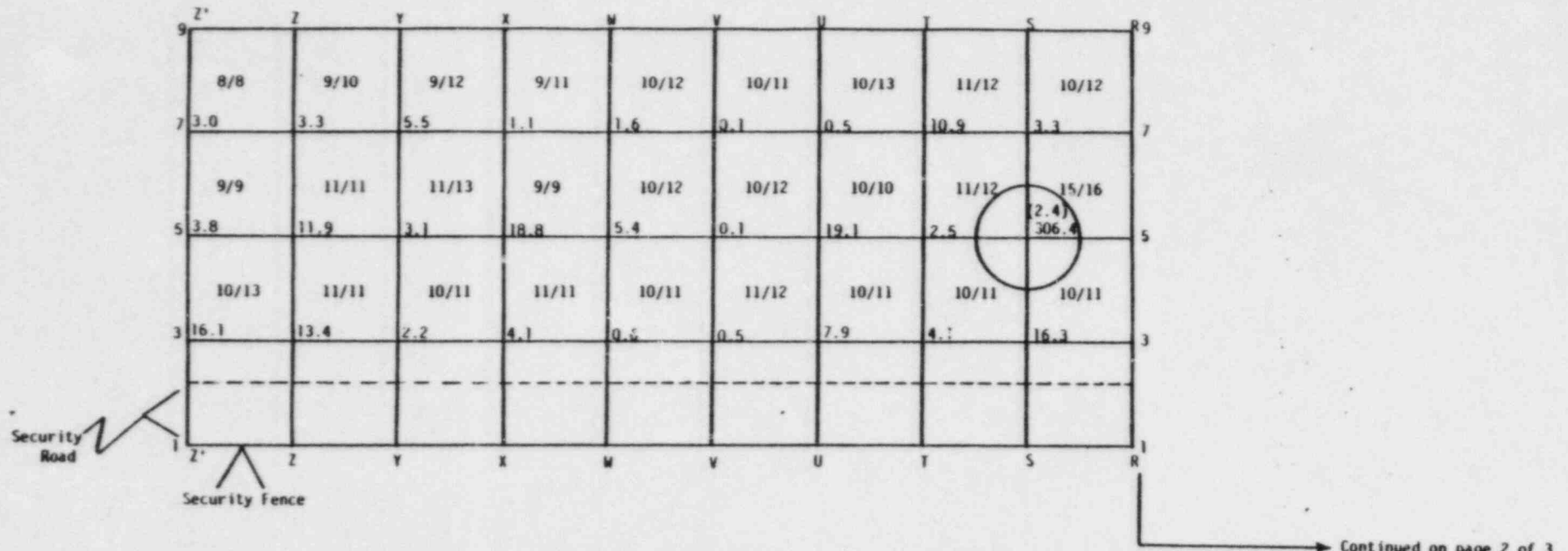
SOIL DECONTAMINATION PROJECT  
CORRESPONDENCE SUMMARY

1. Letter June 6, 1980 NRC Ed Shum to NFS  
"Evaluation of NFS Proposed Remedial Actions and other alternatives on Soil Contamination"
2. Letter July 25, 1980 NFS to NRC  
"General Soil Decontamination Plan"
3. Letter August 15, 1980 NRC W. T. Crow to NFS  
"Authorization of Soil Decontamination in Accordance with Statements Representations and Conditions of Letter Dated July 25, 1980"  
(Amendment No. 8 to SNM-124)
4. Letter September 9, 1980 NFS to NRC  
"Request for Release of Roadway 50' From Road Bed Shoulder"
5. Letter September 15, 1980 NRC Page to NFS  
"Contamination Criteria Reference to Letter Dated August 15, 1980" Condition A-2 of Amendment 8
6. Letter September 18, 1980 NRC Crow to NFS  
"Release of Strip Requested September 9, 1980"
7. Letter October 21, 1980 NRC Dan Montgomery to NFS  
"Inspection of NFS - R. R. Soil Areas and Comments to NFS Sample Results"
8. Letter January 6, 1981 NFS to NRC Page  
"NFS Request for Release and Request for Re-Survey" Latest Grid Data
9. Letter August 14, 1981 NRC Page to NFS  
"Request for Further Earth Removal"
10. Letter January 25, 1982 NFS to NRC Page  
"Response to Item 10 Letter of August 14, 1981"  
request NRC further evaluate
11. Letter March 5, 1982 NRC Page to NFS  
"NRC Evaluation and Request for Prompt Decommissioning"
12. Letter September 7, 1984 NFS to NRC O'Reilly  
"Revised Soil Decontamination Plan"
13. Letter October 2, 1984 NRC Stohr to NFS  
"Comments on Revised Soil Decontamination Plan"

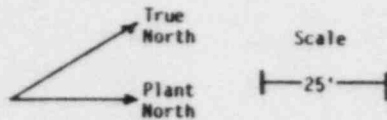
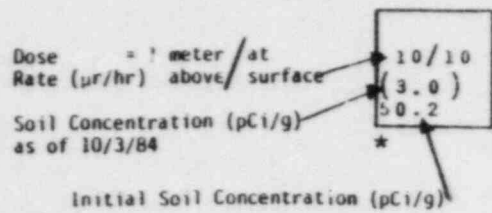
# ATTACHMENT II

## Summary of Soil Activity

(Gross alpha results in pCi/gm)



### KEY:

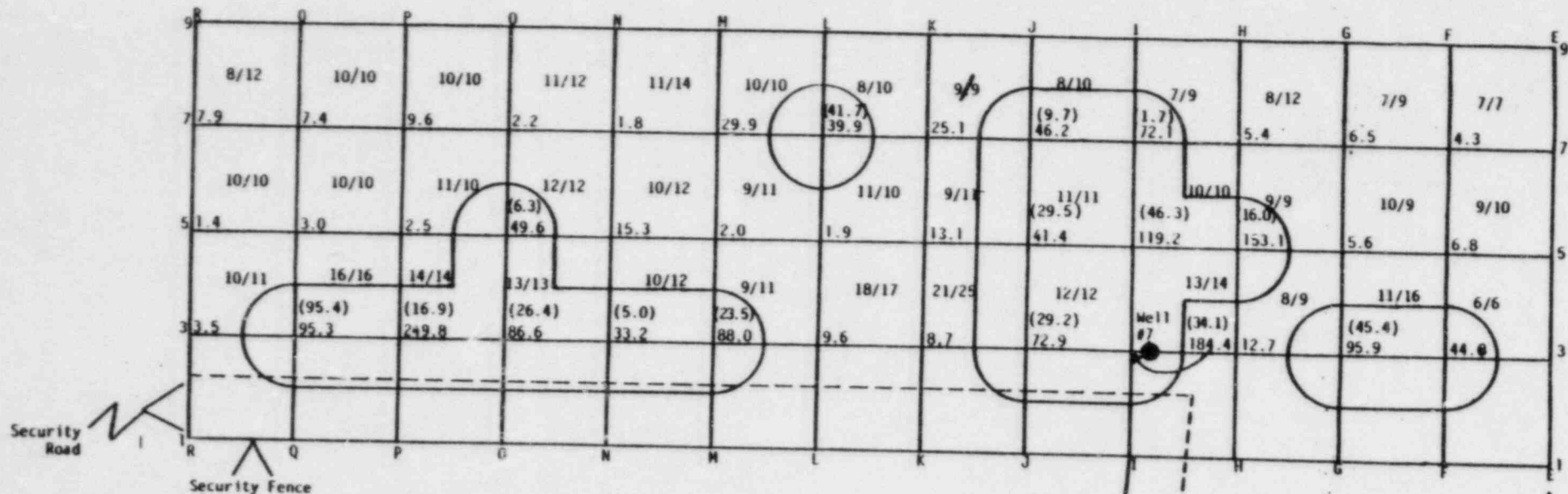


(\*All data represented pertain to the lower left grid point in the area which they are indicated).

# ATTACHMENT II (Cont'd)

## Summary of Soil Activity (cont'd)

(Gross alpha results in pCi/gm)

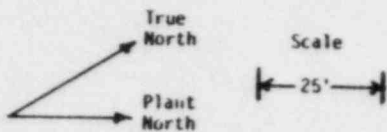


### KEY:

Dose = 1 meter / at  
Rate ( $\mu\text{r/hr}$ ) above / surface

Soil Concentration (pCi/g)  
as of 10/3/84

Initial Soil Concentration (pCi/g)



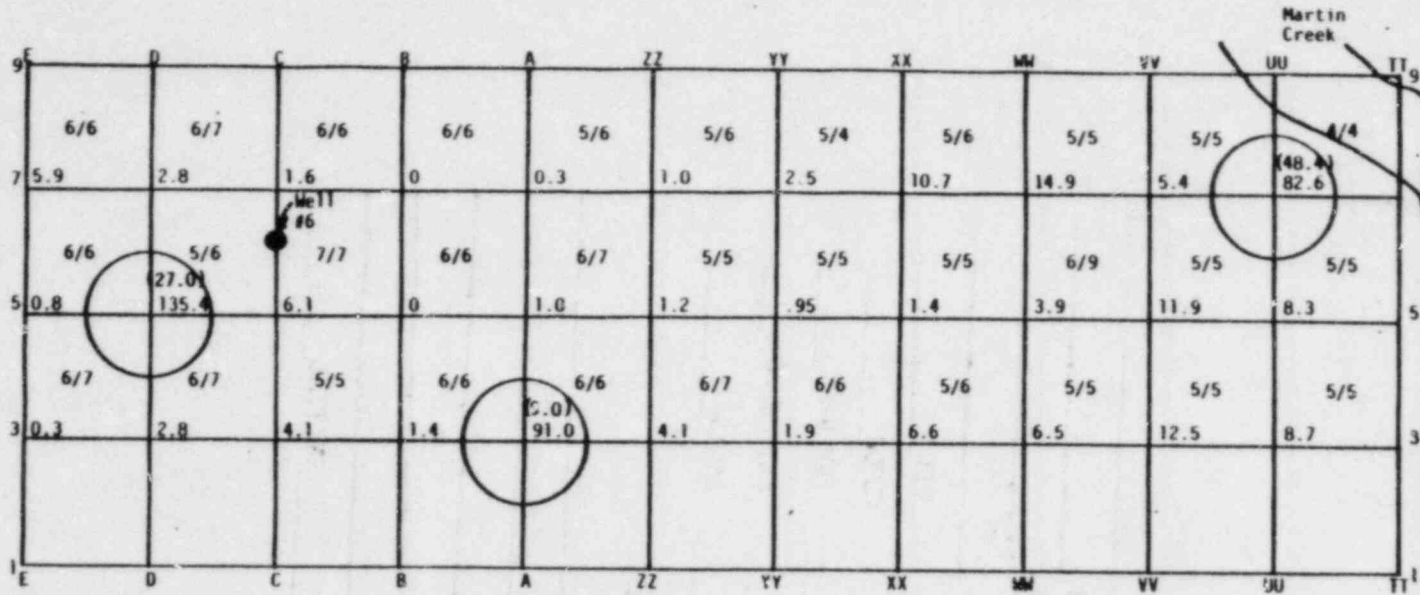
Continued on page 3 of 3

(\*All data represented pertain to the lower left grid point in the area which they are indicated).

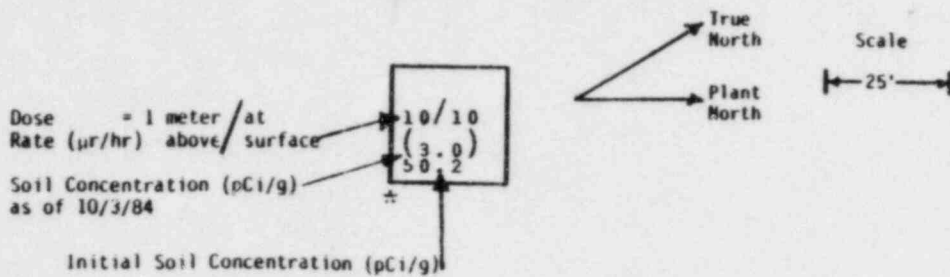
# ATTACHMENT II (CONT'D)

## Summary of Soil Activity (cont'd)

(Gross alpha results in pCi/gm)



### KEY:



(\*All data represented pertain to the lower left grid point in the area which they are indicated).



DOCKET NO. 70-143  
CONTROL NO. 24882  
DATE OF DOC. 02/21/85  
DATE RCVD. 02/27/85  
FCUF  PDR   
FCAF \_\_\_\_\_ LPDR \_\_\_\_\_  
WM \_\_\_\_\_ I&E REF.   
WMUR \_\_\_\_\_ SAFEGUARDS   
FCTC \_\_\_\_\_ OTHER \_\_\_\_\_

DESCRIPTION:

they request NRC  
action on letter dtd.  
11/20/84 as expediti-  
ously as possible

02/27/85 INITIAL CC