ATTACHMENT 7

PICTORIAL REVIEW OF THE REMEDIATION ACTIVITY

03/08/00

Photo 1. Looking east, Pile Fan Sump area. Right side, south, Fan House Building 704, Left side, north, Building 801

02/03/00

Photo 2. Drain line excavation looking west, overburden laydown areas

02/02/00

Photo 3. Drain line excavation looking southwest, overburden laydown area and remediated soil in drum.

02/02/00

Photo 4. Drain line excavation looking south at the Fan House Building 704. Workers preparing to isolate the stack drain line.

02/02/00

Photo 5. Isolation of the stack carbon steel drain line at the Fan House Building 704 North wall. Contamination found under the piping at the first joint was remediated to background levels within two feet under the drain line joint.

02/02/00

Photo 6. Drain line excavation looking south towards the Fan House Building 704 from the road. Large excavation for the 4-inch-diameter drain line.

02/09/00

Photo 7. Wrapped sections of drain piping after being cut and removed from the excavation.

02/09/00

Photo 8. Installation of the gray 6-inch-diameter sample piping at each pipe joint location along the piping run.

02/09/00

Photo 9. Close-up of sample tubing installed at each pipe joint. This permits reproducible sampling locations yet allows for the backfilling of the excavation.

02/09/00

Photo 10. Sample tubing installed at the first pipe joint location.

02/09/00

Photo 11. Installed sample tubing along the piping run.

02/16/00

Photo 12. Looking northeast, drain line piping removal between the upper roadway and the Pile Fan Sump.

03/08/00

Photo 13. Looking south from the Pile Fan Sump. Drain line excavation restored with sample tubes extending from each pipe joint location to allow sample location reproducibility.

02/09/00

Photo 14. Pile Fan Sump interior after removing sludge in preparation for removal. At top, west, 14-inch-diameter stainless-steel acid fume hood ventilation line low point drain in the Pile Fan Sump. At left, south 4-inch-diameter cast-iron drain line. At right, north, 2-inch-diameter stainless-steel Pile Fan Sump discharge line to Building 801 holding tanks.

02/16/00

Photo 15. Preparations being made to conduct geoprobe sampling before disturbing the soils around the Pile Fan Sump.

02/24/00

Photo 16. Excavation of the Pile Fan Sump, looking southeast.

02/24/00

Photo 17. The south wall of the Pile Fan Sump. Preparations being made to cut the 14-inch-diameter stainless-steel acid fume hood ventilation line at the Pile Fan Sump wall and just past the pipe elbow.

The highest levels of Cs-137 contamination were found below this pipe at the Pile Fan Sump wall.

02/24/00

Photo 18. Cut section of the acid fume hood ventilation piping being removed from the excavation.

02/24/00

Photo 19. Cap installed on the 14-inch-diameter stainless-steel acid fume hood ventilation line. The physical condition of the line is very good.

Note the large line on the right. This is the large concrete normal ventilation line from building 801 to the Building 801 Fan House Building 802.

02/26/00

Photo 20. Pile Fan Sump looking east. Preparation to remove the piping from the Pile Fan Sump north to Building 801.

The 14" and the 2" piping are stainless steel with welded joints. No contamination was found under or around these pipes except at the Pile Fan Sump wall penetration.

02/26/00

Photo 21. Pile Fan Sump excavation looking east.

02/26/00

Photo 22. The 2” piping stubs, just above the 14” piping has been removed. Preparations are being made to cut and remove the 14”-diameter piping.

02/26/00

Photo 23. The 14" stainless steel piping, removed and being loaded to transport to a shipping container.

02/26/00

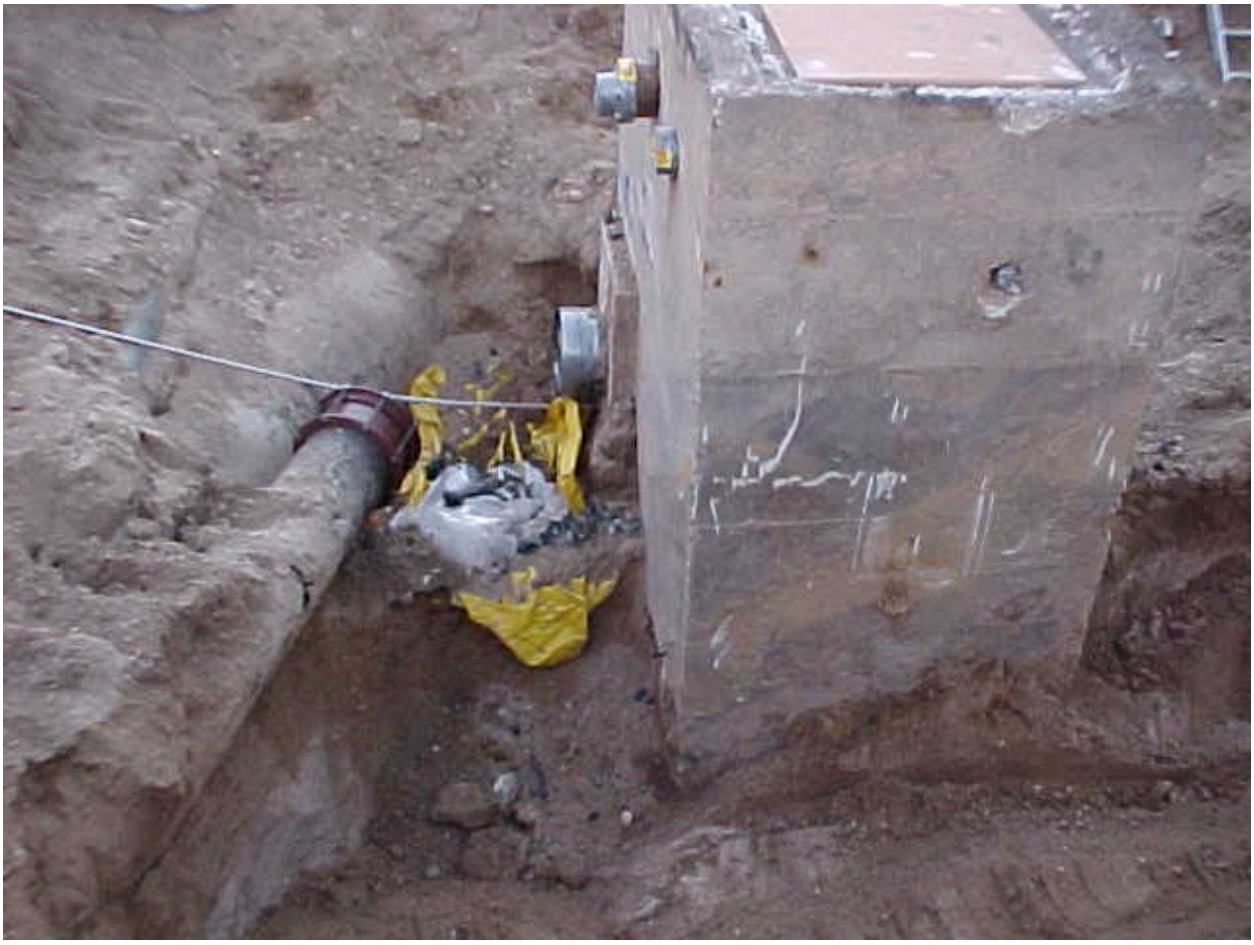
Photo 24. The Pile Fan Sump has been physically isolated.

02/29/00

Photo 25. Excavation being performed manually to uncover the last sections of piping to be removed from the Pile Fan Sump to Building 801.

The piping running from the west to the east, bottom of the picture to the top are water lines that are in service.

The piping to be removed is running from the north to the south, from the left of the picture to the right.



02/29/00

Photo 26. The Pile Fan Sump excavated to a depth and ready for removal.

03/01/00

Photo 27. Pre-job briefing just prior to removing the Pile Fan Sump in a single crane lift, approximately 27,000 pounds.

03/01/00

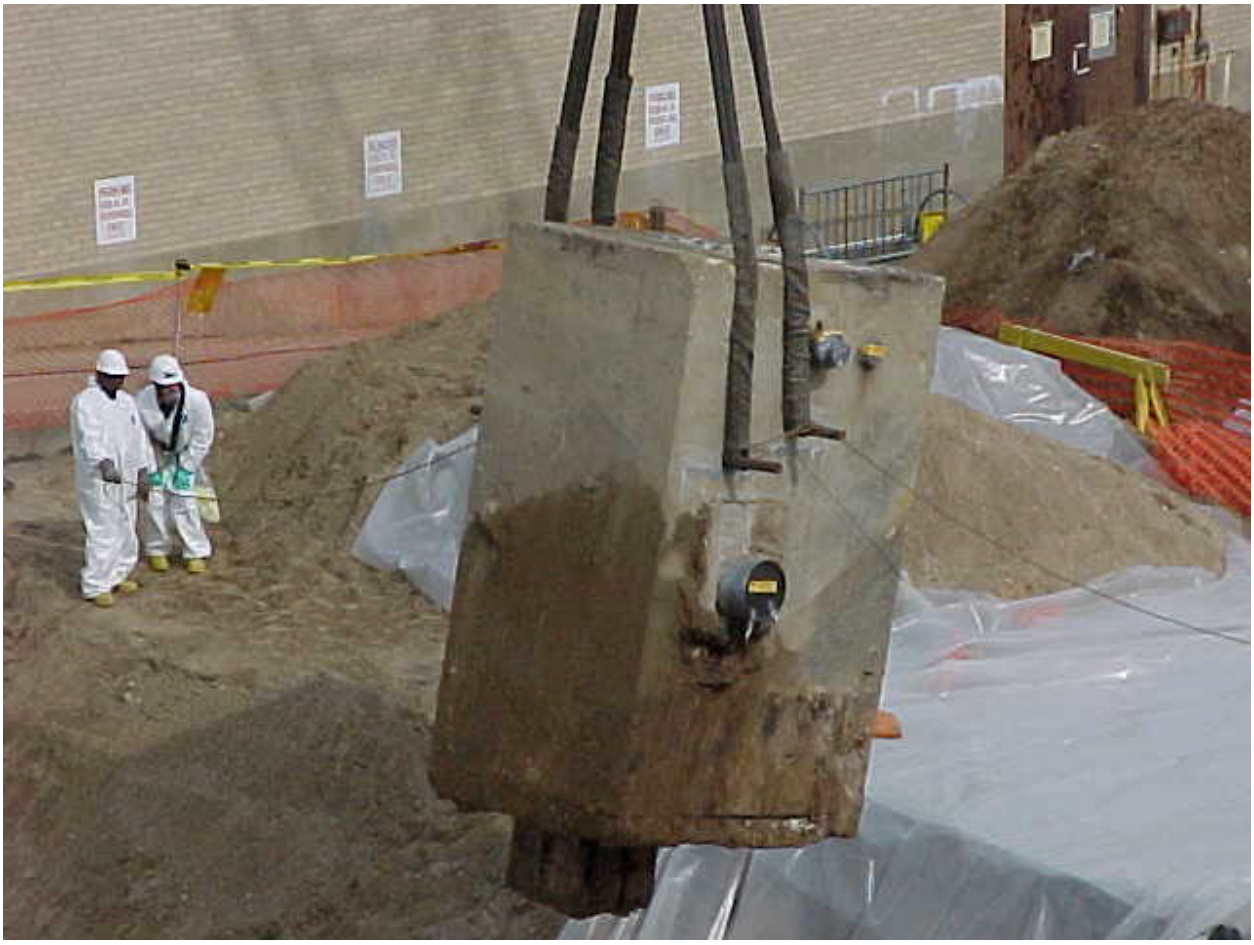
Photo 28. Looking north, rigging attached to the Pile Fan Sump for lifting the sump from the excavation.

03/01/00

Photo 29. Wide-angle photo looking north toward Building 801. Pile Fan Sump rigged and ready for lifting.

03/01/00

Photo 30. Pile Fan Sump being lifted from the excavation. Laydown area being prepared just in front of the crane.



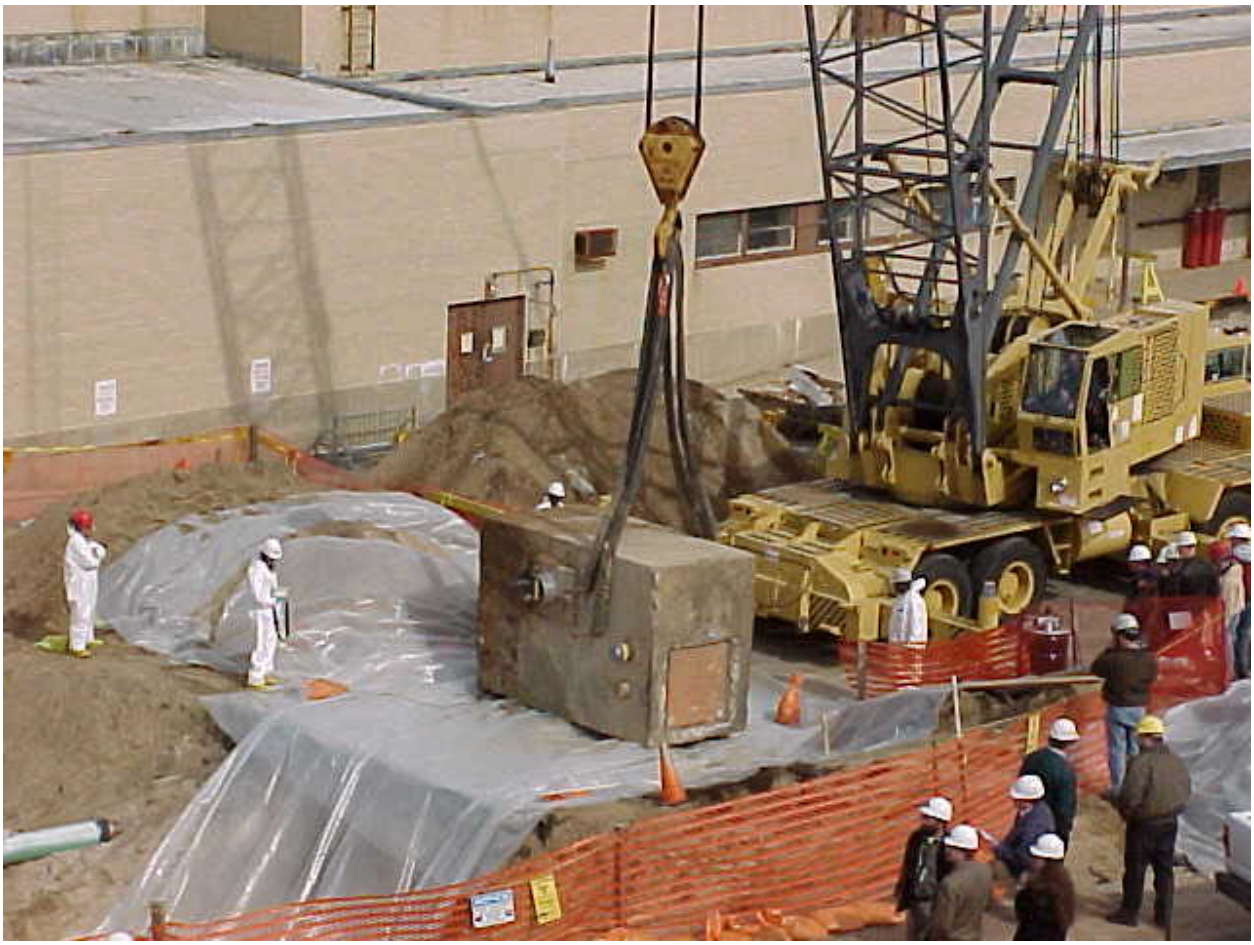
03/01/00

Photo 31. The Pile Fan Sump being lifted. The moist area is from the soils that were around the sump.

Note the sump extension. Cs-137 contamination was found in the soils under this area of the sump.

03/01/00

Photo 32. Wide-angle photo of the Pile Fan Sump crane lift.



03/01/00

Photo 33. The Pile Fan Sump was placed on its side in the laydown area. The manway was removed and replaced with a plywood cover.

The soils clinging to the bottom of the Pile Fan Sump were found to be contaminated.

03/02/00

Photo 34. The Pile Fan Sump packaged for shipping prior to be placed into its shipping container.

03/02/00

Photo 35. Inserting the Pile Fan Sump, weighing 27,000 pounds, into its shipping container.

03/02/00

Photo 36. Pile Fan Sump in its shipping container.

03/07/00

Photo 37. Looking east, area from where the Pile Fan Sump was removed.

Note the 14" line that was capped and the large concrete ventilation line below and to the right.

Note the 24-inch-diameter concrete ventilation line that ties into the large concrete ventilation line.

The bottom of the excavation has Cs-137 contamination. It will be necessary to set a caisson to protect the in service lines from being undermined of soil and collapsing.

03/07/00

Photo 38. Looking west, piping that needs to be protected during soil remediation under the Pile Fan Sump. Area prepared for setting the first caisson in place.

03/07/00

Photo 39. Setting the first caisson in place. Each section of caisson is 10 feet in diameter, 5 feet high.

The size of the caisson was chosen so that the footprint of the Pile Fan Sump would fall inside the circumference of the caisson and permit easier access for soil remediation.

03/07/00

Photo 40. First section of caisson set at approximately 12 feet below grade and near the bottom of the former Pile Fan Sump elevation. Grade is 110 feet above sea level.

03/07/00

Photo 41. Sample tubes set around the circumference of the caisson where soil sampling was performed to demonstrate that the contamination was bounded by the caisson. Second caisson added. Soil remediation at approximately 17 feet below grade level elevation of 110 feet.

03/08/00

Photo 42. Looking into the caisson, soil sample screening locations during soils remediation.

03/09/00

Photo 43. Manual soils remediation in the caisson. Approximately one 55-gallon drum of soils removed from the identified area.

03/08/00

Photo 44. Soil remediation completed in this caisson. However, contamination was found to be in the northeast direction outside the circumference of the caisson. The soils were dug out in the northeast direction and allowed to refill inward. Unable to remediate contaminated soils outside the caisson.

03/14/00

Photo 45. Independent Verification Contractor sampling location.

03/14/00

Photo 46. Split samples being prepared by a BNL sample technician.

03/14/00

Photo 47. NYSDEC independent verification survey and sampling of the Pile Fan Sump remediation.

03/14/00

Photo 48. Preparations being made to set a second set of caissons to the northeast of the existing caisson over the Pile Fan Sump footprint.

03/14/00

Photo 49. Preparations continue for the second caisson.

03/15/00

Photo 50. Setting of the second caisson to continue soil remediation.

03/15/00

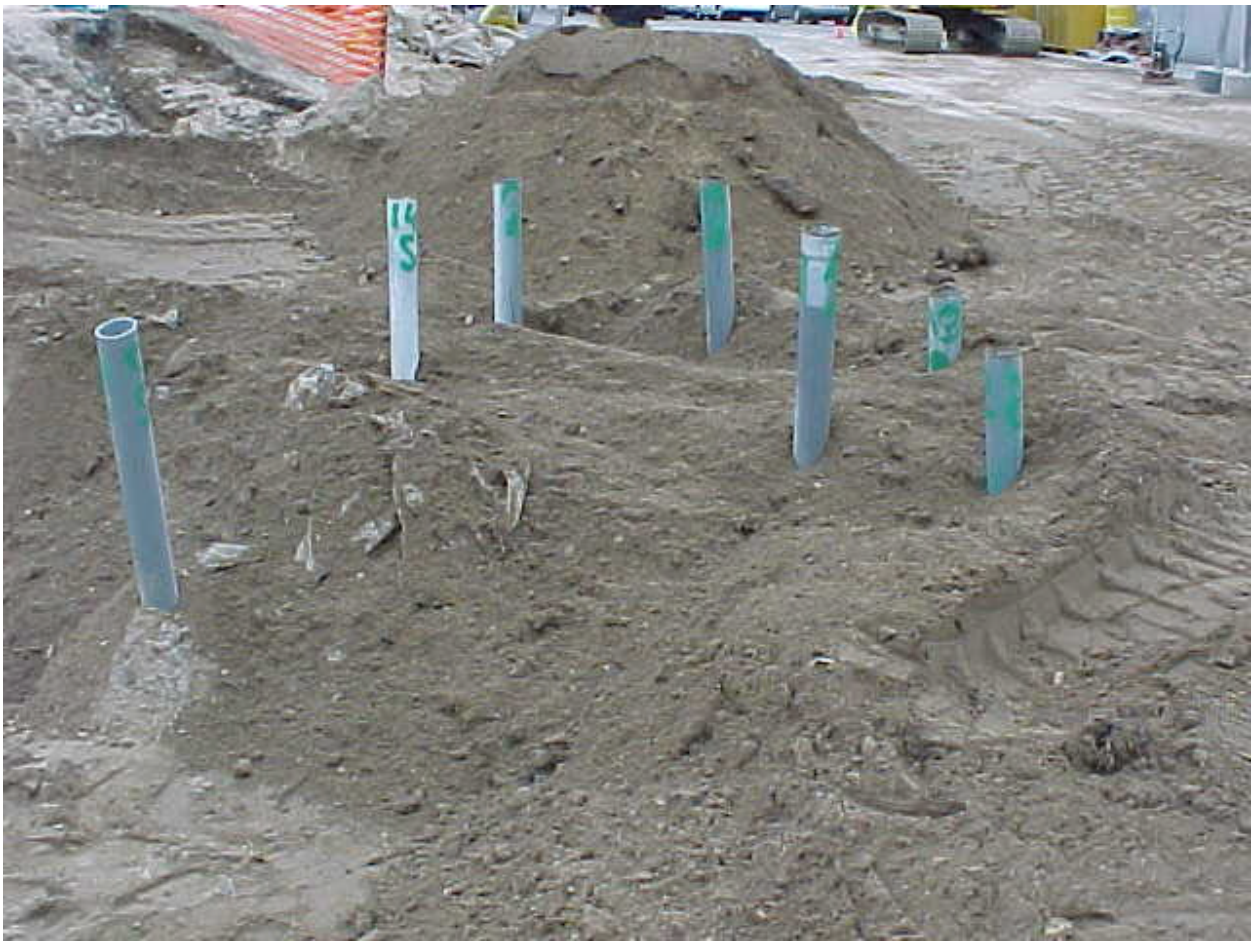
Photo 51. Soil sampling in the northeast caisson.

03/15/00

Photo 52. Remediated soils in containers for offsite disposal.

03/22/00

Photo 53. Backfilling and compacting soils with sample tubes installed for geoprobe deep soil sampling.



03/23/00

Photo 54. Backfill and compaction near completion.

03/23/00

Photo 55. The geoprobe sampling at the second caisson highest measured Cs-137 level. Samples were taken every 10 feet to ground water at 66 feet below grade level elevation of 110 feet, or the approximate elevation 44 feet, groundwater.

Second geoprobe sampling was done at the former location of the extended bottom of the Pile Fan Sump. Samples were taken at 10 feet intervals to a refusal depth of 50 feet below the grade level elevation of 110 feet, or the approximate elevation 60 feet.

The third geoprobe sampling was done at the former location of the 14 inches in diameter piping at the south wall of the Pile Fan Sump. Samples were taken every 10 feet to a depth of 50 feet below the grade level elevation 110 feet, or the approximate elevation 60 feet.

All samples were screened on the field laboratory gamma spectroscopy sampling system. All samples measured at or below typical background levels for Cs-137.