3005-010131 0001

BWX Technologies, Inc.
a McDermott company

BWXT of Ohio, Inc.
1 Mound Road
P.O. Box 3030
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(937) 865-4020

WM-043/00
August 7, 2000

00-TC/08-07
Mr. Richard B. Provencher, Director
Department of Energy
Miamisburg Environmental Management Project
P.O. Box 66
Miamisburg, OH 45343-0066

ATTENTION: Paul Lucas

SUBJECT: Contract No. DE-AC24-97OH20044
Final PRS 99 OSC Report

Dear Mr. Provencher:

Attached please find BWXTO's Final PRS 99 On Scene Coordinator Report.

If you have any questions, please contact Karen Arthur at (937) 865-3010.

Sincerely,

John Krueger

John W. Krueger
ER/WM Manager

/lkl
Attachment

cc: DCC w/o attachment
DOE/MEMP (2)
K. Arthur, BWXTO
T. Fischer, US EPA
A. Kleinrath, MEMP
D. Meredith, TechLaw, Inc.
B. Nickel, OEPA
D. McCormick, BWXTO w/o attachment
J. Price, BWXTO
T. Tracy, DOE/HQ
R. Vandgrift, ODH
Admin Record (2)
Public Reading Rm. (5)

3005 – 0101310001

ON SCENE COORDINATOR (OSC) REPORT

PRS 99
REMOVAL ACTION

MOUND PLANT
MIAMISBURG, OHIO

August 2000

Final
REVISION 0

Department of Energy
Ohio Field Office

BWXT of Ohio, Inc.

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EXECUTIVE SUMMARY

The Potential Release Site (PRS) 99 Removal Action was performed in the GH Parking Lot on the north end of the Mound Plant in the city of Miamisburg, Ohio. This removal action resulted in the excavation and containerization for disposal of approximately 12,000 cubic feet (440 cubic yards) of material. Containerized material is slated for disposal at NTS and Envirocare disposal facilities. The cleanup goal for plutonium^{238} was 55 pCi/g. All verification sample results were below 55 pCi/g Pu^{238}.

Arthur Kleinrath, OSC
U.S. Department of Energy
Miamisburg, Ohio

Tim Fischer
U.S.EPA
Chicago, Illinois

Brian Nickel
Ohio EPA
Dayton, Ohio

1.0 SUMMARY OF EVENTS

This section describes the site background and events leading up to the removal action, parties involved in responding to the removal action, cleanup objective determination, chronological narrative of the removal action, and resources committed to complete the project.

1.1 Site Conditions and Background

The Guard House (GH) Building and adjacent parking lot are located at the north end of the Mound Plant, on the Main Hill. The GH Lot was much smaller in the early 1950s, as shown on Figure 1. By 1959, the GH Parking Lot was shorter and narrower than the current dimensions, but significantly larger than the original. In 1963-64, prior to an expansion of the GH Parking Lot, waste was disposed of in a trench dug next to the GH Lot. Waste reportedly disposed of included 110 gallons of spent (neutralized) chromium plating bath solution and three 55-gallon drums of polonium^{210} (and possibly cobalt^{60} and cesium^{137}) contaminated blasting sand. Historical information indicated that sand, drums, and metal framework were disposed of in the vicinity of PRS 99. By 1965, the disposal was complete as the trench was backfilled and the lot was expanded south to its current length. By 1968, the lot was expanded to its current width as shown on Figure 1.

1.2 Organization of the Removal Action

Table 1 lists the parties responding to the removal action, and their responsibilities.

Table 1: Organization of the Removal Action

US EPA SFR-5J 77 W. Jackson Street Chicago, IL 60604 312-353-2000	Tim Fischer	Federal agency responsible for oversight
Ohio EPA 401 E. Fifth Street Dayton, OH 45402-2911 937-285-6357	Brian Nickel	State agency responsible for oversight
DOE-MEMP P.O. Box 66 1 Mound Road Miamisburg, OH 45343-0066 937-865-3597	Art Kleinrath	Federal OSC responsible for oversight and success
BWXT of Ohio Soils Project 1 Mound Road Miamisburg, OH 45343-3030 937-865-3954	John Price	Provide OSC with Technical Assistance, administrative support, field oversight, sample management, site safety, photo, site documentation, and preparation of the OSC Report

Figure 1

1.3 Objectives

Documentation Objective. The objective of this OSC Report is to describe the removal action fieldwork, items identified for continual improvement, and document successful completion of the project.

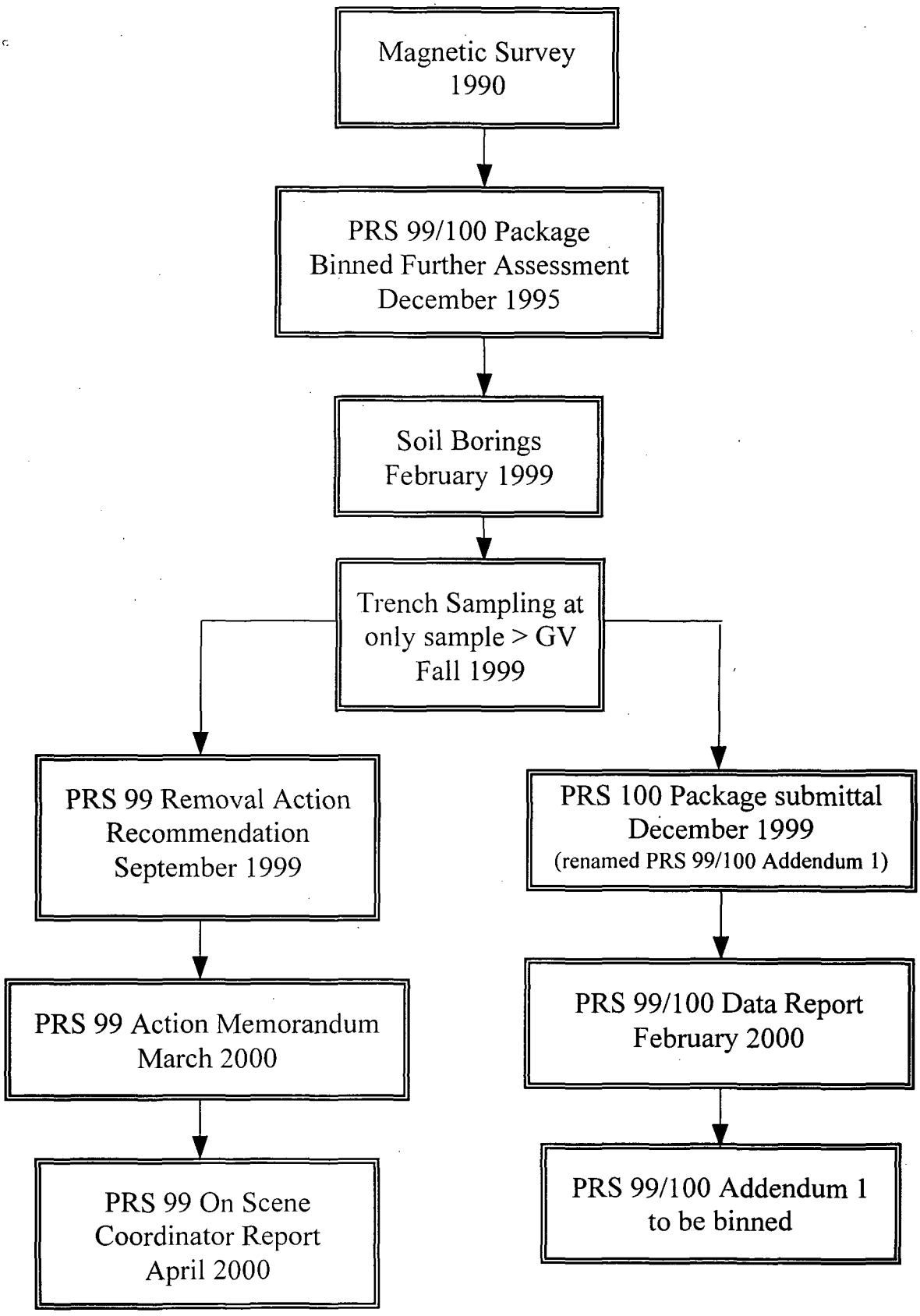
Cleanup Objective. The contaminant of concern for this removal action was Pu^{238}. The Mound Plant Risk-Based Guideline Value of 55 pCi/g for Pu^{238} (10^{-5} risk) was the cleanup objective for this removal action. All of the verification samples collected at the base of excavation were less than 55 pCi/g Pu^{238}.

1.4 Chronological Narrative of Removal Action

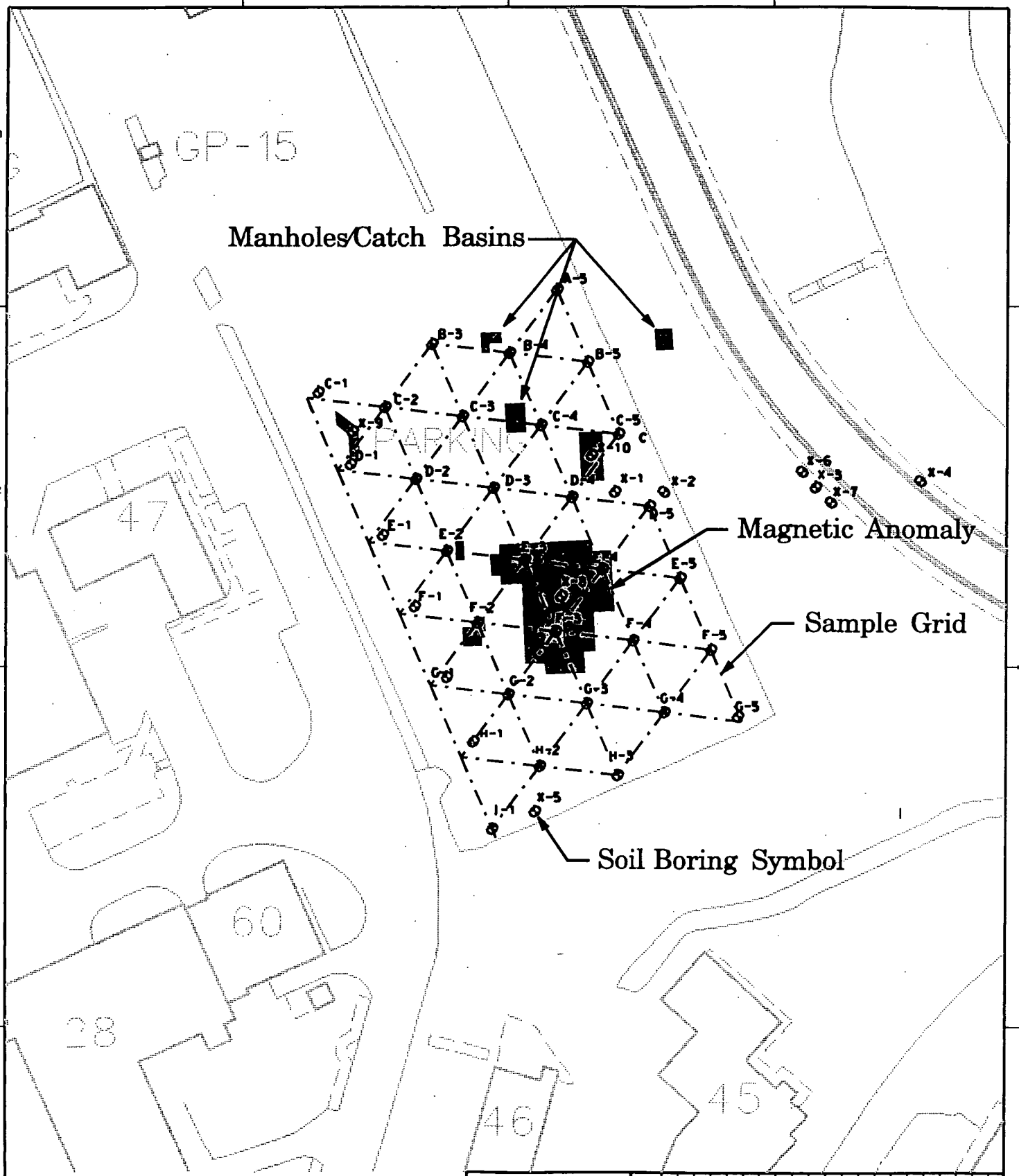
The following is a chronological narrative of events surrounding the PRS 99 removal action. A summary flowchart of events is presented as Figure 2.

1963-64	Waste disposal period, exact location of buried material unknown.
1990	A magnetic survey of the GH Lot was performed to identify the location of buried material. Several anomalies were detected as shown on Figure 3, one of which was large enough to be a disposal area and was presumed to be a trench.
Dec 1995	PRS 99/100 binned Further Assessment by the Core Team.
1998	Further Assessment scheduled to occur prior to transfer of Release Block H to confirm that possible contamination within PRS 99/100 did not extend into Release Block H.
Feb 1999	Further Assessment sampling design used statistics to find disposal areas larger than 20 feet across. Extra borings were added to sample the center of the magnetic anomalies to confirm or deny the presence of waste. 137 investigative samples were collected from 46 soil borings across the parking lot (including PRS 99 and PRS 100). In an extra boring centered in the largest anomaly (PRS 99), one contaminant of concern was detected in excess of its risk-based guideline value. The single sample, located within Soil Boring X-8, displayed elevated Pu^{238} in soil at 297 pCi/g from offsite isotopic analysis (120 pCi/g onsite gamma spec analysis) vs. risk value of 55 pCi/g (10^{-5} risk for construction worker). Removable Pu^{238} was detected via field instrumentation on the split spoon used to collect the sample. A result of 70 disintegrations per minute per hundred centimeters square (dpm/100 cm^2) was detected. Removable Pu^{238} was associated with gray/white sand found in the 8-12' sample interval of X-8. Removable contamination can become airborne and is therefore considered more hazardous than "fixed" contamination that is not removable. Metal chips

Figure 2: History of PRS 99/100



	were also found in the sample containing the sand. All other samples in the other borings (including the extra borings at the other, smaller anomalies) showed no sign of contamination or visual indication of waste. There were no elevated detections or visual indications of debris associated with any of the PRS 100 samples.
mid 1999	PRS 99 additional sample collection was designed via trenching method instead of additional soil borings. This sample method would allow for sampling as well as visual inspection and removal of contamination/debris if encountered.
Summer 1999	Approval by DOE, USEPA, and Ohio EPA of the redirection for additional sampling via trenching.
10 Aug 1999	Excavation begins.
11 Aug 1999	Staging of soil in LSA boxes due to identification of low level soil contamination.
14 Aug 1999	Discovered process tank and significant amount of debris that warranted removal and disposal.
16 Sept 1999	Removal Action authorized by DOE and EPAs.
thru Sept 1999	Excavation continued until all visual indications of waste material were removed and bedrock was encountered. Indicators were metal debris, sand, or dissimilar soil. The extent of the excavation was consistent with the dimensions of the anomaly identified by magnetic survey. Verification samples were collected from both the excavation floor and sidewalls.
23 Sep 1999	Verification sampling for PRS 99 was performed and included collection of nine verification samples from the base and sidewalls of the excavation as shown in Figure 4. Numbers 601 through 609 on the photo correspond to sample identification numbers on the analytical results included at Appendix A. All nine samples were validated. Seven of the nine samples were split by Ohio EPA.
	A short count of the nine verification samples was performed at the onsite gamma spec lab to confirm that elevated levels of radionuclides were not present in the base and sidewalls of the excavation. Information obtained from short count results supported that samples could be shipped offsite for analysis (met DOT shipping requirements). A longer count was run to confirm MDAs below the guideline values (GVs). All long-count gamma spec MDAs were below their respective GV. Results of long-count onsite gamma spec analyses are identified with an asterisk following the sample ID and presented


GP-15
Manholes/Catch Basins
Magnetic Anomaly
Sample Grid
Soil Boring Symbol
PARKING
47
60
28
46
45
A-5
B-3
B-4
B-5
C-1
C-2
C-3
C-4
C-5
D-1
D-2
D-3
D-4
D-5
E-1
E-2
E-5
F-1
F-2
F-4
F-5
G-1
G-2
G-3
G-4
G-5
H-1
H-2
H-5
I-1
X-1
X-2
X-3
X-4
X-5
X-6
X-7
X-9
X-10
50
0
100
FEET
SCALE GRAPHIC
MOUND
Environmental Restoration Geographic Information System
Figure 3
Magnetic Survey
UNCLASSIFIED
er_site.dgn
STE
ER-GIS
MD-REL-03/02/00
MSTATION 5.0
SHEET 1 OF 1
03/02/00
ISS
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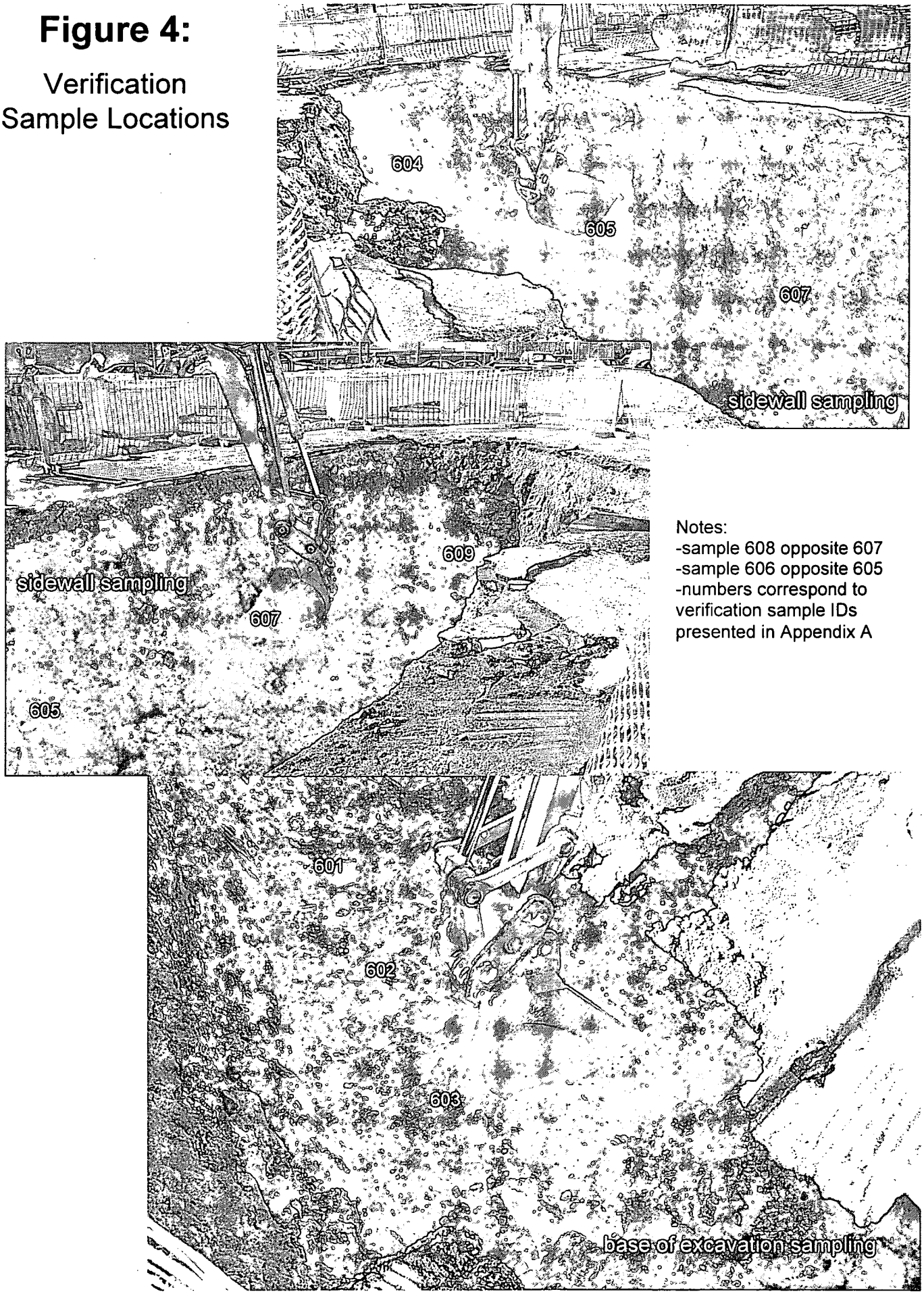
REVISION
BY
CHKR
ENG
UPDEC
APVD

Figure 4:

Verification
Sample Locations



Notes:
-sample 608 opposite 607
-sample 606 opposite 605
-numbers correspond to verification sample IDs presented in Appendix A

	in Table 1 of Appendix A to this OSC Report. All nine verification samples were submitted for offsite alpha and gamma spec analyses. Results of offsite radionuclide analyses are presented in Table 1 of Appendix A to this OSC Report and include all radionuclide sample results not identified with an asterisk. ***Results for all offsite radionuclide analyses (except Pb^{210}) and corresponding MDAs were less than the guideline values presented. Th^{230} and Ra^{226} results for all nine samples were below the respective MDA.*** Two of the Pb^{210} results were 0.1 pCi/g greater than the GV; all others were less than the GV. Although not required by the sampling plan/work package, but based on the types and variety of material excavated (drums, soil discoloration, etc), offsite volatile organic compound (VOC) analyses were performed on all nine verification samples. Analytical results and available GVs for the VOC analyses are included as Appendix A. ***Most VOCs were "not detected" at the method detection limit.*** Some VOCs typically associated with solvents and fuel components were detected at very low levels (<60 ppb); there was one detection of total xylenes at 76 ppb. Also detected at <150ppb were common lab contaminants such as 2-butanone, acetone, and methylene chloride; there were detections of acetone at 52, 58 and 142 ppb. Chromium was not detected in any of the soil borings and was not detected in suspect soil removed from the excavation. Analysis for chromium was performed on all nine verification samples as additional confirmation. ***Results of all chromium analyses were "not detected" at the reporting limit of 0.5 mg/kg.*** QC prescribed in the Work Package was met and 100% of the data was validated resulting in no impacts to the usability of the data.
4-5 Oct 1999	Approval was given by DOE to backfill. The excavated area was backfilled to grade. Metal spikes were set into the ground around the perimeter of the backfilled area to facilitate any future identification.
Oct 1999	Disturbed area of parking lot was paved with asphalt and stripes applied for parking.
pending	PRS 99 Action Memorandum approved by DOE and EPAs.
pending	PRS 99/100 PRS Package Addendum 1 approved by DOE and EPAs.

1.5 Resources Committed

Table 2: Materials and Disposition

Type of Material	Quantity	Disposal Method	Disposal Location
contaminated soil	12,300 cf	Rail transport	Envirocare
contaminated soil (>300pCi/g Pu^{238})	3 LSA boxes (300 cf)	truck	NTS
impeller assembly	rolloff box	TBD	
est. 400 gallon process tank	fabricated box	TBD	
soil with possible solvent contamination	8 LSA boxes	TBD based on RCRA sample results	

Table 3: Removal Project Cost

Extramural Costs	Cost
Fieldwork	$400,000
Transportation of Contaminated Soil*	$42,000
Disposal of Contaminated Soil*	$65,000
Verification Sampling & Analyses*	$10,000
Restoration/paving & striping	$4,000
Estimated Total Project Cost	$521,000

* does not include TBD items in Table 2 above

2.0 EFFECTIVENESS OF THE REMOVAL ACTION

Verification sample results are presented in Appendix A to this OSC Report. Validation was performed on all sample results from offsite laboratories. Statistical analysis of the results was not necessary as all results were below the cleanup objectives.

2.1 Actions Taken by Mound Personnel

Mound Soils Project and onsite personnel planned, performed oversight, and performed the excavation, monitoring, sampling and analyses, and transportation of contaminated soil and debris to designated onsite staging areas. Information made available to the general public is included in Appendix B of this OSC Report. Photographic documentation is presented in Appendix C to this OSC Report.

2.2 Actions Taken by Local, State, and Federal Agencies

DOE/MEMP, USEPA, and Ohio EPA had oversight responsibility for the removal action.

2.3 Actions Taken by Subcontractors

Subcontractors involved in the project included the following:

- Roy F. Weston, Inc performed sample technician, laboratory liaison, and data validation support
- A to Z Asphalt Contracting
- NTS (disposal facility) slated to receive waste via truck
- Envirocare (disposal facility) slated to receive waste via rail transport

3.0 DIFFICULTIES ENCOUNTERED

3.1 Items that Affect the Removal Action

The difficulties encountered during the removal were primarily waste stream management issues including:

- managing disposal parameters and requirements for two different facilities
- container availability was a problem due to unexpectedly high waste volume, and was solved by recycling containers used on previous projects
- containerization of large and/or bulky items (up to 8' diameter)
- care had to be taken segregating "unlike" wastes

3.2 Issues of Intergovernmental Coordination

All DOE/OEPA/USEPA interactions were generally good. The agencies were updated at Core Team meetings and the Mound 2000 process worked well. Splitting of samples with Ohio EPA went well.

4.0 RECOMMENDATIONS

4.1 Means to Prevent a Recurrence

The waste was removed and therefore recurrence of a spill or leak, or spread of contamination is prevented. Recurrence will be prevented as it is no longer an accepted standard of the industry to land dispose via trench and backfill. This area will be transferred from federal to private ownership. All State and Federal disposal rules will apply.

APPENDIX A

Verification Sample Results

APPENDIX A, Table 1: PRS 99 Removal Action Verification Results

Sample ID	Sample Date	Class	Analyte	"GV"	Det. Limit /MDA	Result[e]	Unit	LQ
601	19990923	ORVOA	1,1,1-Trichloroethane	none	6.296	0.006296	mg/kg	U
601	19990923	ORVOA	1,1,2,2-Tetrachloroethane	none	6.296	0.006296	mg/kg	U
601	19990923	ORVOA	1,1,2-Trichloro-1,2,2-trifluoroethane	none	6.296	0.006296	mg/kg	U
601	19990923	ORVOA	1,1,2-Trichloroethane	none	6.296	0.006296	mg/kg	U
601	19990923	ORVOA	1,1-Dichloroethane	7.8E+3	6.296	0.006296	mg/kg	U
601	19990923	ORVOA	1,1-Dichloroethene	none	6.296	0.006296	mg/kg	U
601	19990923	ORVOA	1,2-cis-Dichloroethene	none	6.296	0.006296	mg/kg	U
601	19990923	ORVOA	1,2-Dichloroethane	1.1E+4	6.296	0.006296	mg/kg	U
601	19990923	ORVOA	1,2-Dichloroethene	none	6.296	0.006296	mg/kg	U
601	19990923	ORVOA	1,2-Dichloropropane	none	6.296	0.006296	mg/kg	U
601	19990923	ORVOA	1,2-Diethylbenzene	none	6.296	0.006296	mg/kg	U
601	19990923	ORVOA	1,2-trans-Dichloroethene (ethylene)	4.3E+6	6.296	0.006296	mg/kg	U
601	19990923	ORVOA	1,3-cis-Dichloropropene	none	6.296	0.006296	mg/kg	U
601	19990923	ORVOA	1,3-trans-Dichloropropene	none	6.296	0.006296	mg/kg	U
601	19990923	ORVOA	2-Butanone	9.3E+6		0.003328	mg/kg	JB
601	19990923	ORVOA	2-Hexanone	none	12.593	0.012593	mg/kg	U
601	19990923	ORVOA	4-Methyl-2-Pentanone	7.0E+5	12.593	0.012593	mg/kg	U
601	19990923	ORVOA	Acetone	2.1E+7		0.012986	mg/kg	B
601	19990923	ORVOA	Acetonitrile	none	125.93	0.125930	mg/kg	U
601	19990923	ORVOA	Acrylonitrile	none	125.93	0.125930	mg/kg	U
601*	19990923	RAD	Actinium-227	1.0b	0.25	0.25	pCi/g	J
601	19990923	RAD	Americium-241	4.95b	0.42	0.42	pCi/g	U
601*	19990923	RAD	Americium-241	4.95b	0.07	0.07	pCi/g	U
601	19990923	ORVOA	Benzene	3.2E+4	6.296	0.006296	mg/kg	U
601	19990923	RAD	Bismuth-207	0.175b	0.0846	0.0846	pCi/g	U
601	19990923	RAD	Bismuth-210	see Pb^{210}	0.126	0.126	pCi/g	U
601	19990923	ORVOA	Bromodichloromethane	4.3E+6	6.296	0.006296	mg/kg	U
601	19990923	ORVOA	Bromoform	none	6.296	0.006296	mg/kg	U
601	19990923	ORVOA	Bromomethane	none	12.593	0.012593	mg/kg	U
601	19990923	ORVOA	Carbon Disulfide	2.8E+5	6.296	0.006296	mg/kg	U
601	19990923	ORVOA	Carbon Tetrachloride	1.2E+4	6.296	0.006296	mg/kg	U
601	19990923	RAD	Cesium-137	0.42c	0.114	0.114	pCi/g	U
601*	19990923	RAD	Cesium-137	0.42c	0.06	0.06	pCi/g	U
601	19990923	ORVOA	Chlorobenzene	none	6.296	0.006296	mg/kg	U
601	19990923	ORVOA	Chloroethane	1.6E+5	12.593	0.012593	mg/kg	U
601	19990923	ORVOA	Chloroform	none	6.296	0.006296	mg/kg	U
601	19990923	ORVOA	Chloromethane	none	12.593	0.012593	mg/kg	U
601	19990923	GENERA	Chromium VI	1,100	0.5	0.5	mg/kg	U
601	19990923	RAD	Cobalt-60	0.1b	0.116	0.116	pCi/g	U
601*	19990923	RAD	Cobalt-60	0.1b	0.05	0.05	pCi/g	U
601	19990923	ORVOA	Dibromochloromethane	3.5E+4	6.296	0.006296	mg/kg	U
601	19990923	ORVOA	Ethylbenzene	4.8E+2	6.296	0.006296	mg/kg	U
601	19990923	ORVOA	Hexane	9.1E+4	12.593	0.012593	mg/kg	U
601	19990923	ORVOA	Iodomethane	none	12.593	0.012593	mg/kg	U
601	19990923	RAD	Lead-210	1.7c	0.739	0.739	pCi/g	J
601*	19990923	RAD	Lead-210	1.7c	0.67	0.67	pCi/g	
601	19990923	ORVOA	Methylene Chloride (Dichloromethane)	1.0E+6		0.015231	mg/kg	B
601	19990923	ORVOA	m-Xylene	none	6.296	0.006296	mg/kg	U

APPENDIX A, Table 1: PRS 99 Removal Action Verification Results

Sample ID	Sample Date	Class	Analyte	"GV"	Det. Limit /MDA	Result[e]	Unit	LQ
601	19990923	ORVOA	o-Xylene	none	6.296	0.006296	mg/kg	U
601	19990923	GENERA	Percent Solids	na	0.01	0.01	%	
601	19990923	RAD	Plutonium-238	55d	0.022	0.022	pCi/g	
601*	19990923	RAD	Plutonium-238	55d	18.08	18.08	pCi/g	U
601	19990923	RAD	Plutonium-239/240	5.5b	0.0246	0.0246	pCi/g	U
601	19990923	RAD	Potassium-40	na	4.12	4.12	pCi/g	
601*	19990923	RAD	Radium-226		0.78	0.78	pCi/g	
601	19990923	RAD	Radium-226		0.2	0.2	pCi/g	
601	19990923	ORVOA	Styrene	none	6.296	0.006296	mg/kg	U
601	19990923	ORVOA	Tetrachloroethene	2.1E+6	6.296	0.006296	mg/kg	U
601	19990923	RAD	Thorium-228	3.0a	0.0798	0.0798	pCi/g	
601	19990923	RAD	Thorium-230		0.0292	0.0292	pCi/g	
601*	19990923	RAD	Thorium-230		7	7	pCi/g	U
601	19990923	RAD	Thorium-232	3.0a	0.0173	0.0173	pCi/g	
601*	19990923	RAD	Thorium-232	3.0a	0.25	0.25	pCi/g	
601	19990923	ORVOA	Toluene	2.5E+5	6.296	0.006296	mg/kg	U
601	19990923	ORVOA	Trichloroethene (ethylene)	1.25E+5	6.296	0.006296	mg/kg	U
601	19990923	ORVOA	Vinyl Acetate	none	12.593	0.012593	mg/kg	U
601	19990923	ORVOA	Vinyl Chloride	none	12.593	0.012593	mg/kg	U
601	19990923	ORVOA	Xylenes, Total	4.3E+8	6.296	0.006296	mg/kg	U
602	19990923	ORVOA	1,1,1-Trichloroethane	none	6.074	0.006074	mg/kg	U
602	19990923	ORVOA	1,1,2,2-Tetrachloroethane	none	6.074	0.006074	mg/kg	U
602	19990923	ORVOA	1,1,2-Trichloro-1,2,2-trifluoroethane	none	6.074	0.006074	mg/kg	U
602	19990923	ORVOA	1,1,2-Trichloroethane	none	6.074	0.006074	mg/kg	U
602	19990923	ORVOA	1,1-Dichloroethane	7.8E+3	6.074	0.006074	mg/kg	U
602	19990923	ORVOA	1,1-Dichloroethene	none	6.074	0.006074	mg/kg	U
602	19990923	ORVOA	1,2-cis-Dichloroethene	none	6.074	0.006074	mg/kg	U
602	19990923	ORVOA	1,2-Dichloroethane	1.1E+4	6.074	0.006074	mg/kg	U
602	19990923	ORVOA	1,2-Dichloroethene	none	6.074	0.006074	mg/kg	U
602	19990923	ORVOA	1,2-Dichloropropane	none	6.074	0.006074	mg/kg	U
602	19990923	ORVOA	1,2-Diethylbenzene	none	6.074	0.006074	mg/kg	U
602	19990923	ORVOA	1,2-trans-Dichloroethene (ethylene)	4.3E+6	6.074	0.006074	mg/kg	U
602	19990923	ORVOA	1,3-cis-Dichloropropene	none	6.074	0.006074	mg/kg	U
602	19990923	ORVOA	1,3-trans-Dichloropropene	none	6.074	0.006074	mg/kg	U
602	19990923	ORVOA	2-Butanone	9.3E+6		0.004998	mg/kg	JB
602	19990923	ORVOA	2-Hexanone	none	12.149	0.012149	mg/kg	U
602	19990923	ORVOA	4-Methyl-2-Pentanone	7.0E+5	12.149	0.012149	mg/kg	U
602	19990923	ORVOA	Acetone	2.1E+7		0.012589	mg/kg	B
602	19990923	ORVOA	Acetonitrile	none	121.49	0.121490	mg/kg	U
602	19990923	ORVOA	Acrylonitrile	none	121.49	0.121490	mg/kg	U
602	19990923	RAD	Actinium-227	1.0b	0.32	0.32	pCi/g	U
602	19990923	RAD	Americium-241	4.95b	0.403	0.403	pCi/g	U
602*	19990923	RAD	Americium-241	4.95b	0.09	0.09	pCi/g	U
602	19990923	ORVOA	Benzene	3.2E+4	6.074	0.006074	mg/kg	U
602	19990923	RAD	Bismuth-207	0.175b	0.0685	0.0685	pCi/g	U
602	19990923	RAD	Bismuth-210	see Pb^{210}	0.106	0.106	pCi/g	U
602	19990923	ORVOA	Bromodichloromethane	4.3E+6	6.074	0.006074	mg/kg	U

APPENDIX A, Table 1: PRS 99 Removal Action Verification Results

Sample ID	Sample Date	Class	Analyte	"GV"	Det. Limit /MDA	Result[e]	Unit	LQ
602	19990923	ORVOA	Bromoform	none	6.074	0.006074	mg/kg	U
602	19990923	ORVOA	Bromomethane	none	12.149	0.012149	mg/kg	U
602	19990923	ORVOA	Carbon Disulfide	2.8E+5	6.074	0.006074	mg/kg	U
602	19990923	ORVOA	Carbon Tetrachloride	1.2E+4	6.074	0.006074	mg/kg	U
602	19990923	RAD	Cesium-137	0.42c	0.0877	0.0877	pCi/g	U
602*	19990923	RAD	Cesium-137	0.42c	0.04	0.04	pCi/g	
602	19990923	ORVOA	Chlorobenzene	none	6.074	0.006074	mg/kg	U
602	19990923	ORVOA	Chloroethane	1.6E+5	12.149	0.012149	mg/kg	U
602	19990923	ORVOA	Chloroform	none	6.074	0.006074	mg/kg	U
602	19990923	ORVOA	Chloromethane	none	12.149	0.012149	mg/kg	U
602	19990923	GENERA	Chromium VI	1,100	0.48	0.48	mg/kg	U
602	19990923	RAD	Cobalt-60	0.1b	0.0977	0.0977	pCi/g	U
602*	19990923	RAD	Cobalt-60	0.1b	0.04	0.04	pCi/g	
602	19990923	ORVOA	Dibromochloromethane	3.5E+4	6.074	0.006074	mg/kg	U
602	19990923	ORVOA	Ethylbenzene	4.8E+2	6.074	0.018007	mg/kg	
602	19990923	ORVOA	Hexane	9.1E+4	12.149	0.012149	mg/kg	U
602	19990923	ORVOA	Iodomethane	none	12.149	0.012149	mg/kg	U
602	19990923	RAD	Lead-210	1.7c	1.06	1.06	pCi/g	
602*	19990923	RAD	Lead-210	1.7c	0.85	0.85	pCi/g	U
602	19990923	ORVOA	Methylene Chloride (Dichloromethane)	1.0E+6		0.020241	mg/kg	B
602	19990923	ORVOA	m-Xylene	none	6.074	0.037134	mg/kg	
602	19990923	ORVOA	o-Xylene	none	6.074	0.039708	mg/kg	
602	19990923	GENERA	Percent Solids	na	0.01	0.01	%	
602	19990923	RAD	Plutonium-238	55d	0.0339	0.0339	pCi/g	
602*	19990923	RAD	Plutonium-238	55d	27.66	27.66	pCi/g	U
602	19990923	RAD	Plutonium-239/240	5.5b	0.0339	0.0339	pCi/g	
602	19990923	RAD	Potassium-40	na	0.635	0.635	pCi/g	
602	19990923	RAD	Radium-226		0.149	0.149	pCi/g	
602*	19990923	RAD	Radium-226		1.04	1.04	pCi/g	U
602	19990923	ORVOA	Styrene	none	6.074	0.006074	mg/kg	U
602	19990923	ORVOA	Tetrachloroethene	2.1E+6		0.002936	mg/kg	J
602	19990923	RAD	Thorium-228	3.0a	0.0499	0.0499	pCi/g	
602	19990923	RAD	Thorium-230		0.0257	0.0257	pCi/g	
602*	19990923	RAD	Thorium-230		9.62	9.62	pCi/g	U
602	19990923	RAD	Thorium-232	3.0a	0.0173	0.0173	pCi/g	
602*	19990923	RAD	Thorium-232	3.0a	0.15	0.15	pCi/g	
602	19990923	ORVOA	Toluene	2.5E+5	6.074	0.023442	mg/kg	
602	19990923	ORVOA	Trichloroethene (ethylene)	1.25E+5	6.074	0.006074	mg/kg	U
602	19990923	ORVOA	Vinyl Acetate	none	12.149	0.012149	mg/kg	U
602	19990923	ORVOA	Vinyl Chloride	none	12.149	0.012149	mg/kg	U
602	19990923	ORVOA	Xylenes, Total	4.3E+8		0.076983	mg/kg	
603	19990923	ORVOA	1,1,1-Trichloroethane	none	6.281	0.006281	mg/kg	U
603	19990923	ORVOA	1,1,2,2-Tetrachloroethane	none	6.281	0.006281	mg/kg	U
603	19990923	ORVOA	1,1,2-Trichloro-1,2,2-trifluoroethane	none	6.281	0.006281	mg/kg	U
603	19990923	ORVOA	1,1,2-Trichloroethane	none	6.281	0.006281	mg/kg	U
603	19990923	ORVOA	1,1-Dichloroethane	7.8E+3	6.281	0.006281	mg/kg	U
603	19990923	ORVOA	1,1-Dichloroethene	none	6.281	0.006281	mg/kg	U

APPENDIX A, Table 1: PRS 99 Removal Action Verification Results

Sample ID	Sample Date	Class	Analyte	"GV"	Det. Limit /MDA	Result[e]	Unit	LQ
603	19990923	ORVOA	1,2-cis-Dichloroethene	none	6.281	0.006281	mg/kg	U
603	19990923	ORVOA	1,2-Dichloroethane	1.1E+4	6.281	0.006281	mg/kg	U
603	19990923	ORVOA	1,2-Dichloroethene	none	6.281	0.006281	mg/kg	U
603	19990923	ORVOA	1,2-Dichloropropane	none	6.281	0.006281	mg/kg	U
603	19990923	ORVOA	1,2-Diethylbenzene	none	6.281	0.006281	mg/kg	U
603	19990923	ORVOA	1,2-trans-Dichloroethene (ethylene)	4.3E+6	6.281	0.006281	mg/kg	U
603	19990923	ORVOA	1,3-cis-Dichloropropene	none	6.281	0.006281	mg/kg	U
603	19990923	ORVOA	1,3-trans-Dichloropropene	none	6.281	0.006281	mg/kg	U
603	19990923	ORVOA	2-Butanone	9.3E+6		0.028129	mg/kg	B
603	19990923	ORVOA	2-Hexanone	none	12.563	0.012563	mg/kg	U
603	19990923	ORVOA	4-Methyl-2-Pentanone	7.0E+5	12.563	0.012563	mg/kg	U
603	19990923	ORVOA	Acetone	2.1E+7		0.142360	mg/kg	B
603	19990923	ORVOA	Acetonitrile	none	125.63	0.125630	mg/kg	U
603	19990923	ORVOA	Acrylonitrile	none	125.63	0.125630	mg/kg	U
603	19990923	RAD	Actinium-227	1.0b	0.3	0.3	pCi/g	U
603*	19990923	RAD	Americium-241	4.95b	0.11	0.11	pCi/g	U
603	19990923	RAD	Americium-241	4.95b	0.142	0.142	pCi/g	U
603	19990923	ORVOA	Benzene	3.2E+4	6.281	0.006281	mg/kg	U
603	19990923	RAD	Bismuth-207	0.175b	0.067	0.067	pCi/g	U
603	19990923	RAD	Bismuth-210	see Pb^{210}	0.11	0.11	pCi/g	U
603	19990923	ORVOA	Bromodichloromethane	4.3E+6	6.281	0.006281	mg/kg	U
603	19990923	ORVOA	Bromoform	none	6.281	0.006281	mg/kg	U
603	19990923	ORVOA	Bromomethane	none	12.563	0.012563	mg/kg	U
603	19990923	ORVOA	Carbon Disulfide	2.8E+5	6.281	0.006281	mg/kg	U
603	19990923	ORVOA	Carbon Tetrachloride	1.2E+4	6.281	0.006281	mg/kg	U
603*	19990923	RAD	Cesium-137	0.42c	0.04	0.04	pCi/g	
603	19990923	RAD	Cesium-137	0.42c	0.103	0.103	pCi/g	U
603	19990923	ORVOA	Chlorobenzene	none	6.281	0.006281	mg/kg	U
603	19990923	ORVOA	Chloroethane	1.6E+5	12.563	0.012563	mg/kg	U
603	19990923	ORVOA	Chloroform	none	6.281	0.006281	mg/kg	U
603	19990923	ORVOA	Chloromethane	none	12.563	0.012563	mg/kg	U
603	19990923	GENERA	Chromium VI	1,100	0.48	0.48	mg/kg	U
603*	19990923	RAD	Cobalt-60	0.1b	0.06	0.06	pCi/g	U
603	19990923	RAD	Cobalt-60	0.1b	0.0701	0.0701	pCi/g	U
603	19990923	ORVOA	Dibromochloromethane	3.5E+4	6.281	0.006281	mg/kg	U
603	19990923	ORVOA	Ethylbenzene	4.8E+2	6.281	0.006281	mg/kg	U
603	19990923	ORVOA	Hexane	9.1E+4	12.563	0.012563	mg/kg	U
603	19990923	ORVOA	Iodomethane	none	12.563	0.012563	mg/kg	U
603*	19990923	RAD	Lead-210	1.7c	1.03	1.03	pCi/g	U
603	19990923	RAD	Lead-210	1.7c	1.6	1.6	pCi/g	
603	19990923	ORVOA	Methylene Chloride (Dichloromethane)	1.0E+6		0.017049	mg/kg	B
603	19990923	ORVOA	m-Xylene	none	6.281	0.006281	mg/kg	U
603	19990923	ORVOA	o-Xylene	none	6.281	0.006281	mg/kg	U
603	19990923	GENERA	Percent Solids	na	0.01	0.01	%	
603*	19990923	RAD	Plutonium-238	55d	30.97	30.97	pCi/g	U
603	19990923	RAD	Plutonium-238	55d	0.026	0.026	pCi/g	
603	19990923	RAD	Plutonium-239/240	5.5b	0.0124	0.0124	pCi/g	
603	19990923	RAD	Potassium-40	na	0.686	0.686	pCi/g	

APPENDIX A, Table 1: PRS 99 Removal Action Verification Results

Sample ID	Sample Date	Class	Analyte	"GV"	Det. Limit /MDA	Result[e]	Unit	LQ
603*	19990923	RAD	Radium-226		1	1	pCi/g	
603	19990923	RAD	Radium-226		0.155	0.155	pCi/g	
603	19990923	ORVOA	Styrene	none	6.281	0.006281	mg/kg	U
603	19990923	ORVOA	Tetrachloroethene	2.1E+6	6.281	0.006281	mg/kg	U
603	19990923	RAD	Thorium-228	3.0a	0.0613	0.0613	pCi/g	
603*	19990923	RAD	Thorium-230		9.98	9.98	pCi/g	U
603	19990923	RAD	Thorium-230		0.0432	0.0432	pCi/g	
603*	19990923	RAD	Thorium-232	3.0a	0.19	0.19	pCi/g	
603	19990923	RAD	Thorium-232	3.0a	0.0335	0.0335	pCi/g	
603	19990923	ORVOA	Toluene	2.5E+5		0.001432	mg/kg	J
603	19990923	ORVOA	Trichloroethene (ethylene)	1.25E+5	6.281	0.006281	mg/kg	U
603	19990923	ORVOA	Vinyl Acetate	none	12.563	0.012563	mg/kg	U
603	19990923	ORVOA	Vinyl Chloride	none	12.563	0.012563	mg/kg	U
603	19990923	ORVOA	Xylenes, Total	4.3E+8	6.281	0.006281	mg/kg	U
604	19990923	ORVOA	1,1,1-Trichloroethane	none	5.704	0.005704	mg/kg	U
604	19990923	ORVOA	1,1,2,2-Tetrachloroethane	none	5.704	0.005704	mg/kg	U
604	19990923	ORVOA	1,1,2-Trichloro-1,2,2-trifluoroethane	none	5.704	0.005704	mg/kg	U
604	19990923	ORVOA	1,1,2-Trichloroethane	none	5.704	0.005704	mg/kg	U
604	19990923	ORVOA	1,1-Dichloroethane	7.8E+3	5.704	0.005704	mg/kg	U
604	19990923	ORVOA	1,1-Dichloroethene	none	5.704	0.005704	mg/kg	U
604	19990923	ORVOA	1,2-cis-Dichloroethene	none	5.704	0.005704	mg/kg	U
604	19990923	ORVOA	1,2-Dichloroethane	1.1E+4	5.704	0.005704	mg/kg	U
604	19990923	ORVOA	1,2-Dichloroethene	none	5.704	0.005704	mg/kg	U
604	19990923	ORVOA	1,2-Dichloropropane	none	5.704	0.005704	mg/kg	U
604	19990923	ORVOA	1,2-Diethylbenzene	none	5.704	0.005704	mg/kg	U
604	19990923	ORVOA	1,2-trans-Dichloroethene (ethylene)	4.3E+6	5.704	0.005704	mg/kg	U
604	19990923	ORVOA	1,3-cis-Dichloropropene	none	5.704	0.005704	mg/kg	U
604	19990923	ORVOA	1,3-trans-Dichloropropene	none	5.704	0.005704	mg/kg	U
604	19990923	ORVOA	2-Butanone	9.3E+6		0.011682	mg/kg	B
604	19990923	ORVOA	2-Hexanone	none	11.408	0.011408	mg/kg	U
604	19990923	ORVOA	4-Methyl-2-Pentanone	7.0E+5	11.408	0.011408	mg/kg	U
604	19990923	ORVOA	Acetone	2.1E+7		0.052555	mg/kg	B
604	19990923	ORVOA	Acetonitrile	none	114.08	0.114080	mg/kg	U
604	19990923	ORVOA	Acrylonitrile	none	114.08	0.114080	mg/kg	U
604	19990923	RAD	Actinium-227	1.0b	0.2	0.2	pCi/g	U
604	19990923	RAD	Americium-241	4.95b	0.225	0.225	pCi/g	U
604*	19990923	RAD	Americium-241	4.95b	0.05	0.05	pCi/g	U
604	19990923	ORVOA	Benzene	3.2E+4	5.704	0.005704	mg/kg	U
604	19990923	RAD	Bismuth-207	0.175b	0.0737	0.0737	pCi/g	U
604	19990923	RAD	Bismuth-210	see Pb^{210}	0.102	0.102	pCi/g	U
604	19990923	ORVOA	Bromodichloromethane	4.3E+6	5.704	0.005704	mg/kg	U
604	19990923	ORVOA	Bromoform	none	5.704	0.005704	mg/kg	U
604	19990923	ORVOA	Bromomethane	none	11.408	0.011408	mg/kg	U
604	19990923	ORVOA	Carbon Disulfide	2.8E+5	5.704	0.005704	mg/kg	U
604	19990923	ORVOA	Carbon Tetrachloride	1.2E+4	5.704	0.005704	mg/kg	U
604	19990923	RAD	Cesium-137	0.42c	0.0938	0.0938	pCi/g	
604*	19990923	RAD	Cesium-137	0.42c	0.04	0.04	pCi/g	

APPENDIX A, Table 1: PRS 99 Removal Action Verification Results

Sample ID	Sample Date	Class	Analyte	"GV"	Det. Limit /MDA	Result[e]	Unit	LQ
604	19990923	ORVOA	Chlorobenzene	none	5.704	0.005704	mg/kg	U
604	19990923	ORVOA	Chloroethane	1.6E+5	11.408	0.011408	mg/kg	U
604	19990923	ORVOA	Chloroform	none	5.704	0.005704	mg/kg	U
604	19990923	ORVOA	Chloromethane	none	11.408	0.011408	mg/kg	U
604	19990923	GENERA	Chromium VI	1,100	0.48	0.48	mg/kg	U
604	19990923	RAD	Cobalt-60	0.1b	0.0908	0.0908	pCi/g	U
604*	19990923	RAD	Cobalt-60	0.1b	0.04	0.04	pCi/g	U
604	19990923	ORVOA	Dibromochloromethane	3.5E+4	5.704	0.005704	mg/kg	U
604	19990923	ORVOA	Ethylbenzene	4.8E+2	5.704	0.005704	mg/kg	U
604	19990923	ORVOA	Hexane	9.1E+4	11.408	0.011408	mg/kg	U
604	19990923	ORVOA	Iodomethane	none	11.408	0.011408	mg/kg	U
604	19990923	RAD	Lead-210	1.7c	0.795	0.795	pCi/g	
604*	19990923	RAD	Lead-210	1.7c	0.48	0.48	pCi/g	
604	19990923	ORVOA	Methylene Chloride (Dichloromethane)	1.0E+6		0.009883	mg/kg	B
604	19990923	ORVOA	m-Xylene	none	5.704	0.005704	mg/kg	U
604	19990923	ORVOA	o-Xylene	none	5.704	0.005704	mg/kg	U
604	19990923	GENERA	Percent Solids	na	0.01	0.01	%	
604	19990923	RAD	Plutonium-238	55d	0.00833	0.00833	pCi/g	
604*	19990923	RAD	Plutonium-238	55d	10.87	10.87	pCi/g	U
604	19990923	RAD	Plutonium-239/240	5.5b	0.00832	0.00832	pCi/g	
604	19990923	RAD	Potassium-40	na	0.864	0.864	pCi/g	
604	19990923	RAD	Radium-226		0.157	0.157	pCi/g	
604*	19990923	RAD	Radium-226		0.64	0.64	pCi/g	
604	19990923	ORVOA	Styrene	none	5.704	0.005704	mg/kg	U
604	19990923	ORVOA	Tetrachloroethene	2.1E+6	5.704	0.005704	mg/kg	U
604	19990923	RAD	Thorium-228	3.0a	0.0544	0.0544	pCi/g	
604	19990923	RAD	Thorium-230		0.0313	0.0313	pCi/g	
604*	19990923	RAD	Thorium-230		4.75	4.75	pCi/g	
604	19990923	RAD	Thorium-232	3.0a	0.0253	0.0253	pCi/g	
604*	19990923	RAD	Thorium-232	3.0a	0.17	0.17	pCi/g	
604	19990923	ORVOA	Toluene	2.5E+5	5.704	0.005704	mg/kg	U
604	19990923	ORVOA	Trichloroethene (ethylene)	1.25E+5	5.704	0.005704	mg/kg	U
604	19990923	ORVOA	Vinyl Acetate	none	11.408	0.011408	mg/kg	U
604	19990923	ORVOA	Vinyl Chloride	none	11.408	0.011408	mg/kg	U
604	19990923	ORVOA	Xylenes, Total	4.3E+8	5.704	0.005704	mg/kg	U
605	19990923	ORVOA	1,1,1-Trichloroethane	none	5.675	0.005675	mg/kg	U
605	19990923	ORVOA	1,1,2,2-Tetrachloroethane	none	5.675	0.005675	mg/kg	U
605	19990923	ORVOA	1,1,2-Trichloro-1,2,2-trifluoroethane	none	5.675	0.005675	mg/kg	U
605	19990923	ORVOA	1,1,2-Trichloroethane	none	5.675	0.005675	mg/kg	U
605	19990923	ORVOA	1,1-Dichloroethane	7.8E+3	5.675	0.005675	mg/kg	U
605	19990923	ORVOA	1,1-Dichloroethene	none	5.675	0.005675	mg/kg	U
605	19990923	ORVOA	1,2-cis-Dichloroethene	none	5.675	0.005675	mg/kg	U
605	19990923	ORVOA	1,2-Dichloroethane	1.1E+4	5.675	0.005675	mg/kg	U
605	19990923	ORVOA	1,2-Dichloroethene	none	5.675	0.005675	mg/kg	U
605	19990923	ORVOA	1,2-Dichloropropane	none	5.675	0.005675	mg/kg	U
605	19990923	ORVOA	1,2-Diethylbenzene	none	5.675	0.005675	mg/kg	U
605	19990923	ORVOA	1,2-trans-Dichloroethene (ethylene)	4.3E+6	5.675	0.005675	mg/kg	U

APPENDIX A, Table 1: PRS 99 Removal Action Verification Results

Sample ID	Sample Date	Class	Analyte	"GV"	Det. Limit /MDA	Result[e]	Unit	LQ
605	19990923	ORVOA	1,3-cis-Dichloropropene	none	5.675	0.005675	mg/kg	U
605	19990923	ORVOA	1,3-trans-Dichloropropene	none	5.675	0.005675	mg/kg	U
605	19990923	ORVOA	2-Butanone	9.3E+6		0.011903	mg/kg	B
605	19990923	ORVOA	2-Hexanone	none	11.35	0.011350	mg/kg	U
605	19990923	ORVOA	4-Methyl-2-Pentanone	7.0E+5	11.35	0.011350	mg/kg	U
605	19990923	ORVOA	Acetone	2.1E+7		0.058078	mg/kg	B
605	19990923	ORVOA	Acetonitrile	none	113.5	0.113500	mg/kg	U
605	19990923	ORVOA	Acrylonitrile	none	113.5	0.113500	mg/kg	U
605	19990923	RAD	Actinium-227	1.0b	0.3	0.3	pCi/g	
605*	19990923	RAD	Americium-241	4.95b	0.12	0.12	pCi/g	U
605	19990923	RAD	Americium-241	4.95b	0.256	0.256	pCi/g	U
605	19990923	ORVOA	Benzene	3.2E+4	5.675	0.005675	mg/kg	U
605	19990923	RAD	Bismuth-207	0.175b	0.0642	0.0642	pCi/g	U
605	19990923	RAD	Bismuth-210	see Pb^{210}	0.0978	0.0978	pCi/g	U
605	19990923	ORVOA	Bromodichloromethane	4.3E+6	5.675	0.005675	mg/kg	U
605	19990923	ORVOA	Bromoform	none	5.675	0.005675	mg/kg	U
605	19990923	ORVOA	Bromomethane	none	11.35	0.011350	mg/kg	U
605	19990923	ORVOA	Carbon Disulfide	2.8E+5	5.675	0.005675	mg/kg	U
605	19990923	ORVOA	Carbon Tetrachloride	1.2E+4	5.675	0.005675	mg/kg	U
605*	19990923	RAD	Cesium-137	0.42c	0.06	0.06	pCi/g	
605	19990923	RAD	Cesium-137	0.42c	0.103	0.103	pCi/g	U
605	19990923	ORVOA	Chlorobenzene	none	5.675	0.005675	mg/kg	U
605	19990923	ORVOA	Chloroethane	1.6E+5	11.35	0.011350	mg/kg	U
605	19990923	ORVOA	Chloroform	none	5.675	0.005675	mg/kg	U
605	19990923	ORVOA	Chloromethane	none	11.35	0.011350	mg/kg	U
605	19990923	GENERA	Chromium VI	1,100	0.47	0.47	mg/kg	U
605*	19990923	RAD	Cobalt-60	0.1b	0.06	0.06	pCi/g	U
605	19990923	RAD	Cobalt-60	0.1b	0.0729	0.0729	pCi/g	U
605	19990923	ORVOA	Dibromochloromethane	3.5E+4	5.675	0.005675	mg/kg	U
605	19990923	ORVOA	Ethylbenzene	4.8E+2	5.675	0.005675	mg/kg	U
605	19990923	ORVOA	Hexane	9.1E+4	11.35	0.011350	mg/kg	U
605	19990923	ORVOA	Iodomethane	none	11.35	0.011350	mg/kg	U
605*	19990923	RAD	Lead-210	1.7c	0.99	0.99	pCi/g	
605	19990923	RAD	Lead-210	1.7c	0.743	0.743	pCi/g	
605	19990923	ORVOA	Methylene Chloride (Dichloromethane)	1.0E+6		0.013481	mg/kg	B
605	19990923	ORVOA	m-Xylene	none	5.675	0.005675	mg/kg	U
605	19990923	ORVOA	o-Xylene	none	5.675	0.005675	mg/kg	U
605	19990923	GENERA	Percent Solids	na	0.01	0.01	%	
605	19990923	RAD	Plutonium-238	55d	32.8	32.8	pCi/g	U
605	19990923	RAD	Plutonium-238	55d	0.0107	0.0107	pCi/g	
605	19990923	RAD	Plutonium-239/240	5.5b	0.0107	0.0107	pCi/g	
605	19990923	RAD	Potassium-40	na	0.606	0.606	pCi/g	
605*	19990923	RAD	Radium-226		1.14	1.14	pCi/g	
605	19990923	RAD	Radium-226		0.151	0.151	pCi/g	
605	19990923	ORVOA	Styrene	none	5.675	0.005675	mg/kg	U
605	19990923	ORVOA	Tetrachloroethene	2.1E+6	5.675	0.005675	mg/kg	U
605	19990923	RAD	Thorium-228	3.0a	0.0508	0.0508	pCi/g	
605*	19990923	RAD	Thorium-230		10.61	10.61	pCi/g	U

APPENDIX A, Table 1: PRS 99 Removal Action Verification Results

Sample ID	Sample Date	Class	Analyte	"GV"	Det. Limit /MDA	Result[e]	Unit	LQ
605	19990923	RAD	Thorium-230		0.0267	0.0267	pCi/g	
605*	19990923	RAD	Thorium-232	3.0a	0.24	0.24	pCi/g	
605	19990923	RAD	Thorium-232	3.0a	0.018	0.018	pCi/g	
605	19990923	ORVOA	Toluene	2.5E+5	5.675	0.005675	mg/kg	U
605	19990923	ORVOA	Trichloroethene (ethylene)	1.25E+5	5.675	0.005675	mg/kg	U
605	19990923	ORVOA	Vinyl Acetate	none	11.35	0.011350	mg/kg	U
605	19990923	ORVOA	Vinyl Chloride	none	11.35	0.011350	mg/kg	U
605	19990923	ORVOA	Xylenes, Total	4.3E+8	5.675	0.005675	mg/kg	U
606	19990923	ORVOA	1,1,1-Trichloroethane	none	5.735	0.005735	mg/kg	U
606	19990923	ORVOA	1,1,2,2-Tetrachloroethane	none	5.735	0.005735	mg/kg	U
606	19990923	ORVOA	1,1,2-Trichloro-1,2,2-trifluoroethane	none	5.735	0.005735	mg/kg	U
606	19990923	ORVOA	1,1,2-Trichloroethane	none	5.735	0.005735	mg/kg	U
606	19990923	ORVOA	1,1-Dichloroethane	7.8E+3	5.735	0.005735	mg/kg	U
606	19990923	ORVOA	1,1-Dichloroethene	none	5.735	0.005735	mg/kg	U
606	19990923	ORVOA	1,2-cis-Dichloroethene	none	5.735	0.005735	mg/kg	U
606	19990923	ORVOA	1,2-Dichloroethane	1.1E+4	5.735	0.005735	mg/kg	U
606	19990923	ORVOA	1,2-Dichloroethene	none	5.735	0.005735	mg/kg	U
606	19990923	ORVOA	1,2-Dichloropropane	none	5.735	0.005735	mg/kg	U
606	19990923	ORVOA	1,2-Diethylbenzene	none	5.735	0.005735	mg/kg	U
606	19990923	ORVOA	1,2-trans-Dichloroethene (ethylene)	4.3E+6	5.735	0.005735	mg/kg	U
606	19990923	ORVOA	1,3-cis-Dichloropropene	none	5.735	0.005735	mg/kg	U
606	19990923	ORVOA	1,3-trans-Dichloropropene	none	5.735	0.005735	mg/kg	U
606	19990923	ORVOA	2-Butanone	9.3E+6		0.008710	mg/kg	JB
606	19990923	ORVOA	2-Hexanone	none	11.469	0.011469	mg/kg	U
606	19990923	ORVOA	4-Methyl-2-Pentanone	7.0E+5	11.469	0.011469	mg/kg	U
606	19990923	ORVOA	Acetone	2.1E+7		0.047428	mg/kg	B
606	19990923	ORVOA	Acetonitrile	none	114.69	0.114690	mg/kg	U
606	19990923	ORVOA	Acrylonitrile	none	114.69	0.114690	mg/kg	U
606	19990923	RAD	Actinium-227	1.0b	0.2	0.2	pCi/g	U
606	19990923	RAD	Americium-241	4.95b	0.137	0.137	pCi/g	U
606*	19990923	RAD	Americium-241	4.95b	0.06	0.06	pCi/g	U
606	19990923	ORVOA	Benzene	3.2E+4	5.735	0.005735	mg/kg	U
606	19990923	RAD	Bismuth-207	0.175b	0.0649	0.0649	pCi/g	U
606	19990923	RAD	Bismuth-210	see Pb^{210}	0.0982	0.0982	pCi/g	U
606	19990923	ORVOA	Bromodichloromethane	4.3E+6	5.735	0.005735	mg/kg	U
606	19990923	ORVOA	Bromoform	none	5.735	0.005735	mg/kg	U
606	19990923	ORVOA	Bromomethane	none	11.469	0.011469	mg/kg	U
606	19990923	ORVOA	Carbon Disulfide	2.8E+5	5.735	0.005735	mg/kg	U
606	19990923	ORVOA	Carbon Tetrachloride	1.2E+4	5.735	0.005735	mg/kg	U
606	19990923	RAD	Cesium-137	0.42c	0.0906	0.0906	pCi/g	
606*	19990923	RAD	Cesium-137	0.42c	0.05	0.05	pCi/g	
606	19990923	ORVOA	Chlorobenzene	none	5.735	0.005735	mg/kg	U
606	19990923	ORVOA	Chloroethane	1.6E+5	11.469	0.011469	mg/kg	U
606	19990923	ORVOA	Chloroform	none	5.735	0.005735	mg/kg	U
606	19990923	ORVOA	Chloromethane	none	11.469	0.011469	mg/kg	U
606	19990923	GENERA	Chromium VI	1,100	0.48	0.48	mg/kg	U
606	19990923	RAD	Cobalt-60	0.1b	0.076	0.076	pCi/g	U

APPENDIX A, Table 1: PRS 99 Removal Action Verification Results

Sample ID	Sample Date	Class	Analyte	"GV"	Det. Limit /MDA	Result[e]	Unit	LQ
606*	19990923	RAD	Cobalt-60	0.1b	0.05	0.05	pCi/g	U
606	19990923	ORVOA	Dibromochloromethane	3.5E+4	5.735	0.005735	mg/kg	U
606	19990923	ORVOA	Ethylbenzene	4.8E+2	5.735	0.005735	mg/kg	U
606	19990923	ORVOA	Hexane	9.1E+4	11.469	0.011469	mg/kg	U
606	19990923	ORVOA	Iodomethane	none	11.469	0.011469	mg/kg	U
606	19990923	RAD	Lead-210	1.7c	1	1	pCi/g	U
606*	19990923	RAD	Lead-210	1.7c	0.54	0.54	pCi/g	U
606	19990923	ORVOA	Methylene Chloride (Dichloromethane)	1.0E+6		0.017576	mg/kg	B
606	19990923	ORVOA	m-Xylene	none	5.735	0.005735	mg/kg	U
606	19990923	ORVOA	o-Xylene	none	5.735	0.005735	mg/kg	U
606	19990923	GENERA	Percent Solids	na	0.01	0.01	%	
606	19990923	RAD	Plutonium-238	55d	0.0174	0.0174	pCi/g	
606*	19990923	RAD	Plutonium-238	55d	14.01	14.01	pCi/g	U
606	19990923	RAD	Plutonium-239/240	5.5b	0.00982	0.00982	pCi/g	U
606	19990923	RAD	Potassium-40	na	0.484	0.484	pCi/g	
606	19990923	RAD	Radium-226		0.143	0.143	pCi/g	
606*	19990923	RAD	Radium-226		0.7	0.7	pCi/g	
606	19990923	ORVOA	Styrene	none	5.735	0.005735	mg/kg	U
606	19990923	ORVOA	Tetrachloroethene	2.1E+6	5.735	0.005735	mg/kg	U
606	19990923	RAD	Thorium-228	3.0a	0.0665	0.0665	pCi/g	
606	19990923	RAD	Thorium-230		0.0158	0.0158	pCi/g	
606*	19990923	RAD	Thorium-230		6.05	6.05	pCi/g	U
606	19990923	RAD	Thorium-232	3.0a	0.0234	0.0234	pCi/g	
606*	19990923	RAD	Thorium-232	3.0a	0.15	0.15	pCi/g	
606	19990923	ORVOA	Toluene	2.5E+5		0.001328	mg/kg	J
606	19990923	ORVOA	Trichloroethene (ethylene)	1.25E+5	5.735	0.005735	mg/kg	U
606	19990923	ORVOA	Vinyl Acetate	none	11.469	0.011469	mg/kg	U
606	19990923	ORVOA	Vinyl Chloride	none	11.469	0.011469	mg/kg	U
606	19990923	ORVOA	Xylenes, Total	4.3E+8	5.735	0.005735	mg/kg	U
						0.000000		
607	19990923	ORVOA	1,1,1-Trichloroethane	none	5.823	0.005823	mg/kg	U
607	19990923	ORVOA	1,1,2,2-Tetrachloroethane	none	5.823	0.005823	mg/kg	U
607	19990923	ORVOA	1,1,2-Trichloro-1,2,2-trifluoroethane	none	5.823	0.005823	mg/kg	U
607	19990923	ORVOA	1,1,2-Trichloroethane	none	5.823	0.005823	mg/kg	U
607	19990923	ORVOA	1,1-Dichloroethane	7.8E+3	5.823	0.005823	mg/kg	U
607	19990923	ORVOA	1,1-Dichloroethene	none	5.823	0.005823	mg/kg	U
607	19990923	ORVOA	1,2-cis-Dichloroethene	none	5.823	0.005823	mg/kg	U
607	19990923	ORVOA	1,2-Dichloroethane	1.1E+4	5.823	0.005823	mg/kg	U
607	19990923	ORVOA	1,2-Dichloroethene	none	5.823	0.005823	mg/kg	U
607	19990923	ORVOA	1,2-Dichloropropane	none	5.823	0.005823	mg/kg	U
607	19990923	ORVOA	1,2-Diethylbenzene	none	5.823	0.005823	mg/kg	U
607	19990923	ORVOA	1,2-trans-Dichloroethene (ethylene)	none	5.823	0.005823	mg/kg	U
607	19990923	ORVOA	1,3-cis-Dichloropropene	none	5.823	0.005823	mg/kg	U
607	19990923	ORVOA	1,3-trans-Dichloropropene	4.3E+6	5.823	0.005823	mg/kg	U
607	19990923	ORVOA	2-Butanone	9.3E+6		0.007920	mg/kg	JB
607	19990923	ORVOA	2-Hexanone	none	11.646	0.011646	mg/kg	U
607	19990923	ORVOA	4-Methyl-2-Pentanone	7.0E+5	11.646	0.011646	mg/kg	U
607	19990923	ORVOA	Acetone	2.1E+7		0.036060	mg/kg	B

APPENDIX A, Table 1: PRS 99 Removal Action Verification Results

Sample ID	Sample Date	Class	Analyte	"GV"	Det. Limit /MDA	Result[e]	Unit	LQ
607	19990923	ORVOA	Acetonitrile	none	116.46	0.116460	mg/kg	U
607	19990923	ORVOA	Acrylonitrile	none	116.46	0.116460	mg/kg	U
607	19990923	RAD	Actinium-227	1.0b	0.2	0.2	pCi/g	
607*	19990923	RAD	Americium-241	4.95b	0.07	0.07	pCi/g	U
607	19990923	RAD	Americium-241	4.95b	0.359	0.359	pCi/g	U
607	19990923	ORVOA	Benzene	3.2E+4	5.823	0.005823	mg/kg	U
607	19990923	RAD	Bismuth-207	0.175b	0.0766	0.0766	pCi/g	U
607	19990923	RAD	Bismuth-210	see Pb^{210}	0.115	0.115	pCi/g	U
607	19990923	ORVOA	Bromodichloromethane	4.3E+6	5.823	0.005823	mg/kg	U
607	19990923	ORVOA	Bromoform	none	5.823	0.005823	mg/kg	U
607	19990923	ORVOA	Bromomethane	none	11.646	0.011646	mg/kg	U
607	19990923	ORVOA	Carbon Disulfide	2.8E+5	5.823	0.005823	mg/kg	U
607	19990923	ORVOA	Carbon Tetrachloride	1.2E+4	5.823	0.005823	mg/kg	U
607*	19990923	RAD	Cesium-137	0.42c	0.03	0.03	pCi/g	U
607	19990923	RAD	Cesium-137	0.42c	0.0883	0.0883	pCi/g	U
607	19990923	ORVOA	Chlorobenzene	none	5.823	0.005823	mg/kg	U
607	19990923	ORVOA	Chloroethane	1.6E+5	11.646	0.011646	mg/kg	U
607	19990923	ORVOA	Chloroform	none	5.823	0.005823	mg/kg	U
607	19990923	ORVOA	Chloromethane	none	11.646	0.011646	mg/kg	U
607	19990923	GENERA	Chromium VI	1,100	0.46	0.46	mg/kg	U
607*	19990923	RAD	Cobalt-60	0.1b	0.05	0.05	pCi/g	U
607	19990923	RAD	Cobalt-60	0.1b	0.0984	0.0984	pCi/g	U
607	19990923	ORVOA	Dibromochloromethane	3.5E+4	5.823	0.005823	mg/kg	U
607	19990923	ORVOA	Ethylbenzene	4.8E+2	5.823	0.005823	mg/kg	U
607	19990923	ORVOA	Hexane	9.1E+4	11.646	0.011646	mg/kg	U
607	19990923	ORVOA	Iodomethane	none	11.646	0.011646	mg/kg	U
607*	19990923	RAD	Lead-210	1.7c	0.66	0.66	pCi/g	U
607	19990923	RAD	Lead-210	1.7c	0.832	0.832	pCi/g	
607	19990923	ORVOA	Methylene Chloride (Dichloromethane)	1.0E+6		0.013364	mg/kg	B
607	19990923	ORVOA	m-Xylene	none	5.823	0.005823	mg/kg	U
607	19990923	ORVOA	o-Xylene	none	5.823	0.005823	mg/kg	U
607	19990923	GENERA	Percent Solids	na	0.01	0.01	%	
607*	19990923	RAD	Plutonium-238	55d	19.88	19.88	pCi/g	U
607	19990923	RAD	Plutonium-238	55d	0.0105	0.0105	pCi/g	
607	19990923	RAD	Plutonium-239/240	5.5b	0.0104	0.0104	pCi/g	U
607	19990923	RAD	Potassium-40	na	0.825	0.825	pCi/g	
607*	19990923	RAD	Radium-226		0.82	0.82	pCi/g	
607	19990923	RAD	Radium-226		0.326	0.326	pCi/g	
607	19990923	ORVOA	Styrene	none	5.823	0.005823	mg/kg	U
607	19990923	ORVOA	Tetrachloroethene	2.1E+6	5.823	0.005823	mg/kg	U
607	19990923	RAD	Thorium-228	3.0a	0.0762	0.0762	pCi/g	
607*	19990923	RAD	Thorium-230		7.85	7.85	pCi/g	U
607	19990923	RAD	Thorium-230		0.0278	0.0278	pCi/g	
607*	19990923	RAD	Thorium-232	3.0a	0.14	0.14	pCi/g	
607	19990923	RAD	Thorium-232	3.0a	0.0165	0.0165	pCi/g	
607	19990923	ORVOA	Toluene	2.5E+5	5.823	0.005823	mg/kg	U
607	19990923	ORVOA	Trichloroethene (ethylene)	1.25E+5	5.823	0.005823	mg/kg	U
607	19990923	ORVOA	Vinyl Acetate	none	11.646	0.011646	mg/kg	U

APPENDIX A, Table 1: PRS 99 Removal Action Verification Results

Sample ID	Sample Date	Class	Analyte	"GV"	Det. Limit /MDA	Result[e]	Unit	LQ
607	19990923	ORVOA	Vinyl Chloride	none	11.646	0.011646	mg/kg	U
607	19990923	ORVOA	Xylenes, Total	4.3E+8	5.823	0.005823	mg/kg	U
607dup	19990923	ORVOA	1,1,1-Trichloroethane	none	5.823	0.005823	mg/kg	U
607dup	19990923	ORVOA	1,1,2,2-Tetrachloroethane	none	5.823	0.005823	mg/kg	U
607dup	19990923	ORVOA	1,1,2-Trichloro-1,2,2-trifluoroethane	none		0.001410	mg/kg	JB
607dup	19990923	ORVOA	1,1,2-Trichloroethane	none	5.823	0.005823	mg/kg	U
607dup	19990923	ORVOA	1,1-Dichloroethane	7.8E+3	5.823	0.005823	mg/kg	U
607dup	19990923	ORVOA	1,1-Dichloroethene	none	5.823	0.005823	mg/kg	U
607dup	19990923	ORVOA	1,2-cis-Dichloroethene	none	5.823	0.005823	mg/kg	U
607dup	19990923	ORVOA	1,2-Dichloroethane	1.1E+4	5.823	0.005823	mg/kg	U
607dup	19990923	ORVOA	1,2-Dichloroethene	none	5.823	0.005823	mg/kg	U
607dup	19990923	ORVOA	1,2-Dichloropropane	none	5.823	0.005823	mg/kg	U
607dup	19990923	ORVOA	1,2-Diethylbenzene	none	5.823	0.005823	mg/kg	U
607dup	19990923	ORVOA	1,2-trans-Dichloroethene (ethylene)	4.3E+6	5.823	0.005823	mg/kg	U
607dup	19990923	ORVOA	1,3-cis-Dichloropropene	none	5.823	0.005823	mg/kg	U
607dup	19990923	ORVOA	1,3-trans-Dichloropropene	none	5.823	0.005823	mg/kg	U
607dup	19990923	ORVOA	2-Butanone	9.3E+6		0.011325	mg/kg	JB
607dup	19990923	ORVOA	2-Hexanone	none	11.646	0.011646	mg/kg	U
607dup	19990923	ORVOA	4-Methyl-2-Pentanone	7.0E+5	11.646	0.011646	mg/kg	U
607dup	19990923	ORVOA	Acetone	2.1E+7		0.048898	mg/kg	B
607dup	19990923	ORVOA	Acetonitrile	none	116.46	0.116460	mg/kg	U
607dup	19990923	ORVOA	Acrylonitrile	none	116.46	0.116460	mg/kg	U
607dup	19990923	RAD	Americium-241	4.95b	0.333	0.333	pCi/g	U
607dup	19990923	ORVOA	Benzene	3.2E+4	5.823	0.005823	mg/kg	U
607dup	19990923	RAD	Bismuth-207	0.175b	0.0623	0.0623	pCi/g	U
607dup	19990923	RAD	Bismuth-210	see Pb^{210}	0.0876	0.0876	pCi/g	U
607dup	19990923	ORVOA	Bromodichloromethane	4.3E+6	5.823	0.005823	mg/kg	U
607dup	19990923	ORVOA	Bromoform	none	5.823	0.005823	mg/kg	U
607dup	19990923	ORVOA	Bromomethane	none	12	0.012000	mg/kg	U
607dup	19990923	ORVOA	Carbon Disulfide	2.8E+5	5.823	0.005823	mg/kg	U
607dup	19990923	ORVOA	Carbon Tetrachloride	1.2E+4	5.823	0.005823	mg/kg	U
607dup	19990923	RAD	Cesium-137	0.42c	0.0759	0.0759	pCi/g	U
607dup	19990923	ORVOA	Chlorobenzene	none	5.823	0.005823	mg/kg	U
607dup	19990923	ORVOA	Chloroethane	1.6E+5	12	0.012000	mg/kg	U
607dup	19990923	ORVOA	Chloroform	none	5.823	0.005823	mg/kg	U
607dup	19990923	ORVOA	Chloromethane	none	12	0.012000	mg/kg	U
607dup	19990923	RAD	Cobalt-60	0.1b	0.0993	0.0993	pCi/g	U
607dup	19990923	ORVOA	Dibromochloromethane	3.5E+4	5.823	0.005823	mg/kg	U
607dup	19990923	ORVOA	Ethylbenzene	4.8E+2	5.823	0.005823	mg/kg	U
607dup	19990923	ORVOA	Hexane	9.1E+4	11.646	0.011646	mg/kg	U
607dup	19990923	ORVOA	Iodomethane	none	11.646	0.011646	mg/kg	U
607dup	19990923	RAD	Lead-210	1.7c	0.933	0.933	pCi/g	
607dup	19990923	ORVOA	Methylene Chloride (Dichloromethane)	1.0E+6		0.012077	mg/kg	B
607dup	19990923	ORVOA	m-Xylene	none	5.823	0.005823	mg/kg	U
607dup	19990923	ORVOA	o-Xylene	none	5.823	0.005823	mg/kg	U
607dup	19990923	RAD	Plutonium-238	55d	0.0283	0.0283	pCi/g	U
607dup	19990923	RAD	Plutonium-239/240	5.5b	0.0136	0.0136	pCi/g	U

APPENDIX A, Table 1: PRS 99 Removal Action Verification Results

Sample ID	Sample Date	Class	Analyte	"GV"	Det. Limit /MDA	Result[e]	Unit	LQ
607dup	19990923	RAD	Potassium-40	na	0.387	0.387	pCi/g	
607dup	19990923	RAD	Radium-226		0.113	0.113	pCi/g	
607dup	19990923	ORVOA	Styrene	none	5.823	0.005823	mg/kg	U
607dup	19990923	ORVOA	Tetrachloroethene	2.1E+6	5.823	0.005823	mg/kg	U
607dup	19990923	RAD	Thorium-228	3.0a	0.0541	0.0541	pCi/g	
607dup	19990923	RAD	Thorium-230		0.0376	0.0376	pCi/g	
607dup	19990923	RAD	Thorium-232	3.0a	0.0312	0.0312	pCi/g	
607dup	19990923	ORVOA	Toluene	2.5E+5	5.823	0.005823	mg/kg	U
607dup	19990923	ORVOA	Trichloroethene (ethylene)	1.25E+5	5.823	0.005823	mg/kg	U
607dup	19990923	ORVOA	Vinyl Acetate	none	11.646	0.011646	mg/kg	U
607dup	19990923	ORVOA	Vinyl Chloride	none	12	0.012000	mg/kg	U
607dup	19990923	ORVOA	Xylenes, Total	4.3E+8	5.823	0.005823	mg/kg	U
608	19990923	ORVOA	1,1,1-Trichloroethane	none	6	0.006000	mg/kg	U
608	19990923	ORVOA	1,1,2,2-Tetrachloroethane	none	6	0.006000	mg/kg	U
608	19990923	ORVOA	1,1,2-Trichloro-1,2,2-trifluoroethane	none	6	0.006000	mg/kg	U
608	19990923	ORVOA	1,1,2-Trichloroethane	none	6	0.006000	mg/kg	U
608	19990923	ORVOA	1,1-Dichloroethane	7.8E+3	6	0.006000	mg/kg	U
608	19990923	ORVOA	1,1-Dichloroethene	none	6	0.006000	mg/kg	U
608	19990923	ORVOA	1,2-cis-Dichloroethene	none	6	0.006000	mg/kg	U
608	19990923	ORVOA	1,2-Dichloroethane	1.1E+4	6	0.006000	mg/kg	U
608	19990923	ORVOA	1,2-Dichloroethene	none	6	0.006000	mg/kg	U
608	19990923	ORVOA	1,2-Dichloropropane	none	6	0.006000	mg/kg	U
608	19990923	ORVOA	1,2-Diethylbenzene	none	6	0.006000	mg/kg	U
608	19990923	ORVOA	1,2-trans-Dichloroethene (ethylene)	4.3E+6	6	0.006000	mg/kg	U
608	19990923	ORVOA	1,3-cis-Dichloropropene	none	6	0.006000	mg/kg	U
608	19990923	ORVOA	1,3-trans-Dichloropropene	none	6	0.006000	mg/kg	U
608	19990923	ORVOA	2-Butanone	9.3E+6		0.010892	mg/kg	B
608	19990923	ORVOA	2-Hexanone	none	10.824	0.010824	mg/kg	U
608	19990923	ORVOA	4-Methyl-2-Pentanone	7.0E+5	10.824	0.010824	mg/kg	U
608	19990923	ORVOA	Acetone	2.1E+7	10.824	0.010824	mg/kg	U
608	19990923	ORVOA	Acetonitrile	none	108.24	0.108240	mg/kg	U
608	19990923	ORVOA	Acrylonitrile	none	108.24	0.108240	mg/kg	U
608	19990923	RAD	Actinium-227	1.0b	0.16	0.16	pCi/g	U
608*	19990923	RAD	Americium-241	4.95b	0.05	0.05	pCi/g	U
608	19990923	RAD	Americium-241	4.95b	1.04	1.04	pCi/g	U
608	19990923	ORVOA	Benzene	3.2E+4	6	0.006000	mg/kg	U
608	19990923	RAD	Bismuth-207	0.175b	0.0732	0.0732	pCi/g	U
608	19990923	RAD	Bismuth-210	see Pb^{210}	0.12	0.12	pCi/g	U
608	19990923	ORVOA	Bromodichloromethane	4.3E+6	6	0.006000	mg/kg	U
608	19990923	ORVOA	Bromoform	none	6	0.006000	mg/kg	U
608	19990923	ORVOA	Bromomethane	none	10.824	0.010824	mg/kg	U
608	19990923	ORVOA	Carbon Disulfide	2.8E+5	6	0.006000	mg/kg	U
608	19990923	ORVOA	Carbon Tetrachloride	1.2E+4	6	0.006000	mg/kg	U
608*	19990923	RAD	Cesium-137	0.42c	0.03	0.03	pCi/g	
608	19990923	RAD	Cesium-137	0.42c	0.0973	0.0973	pCi/g	U
608	19990923	ORVOA	Chlorobenzene	none	6	0.006000	mg/kg	U
608	19990923	ORVOA	Chloroethane	1.6E+5	10.824	0.010824	mg/kg	U

APPENDIX A, Table 1: PRS 99 Removal Action Verification Results

Sample ID	Sample Date	Class	Analyte	"GV"	Det. Limit /MDA	Result[e]	Unit	LQ
608	19990923	ORVOA	Chloroform	none	6	0.006000	mg/kg	U
608	19990923	ORVOA	Chloromethane	none	10.824	0.010824	mg/kg	U
608	19990923	GENERA	Chromium VI	1,100	0.47	0.47	mg/kg	U
608*	19990923	RAD	Cobalt-60	0.1b	0.04	0.04	pCi/g	U
608	19990923	RAD	Cobalt-60	0.1b	0.0876	0.0876	pCi/g	U
608	19990923	ORVOA	Dibromochloromethane	3.5E+4	6	0.006000	mg/kg	U
608	19990923	ORVOA	Ethylbenzene	4.8E+2	6	0.006000	mg/kg	U
608	19990923	ORVOA	Hexane	9.1E+4	10.824	0.010824	mg/kg	U
608	19990923	ORVOA	Iodomethane	none	10.824	0.010824	mg/kg	U
608*	19990923	RAD	Lead-210	1.7c	0.42	0.42	pCi/g	
608	19990923	RAD	Lead-210	1.7c	1.02	1.02	pCi/g	
608	19990923	ORVOA	Methylene Chloride (Dichloromethane)	1.0E+6		0.008074	mg/kg	B
608	19990923	ORVOA	m-Xylene	none	6	0.006000	mg/kg	U
608	19990923	ORVOA	o-Xylene	none	6	0.006000	mg/kg	U
608	19990923	GENERA	Percent Solids	na	0.01	0.01	%	
608*	19990923	RAD	Plutonium-238	55d	9.14	9.14	pCi/g	
608	19990923	RAD	Plutonium-238	55d	0.0203	0.0203	pCi/g	
608	19990923	RAD	Plutonium-239/240	5.5b	0.00973	0.00973	pCi/g	
608	19990923	RAD	Potassium-40	na	0.823	0.823	pCi/g	
608*	19990923	RAD	Radium-226		0.53	0.53	pCi/g	
608	19990923	RAD	Radium-226		0.17	0.17	pCi/g	
608	19990923	ORVOA	Styrene	none	6	0.006000	mg/kg	U
608	19990923	ORVOA	Tetrachloroethene	2.1E+6	6	0.006000	mg/kg	U
608	19990923	RAD	Thorium-228	3.0a	0.0537	0.0537	pCi/g	
608*	19990923	RAD	Thorium-230		4.77	4.77	pCi/g	U
608	19990923	RAD	Thorium-230		0.0279	0.0279	pCi/g	
608*	19990923	RAD	Thorium-232	3.0a	0.17	0.17	pCi/g	
608	19990923	RAD	Thorium-232	3.0a	0.0165	0.0165	pCi/g	
608	19990923	ORVOA	Toluene	2.5E+5	6	0.006000	mg/kg	U
608	19990923	ORVOA	Trichloroethene (ethylene)	1.25E+5	6	0.006000	mg/kg	U
608	19990923	ORVOA	Vinyl Acetate	none	10.824	0.010824	mg/kg	U
608	19990923	ORVOA	Vinyl Chloride	none	10.824	0.010824	mg/kg	U
608	19990923	ORVOA	Xylenes, Total	4.3E+8	6	0.006000	mg/kg	U
609	19990923	ORVOA	1,1,1-Trichloroethane	none	6	0.006000	mg/kg	U
609	19990923	ORVOA	1,1,2,2-Tetrachloroethane	none	6	0.006000	mg/kg	U
609	19990923	ORVOA	1,1,2-Trichloro-1,2,2-trifluoroethane	none	6	0.006000	mg/kg	U
609	19990923	ORVOA	1,1,2-Trichloroethane	none	6	0.006000	mg/kg	U
609	19990923	ORVOA	1,1-Dichloroethane	7.8E+3	6	0.006000	mg/kg	U
609	19990923	ORVOA	1,1-Dichloroethene	none	6	0.006000	mg/kg	U
609	19990923	ORVOA	1,2-cis-Dichloroethene	none	6	0.006000	mg/kg	U
609	19990923	ORVOA	1,2-Dichloroethane	1.1E+4	6	0.006000	mg/kg	U
609	19990923	ORVOA	1,2-Dichloroethene	none	6	0.006000	mg/kg	U
609	19990923	ORVOA	1,2-Dichloropropane	none	6	0.006000	mg/kg	U
609	19990923	ORVOA	1,2-Diethylbenzene	none	6	0.006000	mg/kg	U
609	19990923	ORVOA	1,2-trans-Dichloroethene (ethylene)	4.3E+6	6	0.006000	mg/kg	U
609	19990923	ORVOA	1,3-cis-Dichloropropene	none	6	0.006000	mg/kg	U
609	19990923	ORVOA	1,3-trans-Dichloropropene	none	6	0.006000	mg/kg	U

APPENDIX A, Table 1: PRS 99 Removal Action Verification Results

Sample ID	Sample Date	Class	Analyte	"GV"	Det. Limit /MDA	Result[e]	Unit	LQ
609	19990923	ORVOA	2-Butanone	9.3E+6		0.005852	mg/kg	JB
609	19990923	ORVOA	2-Hexanone	none	10.565	0.010565	mg/kg	U
609	19990923	ORVOA	4-Methyl-2-Pentanone	7.0E+5	10.565	0.010565	mg/kg	U
609	19990923	ORVOA	Acetone	2.1E+7		0.038399	mg/kg	B
609	19990923	ORVOA	Acetonitrile	none	105.65	0.105650	mg/kg	U
609	19990923	ORVOA	Acrylonitrile	none	105.65	0.105650	mg/kg	U
609	19990923	RAD	Actinium-227	1.0b	0.52	0.52	pCi/g	U
609*	19990923	RAD	Americium-241	4.95b	0.11	0.11	pCi/g	U
609	19990923	RAD	Americium-241	4.95b	0.129	0.129	pCi/g	U
609	19990923	ORVOA	Benzene	3.2E+4	6	0.006000	mg/kg	U
609	19990923	RAD	Bismuth-207	0.175b	0.0649	0.0649	pCi/g	U
609	19990923	RAD	Bismuth-210	see Pb^{210}	0.0955	0.0955	pCi/g	U
609	19990923	ORVOA	Bromodichloromethane	4.3E+6	6	0.006000	mg/kg	U
609	19990923	ORVOA	Bromoform	none	6	0.006000	mg/kg	U
609	19990923	ORVOA	Bromomethane	none	10.565	0.010565	mg/kg	U
609	19990923	ORVOA	Carbon Disulfide	2.8E+5	6	0.006000	mg/kg	U
609	19990923	ORVOA	Carbon Tetrachloride	1.2E+4	6	0.006000	mg/kg	U
609*	19990923	RAD	Cesium-137	0.42c	0.06	0.06	pCi/g	U
609	19990923	RAD	Cesium-137	0.42c	0.0859	0.0859	pCi/g	U
609	19990923	ORVOA	Chlorobenzene	none	6	0.006000	mg/kg	U
609	19990923	ORVOA	Chloroethane	1.6E+5	10.565	0.010565	mg/kg	U
609	19990923	ORVOA	Chloroform	none	6	0.006000	mg/kg	U
609	19990923	ORVOA	Chloromethane	none	10.565	0.010565	mg/kg	U
609	19990923	GENERA	Chromium VI	1,100	0.46	0.000460	mg/kg	U
609*	19990923	RAD	Cobalt-60	0.1b	0.06	0.06	pCi/g	U
609	19990923	RAD	Cobalt-60	0.1b	0.0805	0.0805	pCi/g	U
609	19990923	ORVOA	Dibromochloromethane	3.5E+4	6	0.006000	mg/kg	U
609	19990923	ORVOA	Ethylbenzene	4.8E+2	6	0.006000	mg/kg	U
609	19990923	ORVOA	Hexane	9.1E+4	10.565	0.010565	mg/kg	U
609	19990923	ORVOA	Iodomethane	none	10.565	0.010565	mg/kg	U
609*	19990923	RAD	Lead-210	1.7c	0.92	0.92	pCi/g	
609	19990923	RAD	Lead-210	1.7c	0.834	0.834	pCi/g	
609	19990923	ORVOA	Methylene Chloride (Dichloromethane)	1.0E+6		0.008878	mg/kg	B
609	19990923	ORVOA	m-Xylene	none	6	0.006000	mg/kg	U
609	19990923	ORVOA	o-Xylene	none	6	0.006000	mg/kg	U
609	19990923	GENERA	Percent Solids	na	0.01	0.01	%	
609*	19990923	RAD	Plutonium-238	55d	29.44	29.44	pCi/g	U
609	19990923	RAD	Plutonium-238	55d	0.0493	0.0493	pCi/g	
609	19990923	RAD	Plutonium-239/240	5.5b	0.0379	0.0379	pCi/g	U
609	19990923	RAD	Potassium-40	na	0.626	0.626	pCi/g	
609*	19990923	RAD	Radium-226		1.1	1.1	pCi/g	
609	19990923	RAD	Radium-226		0.347	0.347	pCi/g	
609	19990923	ORVOA	Styrene	none	6	0.006000	mg/kg	U
609	19990923	ORVOA	Tetrachloroethene	2.1E+6	6	0.006000	mg/kg	U
609	19990923	RAD	Thorium-228	3.0a	0.056	0.056	pCi/g	
609*	19990923	RAD	Thorium-230		9.17	9.17	pCi/g	
609	19990923	RAD	Thorium-230		0.0323	0.0323	pCi/g	
609*	19990923	RAD	Thorium-232	3.0a	0.22	0.22	pCi/g	

APPENDIX A, Table 1: PRS 99 Removal Action Verification Results

Sample ID	Sample Date	Class	Analyte	"GV"	Det. Limit /MDA	Result[e]	Unit	LQ
609	19990923	RAD	Thorium-232	3.0a	0.0243	0.0243	pCi/g	
609	19990923	ORVOA	Toluene	2.5E+5	6	0.006000	mg/kg	U
609	19990923	ORVOA	Trichloroethene (ethylene)	1.25E+5	6	0.006000	mg/kg	U
609	19990923	ORVOA	Vinyl Acetate	none	10.565	0.010565	mg/kg	U
609	19990923	ORVOA	Vinyl Chloride	none	10.565	0.010565	mg/kg	U
609	19990923	ORVOA	Xylenes, Total	4.3E+8	6	0.006000	mg/kg	U

LQ: lab qualifier
U: not detected
B: detected in the laboratory blank
J: estimated value

a: As Low As Reasonably Achievable (ALARA) value based on the quantitation limitatons of the onsite screening laboratory
b: Risk-Based Guideline Values, March 1997, Final, Rev 4, Appendix B, Table 4B: 10-6 Risk
c: Value as presented in the "Technical Position Report in Support of the Release Block H Evaluation", Public Review Draft, Rev 2, April 1999 or the August 1997 Residual Risk Evaluation for Release Block H.
d: Risk-Based Guideline Values, March 1997, Final, Rev 4, Appendix B, Table 4B: 10-5 Risk
e: For non-rad results, when the analyte is not detected, the value presented in the result limit. For rad results, the actual activity is presented in the results column unless the activity is below the MDA, in which case the MDA is presented in the result column as the comparable

NOTE: all other guideline values listed are the most restrictive of 10-6 or hazard index=1.

* Analysis performed by onsite gamma spec

Pb^{210} HEAST slope factors account for 2 key daughters, Bi^{210} and Po^{210}, so GV for Pb^{210} can be used to evaluate the daughters.

APPENDIX A, Table 2: PRS 99 Results of Ohio EPA split samples (pCi/g)

Sample ID	Sample Date	Method	Analyte	Result	MDA	ERR	RDL
601	09/23/1999	LSNL, 1986/DOE, 1990	Americium 241	-0.007	0.073	0.036	0.1
601	09/23/1999	EPA-600 7-79-081	Plutonium 238	0.92	0.083	0.17	0.1
601	09/23/1999	EPA-600 7-79-081	Plutonium 239/240	-0.073	0.1	0.048	0.1
601	09/23/1999	LANL, 1986/DOE, 1990	Thorium 228	1.3	0.03	0.14	0.1
601	09/23/1999	LANL, 1986/DOE, 1990	Thorium 230	0.98	0.014	0.1	0.1
601	09/23/1999	LANL, 1986/DOE, 1990	Thorium 232	0.96	0.004	0.12	0.1
601	09/23/1999	EPA, 1980	Actinium 227 Gamma		4.1		
601	09/23/1999	EPA, 1980	Actinium 228 Gamma	1.3	1.2	0.84	
601	09/23/1999	EPA, 1980	Americium 241 Gamma		0.15		
601	09/23/1999	EPA, 1980	Bismuth 207 Gamma		0.1		
601	09/23/1999	EPA, 1980	Bismuth 210M Gamma		0.25		
601	09/23/1999	EPA, 1980	Cesium 134 Gamma		0.11		
601	09/23/1999	EPA, 1980	Cesium 137 Gamma		0.14		
601	09/23/1999	EPA, 1980	Cobalt 60 Gamma		0.13		
601	09/23/1999	EPA, 1980	Lead 212 Gamma	0.94	0.42	0.3	
601	09/23/1999	EPA, 1980	Lead 214 Gamma	0.84	0.38	0.28	
601	09/23/1999	EPA, 1980	Potassium 40 Gamma		4.1		
601	09/23/1999	EPA, 1980	Radium 226 Gamma	1.1	0.27	0.28	
601	09/23/1999	EPA, 1980	Radium 228 Gamma	1.3	1.2	0.84	
601	09/23/1999	EPA, 1980	Thallium 208 Gamma	0.83	0.61	0.44	
601	09/23/1999	EPA, 1980	Thorium 228 Gamma	0.9	0.66	0.48	
601	09/23/1999	EPA, 1980	Thorium 232 Gamma	1.3	1.2	0.84	
601	09/23/1999	EPA, 1980	Uranium 238 Gamma	0.17	3.5	2.1	10
602	09/23/1999	LSNL, 1986/DOE, 1990	Americium 241	0.06	0.07	0.047	0.1
602	09/23/1999	EPA-600 7-79-081	Plutonium 238	26	0.055	3.5	0.1
602	09/23/1999	EPA-600 7-79-081	Plutonium 239/240	0.15	0.068	0.067	0.1
602	09/23/1999	LANL, 1986/DOE, 1990	Thorium 228	1.2	0.35	0.33	0.1
602	09/23/1999	LANL, 1986/DOE, 1990	Thorium 230	1.7	0.087	0.32	0.1
602	09/23/1999	LANL, 1986/DOE, 1990	Thorium 232	1	0.025	0.23	0.1
602	09/23/1999	EPA, 1980	Actinium 227 Gamma		3.2		
602	09/23/1999	EPA, 1980	Americium 241 Gamma		0.098		
602	09/23/1999	EPA, 1980	Bismuth 207 Gamma		0.09		
602	09/23/1999	EPA, 1980	Bismuth 210M Gamma		0.19		
602	09/23/1999	EPA, 1980	Cesium 134 Gamma		0.082		
602	09/23/1999	EPA, 1980	Cesium 137 Gamma		0.092		
602	09/23/1999	EPA, 1980	Cobalt 60 Gamma		0.074		
602	09/23/1999	EPA, 1980	Potassium 40 Gamma		1.7		
602	09/23/1999	EPA, 1980	Radium 226 Gamma	0.078	0.36	0.19	
602	09/23/1999	EPA, 1980	Radium 228 Gamma		0.4		
602	09/23/1999	EPA, 1980	Uranium 238 Gamma		1.1		10
603	09/23/1999	LSNL, 1986/DOE, 1990	Americium 241	0.019	0.047	0.028	0.1
603	09/23/1999	EPA-600 7-79-081	Plutonium 238	6.2	0.038	0.72	0.1
603	09/23/1999	EPA-600 7-79-081	Plutonium 239/240	0.033	0.022	0.021	0.1
603	09/23/1999	LANL, 1986/DOE, 1990	Thorium 228	1.1	0.098	0.16	0.1
603	09/23/1999	LANL, 1986/DOE, 1990	Thorium 230	1.2	0.034	0.16	0.1
603	09/23/1999	LANL, 1986/DOE, 1990	Thorium 232	0.89	0.009	0.14	0.1
603	09/23/1999	EPA, 1980	Actinium 227 Gamma		3.8		
603	09/23/1999	EPA, 1980	Actinium 228 Gamma	1.3	0.98	0.74	
603	09/23/1999	EPA, 1980	Americium 241 Gamma		0.13		
603	09/23/1999	EPA, 1980	Bismuth 207 Gamma		0.081		

APPENDIX A, Table 2: PRS 99 Results of Ohio EPA split samples (pCi/g)

Sample ID	Sample Date	Method	Analyte	Result	MDA	ERR	RDL
603	09/23/1999	EPA, 1980	Bismuth 210M Gamma		0.22		
603	09/23/1999	EPA, 1980	Bismuth 214 Gamma	1	0.4	0.33	
603	09/23/1999	EPA, 1980	Cesium 134 Gamma		0.09		
603	09/23/1999	EPA, 1980	Cesium 137 Gamma		0.12		
603	09/23/1999	EPA, 1980	Cobalt 60 Gamma		0.12		
603	09/23/1999	EPA, 1980	Lead 212 Gamma	1.2	0.37	0.29	
603	09/23/1999	EPA, 1980	Lead 214 Gamma	0.7	0.61	0.41	
603	09/23/1999	EPA, 1980	Potassium 40 Gamma		3.3		
603	09/23/1999	EPA, 1980	Radium 226 Gamma	0.97	0.39	0.32	
603	09/23/1999	EPA, 1980	Radium 228 Gamma	1.3	0.98	0.74	
603	09/23/1999	EPA, 1980	Thallium 208 Gamma	0.94	0.65	0.49	
603	09/23/1999	EPA, 1980	Thorium 228 Gamma	1	0.71	0.53	
603	09/23/1999	EPA, 1980	Thorium 232 Gamma	1.3	0.98	0.74	
603	09/23/1999	EPA, 1980	Uranium 238 Gamma	0.7	2.7	1.7	10
604	09/23/1999	LSNL, 1986/DOE, 1990	Americium 241	-0.006	0.043	0.022	0.1
604	09/23/1999	EPA-600 7-79-081	Plutonium 238	0.057	0.05	0.038	0.1
604	09/23/1999	EPA-600 7-79-081	Plutonium 239/240	-0.014	0.05	0.02	0.1
604	09/23/1999	LANL, 1986/DOE, 1990	Thorium 228	0.92	0.054	0.13	0.1
604	09/23/1999	LANL, 1986/DOE, 1990	Thorium 230	0.95	0.026	0.12	0.1
604	09/23/1999	LANL, 1986/DOE, 1990	Thorium 232	0.68	0.018	0.1	0.1
604	09/23/1999	EPA, 1980	Actinium 227 Gamma		4.3		
604	09/23/1999	EPA, 1980	Americium 241 Gamma		0.13		
604	09/23/1999	EPA, 1980	Bismuth 207 Gamma		0.095		
604	09/23/1999	EPA, 1980	Bismuth 210M Gamma		0.24		
604	09/23/1999	EPA, 1980	Cesium 134 Gamma		0.11		
604	09/23/1999	EPA, 1980	Cesium 137 Gamma	0.12	0.19	0.13	
604	09/23/1999	EPA, 1980	Cobalt 60 Gamma		0.13		
604	09/23/1999	EPA, 1980	Lead 212 Gamma	0.68	0.36	0.25	
604	09/23/1999	EPA, 1980	Lead 214 Gamma	1	0.46	0.35	
604	09/23/1999	EPA, 1980	Potassium 40 Gamma		3.4		
604	09/23/1999	EPA, 1980	Radium 226 Gamma	1.2	0.42	0.37	
604	09/23/1999	EPA, 1980	Radium 228 Gamma		0.66		
604	09/23/1999	EPA, 1980	Uranium 238 Gamma	1.3	2.8	1.8	10
605	09/23/1999	LSNL, 1986/DOE, 1990	Americium 241	0.02	0.035	0.022	0.1
605	09/23/1999	EPA-600 7-79-081	Plutonium 238	1.8	0.033	0.22	0.1
605	09/23/1999	EPA-600 7-79-081	Plutonium 239/240	0.013	0.023	0.015	0.1
605	09/23/1999	LANL, 1986/DOE, 1990	Thorium 228	1.3	0.29	0.38	0.1
605	09/23/1999	LANL, 1986/DOE, 1990	Thorium 230	1.3	0.14	0.33	0.1
605	09/23/1999	LANL, 1986/DOE, 1990	Thorium 232	0.96	0.11	0.28	0.1
605	09/23/1999	EPA, 1980	Actinium 227 Gamma		4.2		
605	09/23/1999	EPA, 1980	Actinium 228 Gamma	0.74	0.7	0.53	
605	09/23/1999	EPA, 1980	Americium 241 Gamma		0.14		
605	09/23/1999	EPA, 1980	Bismuth 207 Gamma		0.1		
605	09/23/1999	EPA, 1980	Bismuth 210M Gamma		0.25		
605	09/23/1999	EPA, 1980	Cesium 134 Gamma		0.099		
605	09/23/1999	EPA, 1980	Cesium 137 Gamma		0.13		
605	09/23/1999	EPA, 1980	Cobalt 60 Gamma		0.11		
605	09/23/1999	EPA, 1980	Lead 212 Gamma	1	0.33	0.25	
605	09/23/1999	EPA, 1980	Lead 214 Gamma	1.1	0.46	0.35	
605	09/23/1999	EPA, 1980	Potassium 40 Gamma		3.5		

APPENDIX A, Table 2: PRS 99 Results of Ohio EPA split samples (pCi/g)

Sample ID	Sample Date	Method	Analyte	Result	MDA	ERR	RDL
605	09/23/1999	EPA, 1980	Radium 226 Gamma	0.9	0.29	0.27	
605	09/23/1999	EPA, 1980	Radium 228 Gamma	0.74	0.7	0.53	
605	09/23/1999	EPA, 1980	Thallium 208 Gamma	0.92	0.6	0.45	
605	09/23/1999	EPA, 1980	Thorium 228 Gamma	1	0.64	0.5	
605	09/23/1999	EPA, 1980	Thorium 232 Gamma	0.74	0.7	0.53	
605	09/23/1999	EPA, 1980	Uranium 235 Gamma	0.32	0.29	0.19	
605	09/23/1999	EPA, 1980	Uranium 238 Gamma	1.2	3.3	2	10
606	09/23/1999	LSNL, 1986/DOE, 1990	Americium 241	0	0.07	0.038	0.1
606	09/23/1999	EPA-600 7-79-081	Plutonium 238	-0.007	0.072	0.037	0.1
606	09/23/1999	EPA-600 7-79-081	Plutonium 239/240	-0.003	0.052	0.025	0.1
606	09/23/1999	LANL, 1986/DOE, 1990	Thorium 228	0.96	0.036	0.11	0.1
606	09/23/1999	LANL, 1986/DOE, 1990	Thorium 230	0.78	0.013	0.084	0.1
606	09/23/1999	LANL, 1986/DOE, 1990	Thorium 232	0.82	0.013	0.1	0.1
606	09/23/1999	EPA, 1980	Actinium 227 Gamma		3.9		
606	09/23/1999	EPA, 1980	Americium 241 Gamma		0.14		
606	09/23/1999	EPA, 1980	Bismuth 207 Gamma		0.096		
606	09/23/1999	EPA, 1980	Bismuth 210M Gamma		0.25		
606	09/23/1999	EPA, 1980	Cesium 134 Gamma		0.11		
606	09/23/1999	EPA, 1980	Cesium 137 Gamma		0.14		
606	09/23/1999	EPA, 1980	Cobalt 60 Gamma		0.13		
606	09/23/1999	EPA, 1980	Lead 212 Gamma	0.84	0.4	0.28	
606	09/23/1999	EPA, 1980	Lead 214 Gamma	0.73	0.45	0.32	
606	09/23/1999	EPA, 1980	Potassium 40 Gamma		3.6		
606	09/23/1999	EPA, 1980	Radium 226 Gamma	0.58	0.51	0.36	
606	09/23/1999	EPA, 1980	Radium 228 Gamma		0.7		
606	09/23/1999	EPA, 1980	Uranium 238 Gamma	0.18	2.2	1.4	10
607	09/23/1999	LSNL, 1986/DOE, 1990	Americium 241	-0.014	0.045	0.021	0.1
607	09/23/1999	EPA-600 7-79-081	Plutonium 238	-0.008	0.082	0.042	0.1
607	09/23/1999	EPA-600 7-79-081	Plutonium 239/240	-0.011	0.058	0.025	0.1
607	09/23/1999	LANL, 1986/DOE, 1990	Thorium 228	0.75	0.042	0.094	0.1
607	09/23/1999	LANL, 1986/DOE, 1990	Thorium 230	0.83	0.011	0.09	0.1
607	09/23/1999	LANL, 1986/DOE, 1990	Thorium 232	0.66	0.004	0.086	0.1
607	09/23/1999	EPA, 1980	Actinium 227 Gamma		3.8		
607	09/23/1999	EPA, 1980	Actinium 228 Gamma	1.2	1.1	0.8	
607	09/23/1999	EPA, 1980	Americium 241 Gamma		0.13		
607	09/23/1999	EPA, 1980	Bismuth 207 Gamma		0.09		
607	09/23/1999	EPA, 1980	Bismuth 210M Gamma		0.24		
607	09/23/1999	EPA, 1980	Cesium 134 Gamma		0.1		
607	09/23/1999	EPA, 1980	Cesium 137 Gamma		0.12		
607	09/23/1999	EPA, 1980	Cobalt 60 Gamma		0.1		
607	09/23/1999	EPA, 1980	Lead 212 Gamma	1	0.42	0.31	
607	09/23/1999	EPA, 1980	Lead 214 Gamma	0.93	0.36	0.29	
607	09/23/1999	EPA, 1980	Potassium 40 Gamma		3.6		
607	09/23/1999	EPA, 1980	Radium 226 Gamma	0.84	0.34	0.28	
607	09/23/1999	EPA, 1980	Radium 228 Gamma	1.2	1.1	0.8	
607	09/23/1999	EPA, 1980	Thorium 232 Gamma	1.2	1.1	0.8	
607	09/23/1999	EPA, 1980	Uranium 238 Gamma	0.78	2.9	1.8	10

ERR= Error
RDL= Requested Detection Limit

APPENDIX B

General Media Information

U.S. Department of Energy

PRS 99 and 100: GH PARKING LOT FACT SHEET

BACKGROUND:

The Guard House (GH) Building and its parking lot (GH Lot) are located on the Main Hill at the Mound Plant. In 1963-64, waste was disposed of in a trench dug next to the GH Lot and was subsequently filled in with soil. Waste reportedly disposed of included 110 gallons of neutralized chromium plating bath solution, three drums of contaminated blasting sand, and metal debris. In the late 1960s, the GH Lot was expanded to its current size, covering the disposal area.

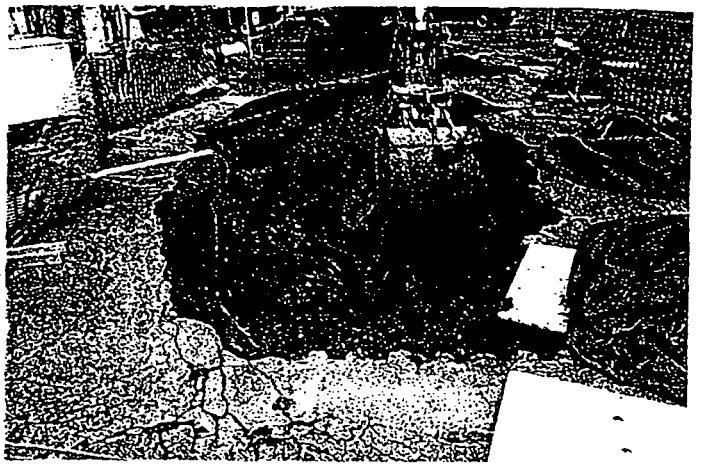
RESOLUTION:

In 1990, a magnetic survey of the GH Lot was performed to identify the location of buried material. Several anomalies (blips caused by a change in magnetic field) were detected.

In February 1999, 137 samples were collected from 46 soil borings across the GH Lot. Statistics were used to decide where most of the borings were placed, and additional borings were added to the center of the anomalies to confirm or deny the presence of waste.

Only one sample had plutonium contaminates in the soil at 106 picoCuries per gram (pCi/gm) versus the guideline value of 55 pCi/gm. It was located in the center of the largest anomaly. All other samples in the other borings (including the other smaller anomalies) showed no sign of contamination or visual indication of waste. Sand and small pieces of metal were also found in the sample, which further identified it as the disposal area.

In August and September 1999, excavation and sampling occurred in and around the area where the Pu^{238}, sand, and metal was found. Excavation continued until all visual indications of waste



Excavation in GH Lot

material were removed. The excavation went down to bedrock and was consistent with the dimensions of the anomaly identified by magnetic survey. Verification samples were collected and the area was backfilled to grade.

Over a dozen drums were found, most contained sand, others were empty. Metal debris including framework, conveyor parts, small pieces of lead, flanges, and piping was also found. A few of the items removed in the excavation were found to have elevated levels of contamination including a piece of metal coated with plutonium contaminated "grease", and a black charcoal-like material found in the bottom of one of the drums was also contaminated with plutonium. They were removed and containerized, pending shipment to a disposal facility.

WORK PROTECTION:

A Radiological Work Permit (RWP) and Health and Safety Plan prescribed standard-of-the-industry protection for the workers specific to task and work area. Those plans were updated as necessary to ensure continued worker safety. Daily meetings with workers were held to emphasize safety and present new or noteworthy tasks and/or hazards associated with activities planned for the day. Radiological surveys, air monitoring, and sampling of soil and debris documented that workers were protected.

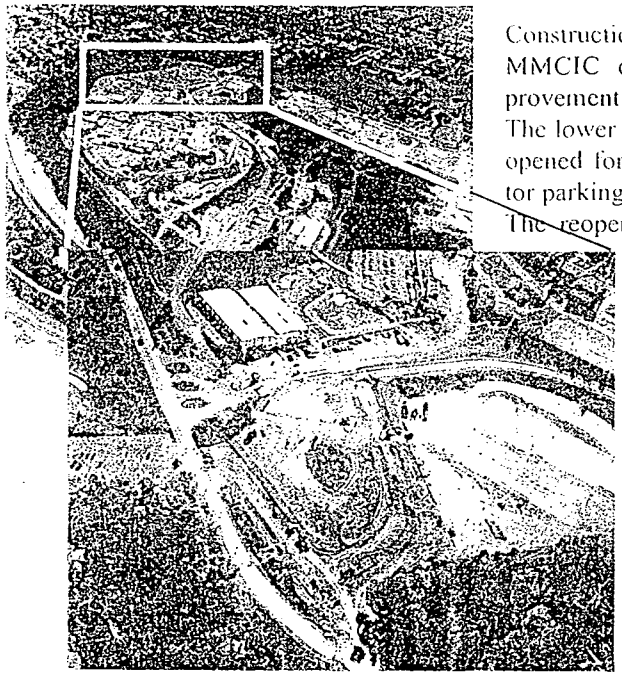
For more information on the types and levels of contamination found, visit our web site at www-doe-md-gov, or call Jane Greenwalt, DOE Public Affairs Officer, at (937) 865-3116.

A publication of the Department of Energy's Miamisburg Environmental Management Project

NEW DIRECTIONS

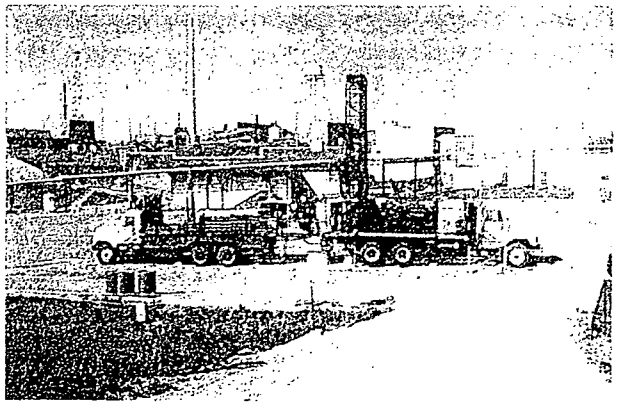
November 1999

Miamisburg Mound Community Improvement Corporation continues construction on the East Boundary Project



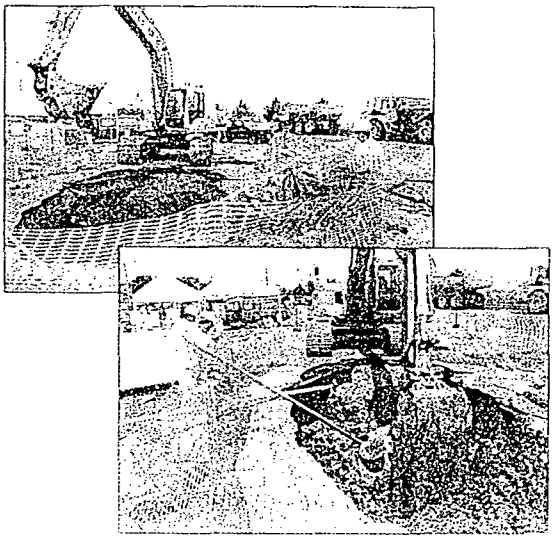
Construction continues by the MMCIC on the capital improvement project for Parcel H. The lower parking lot has been opened for employee and visitor parking in designated areas. The reopening of the parking lot was in response to the need for sampling to begin in PRS 66 where employee parking was located. Construction at Parcel H is scheduled for completion in late 1999.

PRS66 UPDATE



During the October 15, 1999 Mound Reuse Committee meeting, the PRS 66 Sampling Plan was presented for further comment. Rick Provencher, DOE Site Director, MEMP, stated during his update that comments received from stakeholders including EHS, University of Cincinnati, MESH, City of Miamisburg, and NIN had been incorporated into the Sampling Plan. Upon further discussion, it was agreed that revision to one section of the Sampling Plan will continue in parallel with the beginning of PRS 66 sampling which began on October 19, 1999.

Path to the Future



PRS 99/100 "GH Parking Lot"

During the PRS 99/100 project to remove contaminated material in the parking lot, it was decided to follow up drilling samples with trenching to encompass the complete anomaly. Trenches allow for visual inspection of waste areas compared to small samples from drilling. The excavation did in fact locate the earlier suspected waste material. Excavation continued until all waste material located (including metal debris), sand, or dissimilar soils were removed and bedrock was encountered. Verification samples were collected in both the vertical and horizontal directions and the area was backfilled to grade. The waste was containerized and is awaiting shipment to a disposal facility.

A Radiological Work Permit (RWP) and Health and Safety Plan prescribed standard-of-the-industry protection for the workers specific to task and work area. Those plans were updated as necessary to ensure continued worker safety. Daily meetings with workers were held to emphasize safety and present new or noteworthy tasks and/or hazards associated with activities planned for the day. Radiological surveys, air monitoring, and sampling of soil and debris documented that workers were protected.

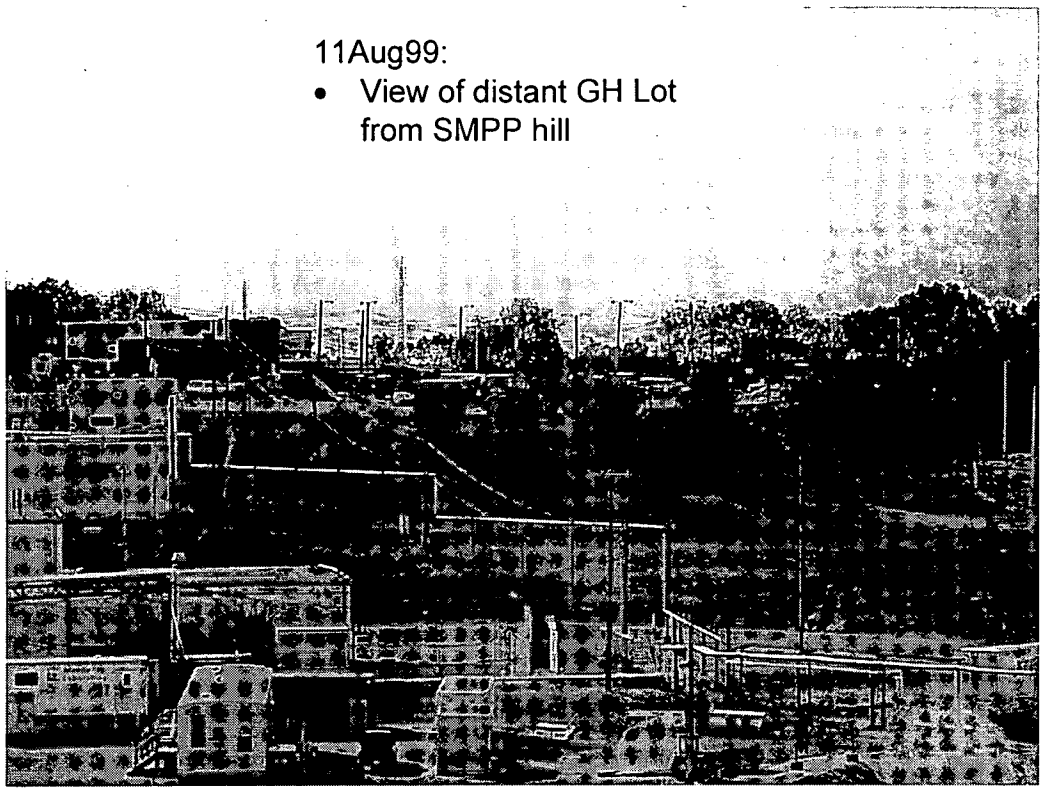
APPENDIX C

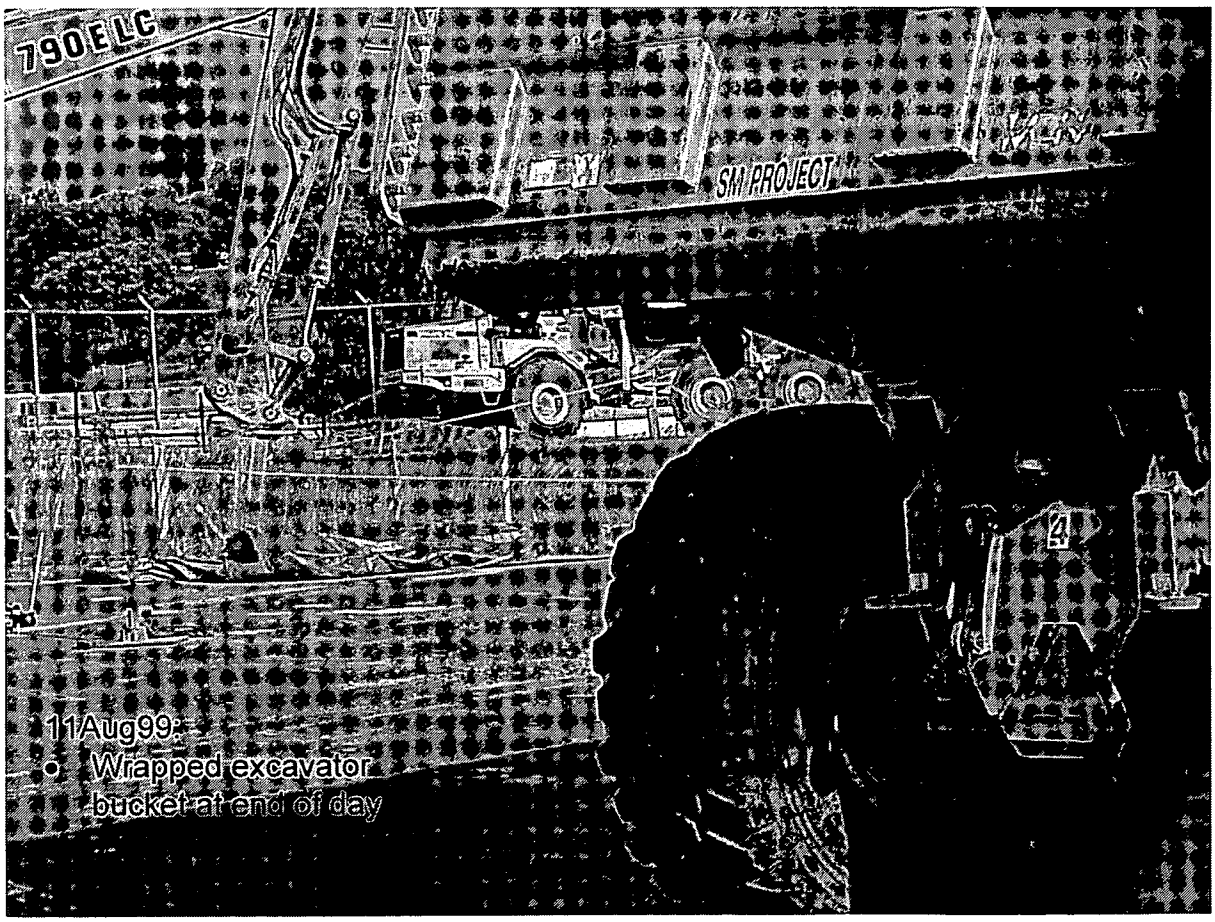
Photograph Documentation

6Aug99: Pre-dig surface of GH Lot, orange hashed area indicates initial excavation area, circled A, B, & C correspond to samples identified in the IWCP.

11Aug99:

- View of distant GH Lot from SMPP hill

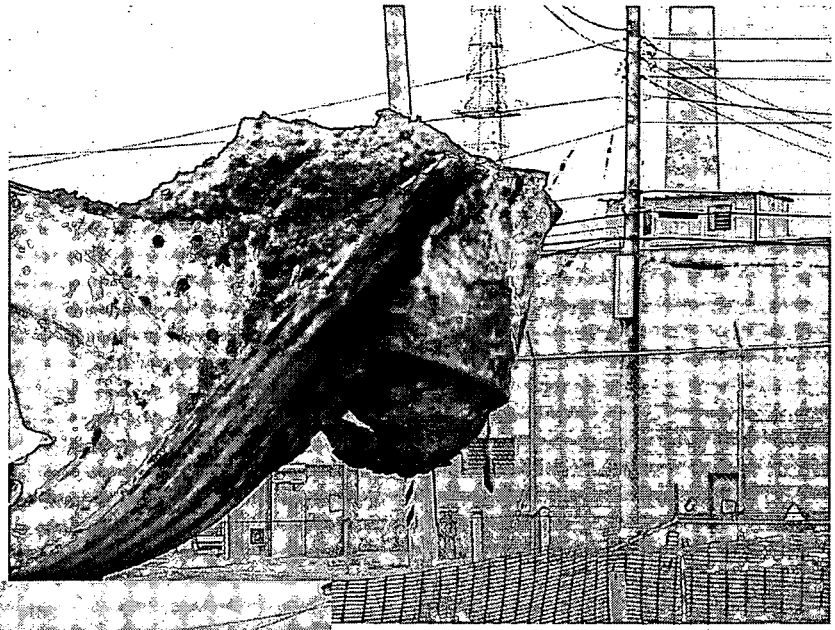


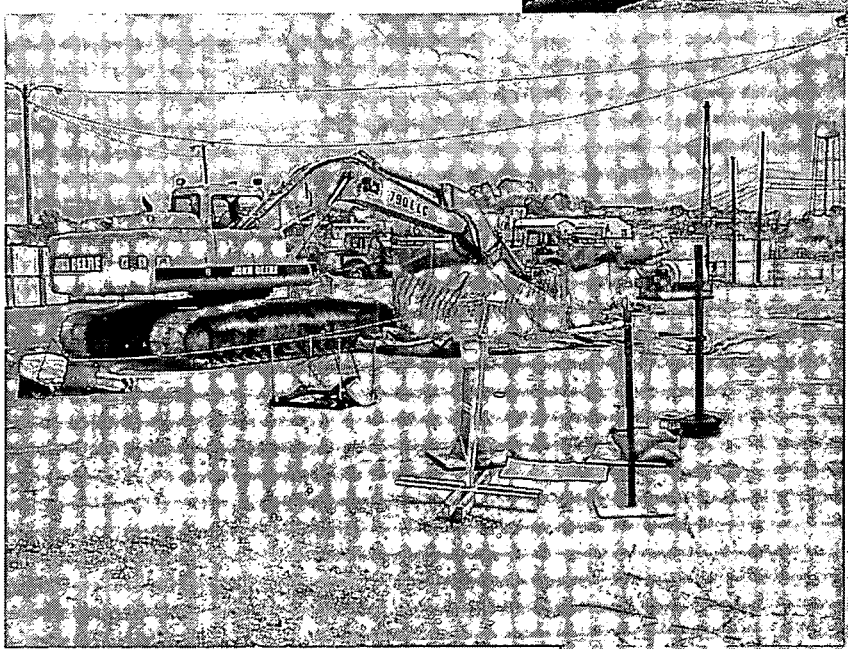


11Aug99:

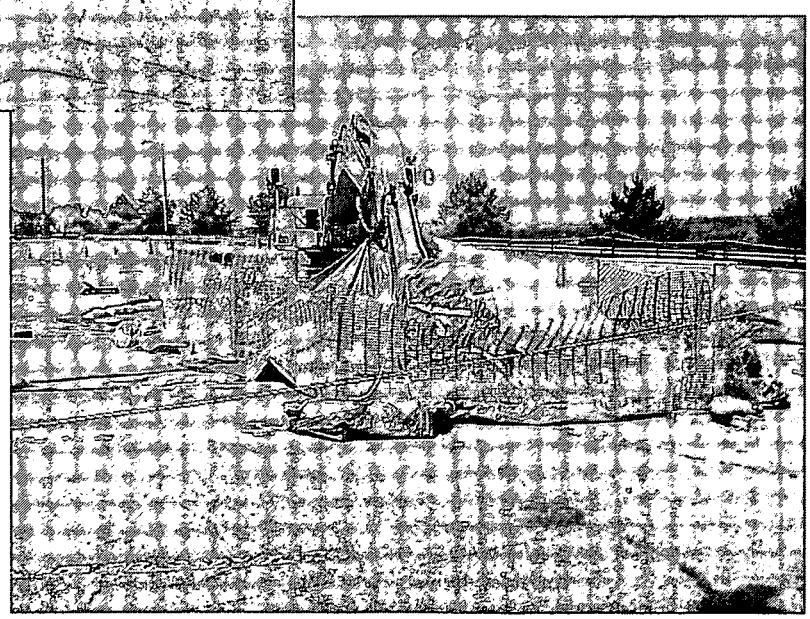
- Wrapped excavator bucket at end of day

13Aug99:
- crumpled drum





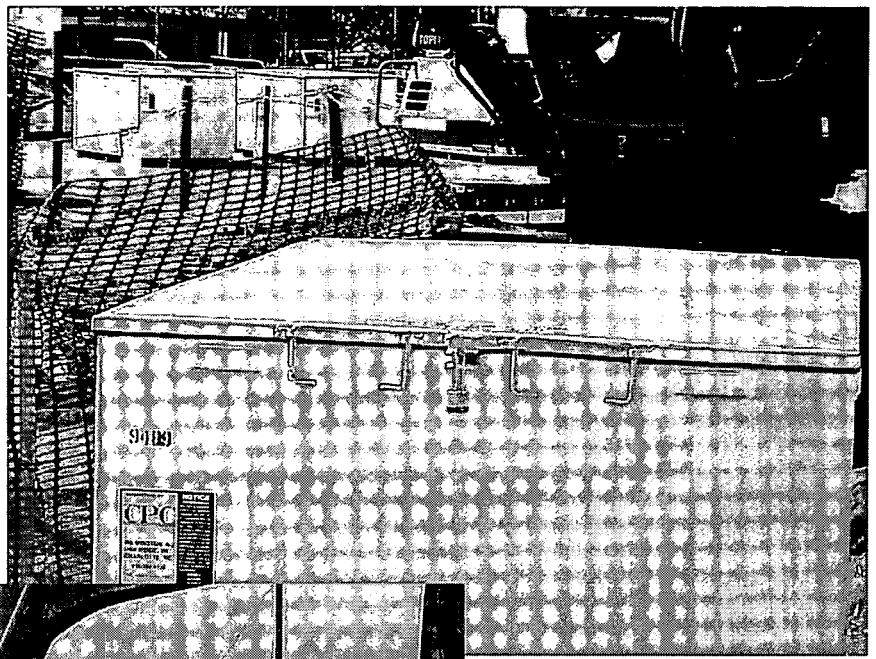
13Aug99:
- Tarp anchored to excavator to allow rainwater to run off of the area
- Supplies in left center photo weighted because of high winds
- Foreground is RadCon area entry/exit point

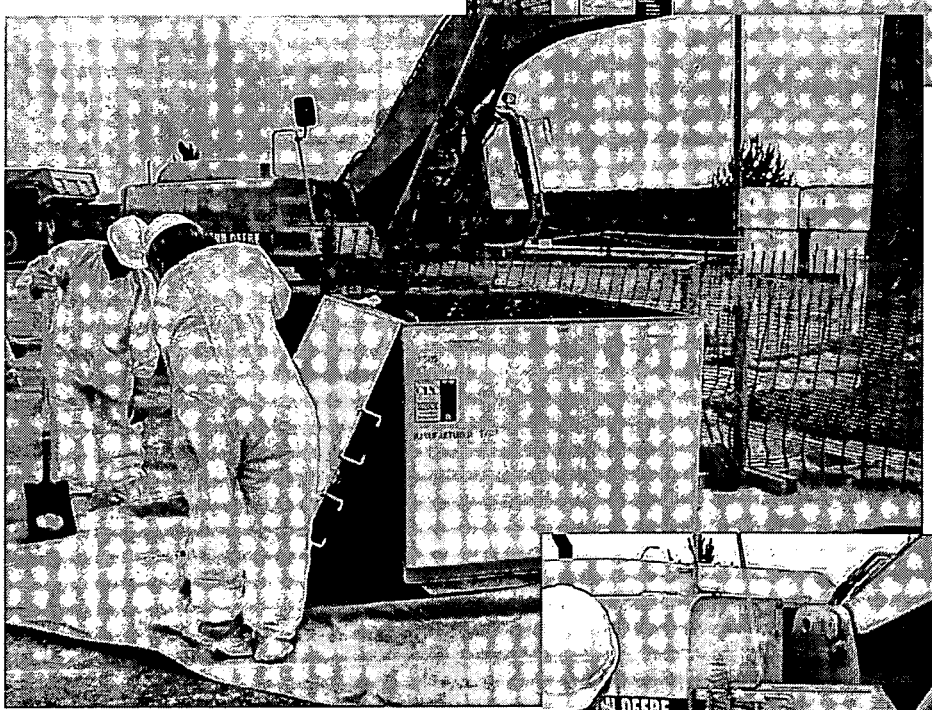


13Aug99:
- End of day excavation covering
- Wrapped bucket

13Aug99:

- Partially-filled LSA box locked during non-work hours



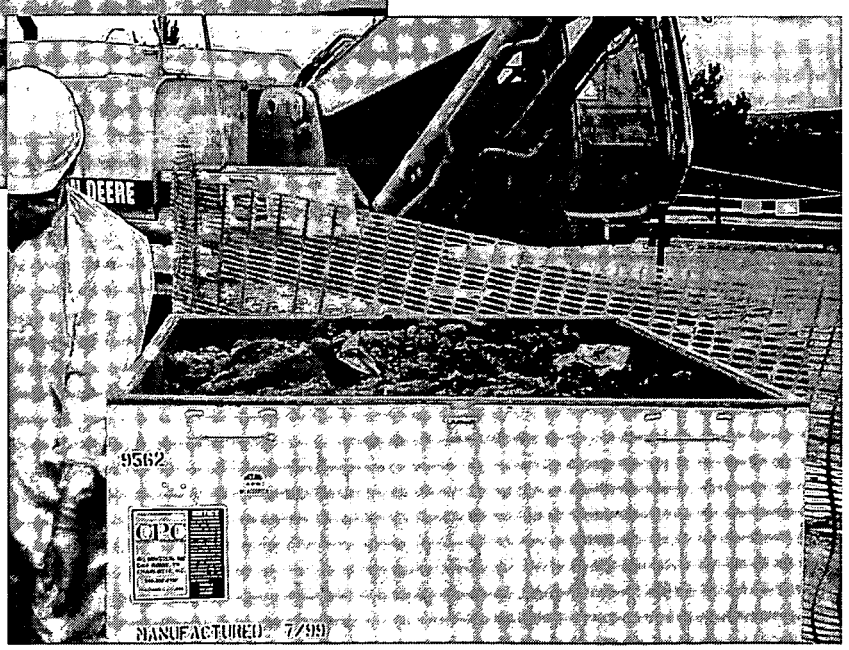


14Aug99:

- Workers cleaning up spilled material
- Required PPE per controlling RWP

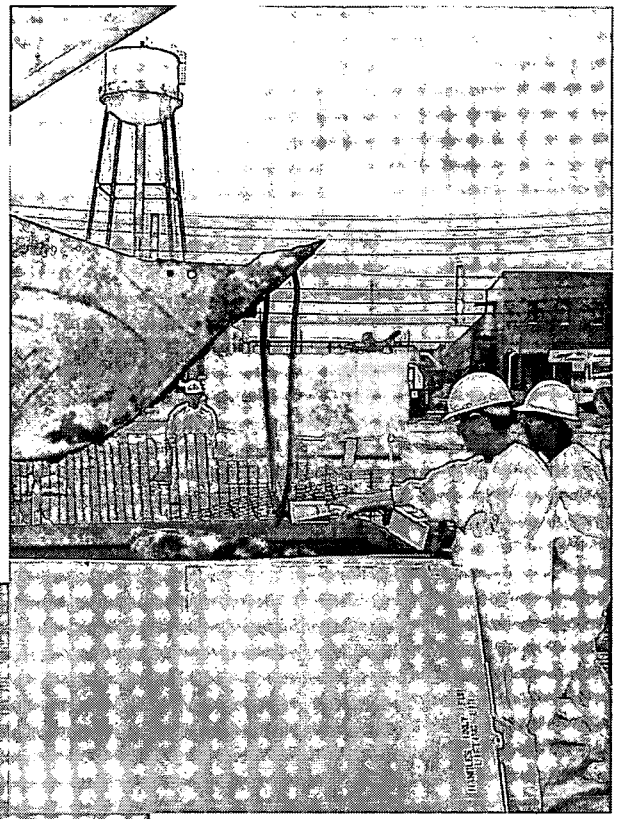
14Aug99:

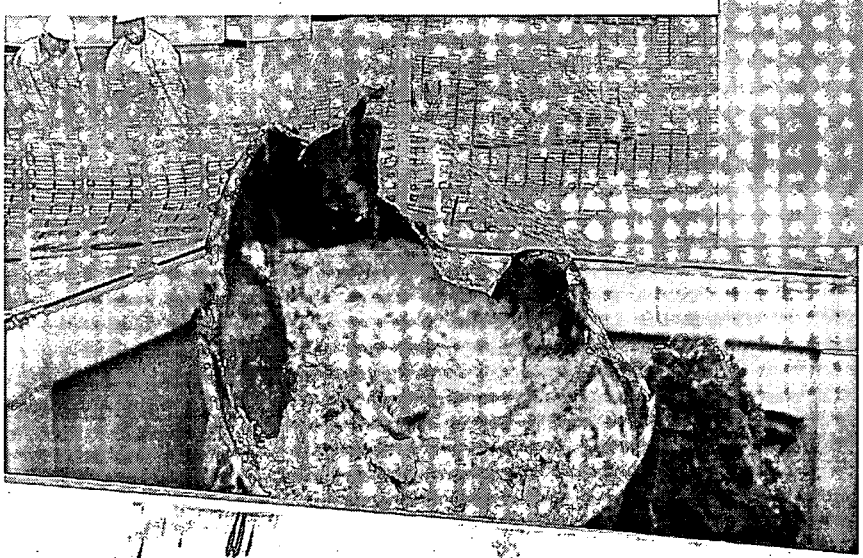
- Orange gloves removed from excavation



14Aug99:

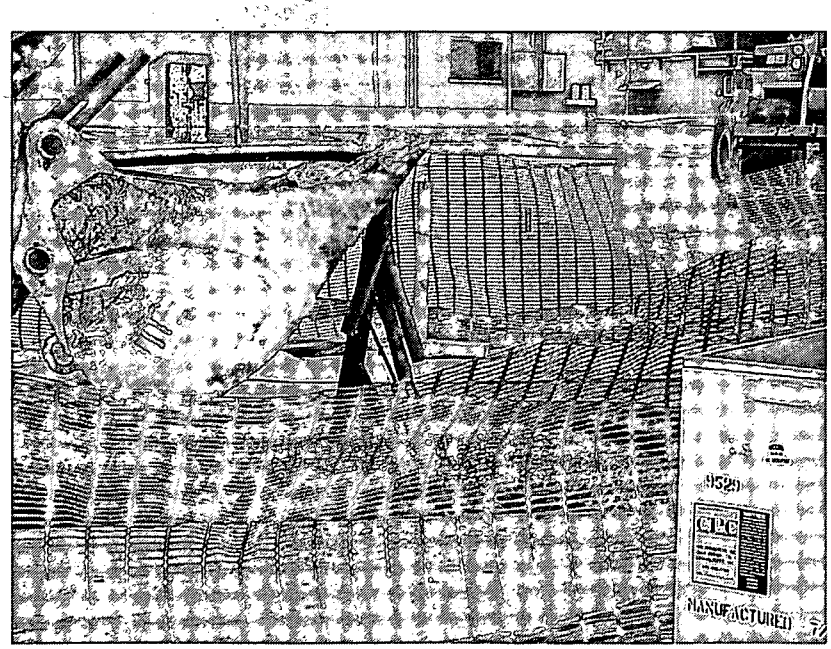
- Piping removed from excavation
- RCTs surveying misc items found



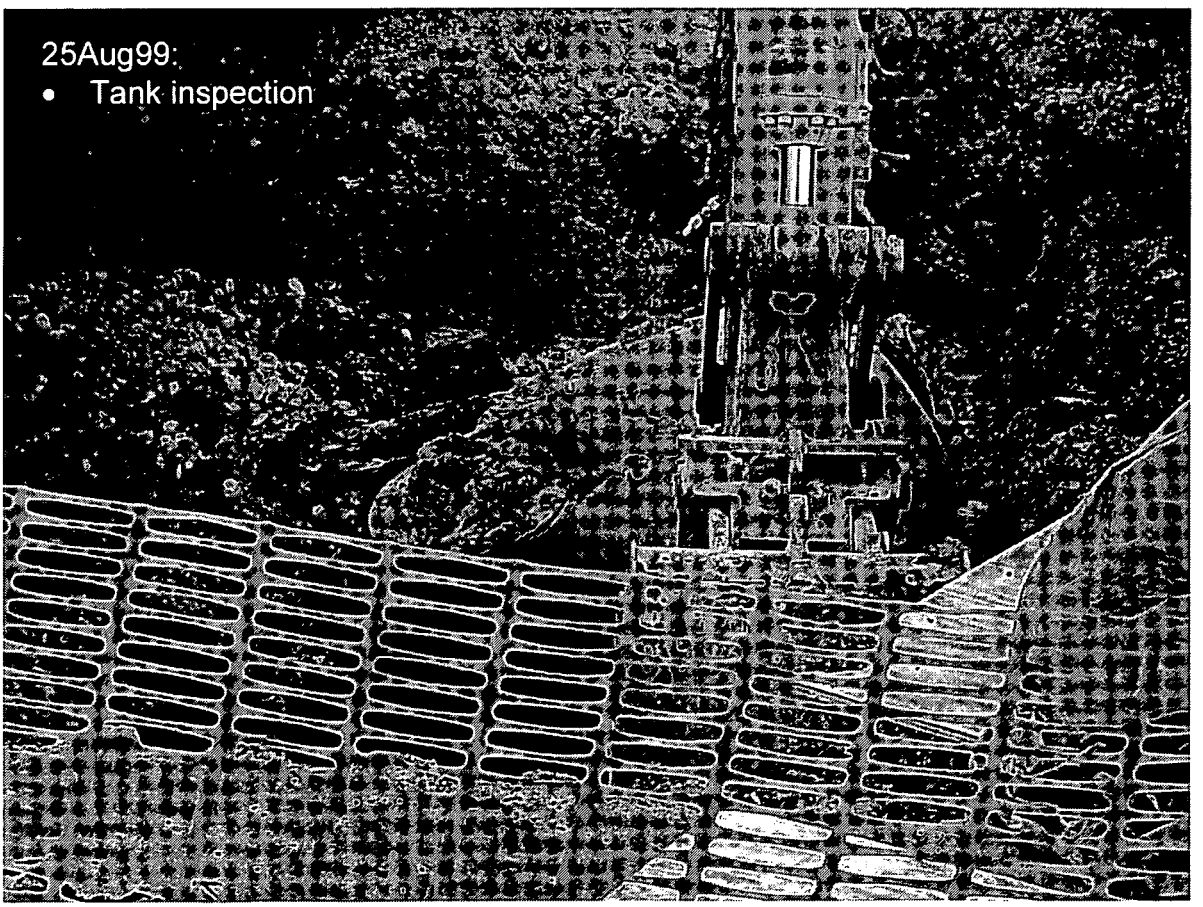


14Aug99:

- Drum containing gray sand and conveyor components as removed from the excavation

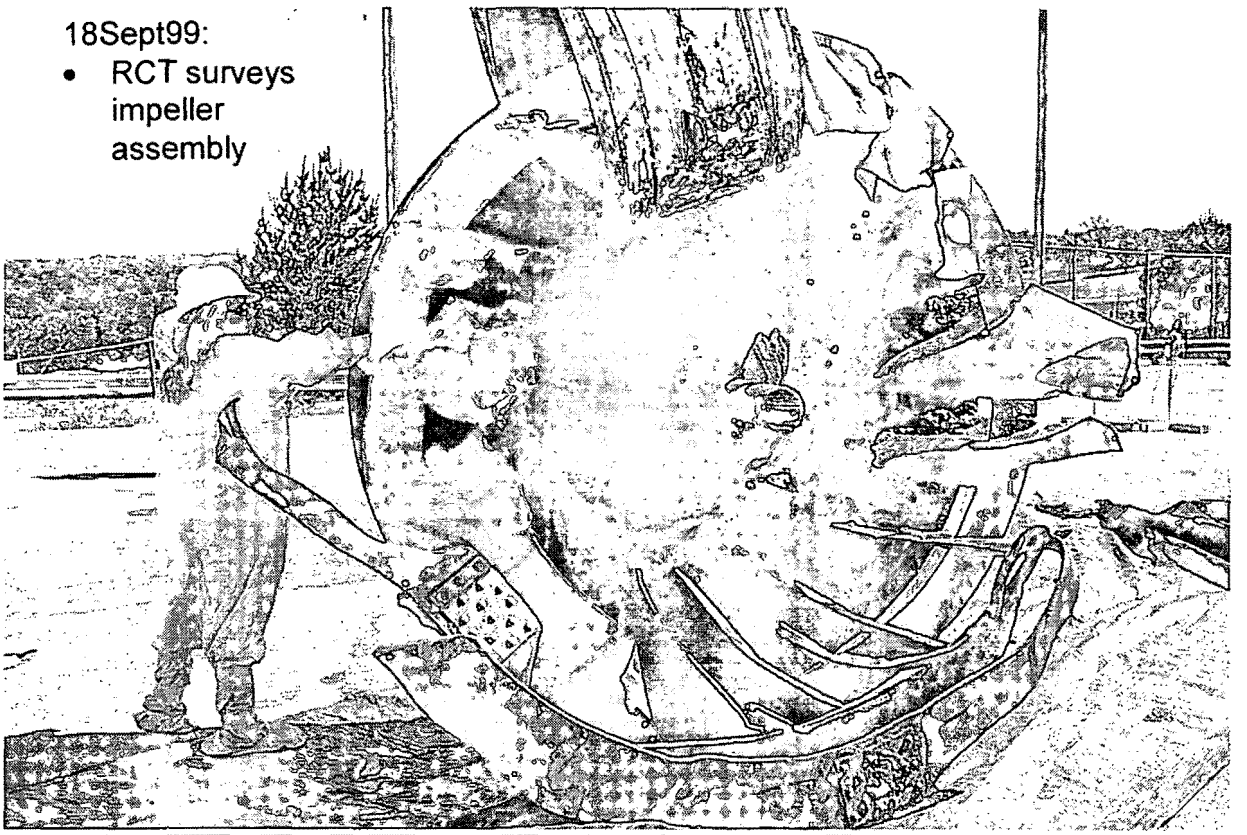


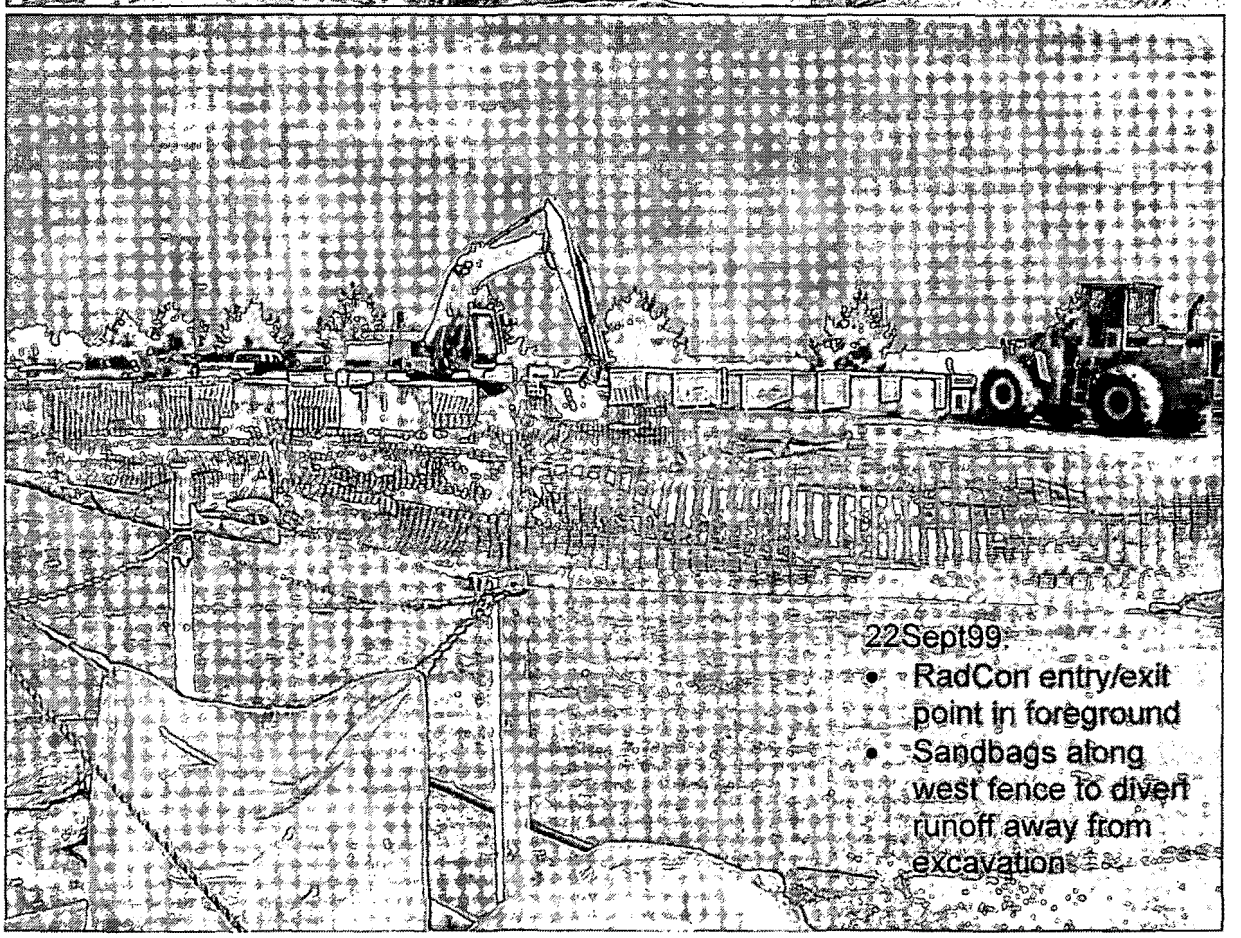
25Aug99
• IH monitoring of tank via long hose
• Tank contained gray sand, no fluids, and was already breached


25Aug99:
• Tank inspection

18Sept99:

- RCT surveys impeller assembly





22Sept99:

- RadCon entry/exit point in foreground
- Sandbags along west fence to divert runoff away from excavation