

OCT 21 1993

ENGINEERING DATA TRANSMITTAL

1. EDT 600835

Station # 12

2. To: (Receiving Organization) Distribution	3. From: (Originating Organization) Environmental Restoration Engineering	4. Related EDT No.: N/A
5. Proj./Prog./Dept./Div.: ERE/81353	6. Cog. Engr.: R. M. Mitchell	7. Purchase Order No.: N/A
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		10. System/Bldg./Facility: N/A
11. Receiver Remarks:		12. Major Asm. Dwg. No.: N/A
		13. Permit/Permit Application No.: N/A
		14. Required Response Date: September 30, 1993



15. DATA TRANSMITTED								
(A) Item No.	(B) Document/Drawing No.	(C) Sheet No.	(D) Rev. No.	(E) Title or Description of Data Transmitted	(F) Impact Level	(G) Reason for Transmittal	(H) Originator Disposition	(I) Receiver Disposition
1	WHC-SD-EN-EE-011		0	Site Characterization Report for the W-049H Project	3 Q	1, 2	1	1

16. KEY					
Impact Level (F)		Reason for Transmittal (G)		Disposition (H) & (I)	
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1	1	Cog. Mgr. R. C. Roos	<i>[Signature]</i>	10/11/93	H6-04	IRA Clearance (2)	<i>[Signature]</i>	10/11/93	H4-17	3	
1	1	QA R. L. Hand	<i>[Signature]</i>	10/14/93	H4-16	Central Files (2)	<i>[Signature]</i>	10/14/93	L8-04	3	
		Safety									
		Env.									
1	1	M. C. Carrigan	<i>[Signature]</i>	10/11/93	R3-35	(6)					
3		S. A. Richey	<i>[Signature]</i>		E6-25						

18. Signature of EDT Originator <i>[Signature]</i> Date: 10/7/93	19. Authorized Representative for Receiving Organization Date: _____	20. Cognizant/Project Engineer's Manager R. C. Roos <i>[Signature]</i> Date: 10/11/93	21. DOE APPROVAL (if required) Ltr. No. <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/comments <input type="checkbox"/> Disapproved w/comments
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Title Site Characterization Report for the W-049H Project	Unclassified Category UC-N/A	Impact Level 3Q
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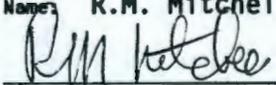
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7. Abstract <p>This site characterization report summarizes the field efforts associated with the field monitoring and sample collection and evaluation of soils associated with the proposed pipeline route for liquid effluents in the 200 East and 200 West Area.</p> <p>Mitchell, R.M., 1993, <i>Site Characterization Report for the W-049H Project</i>, WHC-SD-EN-EE-011, Rev. 0, Westinghouse Hanford Company, Richland, Washington.</p>		
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9. Impact Level 3Q		

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1.0 INTRODUCTION

The primary objective of this task was to provide characterization data using field screening techniques and to sample the soil at selected locations along the proposed pipeline routes of Project W-049H. The key issues centered around the location and extent of possible contamination along the proposed routes. The results of this investigation were to be used for the following primary purposes: 1) To help ensure adequate safety planning for personnel engaged in the construction of the pipeline system, 2) To aid in the verification that the final routes selected avoided known contaminated areas to the greatest extent practical, and finally 3) To provide documentation which could be utilized by project management to determine those areas which could reasonably be assigned to off-site contractor construction crews. The overall purpose of the W-049H and related projects is to discontinue the disposal of contaminated liquids into the Hanford soil column as described in DOE (1987). Detailed information regarding proposed pipeline routes, along with associated maps, was provided by Kaiser Engineers Hanford (KEH) (KEH 1992).

The work was conducted in accordance with the Site Characterization Plan (Mitchell, 1992) and consisted of a two-phase investigation. Prior to initiation of field activities, a detailed review of the Waste Information Data System (WIDS) and facility drawing was conducted to determine the locations of documented underground and surface contamination areas (see Appendix A, Mitchell 1992). Phase I field activities consisted of an on-site walk-through of the proposed routes in the 200 and 600 Areas. The observers were looking for areas of surface contamination, unknown underground structures, problems with site access and electrical utilities, potential worker health and safety problems, and selection of borehole sites. The results of this effort were detailed in a letter report dated June 29, 1992.

Phase II involved the development of appropriate safety documentation and the actual drilling of boreholes to allow field screening for radionuclide and chemical contamination and the collection of samples at selected sites for laboratory analyses.

2.0 SAMPLE LOCATIONS

Soil sample locations were selected at points along the proposed pipeline route which crossed or were adjacent to potential areas of concern (i.e., enclosed process lines, cribs, trenches, septic tanks, tile fields, and ditches). The location of all sample points was field-verified with Ground Penetrating Radar (GPR) to ensure that the locations of underground obstacles were adequately identified. To ensure personnel safety, a minimum distance of 8.5 ft. from all known obstacles was utilized to locate the borehole site. The following site descriptions have been summarized from the Hazardous Waste Operations Plan (HWOP). The depth indicated for each borehole is below existing surface levels. Borehole locations in the 200 West Area are shown in Figure 1 and 200 East Area borehole locations are shown in Figure 2.

2.1 200 WEST BOREHOLE LOCATIONS

2.1.1 Soil Boring A-4 (N42462,W74010)

This soil boring is located on an existing road, approximately 20 ft north of the existing train tracks and 10 ft from an encasement.
Depth = 5 ft.

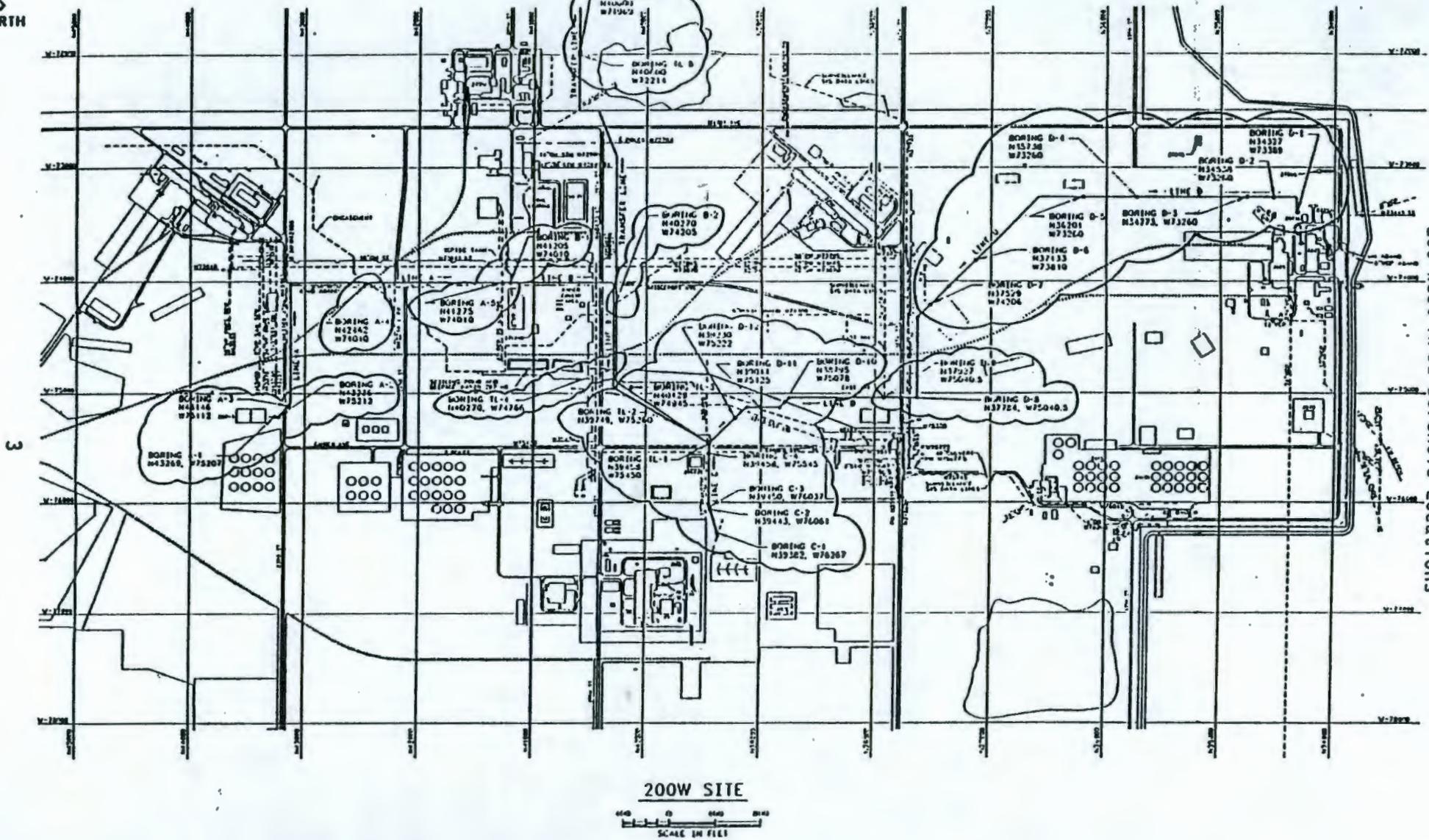
2.1.2 Soil Boring A-5 (N41275,W74010)

This soil boring is located on Bridgeport Avenue, 5 ft south of an underground 42-in. diameter radiological clay pipe process sewer, and 25 ft north of an underground pipe originating from the 2607-WL septic tank.
Depth = 10 ft.

2.1.3 Line B - Septic Tank 2607WL to Lift Station

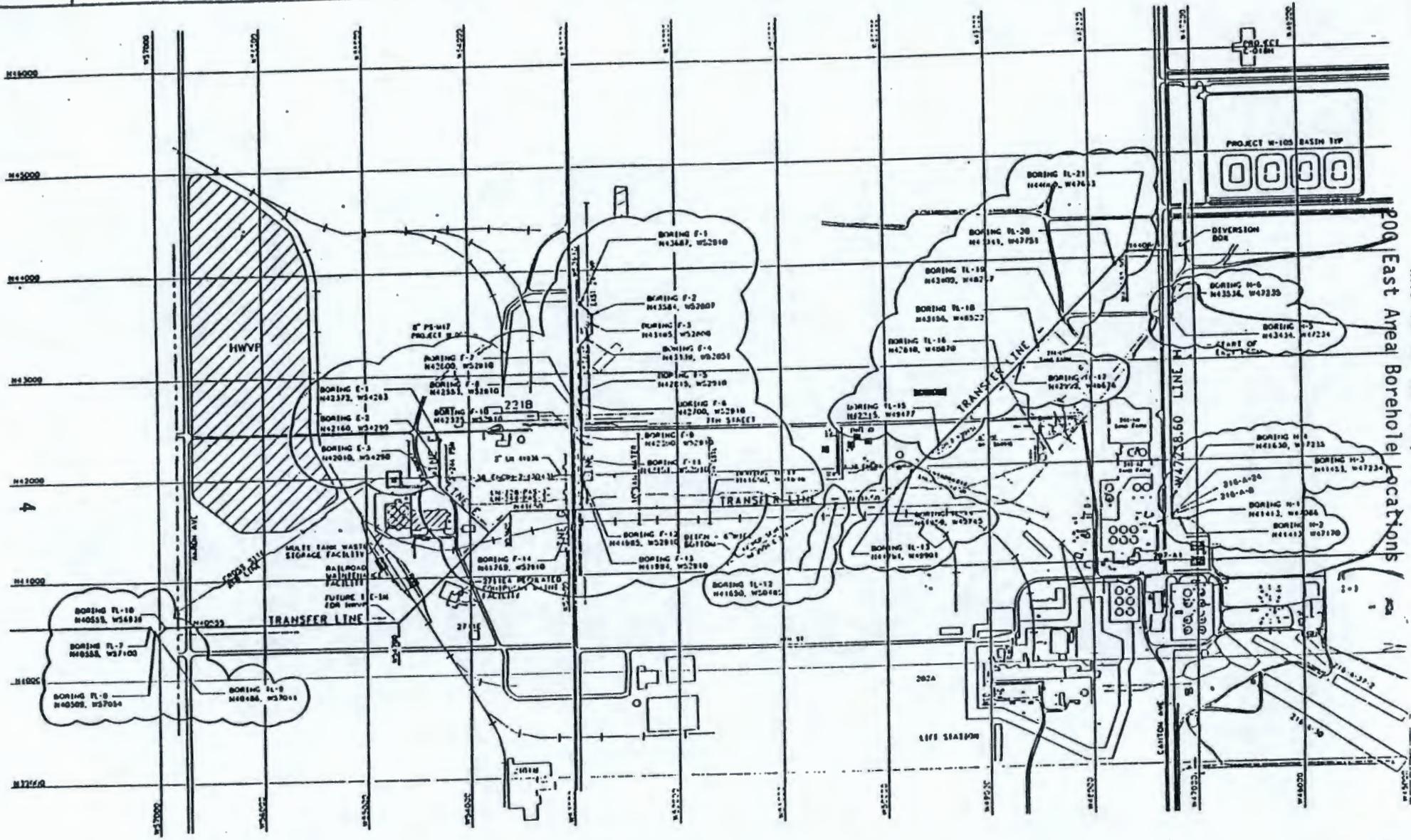
2.1.3.1 Soil Boring B-1 (N41205,W74010). This soil boring is located approximately 50 ft west of the 2607WL septic tank and 75 ft east of the adjoining septic tile field and is approximately 3 ft east of Bridgeport Avenue. The soil boring is located approximately 5 ft north of an underground vitrified clay pipe originating from the septic tank and directed towards the tile field towards the west. Depth = 5 ft.

2.1.3.2 Soil Boring B-2 (N40270,W74205). This soil boring is located approximately 195 ft east of Bridgeport Avenue and 120 ft south of 19th Street. An underground encased process line is located 10 ft east and is approximately 9 ft bls. Depth = 6 ft.



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200 West Area Borehole Locations

Figure 1. 200 West Area Borehole Locations



200 East Area Borehole Locations
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Figure 2. 200 East Area Borehole Locations

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2.1.4 Line C - Existing MH #8 to Lift Station

2.1.4.1 Soil Boring C-1 (n39382,276267). This soil boring is located approximately 25 ft northeast of existing MH #8, 5 ft north of two underground utility lines, 40 ft south of an existing road, and 100 ft south of the 216-Z Carbon Tetrachloride disposal site. Depth = 12.5 ft.

2.1.4.2 Soil Boring C-2 (n39443,W76061). This soil boring is located approximately 50 yards southeast of the Carbon Tetrachloride site (241-Z), 10 ft east of a 12-in. corrugated iron pipe. This inactive pipe carried Z Plant storm drain water to the 216-Z-11 ditch, and there is a small potential for minor contamination at the pipe. Depth = 9 ft.

2.1.4.3 Soil Boring C-3 (N39450,W76037). This soil boring is located approximately 25 ft northeast of boring C-2 and 25 ft southwest of existing manhole number 1. According to the historical review, the line crosses the backfilled inactive 216-Z-1D ditch at this boring, where significant radiological contamination has been found in the past. Depth = 8 ft.

2.1.4.4 Soil Boring C-4 (N39458,W75545). This soil boring is located approximately 60 ft southeast of the 207-Z basin, 10 ft west of an existing underground line. Depth = 5 ft.

2.1.5 Line D - "S" Plant to Lift Station

2.1.5.1 Soil Boring D-1 (N34327,W73389). This soil boring is located approximately 190 ft east of the 222 S-plant, 25 ft northwest of the 216-S20 crib. The ground is level and will not require grubbing. Two underground utility lines are located nearby; one 2-in.-diameter steel pipe, approximately 4 ft deep, is located 11 ft west, and one unknown utility, approximately 3 ft deep, is located 10 ft east. Depth = 5 ft.

2.1.5.2 Soil Boring D-2 (N34538,W73260). This soil boring is located approximately 75 ft west of the 216-S22 crib. A 4-in. vitrified clay pipe approximately 5 ft deep is located 5 ft south. This pipe appears to discharge into the 216-S22 crib from "S"-Plant. Depth = 5 ft.

2.1.5.3 Soil Boring D-3 (N34773,W73260). This soil boring is located approximately 235 ft north of soil boring D-2. An unknown utility is located 5 ft south and is approximately 5 ft deep. Depth = 5 ft.

2.1.5.4 Soil Boring D-4 (N35738,W73260). This soil boring is located approximately 10 ft south of an asphalt road. An unknown utility is located 5 ft south and is approximately 3 ft deep. Some underground debris detected by GPR is located 14 ft south of the soil boring. Depth = 5 ft.

2.1.5.5 Soil Boring D-5 (N36201,W73260). This soil boring is located 43 ft west of the 216-U12 crib. No underground utilities have been detected by GPR and overhead utilities are not located in the area. Depth = 5 ft.

2.1.5.6 Soil Boring D-6 (N37133,W73810). This soil boring is located 10 ft southeast of an underground radiological utility line which is approximately 4 ft deep. Radiological postings on nearby line vent caps have identified the underground line. Depth = 5 ft.

2.1.5.7 Soil Boring D-7 (N35729,W74206). This soil boring is located approximately 40 ft northeast of a posted underground radiological control area (216-U-16). Groundwater monitoring well 299-W19-13 is located 32 ft southeast. Depth = 5 ft.

2.1.5.8 Soil Boring D-8 (N37784,W75040.5). This soil boring is located approximately 15 ft north of 16th Street. A surveillance data line is located 10 ft south and is approximately 3 ft deep. Depth = 5 ft.

2.1.5.9 Soil Boring D-9 (N37927,W75040.5). This soil boring is located 8 ft north of an existing manhole wand which to have received effluent from U plant and discharged into the 207-U basin. Depth = 9 ft.

2.1.5.10 Soil Boring D-10 (N38800,W75083). This soil boring is located in the middle of the 216-U-14 ditch. The 216-U-14 ditch has received significant contaminants over the years, but this crossing point is hundreds of ft upstream from the point where significant radioactive waste entered from the 207-U Basin. Depth = 10 ft.

2.1.5.11 Soil Boring D-11 (N39011,W75125). This soil boring is located 100 ft west of the 216-U-14 trench and approximately 100 yards east of Camden Avenue. An underground radiological piping encasement is located 10 ft to the west. Depth = 5 ft.

2.1.5.12 Soil Boring D-12 (N39230,W75222). This soil boring is located 100 ft northwest of boring D-11. Two 3-in. stainless steel lines exist 10 ft to the west of the boring. Depth = 5 ft.

2.1.6 Transfer Line - Lift Station to 216-W-LWC crib

2.1.6.1 Soil Boring TL-1 (N39458,W754450). This soil boring is located at the proposed collection sump/lift station. The site is approximately 25 ft east of Camden Road and 150 ft southeast of the 216-Z-21 crib. A shallow ditch is located adjacent to the road which may make access slightly difficult. An underground sanitary water line is located 22 ft north (approximately 5 ft deep) and a surveillance system data line is located 19 ft west (approximately 3 ft deep). Depth = 25 ft.

2.1.6.2 Soil Boring TL-2 (N39749,W75269). This soil boring is located approximately 350 ft northeast of the lift station. An unknown underground utility (potential cathodic protection) is located 15 ft north (5 ft deep) and some partially buried concrete debris is located 15 ft east. Depth = 7 ft.

2.1.6.3 Soil Boring TL-3 (N40129,W74945). This soil boring is located approximately 260 ft south of 19th Street and 555 ft east of Camden Road. A 12-in. sanitary water line is located 26 ft north (5 ft deep). Depth = 5 ft.

2.1.6.4 Soil Boring TL-4 (N40270,W74766). This soil boring is located in the center of the 216-U-14 ditch, which is posted as an underground radiation control area. The site is approximately 135 ft south of 19th Street. Depth = 8 ft.

2.1.6.5 Soil Boring TL-5 (N40600,W72214). This soil boring is located 436 ft east of Beloit, 200 ft north of an active ash pit, and approximately 50 ft south of the 216-W-LWC crib. Depth = 5 ft.

2.1.6.6 Soil Boring TL-6 (N40600,W71969). This soil boring is located 245 ft east of soil boring TL-5. The same conditions for the TL-5 boring apply to TL-6. Depth = 5 ft.

2.2 200 EAST BOREHOLE LOCATIONS

2.2.1 Line E - "B" Plant

2.2.1.1 Soil Boring E-1 (N42372,W54283). This soil boring is located approximately 16 ft west of 221-BF, south of 7th Street. Overhead electrical lines are located 20 ft north and 20 ft west. An unknown underground utility is located 11 ft east. Depth = 7 ft.

2.2.1.2 Soil Boring E-2 (N42160,W54209). This soil boring is located 5 ft north of an abandoned wood line, and 7 ft west and 2 ft north of a concrete pad. Depth = 7 ft.

2.2.1.3 Soil Boring E-3 (N42010,W54209). This soil boring is located approximately 10 ft north of an encasement. GPR did not locate this line but did detect suspected underground electrical lines utilized for vehicle charging 28 ft north. Depth = 7 ft.

2.2.1.4 Soil Boring E-4. This site was added in the field and is located approximately 30 ft south of E-3. Depth = 7 ft.

2.2.3 Line F - "B" Tank Farm to Transfer Line

2.2.3.1 Soil Boring F-1 (N43687,W52910). This soil boring is located at the collection sump at the north end of "F" line. Depth = 19 ft.

2.2.3.2 Soil Boring F-2 (N43584,W52807). This soil boring is located 10 ft northwest of a suspect underground utility, possibly routed from the 216-B-5 Reverse Well and settling tank to the 216-B-9 crib, both posted as radiological control areas. This line was visible by GPR for a short distance and was located 7 ft deep. Depth = 6 ft.

2.2.3.3 Soil Boring F-3 (N43485,W52800). This soil boring is located 10 ft south and 8 ft east of an underground utility, suspected to originate from the 216-B-5 reverse well. Depth = 6 ft.

2.2.3.4 Soil Boring F-4 (N43339,W52851). This soil boring is located 10 ft southwest of an unknown underground utility 2 ft in depth. Depth = 6 ft.

2.2.3.5 Soil Boring F-5 (N42815,W52910). This soil boring is located 50 ft west of a posted underground encasement (E-57) which is routed parallel to the sewer line. GPR did not detect underground utilities within the area. Depth = 6 ft.

2.2.3.6 Soil Boring F-6 (N42700,W52910). This soil boring is located 20 ft east of an underground utility which is routed parallel to the sewer line. Depth = 6 ft.

2.2.3.7 Soil Boring F-11 (N42151,W52910). This soil boring is located 5 ft south of an abandoned wood line. An underground sanitary and raw water line is routed parallel to the sewer line approximately 20 ft west and was detected by GPR methods. Depth = 6 ft.

2.2.3.8 Soil Boring F-12 (N41985,W52910). This soil boring is located 5 ft south of a 3-in. schedule 10 pipeline (H2-61969). A raw water and sanitary line exists 20 ft west. Depth = 6 ft.

2.2.3.9 Soil Boring F-13 (N41948,W52910). This soil boring is located 10 ft south of the H-2-43043 encasement. Depth = 6 ft.

2.2.3.10 Soil Boring F-14 (N41769,W52910). This soil boring is located 8.5 ft north of a 2 line encasement. Depth = 6 ft.

2.2.4 Line H - "A" Farm

2.2.4.1 Soil Boring H-1 (N41413,W47086). This soil boring is located north of the 207-A cribs, posted as a Surface Contamination Area, 8.5 ft north of the 200 East perimeter fence line. The boring is located approximately 5 ft west of an unknown underground utility, 25 ft west of an overhead utility pole stabilization cable. A diversion box is located approximately 50 ft north. Depth = 6 ft.

2.2.4.2 Soil Boring H-2 (N41413,W47086). This soil boring is located 9 ft north of the perimeter fence line, north of the 207-A cribs. The area does not have any nearby underground utilities as determined by GPR. A local underground object is located approximately 45 ft west. Depth = 8 ft.

2.2.4.3 Soil Boring H-3 (N41453,W47234). This soil boring is located between two underground utilities (5 ft deep), 6 ft north and 6 ft south. The boring is 6 ft west of the perimeter fence line. Depth = 9 ft.

2.2.4.4 Soil Boring H-4 (N41530,W47235). This soil boring is located 21 ft east of a septic tile field, 7 ft west of the perimeter fence line. GPR did not reveal underground utilities within the area. Depth = 6 ft.

2.2.4.5 Soil Boring H-5 (N43434,W47234). This soil boring is located 6 ft north of a 30-in. corrugated metal pipe. GPR detected only the 30-in. pipe, located approximately 5 ft deep. The boring is located 7 ft west of the perimeter fence line. Depth = 9 ft.

2.2.4.6 Soil Boring H-6 (N43536,W47235). This soil boring is located approximately 10 ft north of an 18-in. vitrified clay pipe potentially originating from 241-C Farm. GPR did not detect this line, which is located approximately 5 ft deep. Depth = 9 ft.

2.2.5 200 East Area Transfer Line

2.2.5.1 Soil Boring TL-7 (N40555,W57100). This soil boring is located on the angle point where field changes relocated the proposed pipeline approximately 90 ft south to avoid a posted underground radiological zone. This boring is located approximately 50 ft northwest of the Cross-Site Transfer Line which is a 6 line encasement used to transfer high level waste between 200 East and 200 West. Depth = 6 ft.

2.2.5.2 Soil Boring TL-8 (N40509,W67054). This soil boring is located 10 ft northwest of the Cross-Site Transfer Line. Depth = 6 ft.

2.2.5.3 Soil Boring TL-9 (N57041,W40486). This soil boring exhibits the same characteristics as TL-7. The boring is located 10 ft east of the Transfer Line. The actual boring location is offset 3 ft northeast from the proposed pipeline based on existing underground utilities. An underground water line, approximately 4 ft in depth, is located 7 ft north. Depth = 6 ft.

2.2.5.4 Soil Boring TL-10 (N40555,W56939). This soil boring is located approximately 100 ft east of the transfer line at an angle point for the proposed pipeline. Depth = 6 ft.

2.2.5.5 Soil Boring TL-11 (N41650,W51696). This soil boring is located 5 ft west of a 2-line, 4-in. carbon steel encasement. Depth = 8 ft.

2.2.5.6 Soil Boring TL-12 (N41650,W50485). This soil boring is located 5 ft west of an underground utility, visible via the open ditch located south of this location. Overburden from the ditch excavation is located adjacent to this boring. Depth = 6 ft.

2.2.5.7 Soil Boring TL-13 (N41791,W49901). This soil boring is located 5 ft north of the Interplant Transfer Line. GPR identified the line to be located approximately 6 ft bls. The area is located southeast of the "hot semi" plant. Depth = 6 ft.

2.2.5.8 Soil Boring TL-14 (N41959,W49745). This soil boring is located between two 3-in. encased lines 17 ft east of the line riser-split (TR-7-AR, TR-8-AR). The boring will be located midway between the split, approximately 9 ft north and south of these lines. Depth = 6 ft.

2.2.5.9 Soil Boring TL-15 (N42215,W49477). This soil boring is located southwest of an unknown underground line detected by GPR. An underground water line is located 28 ft northeast. Depth = 8 ft.

2.2.5.10 Soil Boring TL-16 (N42810,W48870). This soil boring is located southeast of "C" Tank Farm on a gravel access road. The boring is located 14 ft north of an underground utility suspected to be an encasement based on nearby riser pipes. Depth = 6 ft.

2.2.5.11 Soil Boring TL-17 (N42999,W48676). This soil boring is located 18 ft northwest of groundwater well 299-E27-12, 20 ft east of overhead electrical lines, and 10 ft southwest of the "C" Farm fence line. Underground utilities were not detected via GPR within 50 ft of this location. Depth = 6 ft.

2.2.5.12 Soil Boring TL-18 (N43156,W48522). This soil boring is located 30 ft northeast of groundwater well 299-E27-12, 20 ft east of overhead electrical utilities, and 10 ft northwest of the "C" Farm fence line. A groundwater purge tank is located 13 ft south of this boring. Depth = 7 ft.

2.2.5.13 Soil Boring TL-19 (N43409,W48267). This soil boring is located northwest of "C" Farm at a four-way gravel road intersection. Depth = 7 ft.

2.2.5.14 Soil Boring TL-20 (N43941,W47751). This soil boring is located 13 ft northeast of a 24-in. vinyl plastic underground line. This line has been designated as an underground radiological posting. Depth = 12 ft.

2.2.5.15 Soil Boring TL-21 (N44060,W47633). This soil boring is located at the angle point northeast of TL-20. The boring is located 92 ft south of an underground radiological pipeline. Depth = 8 ft.

3.0 SAMPLING AND FIELD ACTIVITIES

A total of 52 borehole locations (26 each from 200 West and 200 East Areas) were finally selected for investigation based on their proximity to a known or suspected waste site or structure. Field work was initiated July 27, 1992 and completed on August 19, 1992. All procedures, policies, and Environmental Investigation Instructions (EII) outlined in the Site Characterization Plan, the Radiation Work Plan, and the HWOP were adhered to and followed accordingly.

Following a tailgate safety meeting at the initiation of each day's field work, the proposed site was cleaned and grubbed to remove combustible materials when necessary. The waste operations zone was set up and a hollow-stem auger rig positioned over the selected location.

Before drilling began monitoring for radioactivity was conducted at each location using a GM with a P-11 probe and a portable alpha meter, organic vapors were monitored for with a photo-ionization detector, and O₂ levels were measured. As the auger was advanced, additional readings for radioactivity and organic constituents were taken at each foot below the surface until the required depth was reached. Observations of the soil characteristics such as wetness, dryness, amount of cobble, and color were noted where appropriate.

At locations designated by the Field Team Leader (FTL), samples were collected from the auger cuttings or by using a split-spoon sampler. Samples were placed in pre-cleaned bottles labeled with the appropriate sample number and other information, prepared for shipping, and placed in appropriately cooled containers.

Following completion of the investigation, the borehole was filled with the remaining auger cuttings, the drilling equipment was decontaminated, and site barriers were removed.

4.0 RESULTS

A total of 52 boreholes, 26 in 200 West Area and 26 in 200 East Area, were completed for this project during July and August 1992. A summary of the site locations is provided in Section 2.0. Three proposed sites in 200 West were deleted (A1, A2, A3) due to a decision by T-Plant personnel not to extend the pipeline to the 207-T retention basin. One site (E4) was added along the line south of B-Plant to provide additional information on this area.

Four sites (F7, F8, F9, F10) located east of B-Plant were deleted from the scope of this project. These sites were to have been characterized during the siting of the L-005 Waterline Project, but this portion of the project was abandoned. Internal guidance from Kaiser safety personnel has indicated the need for taking conservative measures during excavation to ensure worker health and safety. These measures would include, but are not limited to, additional soil screening during the initial excavation, halting work if contaminants are encountered, evaluating the data obtained, and ensuring that employees are adequately trained and qualified to perform these duties within potential hazardous areas.

During the course of the investigation, all values obtained for radioactivity at the borehole locations and to the indicated depth were less than detectable levels. Additionally, all detected values for organic vapor monitoring were below any action levels related to worker health or safety. Although occasional readings were observed in the 1-2 ppm range, these were usually attributable to environmental conditions (i.e., wet soil, heat from auger and weather, or instrument variability) and were not continuous over the sampling period.

Collection of soil samples was designed to be conducted with a split-tube core sampler driven to depth through the hollow-stem auger. At a number of locations this method was not successful due to soil conditions such as the presence of coarse-grained, cobbly material which would not stay in the sampler or prevented soil from collecting in the sampler due to blockage. Because of extreme weather conditions, the finer soils became "powder-dry" due to lack of moisture and would not remain in the sampler when removed from the borehole. An attempt was made to remove the dry material by adding deionized water to the borehole to induce soil adhesion and compaction. This was not successful because of the time required to saturate the soil; this method was abandoned. Therefore, to expedite sampling where the split tube sampler would not work or observations of soil characteristics indicated it would not be successful, the auger cuttings deposited on the surface from the required depth were collected for analyses.

Site specific information related to the activities conducted at each borehole location, detailed information on monitoring and sampling efforts, and pictorial documentation of the borehole sites are contained in the Project Logbook (EFL-1030). Table 1 provides a summary of the sample collection information. A total of 15 samples were collected and submitted for laboratory analyses of radionuclide and chemical constituents. Three of these (2 duplicates and 1 equipment blank) were collected and submitted for QA purposes. Locations of the sample sites are provided in Figures 3 and 4.

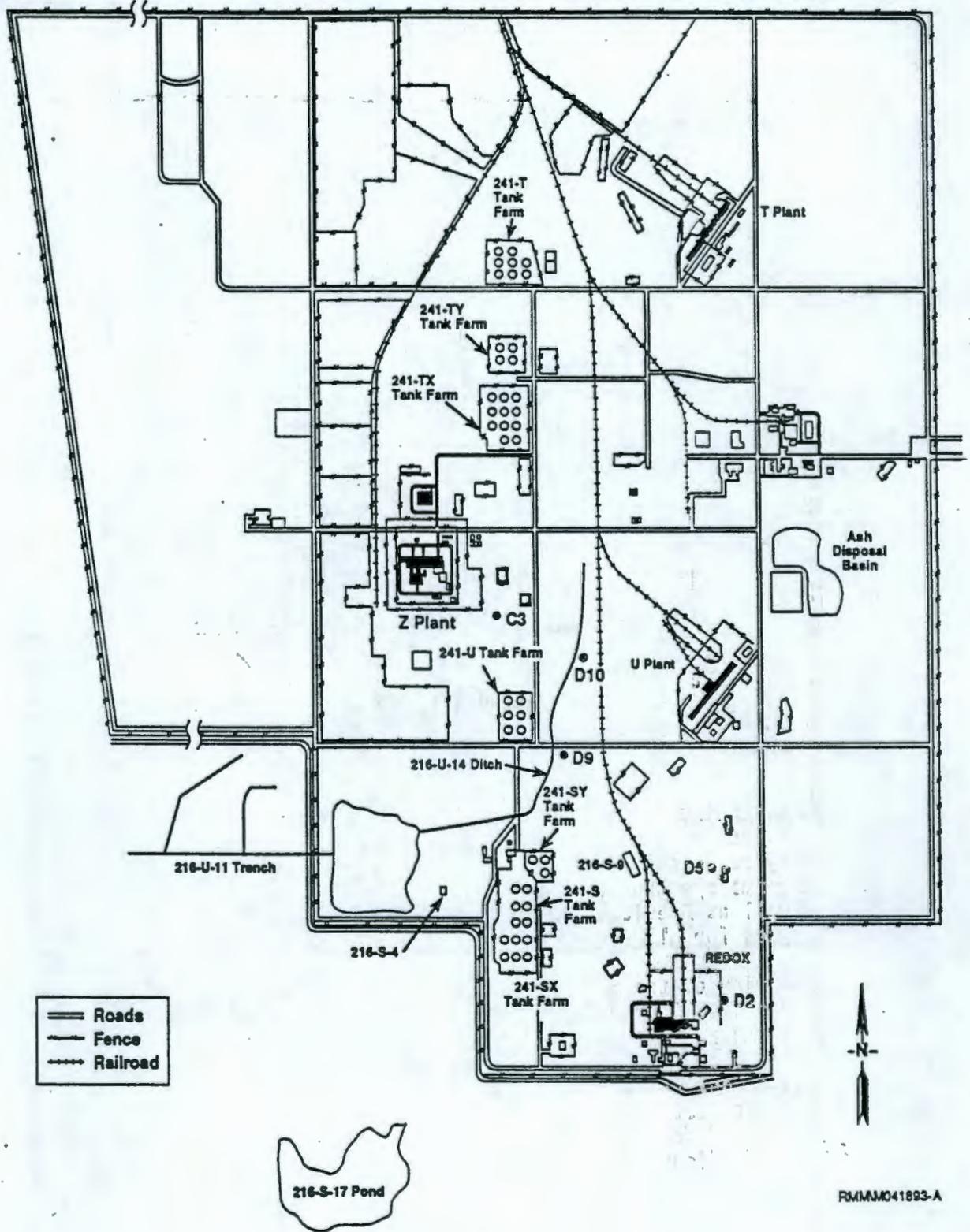
Table 1. W-049H Sampling Summary.

Date	Area	Sample Site	Sample Number	Sample Type
7/27	200W	D2	B073B2	Soil
7/28	200W	D5	B073B3	Soil
7/29	200W	D9	B073B4	Soil
8/6	200W	C3	B073B5	Soil
8/10	200W	D10	B073B6	Soil
8/12	200E	F12	B073B7	Soil
8/12	200E	F12	B073B8	Duplicate
8/12	200E	F3	B073B9	Soil
8/13	200E	-	B073C0	Eqpt. Blank
8/13	200E	H6	B073C1	Soil
8/14	200E	H5	B073C2	Soil
8/17	200E	H2	B073C3	Soil
8/18	200E	TL15	B073C4	Soil
8/18	200E	TL15	B073C5	Duplicate
8/19	200E	TL8	B073C6	Soil

A screening analysis for total radioactivity (total activity) indicated values of less than 50 pCi/gm for each sample, which is within off-site laboratory restrictions. Radionuclide specific analyses were also conducted for the gamma spectrum (included Cs-137, Bi-214, Ac-228, Pb-212, Bi-214, Ra-226) as well as Americium, Plutonium, Uranium, and Strontium. The results of the analyses for all samples received are included in Appendix A.

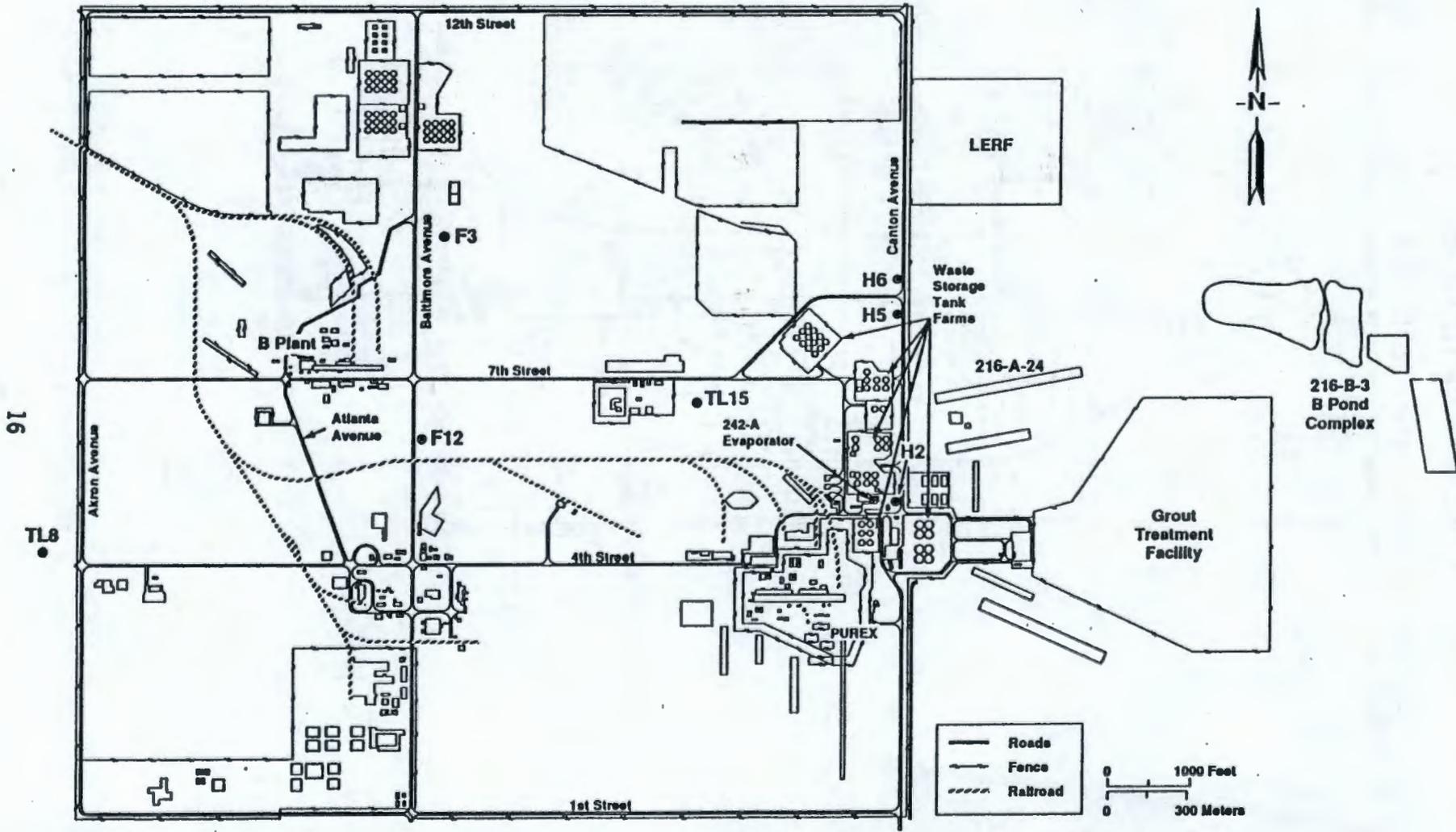
A review of the radionuclide values reported indicated that they verify and substantiate the accuracy of field screening results. The vast majority of the values reported for Cs-137, Sr-90, plutonium and uranium were less than a picocurie and in some cases two or three orders of magnitude less than one. Two sites demonstrated values which exceeded these levels. Site H5 (Figure 4), along the eastern fence line of the 200 East Area, had values for ¹³⁷Cs of 2.13 pCi/gm and for ⁹⁰Sr of 1.93 pCi/gm. This area has often been implicated in elevated radionuclide levels due to blowing tumbleweeds which collect along the fence line.

Figure 3. Locations of Sample Points D2, D9, D10, and C3 in 200 West Area.



RMMMO41893-A

Figure 4. Locations of Sample Points TL8, F12, F3, TL15, H2, H5, and H6 in 200 East Area



Site B6, in the 200 West Area (Figure 3), was located within the 216-U-14 ditch. Elevated sample levels were expected in this area, but the values were relatively low at 7.63 pCi/gm for ^{137}Cs , 2.9 pCi/gm for ^{90}Sr , and 1.69 pCi/gm for total plutonium. Elevated values for uranium were also expected but were very low ($6.27\text{E}-6$ g/g.). No values were reported which exceed environmental control levels or could be expected to pose any health and safety concerns. Additionally, all values reported fall within the ranges reported for environmental and operating facilities within the 200 Areas in the WHC annual environmental surveillance report (WHC 1992).

Appendix B contains the laboratory results for analyses sent to an off-site laboratory including volatile organic compounds, semi-volatile compounds, organic pesticides, and inorganic constituents such as metals, anions, pH, etc. A review of these values and comparison with proposed sitewide background values for the Hanford site indicated the organic constituents were at or below detection levels with the exception of the value for 2-hexanone at sample point D5 (Figure 3), reported at 110 ppm.

The values reported for inorganic constituents were less than the site-wide background values for Hanford, with the exception of slightly elevated (>2.1 ppm) silver levels at the following seven sites: D5, C3, D10, F12, F3, TL8, and H6 (Figures 3 and 4). The broad distribution of these values for silver in the East and West Areas appears to be an indication that the proposed threshold value (2.1 ppm) is possibly too low rather than any indication of a widespread problem, especially since silver values have been detected in natural systems at levels as high as 14.1 ppm at Hanford.

A single copper value (30.6 ppm) at site H6 (Figure 4) was slightly above the Hanford background threshold value of 30 ppm.

A review of the organic values reported for the collected samples indicated that the laboratory analyses verify the accuracy of the field screening results. The vast majority of values reported were at or near detection levels for organic constituents, with the exception of the 2-hexanone value at D5.

The values reported for inorganic constituents were all within acceptable threshold levels. The slightly elevated levels noted above for silver and copper do not represent an immediate health concern.

None of the values reported for organic and inorganic constituents could be expected to pose an immediate concern or threat to health and safety or the environment. Additionally, the responsible health and safety personnel during pipeline construction should utilize the data generated by this study to develop safety guidelines which will ensure the protection and safety of all personnel involved in pipeline construction.

5.0 CONCLUSIONS

Based on the results of the field characterization efforts and analytical data received to date, some general conclusions can be made regarding the W-049H pipeline route as currently configured. However, it must be stated that these conclusions are based on a total of 56 sample points collected over a length of 5 to 6 miles of pipeline route. Therefore, while the data collected represent a good "snapshot" of conditions where the most significant problems were expected, sampling methods by their very design cannot provide detailed information on every aspect of the designated route. "Surprises" during construction can occur and should probably be expected within the 200 Areas where 50 years of waste operations activities, changing environmental conditions, and current cleanup operations affect these sites on a daily basis. The conclusions reached to date include the following items. The numbers indicated in parentheses represent the primary purposes delineated in the Introduction that each finding supports.

- Based on the monitoring by field instruments, radionuclide contamination is not widespread, outside known waste sites, along the proposed route (1,2,3).
- The laboratory analytical data corroborate the above findings and verify the accuracy of the field instrument surveys (1,2,3).
- Monitoring data from field instruments for organic vapors indicated that chemical contaminants with a volatile organic component are not widespread (1,2,3).
- The laboratory analytical data corroborate the above findings and verify the accuracy of the field instrument surveys (1,2,3).
- Data from a single borehole which indicates a lack of contamination at or near a known site would not be construed to mean that the site is currently free of contamination (1,2,3).
- There should be limited (minimal) potential for contamination at the proposed pipeline's depth outside a 9 to 10 ft radius from identified structures where boreholes were completed. (This radius is based on the calculated "safe" distance from the underground structures as determined by GPR surveys, which varied for each borehole) (1,2,3).
- The above statement is an extrapolation of evidence from previous studies on the Hanford Site that indicate that most leaks, spills, etc., move through our sandy soils in a roughly spherical pattern. Localized soil anomalies, however, could be expected to affect this process (1,2).

- The borehole location represents only one of the four compass points around any particular underground facility. This should be kept in mind during construction planning; the construction approach to the structure should be located on the same side as the borehole (2,3).
- Comprehensive health and safety guidelines should be delineated for workers included in construction activities, with special consideration given to any and all areas around the boreholes investigated during this study, or to any other underground structures or utilities (1,2,3).
- Any of the above conclusions can be obviated by anomalous conditions not encountered during the characterization study, by ongoing or new construction or operational activities which may impact the proposed route, and by constantly changing environmental conditions which could affect the movement of contaminants away from the waste site during the period from finalization of this characterization effort to completion of the pipeline construction (1,2,3).

6.0 REFERENCES

- DOE, 1987, *Plan and Schedule to Discontinue Disposal of Contaminated Liquids Into the Soil Column at the Hanford Site*, DOE-0065, U.S. Department of Energy, Richland, Washington.
- EPA, 1986, *Test Methods for Evaluating Solid Waste*, SW-846, 3rd Edition, EPA/Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency, Washington, D.C.
- KEH, 1992, *200 Area Treated Effluent Disposal Facility Phase II Advanced Conceptual Design Optimization of Pipeline Routing W049HLR4*, SD-W049-HER-003, Rev. 0B, Kaiser Engineers Hanford, Richland, Washington.
- Mitchell, R. M., 1992, *Site Characterization Plan for the W-049H Project*, WHC-SD-EN-AP-093, Westinghouse Hanford Company, Richland, Washington.
- WHC, 1989, *Environmental Investigations and Site Characterization Manual*, WHC-CM-7-7, Westinghouse Hanford Company, Richland, Washington.
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APPENDIX A

Radionuclide Analyses Results for Soil Samples

SAMPLE STATUS REPORT FOR E 4023. E-BLANK B073B2 TIME: 9/14/92 15: 3
 DISPATCHED: 7/27/92 12:49 SAMPLE HAS NOT BEEN SLURPED
 RECEIVED: 7/27/92 15: 6

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	*****	*****	***	***	*****
1181	Am-SOIL	< 8.40000E-01 pCi/gDRYwt	N	Y	A6CDR
2172	GEA-SOIL	9.03E-1 +-1.81E-1 PCI/G AC-228			A6CDR
2172	GEA-SOIL	6.00E-2 +-3.22E-1 PCI/G BI-212			A6CDR
2172	GEA-SOIL	6.04E-1 +-9.95E-2 PCI/G BI-214			A6CDR
2172	GEA-SOIL	1.92E-1 +-5.38E-2 PCI/G CS-137			A6CDR
2172	GEA-SOIL	1.49E+1 +-1.21E+0 PCI/G K-40			A6CDR
2172	GEA-SOIL	7.80E-1 +-1.65E-1 PCI/G PB-212			A6CDR
2172	GEA-SOIL	6.11E-1 +-1.22E-1 PCI/G PB-214			A6CDR
2172	GEA-SOIL	3.14E-1 +-5.15E-2 PCI/G TL-208			A6CDR
3461	Pu-SOIL	< 4.20000E-01 pCi/gDRYwt	N	Y	A6CDR
3872	Sr-SOIL	7.27000E-01 pCi/gDRYwt	N	Y	A6CDR
4271	TOT-ACT	< 5.00000E 01 PICI/G	N	Y	A6CDR
4461	U-SOIL	5.14000E-07 G/G	N	Y	A6CDR

END OF REPORT

SAMPLE STATUS REPORT FOR E 4024. E-BLANK B073B3 TIME: 9/14/92 15: 3
 DISPATCHED: 7/27/92 12:50 SAMPLE HAS NOT BEEN SLURPED
 RECEIVED: 7/29/92 7:55

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
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1181	Am-SOIL	< 7.40000E-01 pCi/gDRYwt	N	Y	A6CDR
2172	GEA-SOIL	< 4.22000E-02 pCi/gWETwt Cs-137	N	Y	A6CDR
2172	GEA-SOIL	8.10E-1 +-1.54E-1 PCI/G AC-228			A6CDR
2172	GEA-SOIL	6.54E-1 +-8.50E-2 PCI/G BI-214			A6CDR
2172	GEA-SOIL	1.48E+1 +-2.03E+0 PCI/G K-40			A6CDR
2172	GEA-SOIL	7.06E-1 +-1.14E-1 PCI/G PB-214			A6CDR
2172	GEA-SOIL	2.94E-1 +-4.47E-2 PCI/G TL-208			A6CDR
3461	Pu-SOIL	< 3.70000E-01 pCi/gDRYwt	N	Y	A6CDR
3872	Sr-SOIL	2.58000E-01 pCi/gDRYwt	N	Y	A6CDR
4271	TOT-ACT	< 5.00000E 01 PICI/G	N	Y	A6CDR
4461	U-SOIL	4.04000E-08 G/G	N	Y	A6CDR

END OF REPORT

SAMPLE STATUS REPORT FOR E 4025. E-BLANK B073B4 TIME: 9/14/92 15: 3
 DISPATCHED: 7/27/92 12:50 SAMPLE HAS NOT BEEN SLURPED
 RECEIVED: 7/29/92 12:39

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1181	Am-SOIL	< 8.50000E-01 pCi/gDRYwt	N	Y	A6CDR
2172	GEA-SOIL	6.36E-1 +-1.46E-1 PCI/G AC-228			A6CDR
2172	GEA-SOIL	5.68E-1 +-8.71E-2 PCI/G BI-214			A6CDR
2172	GEA-SOIL	2.36E+0 +-9.02E-2 PCI/G CS-137			A6CDR
2172	GEA-SOIL	1.30E+1 +-9.93E-1 PCI/G K-40			A6CDR
2172	GEA-SOIL	6.75E-1 +-1.43E-1 PCI/G PB-212			A6CDR
2172	GEA-SOIL	7.88E-1 +-1.23E-1 PCI/G PB-214			A6CDR
2172	GEA-SOIL	2.55E-1 +-4.61E-2 PCI/G TL-208			A6CDR
3461	Pu-SOIL	< 3.80000E-01 pCi/gDRYwt	N	Y	A6CDR
3872	Sr-SOIL	4.49000E-01 pCi/gDRYwt	N	Y	A6CDR
4271	TOT-ACT	< 5.00000E 01 PICI/G	N	Y	A6CDR
4461	U-SOIL	3.30000E-07 G/G	N	Y	A6CDR

END OF REPORT

SAMPLE STATUS REPORT FOR E 4026. E-BLANK B073B5 TIME: 9/14/92 15: 3
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 RECEIVED: 8/ 7/92 8:13

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1181	Am-SOIL	< 8.90000E-01 pCi/gDRYwt	N	Y	A6CDR
2172	GEA-SOIL	5.77E-1 +-1.38E-1 PCI/G AC-228			A6CDR
2172	GEA-SOIL	5.10E-1 +-7.81E-2 PCI/G BI-214			A6CDR
2172	GEA-SOIL	6.87E-2 +-3.88E-2 PCI/G CS-137			A6CDR
2172	GEA-SOIL	1.37E+1 +-9.59E-1 PCI/G K-40			A6CDR
2172	GEA-SOIL	7.08E-1 +-1.44E-1 PCI/G PB-212			A6CDR
2172	GEA-SOIL	5.19E-1 +-9.57E-2 PCI/G PB-214			A6CDR
2172	GEA-SOIL	2.59E-1 +-4.03-E2 PCI/G TL-208			A6CDR
3461	Pu-SOIL	8.80000E-01 pCi/gDRYwt	N	Y	A6CDR
3872	Sr-SOIL	6.73000E-01 pCi/gDRYwt	N	Y	A6CDR
4271	TOT-ACT	< 5.00000E 01 PICI/G	N	Y	A6CDR
4461	U-SOIL	3.83000E-07 G/G	N	Y	A6CDR

END OF REPORT

SAMPLE STATUS REPORT FOR E 4027. E-BLANK B073B6 TIME: 7-19-93 10:56
 DISPATCHED: 7-27-92 12:51
 RECEIVED: 8-10-92 14:18

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1181	Am-SOIL	< 7.50000E-01 pCi/gDRYwt	N	Y	A6CDR
2172	GEA-SOIL	7.63000E 00 pCi/gWETwt Cs-137	N	Y	A6CDR
2172	GEA-SOIL	1.73000E 00 pCi/gWETwt Co-60	N	Y	A6CDR
2172	GEA-SOIL	5.49000E-01 pCi/gWETwt Eu-154	N	Y	A6CDR
2172	GEA-SOIL	7.40000E-01 pCi/gWETwt AC-228			A6CDR
2172	GEA-SOIL	6.68000E-01 pCi/gWETwt Bi-214	N	Y	A6CDR
2172	GEA-SOIL	6.48000E-01 pCi/gWETwt Pb-214	N	Y	A6CDR
3461	Pu-SOIL	1.69000E 00 pCi/gDRYwt	N	Y	A6CDR
3872	Sr-SOIL	2.90000E 00 pCi/gDRYwt	N	Y	A6CDR
4271	TOT-ACT	< 5.00000E 01 PICI/G	N	Y	A6CDR
4461	U-SOIL	OUT FOR RERUN			A6CDR
4461	U-SOIL	6.27000E-06 G/G	N	Y	A6CDR

END OF REPORT

SAMPLE STATUS REPORT FOR E 4028. E-BLANK B073B7 TIME: 9/14/92 15: 3
 DISPATCHED: 7/27/92 12:51 SAMPLE HAS NOT BEEN SLURPED
 RECEIVED: 8/13/92 7:40

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	*****	*****	***	***	*****
1181	Am-SOIL	< 1.87000E 00 pCi/gDRYwt	N	Y	A6CDR
2172	GEA-SOIL	4.78E-1 +-1.26E-1 PCI/GWETWT AC-228			A6CDR
2172	GEA-SOIL	5.26E-1 +-2.45E-1 PCI/GWETWT BI-212			A6CDR
2172	GEA-SOIL	5.55000E-01 pCi/gWETwt Bi-214	N	Y	A6CDR
2172	GEA-SOIL	8.46000E-02 pCi/gWETwt Cs-137	N	Y	A6CDR
2172	GEA-SOIL	6.37000E-01 pCi/gWETwt Pb-212	N	Y	A6CDR
2172	GEA-SOIL	6.30000E-01 pCi/gWETwt Pb-214	N	Y	A6CDR
2172	GEA-SOIL	8.80E+0 +-7.18E-1 PCI/GWETWT RA-226			A6CDR
2172	GEA-SOIL	2.30E-1 +-3.84E-2 PCI/GWETWT TL-208			A6CDR
3461	Pu-SOIL	< 4.30000E-01 pCi/gDRYwt	N	Y	A6CDR
3872	Sr-SOIL	3.56000E-01 pCi/gDRYwt	N	Y	A6CDR
4271	TOT-ACT	< 5.00000E 01 PICI/G	N	Y	A6CDR
4461	U-SOIL	4.00000E-07 G/G	N	Y	A6CDR

END OF REPORT

SAMPLE STATUS REPORT FOR E 4029. E-BLANK B073B8 TIME: 9/14/92 15: 4
 DISPATCHED: 7/27/92 12:52 SAMPLE HAS NOT BEEN SLURPED
 RECEIVED: 8/13/92 7:40

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	*****	*****	***	***	*****
1181	Am-SOIL	OUT FOR RERUN			A6CDR
1181	Am-SOIL	< 1.00000E 00 pCi/gDRYwt	N	Y	A6CDR
2172	GEA-SOIL	5.67000E-01 pCi/gWETwt Bi-214	N	Y	A6CDR
2172	GEA-SOIL	5.97000E-01 PCI/GWETWT AC-228			A6CDR
2172	GEA-SOIL	8.99000E-02 pCi/gWETwt Cs-137	N	Y	A6CDR
2172	GEA-SOIL	1.38000E 01 pCi/gWETwt K-40	N	Y	A6CDR
2172	GEA-SOIL	6.08000E-01 pCi/gWETwt Pb-212	N	Y	A6CDR
2172	GEA-SOIL	5.85000E-01 pCi/gWETwt Pb-214	N	Y	A6CDR
2172	GEA-SOIL	1.58E+0 +-6.63E-1 PCI/GWETWT RA-226			A6CDR
2172	GEA-SOIL	1.93E-1 +-3.73E-2 PCI/GWETWT TL-208			A6CDR
3461	Pu-SOIL	< 4.80000E-01 pCi/gDRYwt	N	Y	A6CDR
3872	Sr-SOIL	8.88000E-01 pCi/gDRYwt	N	Y	A6CDR
4271	TOT-ACT	< 5.00000E 01 PICI/G	N	Y	A6CDR
4461	U-SOIL	3.02000E-07 G/G	N	Y	A6CDR

END OF REPORT

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SAMPLE STATUS REPORT FOR E 4030. E-BLANK B073B9 TIME: 9/21/92 12:35
 DISPATCHED: 7/27/92 12:52 SAMPLE HAS NOT BEEN SLURPED
 RECEIVED: 8/13/92 7:40

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	*****	*****	***	***	*****
1181	Am-SOIL	OUT FOR RERUN			A6CDR
1181	Am-SOIL	< 1.01000E 00 pCi/gDRYwt	N	Y	A6CDR
2172	GEA-SOIL	7.69000E-01 PCI/GWETWT AC-228			A6CDR
2172	GEA-SOIL	8.14000E-01 pCi/gWETwt Bi-214	N	Y	A6CDR
2172	GEA-SOIL	8.42000E-02 pCi/gWETwt Cs-137			A6CDR
2172	GEA-SOIL	1.33000E 01 pCi/gWETwt K-40	N	Y	A6CDR
2172	GEA-SOIL	6.93000E-01 pCi/gWETwt Pb-212	N	Y	A6CDR
2172	GEA-SOIL	8.13000E-01 pCi/gWETwt Pb-214	N	Y	A6CDR
2172	GEA-SOIL	4.95E-1 +-2.62E-1 PCI/GWETWT BI-212			A6CDR
2172	GEA-SOIL	2.46E-1 +-3.88E-2 PCI/GWETWT TL-208			A6CDR
3461	Pu-SOIL	< 4.30000E-01 pCi/gDRYwt	N	Y	A6CDR
3872	Sr-SOIL	7.12000E-01 pCi/gDRYwt	N	Y	A6CDR
4271	TOT-ACT	< 5.00000E 01 PICI/G	N	Y	A6CDR
4461	U-SOIL	3.28000E-07 G/G	N	Y	A6CDR

END OF REPORT

SAMPLE STATUS REPORT FOR E 4031. E-BLANK B073C0 TIME: 9/18/92 10:58
 DISPATCHED: 7/27/92 12:52 SAMPLE HAS NOT BEEN SLURPED
 RECEIVED: 8/14/92 7:56

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	*****	*****	***	***	*****
1181	Am-SOIL	< 7.90000E-01 pCi/gDRYwt	N	Y	A6CDR
2172	GEA-SOIL	1.88E-1 +-5.92E-2 PCI/GWETWT BI-214			A6CDR
2172	GEA-SOIL	< 3.25000E-02 pCi/gWETwt Cs-137	N	Y	A6CDR
2172	GEA-SOIL	7.81000E 00 pCi/gWETwt K-40	N	Y	A6CDR
2172	GEA-SOIL	1.77E-1 +-5.74E-2 PCI/GWETWT PB-212			A6CDR
2172	GEA-SOIL	9.52E-2 +-5.88E-2 PCI/GWETWT PB-214			A6CDR
2172	GEA-SOIL	8.61E-2 +-3.01E-2 PCI/GWETWT TL-208			A6CDR
3461	Pu-SOIL	OUT FOR RERUN			A6CDR
3461	Pu-SOIL	< 5.00000E-01 pCi/gDRYwt	N	Y	A6CDR
3872	Sr-SOIL	1.93000E 00 pCi/gDRYwt	N	Y	A6CDR
4271	TOT-ACT	< 5.00000E 01 PICI/G	N	Y	A6CDR
4461	U-SOIL	1.67000E-07 G/G	N	Y	A6CDR

END OF REPORT

SAMPLE STATUS REPORT FOR E-4032. E-BLANK B073C1 TIME: 9/14/92 15: 4
 DISPATCHED: 7/27/92 12:53 SAMPLE HAS NOT BEEN SLURPED
 RECEIVED: 8/14/92 7:56

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	*****	*****	***	***	*****
1181	Am-SOIL	< 8.40000E-01 pCi/gDRYwt	N	Y	A6CDR
2172	GEA-SOIL	6.75E-1 +-1.44E-1 PCI/GWETWT AC-228			A6CDR
2172	GEA-SOIL	2.65E-1 +-2.62E-1 PCI/GWETWT BI-212			A6CDR
2172	GEA-SOIL	7.14E-1 +-8.50E-2 PCI/GWETWT BI-214			A6CDR
2172	GEA-SOIL	2.34E-1 +-4.62E-2 PCI/GWETWT CS-137			A6CDR
2172	GEA-SOIL	1.35000E 01 pCi/gWETwt K-40	N	Y	A6CDR
2172	GEA-SOIL	6.78E-1 +-1.42E-1 PCI/GWETWT PB-212			A6CDR
2172	GEA-SOIL	6.17E-1 +-1.04E-1 PCI/GWETWT PB-214			A6CDR
2172	GEA-SOIL	1.83E+0 +-7.45E-1 PCI/GWETWT RA-226			A6CDR
2172	GEA-SOIL	2.01E-1 +-4.02E-2 PCI/GWETWT TL-208			A6CDR
3461	Pu-SOIL	< 4.20000E-01 pCi/gDRYwt	N	Y	A6CDR
3872	Sr-SOIL	4.78000E-01 pCi/gDRYwt	N	Y	A6CDR
4271	TOT-ACT	< 5.00000E 01 PICI/G	N	Y	A6CDR
4461	U-SOIL	5.11000E-07 G/G	N	Y	A6CDR

END OF REPORT

SAMPLE STATUS REPORT FOR E 4339. E-BLANK B073C2 TIME: 9/18/92 10:49
 DISPATCHED: 8/14/92 10: 5 SAMPLE HAS NOT BEEN SLURPED
 RECEIVED: 8/17/92 7:54

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	*****	*****	***	***	*****
1181	Am-SOIL	< 7.90000E-01 pCi/gDRYwt	N	Y	A6CDR
2172	GEA-SOIL	8.07E-1 +-1.64E-1 PCI/GWETWT AC-228			A6CDR
2172	GEA-SOIL	4.24E-1 +-3.08E-1 PCI/GWETWT BI-212			A6CDR
2172	GEA-SOIL	6.32000E-01 pCi/gWETwt Bi-214	N	Y	A6CDR
2172	GEA-SOIL	2.13000E 00 pCi/gWETwt Cs-137	N	Y	A6CDR
2172	GEA-SOIL	1.54000E 01 pCi/gWETwt K-40	N	Y	A6CDR
2172	GEA-SOIL	7.30000E-01 pCi/gWETwt Pb-212	N	Y	A6CDR
2172	GEA-SOIL	7.42000E-01 pCi/gWETwt Pb-214	N	Y	A6CDR
2172	GEA-SOIL	2.25E-1 +-4.95E-2 PCI/GWETWT TL-208			A6CDR
3461	Pu-SOIL	< 4.00000E-01 pCi/gDRYwt	N	Y	A6CDR
3872	Sr-SOIL	1.93000E 00 pCi/gDRYwt	N	Y	A6CDR
4271	TOT-ACT	< 5.00000E 01 PICI/G	N	Y	A6CDR
4461	U-SOIL	3.05000E-07 G/G	N	Y	A6CDR

END OF REPORT

SAMPLE STATUS REPORT FOR E 4340. E-BLANK B073C3 TIME: 9/18/92 10:49
 DISPATCHED: 8/14/92 10: 6 SAMPLE HAS NOT BEEN SLURPED
 RECEIVED: 8/18/92 7:45

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	*****	*****	***	***	*****
1181	Am-SOIL	< 9.30000E-01 pCi/gDRYwt	N	Y	A6CDR
2172	GEA-SOIL	5.43E-1 +-9.62E-2 PCI/GWETWT BI-214			A6CDR
2172	GEA-SOIL	6.87E-1 +-1.64E-1 PCI/GWETWT AC-228			A6CDR
2172	GEA-SOIL	< 4.71000E-02 pCi/gWETwt Cs-137	N	Y	A6CDR
2172	GEA-SOIL	1.27000E 01 pCi/gWETwt K-40	N	Y	A6CDR
2172	GEA-SOIL	6.65E-1 +-1.41E-1 PCI/GWETWT PB-212			A6CDR
2172	GEA-SOIL	6.61000E-01 pCi/gWETwt Pb-214	N	Y	A6CDR
2172	GEA-SOIL	1.77E-1 +-4.53E-2 PCI/GWETWT TL-208			A6CDR
3461	Pu-SOIL	< 4.60000E-01 pCi/gDRYwt	N	Y	A6CDR
3872	Sr-SOIL	5.26000E-01 pCi/gDRYwt	N	Y	A6CDR
4271	TOT-ACT	< 5.00000E 01 PICI/G	N	Y	A6CDR
4461	U-SOIL	3.70000E-07 G/G	N	Y	A6CDR

END OF REPORT

SAMPLE STATUS REPORT FOR E 4341. E-BLANK B073C4 TIME: 9/18/92 10:49
 DISPATCHED: 8/14/92 10: 7 SAMPLE HAS NOT BEEN SLURPED
 RECEIVED: 8/19/92 7:56

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	*****	*****	***	***	*****
1181	Am-SOIL	< 7.80000E-01 pCi/gDRYwt	N	Y	A6CDR
2172	GEA-SOIL	5.56E-1 +-1.32E-1 PCI/GWETWT AC-228			A6CDR
2172	GEA-SOIL	5.24-1 +-2.31E-1 PCI/GWETWT BI-212			A6CDR
2172	GEA-SOIL	6.14000E-01 pCi/gWETwt Bi-214	N	Y	A6CDR
2172	GEA-SOIL	< 3.85000E-02 pCi/gWETwt Cs-137	N	Y	A6CDR
2172	GEA-SOIL	1.69000E 01 pCi/gWETwt K-40	N	Y	A6CDR
2172	GEA-SOIL	5.96E-1 +-1.24E-1 PCI/GWETWT PB-212			A6CDR
2172	GEA-SOIL	5.30000E-01 pCi/gWETwt Pb-214	N	Y	A6CDR
2172	GEA-SOIL	1.36E+0 +-6.51E-1 PCI/GWETWT RA-226			A6CDR
2172	GEA-SOIL	2.33E-1 +-3.66E-2 PCI/GWETWT TL-208			A6CDR
3461	Pu-SOIL	< 3.90000E-01 pCi/gDRYwt	N	Y	A6CDR
3872	Sr-SOIL	< 4.30000E-01 pCi/gDRYwt	N	Y	A6CDR
4271	TOT-ACT	< 5.00000E 01 PICI/G	N	Y	A6CDR
4461	U-SOIL	4.86000E-07 G/G	N	Y	A6CDR

END OF REPORT

SAMPLE STATUS REPORT FOR E 4342. E-BLANK B073C5 TIME: 9/18/92 10:49
 DISPATCHED: 8/14/92 10: 7 SAMPLE HAS NOT BEEN SLURPED
 RECEIVED: 8/19/92 7:56

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	*****	*****	***	***	*****
1181	Am-SOIL	< 9.50000E-01 pCi/gDRYwt	N	Y	A6CDR
2172	GEA-SOIL	5.72E-1 +-1.28E-1 PCI/GWETWT AC-228			A6CDR
2172	GEA-SOIL	3.53E-1 +-2.33E-1 PCI/GWETWT BI-212			A6CDR
2172	GEA-SOIL	5.36000E-01 pCi/gWETwt Bi-214	N	Y	A6CDR
2172	GEA-SOIL	< 3.58000E-02 pCi/gWETwt Cs-137	N	Y	A6CDR
2172	GEA-SOIL	1.55000E 01 pCi/gWETwt K-40	N	Y	A6CDR
2172	GEA-SOIL	5.77E-1 +-1.20E-1 PCI/GWET PB-212			A6CDR
2172	GEA-SOIL	5.41000E-01 pCi/gWETwt Pb-214	N	Y	A6CDR
2172	GEA-SOIL	1.56E+0 +-6.84-1 PCI/GWETWT RA-226			A6CDR
2172	GEA-SOIL	1.98E-1 +-3.55E-2 PCI/GWETWT TL-208			A6CDR
3461	Pu-SOIL	< 4.80000E-01 pCi/gDRYwt	N	Y	A6CDR
3872	Sr-SOIL	8.49000E-01 pCi/gDRYwt	N	Y	A6CDR
4271	TOT-ACT	< 5.00000E 01 PICI/G	N	Y	A6CDR
4461	U-SOIL	5.55000E-07 G/G	N	Y	A6CDR

END OF REPORT

SAMPLE STATUS REPORT FOR E 4543. E-BLANK B073C6 TIME: 9/18/92 10:59
 DISPATCHED: 8/19/92 14: 7 SAMPLE HAS NOT BEEN SLURPED
 RECEIVED: 8/20/92 7:49

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	*****	*****	***	***	*****
2172	GEA-SOIL	9.14E-1 +-1.62E-1 PCI/GWETWT AC-228			A6CDR
2172	GEA-SOIL	4.27E-1 +-2.92E-1 PCI/GWETWT BI-212			A6CDR
2172	GEA-SOIL	6.72000E-01 pCi/gWETwt Bi-214	N	Y	A6CDR
2172	GEA-SOIL	< 4.61000E-02 pCi/gWETwt Cs-137	N	Y	A6CDR
2172	GEA-SOIL	1.36000E 01 pCi/gWETwt K-40	N	Y	A6CDR
2172	GEA-SOIL	1.12E+0 +-2.23E-1 PCI/GWETWT PB-212			A6CDR
2172	GEA-SOIL	7.06000E-01 pCi/gWETwt Pb-214	N	Y	A6CDR
2172	GEA-SOIL	2.11E+0 +-8.64E-1 PCI/GWETWT RA-226			A6CDR
2172	GEA-SOIL	2.91E-1 +-4.55E-2 PCI/GWETWT TL-208			A6CDR
4271	TOT-ACT	< 5.00000E 01 PICI/G	N	Y	A6CDR

END OF REPORT

WHC-SD-EN-EE-011, Rev. 0

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APPENDIX B

Chemical Analyses Results for Soil Samples

WHC-SD-EN-EE-011, Rev. 0

BO73BZ

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9207L203-001

Sample wt/vol: 5.00 (g/mL) G

Lab File ID: W080605

Level: (low/med) LOW

Date Received: 07/29/92

% Moisture: not dec. 5

Date Analyzed: 08/06/92

GC Column: SP1000 ID: 2.00(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) <u>UG/KG</u>	<u>Q</u>
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	23	B
67-64-1	Acetone	18	B
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

2
 B073BZ

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL Lab Sample ID: 9207L203-001

Sample wt/vol: 30.0 (g/mL) G Lab File ID: J082705

Level: (low/med) LOW Date Received: 07/29/92

% Moisture: 5 decanted: (Y/N) ___ Date Extracted: 08/03/92

Concentrated Extract Volume: 500(uL) Date Analyzed: 08/27/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.3

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) <u>ug/Kg</u>	<u>Q</u>
108-95-2	Phenol	350	U
111-44-4	bis(2-Chloroethyl)ether	350	U
95-57-8	2-Chlorophenol	350	U
541-73-1	1,3-Dichlorobenzene	350	U
106-46-7	1,4-Dichlorobenzene	350	U
95-50-1	1,2-Dichlorobenzene	350	U
95-48-7	2-Methylphenol	350	U
108-60-1	2,2'-oxybis(2-Chloropropane)	350	U
106-44-5	4-Methylphenol	350	U
621-64-7	N-Nitroso-di-n-propylamine	350	U
67-72-1	Hexachloroethane	350	U
98-95-3	Nitrobenzene	350	U
78-59-1	Isophorone	350	U
88-75-5	2-Nitrophenol	350	U
105-67-9	2,4-Dimethylphenol	350	U
111-91-1	bis(2-Chloroethoxy)methane	350	U
120-83-2	2,4-Dichlorophenol	350	U
120-82-1	1,2,4-Trichlorobenzene	350	U
91-20-3	Naphthalene	350	U
106-47-8	4-Chloroaniline	350	U
87-68-3	Hexachlorobutadiene	350	U
59-50-7	4-Chloro-3-methylphenol	350	U
91-57-6	2-Methylnaphthalene	350	U
77-47-4	Hexachlorocyclopentadiene	350	U
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	880	U
91-58-7	2-Chloronaphthalene	350	U
88-74-4	2-Nitroaniline	880	U
131-11-3	Dimethylphthalate	350	U
208-96-8	Acenaphthylene	350	U
606-20-2	2,6-Dinitrotoluene	350	U
99-09-2	3-Nitroaniline	880	U
83-32-9	Acenaphthene	350	U

BO73BE²

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9207L203-001

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: J082705

Level: (low/med) LOW

Date Received: 07/29/92

% Moisture: 5 decanted: (Y/N)

Date Extracted: 08/03/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 08/27/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) X

pH: 7.3

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

51-28-5	2,4-Dinitrophenol	880	U
100-02-7	4-Nitrophenol	880	U
132-64-9	Dibenzofuran	350	U
121-14-2	2,4-Dinitrotoluene	350	U
84-66-2	Diethylphthalate	350	U
7005-72-3	4-Chlorophenyl-phenylether	350	U
86-73-7	Fluorene	350	U
100-01-6	4-Nitroaniline	880	U
534-52-1	4,6-Dinitro-2-methylphenol	880	U
86-30-6	N-Nitrosodiphenylamine (1)	350	U
101-55-3	4-Bromophenyl-phenylether	350	U
118-74-1	Hexachlorobenzene	350	U
87-86-5	Pentachlorophenol	880	U
85-01-8	Phenanthrene	350	U
120-12-7	Anthracene	350	U
86-74-8	Carbazole	350	U
84-74-2	Di-n-butylphthalate	33	J
206-44-0	Fluoranthene	350	U
129-00-0	Pyrene	350	U
85-68-7	Butylbenzylphthalate	350	U
91-94-1	3,3'-Dichlorobenzidine	350	U
56-55-3	Benzo(a)anthracene	350	U
218-01-9	Chrysene	350	U
117-81-7	bis(2-Ethylhexyl)phthalate	90	J
117-84-0	Di-n-octyl phthalate	350	U
205-99-2	Benzo(b)fluoranthene	350	U
207-08-9	Benzo(k)fluoranthene	350	U
50-32-8	Benzo(a)pyrene	350	U
193-39-5	Indeno(1,2,3-cd)pyrene	350	U
53-70-3	Dibenz(a,h)anthracene	350	U
191-24-2	Benzo(g,h,i)perylene	350	U

(1) - Cannot be separated from Diphenylamine

1F WHC-SD-EN-EE-011, Rev. 0
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

BO73BZ²

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9207L203-001

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: J082705

Level: (low/med) LOW

Date Received: 07/29/92

% Moisture: 5 decanted: (Y/N)

Date Extracted: 08/03/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 08/27/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

pH: 7.3

CONCENTRATION UNITS:

Number TICs found: 6

(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	HYDROCARBON	6.67	70	JB
2.	ALDOL CONDENSATE	8.42	70	JAB
3.	ORGANIC ACID	20.62	70	J
4.	ORGANIC ACID	26.30	300	J
5.	ADIPATE	30.00	100	J
6.	UNKNOWN	34.27	300	J

U U U U U 1 0
 1D WHC-SD-EN-EE-011, Rev. 0
 PESTICIDE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

B073B2

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9207L203-001

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: 08149235.36

% Moisture: 5.2 decanted: (Y/N) _

Date Received: 07/29/92

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/31/92

Concentrated Extract Volume: 5000(uL)

Date Analyzed: 08/15/92

Injection Volume: 0.5(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.5

Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

319-84-6	Alpha-BHC	1.8	U
319-85-7	Beta-BHC	1.8	U
319-86-8	Delta-BHC	1.8	U
58-89-9	gamma-BHC (Lindane)	1.8	U
76-44-8	Heptachlor	1.8	U
309-00-2	Aldrin	1.8	U
1024-57-3	Heptachlor epoxide	1.8	U
959-98-8	Endosulfan I	1.8	U
60-57-1	Dieldrin	3.5	U
72-55-9	4,4'-DDE	3.5	U
72-20-8	Endrin	3.5	U
33213-65-9	Endosulfan II	3.5	U
72-54-8	4,4'-DDD	3.5	U
1031-07-8	Endosulfan sulfate	3.5	U
50-29-3	4,4'-DDT	3.5	U
72-43-5	Methoxychlor	18	U
53494-70-5	Endrin ketone	3.5	U
7421934	Endrin aldehyde	3.5	U
5103-71-9	alpha-Chlordane	1.8	U
5103-74-2	gamma-Chlordane	1.8	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	35	U
11104-28-2	Aroclor-1221	70	U
11141-16-5	Aroclor-1232	35	U
53469-21-9	Aroclor-1242	35	U
12672-29-6	Aroclor-1248	35	U
11097-69-1	Aroclor-1254	35	U
11096-82-5	Aroclor-1260	35	U

Sum 9/14/92

INORGANIC DATA SUMMARY REPORT 08/20/92

CLIENT: WESTINGHOUSE HANFORD
 WORK ORDER: 6168-02-01-0000

WESTON BATCH #: 9207L203

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-001	B073B72	% Solids	94.8	%	0.10
		Chloride by IC	39.1	MG/KG	1.3
		Fluoride by IC	2.8	MG/KG	2.6
		Cyanide, Total	1.1	u MG/KG	1.1
		Phosphate by IC	1.3	u MG/KG	1.3
		Sulfate by IC	1.3	u MG/KG	1.3
		Nitrate Nitrite	1.0	MG-N/KG	0.053
		pH	8.6	PH UNITS	0.010

0700019

EPA SAMPLE NO.

1
INORGANIC ANALYSIS DATA SHEET

BO73BZ²

Lab Name: ROY F. WESTON, INC - L372 Contract: 6168-02-01

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP203

Matrix (soil/water): SOIL Lab Sample ID: 920720301

Level (low/med): LOW Date Received: 7/29/92

* Solids: 94.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5220.00	-		P
7440-36-0	Antimony	9.28	U		P
7440-38-2	Arsenic	2.30		N	F
7440-39-3	Barium	86.40			P
7440-41-7	Beryllium	.59	B		P
7440-43-9	Cadmium	.84	U		P
7440-70-2	Calcium	8500.00			P
7440-47-3	Chromium	6.30			P
7440-48-4	Cobalt	13.90			P
7440-50-8	Copper	14.50			P
7439-89-6	Iron	20900.00			P
7439-92-1	Lead	4.00			F
7439-95-4	Magnesium	4370.00		E	P
7439-96-5	Manganese	366.00		N	P
7439-97-6	Mercury	.05	U		CV
7440-02-0	Nickel	9.20			P
7440-09-7	Potassium	1180.00			P
7782-49-2	Selenium	.42	U	WNM	F
7440-22-4	Silver	1.80	B		F
7440-23-5	Sodium	202.00	B		F
7440-28-0	Thallium	.42	U	NW	F
7440-62-2	Vanadium	40.50			P
7440-66-6	Zinc	40.10			P
	Cyanide	1.07	U		C

Color Before: BROWN

Clarity Before:

Texture: FINE

Color After: BROWN

Clarity After:

Artifacts:

Comments:

Se- M- RSD out on second run.

B073B3

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9207L229-001

Sample wt/vol: 5.00 (g/mL) G

Lab File ID: W080910

Level: (low/med) LOW

Date Received: 07/30/92

% Moisture: not dec. 5

Date Analyzed: 08/09/92

GC Column: SP1000 ID: 2.00(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/KG
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	8	JB
67-64-1	Acetone	4	JB
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-pentanone	11	U
591-78-6	2-Hexanone	110	
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

0700022

B073B3

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9207L229-001

Sample wt/vol: 30.4 (g/mL) G

Lab File ID: J082710

Level: (low/med) LOW

Date Received: 07/30/92

% Moisture: 5 decanted: (Y/N)

Date Extracted: 08/05/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 08/28/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

pH: 8.2

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

108-95-2	Phenol	350	U
111-44-4	bis(2-Chloroethyl)ether	350	U
95-57-8	2-Chlorophenol	350	U
541-73-1	1,3-Dichlorobenzene	350	U
106-46-7	1,4-Dichlorobenzene	350	U
95-50-1	1,2-Dichlorobenzene	350	U
95-48-7	2-Methylphenol	350	U
108-60-1	2,2'-oxybis(2-Chloropropane)	350	U
106-44-5	4-Methylphenol	350	U
621-64-7	N-Nitroso-di-n-propylamine	350	U
67-72-1	Hexachloroethane	350	U
98-95-3	Nitrobenzene	350	U
78-59-1	Isophorone	350	U
88-75-5	2-Nitrophenol	350	U
105-67-9	2,4-Dimethylphenol	350	U
111-91-1	bis(2-Chloroethoxy)methane	350	U
120-83-2	2,4-Dichlorophenol	350	U
120-82-1	1,2,4-Trichlorobenzene	350	U
91-20-3	Naphthalene	350	U
106-47-8	4-Chloroaniline	350	U
87-68-3	Hexachlorobutadiene	350	U
59-50-7	4-Chloro-3-methylphenol	350	U
91-57-6	2-Methylnaphthalene	350	U
77-47-4	Hexachlorocyclopentadiene	350	U
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	860	U
91-58-7	2-Chloronaphthalene	350	U
88-74-4	2-Nitroaniline	860	U
131-11-3	Dimethylphthalate	350	U
208-96-8	Acenaphthylene	350	U
606-20-2	2,6-Dinitrotoluene	350	U
99-09-2	3-Nitroaniline	860	U
83-32-9	Acenaphthene	350	U

B073B3

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9207L229-001

Sample wt/vol: 30.4 (g/mL) G

Lab File ID: J082710

Level: (low/med) LOW

Date Received: 07/30/92

% Moisture: 5 decanted: (Y/N)

Date Extracted: 08/05/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 08/28/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

pH: 8.2

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

51-28-5	2,4-Dinitrophenol	860	U
100-02-7	4-Nitrophenol	860	U
132-64-9	Dibenzofuran	350	U
121-14-2	2,4-Dinitrotoluene	350	U
84-66-2	Diethylphthalate	350	U
7005-72-3	4-Chlorophenyl-phenylether	350	U
86-73-7	Fluorene	350	U
100-01-6	4-Nitroaniline	860	U
534-52-1	4,6-Dinitro-2-methylphenol	860	U
86-30-6	N-Nitrosodiphenylamine (1)	350	U
101-55-3	4-Bromophenyl-phenylether	350	U
118-74-1	Hexachlorobenzene	350	U
87-86-5	Pentachlorophenol	860	U
85-01-8	Phenanthrene	350	U
120-12-7	Anthracene	350	U
86-74-8	Carbazole	350	U
84-74-2	Di-n-butylphthalate	34	J
206-44-0	Fluoranthene	350	U
129-00-0	Pyrene	350	U
85-68-7	Butylbenzylphthalate	350	U
91-94-1	3,3'-Dichlorobenzidine	350	U
56-55-3	Benzo(a)anthracene	350	U
218-01-9	Chrysene	350	U
117-81-7	bis(2-Ethylhexyl)phthalate	41	J
117-84-0	Di-n-octyl phthalate	350	U
205-99-2	Benzo(b)fluoranthene	350	U
207-08-9	Benzo(k)fluoranthene	350	U
50-32-8	Benzo(a)pyrene	350	U
193-39-5	Indeno(1,2,3-cd)pyrene	350	U
53-70-3	Dibenz(a,h)anthracene	350	U
191-24-2	Benzo(g,h,i)perylene	350	U

(1) - Cannot be separated from Diphenylamine

FORM 1 SV-2

3/90

1F WHC-SD-EN-EE-011, Rev. 0
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B073B3

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9207L229-001

Sample wt/vol: 30.4 (g/mL) G

Lab File ID: J082710

Level: (low/med) LOW

Date Received: 07/30/92

% Moisture: 5 decanted: (Y/N)

Date Extracted: 08/05/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 08/28/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.2

CONCENTRATION UNITS:

Number TICs found: 5 (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	4.95	200	JB
2.	C3 HEPTANE	5.08	100	JB
3.	ALDOL CONDENSATE	6.41	100	JAB
4.	ORGANIC ACID	20.00	200	J
5.	UNKNOWN	26.06	700	J

01100017

B073B3

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9207L229-001

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: 08239235.33

Moisture: 4.8 decanted: (Y/N) _

Date Received: 07/30/92

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/04/92

Concentrated Extract Volume: 5000(uL)

Date Analyzed: 08/24/92

Injection Volume: 0.5(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.2

Sulfur Cleanup: (Y/N) N

01.0
 3.5
 0.1
 3.5
 0.1
 3.5
 0.1
 3.5
 0.1
 3.5
 0.1
 3.5

CAS NO. COMPOUND CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg Q

319-84-6	Alpha-BHC	1.8	U
319-85-7	Beta-BHC	1.8	U
319-86-8	Delta-BHC	1.8	U
58-89-9	gamma-BHC (Lindane)	1.8	U
76-44-8	Heptachlor	1.8	U
309-00-2	Aldrin	1.8	U
1024-57-3	Heptachlor epoxide	1.8	U
959-98-8	Endosulfan I	1.8	U
60-57-1	Dieldrin	3.5	U
72-55-9	4,4'-DDE	3.5	U
72-20-8	Endrin	3.5	U
33213-65-9	Endosulfan II	3.5	U
72-54-8	4,4'-DDD	3.5	U
1031-07-8	Endosulfan sulfate	3.5	U
50-29-3	4,4'-DDT	3.5	U
72-43-5	Methoxychlor	18	U
53494-70-5	Endrin ketone	3.5	U
7421934	Endrin aldehyde	3.5	U
5103-71-9	alpha-Chlordane	1.8	U
5103-74-2	gamma-Chlordane	1.8	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	35	U
11104-28-2	Aroclor-1221	70	U
11141-16-5	Aroclor-1232	35	U
53469-21-9	Aroclor-1242	35	U
12672-29-6	Aroclor-1248	35	U
11097-69-1	Aroclor-1254	35	U
11096-82-5	Aroclor-1260	35	U

DER
 9/16/92

1
INORGANIC ANALYSIS DATA SHEET

B073B3

Lab Name: ROY F. WESTON, INC - L372 Contract: 6168-02-01

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP229

Matrix (soil/water): SOIL Lab Sample ID: 920722901

Level (low/med) SO LOW Date Received: 7/30/92

* Solids: 95.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4530.00	-		P
7440-36-0	Antimony	9.24	U	N	P
7440-38-2	Arsenic	5.30			F
7440-39-3	Barium	100.00			P
7440-41-7	Beryllium	.63	B		P
7440-43-9	Cadmium	.84	U		P
7440-70-2	Calcium	16100.00			P
7440-47-3	Chromium	6.00			P
7440-48-4	Cobalt	12.60			P
7440-50-8	Copper	12.80			P
7439-89-6	Iron	16700.00			P
7439-92-1	Lead	6.00		S	F
7439-95-4	Magnesium	5100.00			P
7439-96-5	Manganese	351.00			P
7439-97-6	Mercury	.05	U		CV
7440-02-0	Nickel	6.40	B		P
7440-09-7	Potassium	1300.00			P
7782-49-2	Selenium	.42	U	NW	F
7440-22-4	Silver	3.00			P
7440-23-5	Sodium	157.00	B		P
7440-28-0	Thallium	.42	U		F
7440-62-2	Vanadium	26.70			P
7440-66-6	Zinc	33.40			P
	Cyanide	1.05	U		C

Color Before: BROWN

Clarity Before:

Texture: FINE

Color After: BROWN

Clarity After:

Artifacts:

Comments:

WHC-SD-EN-EE-011, Rev. 0

B073B4

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L269-001

Sample wt/vol: 5.00 (g/mL) G

Lab File ID: W080915

Level: (low/med) LOW

Date Received: 08/01/92

% Moisture: not dec. 3

Date Analyzed: 08/09/92

GC Column: SP1000 ID: 2.00(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	8	JB
67-64-1	Acetone	3	JB
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL Lab Sample ID: 9208L269-001

Sample wt/vol: 30.7 (g/mL) G Lab File ID: M082506

Level: (low/med) LOW Date Received: 08/01/92

% Moisture: 3 decanted: (Y/N) Date Extracted: 08/11/92

Concentrated Extract Volume: 500(uL) Date Analyzed: 08/25/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.2

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/Kg</u>	Q
108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(2-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-di-n-propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	840	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	840	U
131-11-3	Dimethylphthalate	330	U
208-96-8	Acenaphthylene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
99-09-2	3-Nitroaniline	840	U
83-32-9	Acenaphthene	330	U

WHC-SD-EN-EE-011, Rev. 0

B073B4

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L269-001

Sample wt/vol: 30.7 (g/mL) G

Lab File ID: M082506

Level: (low/med) LOW

Date Received: 08/01/92

% Moisture: 3 decanted: (Y/N)

Date Extracted: 08/11/92

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 08/25/92

Injection Volume: 2.0 (uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.2

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

51-28-5	2,4-Dinitrophenol	840	U
100-02-7	4-Nitrophenol	840	U
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	330	U
84-66-2	Diethylphthalate	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-01-6	4-Nitroaniline	840	U
534-52-1	4,6-Dinitro-2-methylphenol	840	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	840	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-butylphthalate	43	JB
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	330	U
56-55-3	Benzo(a)anthracene	330	U
218-01-9	Chrysene	330	U
117-81-7	bis(2-Ethylhexyl)phthalate	66	JB
117-84-0	Di-n-octyl phthalate	330	U
205-99-2	Benzo(b)fluoranthene	330	U
207-08-9	Benzo(k)fluoranthene	330	U
50-32-8	Benzo(a)pyrene	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	330	U
53-70-3	Dibenz(a,h)anthracene	330	U
191-24-2	Benzo(g,h,i)perylene	330	U

(1) - Cannot be separated from Diphenylamine

FORM 1 SV-2

3/90

1F
 - SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET **0000028**
 TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

WHC-SD-EN-EE-011, Rev. 0

B073B4

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L269-001

Sample wt/vol: 30.7 (g/mL) G

Lab File ID: M082506

Level: (low/med) LOW

Date Received: 08/01/92

% Moisture: 3 decanted: (Y/N) __

Date Extracted: 08/11/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 08/25/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

pH: 8.2

CONCENTRATION UNITS:

Number TICs found: 8

(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	5.78	100	JAB
2.	ALDOL CONDENSATE	6.32	700	JAB
3.	ALDOL CONDENSATE	7.03	500	JAB
4.	ALDOL CONDENSATE	7.43	200	JA
5.	ALDOL CONDENSATE	8.07	300	JA
6.	ORGANIC ACID	19.35	200	J
7.	UNKNOWN	22.70	100	J
8.	UNKNOWN	25.03	200	J

PESTICIDE ORGANICS ANALYSIS DATA SHEET

B073B4

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L269-001

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: 08269235.40

% Moisture: 2.6 decanted: (Y/N) _

Date Received: 08/01/92

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/07/92

Concentrated Extract Volume: 5000(uL)

Date Analyzed: 08/29/92

Injection Volume: 0.5(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.2

Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS:

(ug/L or ug/Kg) ug/Kg Q

CAS NO.

COMPOUND

CAS NO.	COMPOUND	(ug/L or ug/Kg) <u>ug/Kg</u>	Q
319-84-6	Alpha-BHC	1.7	U
319-85-7	Beta-BHC	1.7	U
319-86-8	Delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.4	U
72-55-9	4,4'-DDE	3.4	U
72-20-8	Endrin	3.4	U
33213-65-9	Endosulfan II	3.4	U
72-54-8	4,4'-DDD	3.4	U
1031-07-8	Endosulfan sulfate	3.4	U
50-29-3	4,4'-DDT	3.4	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.4	U
7421934	Endrin aldehyde	3.4	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	34	U
11104-28-2	Aroclor-1221	68	U
11141-16-5	Aroclor-1232	34	U
53469-21-9	Aroclor-1242	34	U
12672-29-6	Aroclor-1248	34	U
11097-69-1	Aroclor-1254	34	U
11096-82-5	Aroclor-1260	34	U

DEP
9/16/92

INORGANIC DATA SUMMARY REPORT 08/18/92

CLIENT: WESTINGHOUSE HANFORD
 WORK ORDER: 6168-02-01-0000

WESTON BATCH #: 9208L269

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-001	B073B4	% Solids	97.4	%	0.10
		Chloride by IC	24.3	MG/KG	1.3
		Fluoride by IC	3.3	MG/KG	2.6
		Cyanide, Total	1.0	u MG/KG	1.0
		Phosphate by IC	1.3	u MG/KG	1.3
		Sulfate by IC	13.6	MG/KG	1.3
		Nitrate Nitrite	1.3	MG-N/KG	0.51
		pH	8.8	PH UNITS	0.010

INORGANIC ANALYSIS DATA SHEET

B073B4

Lab Name: ROY F. WESTON, INC - L372 Contract: 6168-02-01

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP269

Matrix (soil/water): SOIL Lab Sample ID: 920826901

Level (low/med): LOW Date Received: 8/01/92

% Solids: 97.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4690.00			P
7440-36-0	Antimony	14.70		N*	P
7440-38-2	Arsenic	3.00			F
7440-39-3	Barium	85.20			P
7440-41-7	Beryllium	.29	B		P
7440-43-9	Cadmium	.82	U		P
7440-70-2	Calcium	12500.00			P
7440-47-3	Chromium	6.10			P
7440-48-4	Cobalt	9.70	B		P
7440-50-8	Copper	13.00			P
7439-89-6	Iron	13400.00			P
7439-92-1	Lead	4.30		SN*	F
7439-95-4	Magnesium	3860.00			P
7439-96-5	Manganese	296.00			P
7439-97-6	Mercury	.05	U		CV
7440-02-0	Nickel	7.80	B		P
7440-09-7	Potassium	1030.00			P
7782-49-2	Selenium	.41	U	WN	F
7440-22-4	Silver	1.40	B		P
7440-23-5	Sodium	198.00	B		P
7440-28-0	Thallium	.41	U	NW	F
7440-62-2	Vanadium	21.70			P
7440-66-6	Zinc	33.10		*	P
	Cyanide	1.03	U		C

Color Before: BROWN

Clarity Before:

Texture: FINE

Color After: BROWN

Clarity After:

Artifacts:

Comments:

B073B5

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L354-001

Sample wt/vol: 5.10 (g/mL) G

Lab File ID: W081506

Level: (low/med) LOW

Date Received: 08/08/92

% Moisture: not dec. 3

Date Analyzed: 08/15/92

GC Column: SP1000 ID: 2.00(mm)

Dilution Factor: 0.980

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	JB
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

B073B5

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L354-001

Sample wt/vol: 30.2 (g/mL) g

Lab File ID: A090321

Level: (low/med) LOW

Date Received: 08/08/92

% Moisture: 3 decanted: (Y/N)

Date Extracted: 08/18/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 09/04/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.5

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

108-95-2	Phenol	340	U
111-44-4	bis(2-Chloroethyl)ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(2-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-di-n-propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
111-91-1	bis(2-Chloroethoxy)methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-methylphenol	340	U
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	860	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	860	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
606-20-2	2,6-Dinitrotoluene	340	U
99-09-2	3-Nitroaniline	860	U
83-32-9	Acenaphthene	340	U

B073B5

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L354-001

Sample wt/vol: 30.2 (g/mL) G

Lab File ID: A090321

Level: (low/med) LOW

Date Received: 08/08/92

% Moisture: 3 decanted: (Y/N)

Date Extracted: 08/18/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 09/04/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

pH: 7.5

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

51-28-5	2,4-Dinitrophenol	860	U
100-02-7	4-Nitrophenol	860	U
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	860	U
534-52-1	4,6-Dinitro-2-methylphenol	860	U
86-30-6	N-Nitrosodiphenylamine (1)	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	860	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
86-74-8	Carbazole	340	U
84-74-2	Di-n-butylphthalate	150	J
206-44-0	Fluoranthene	340	U
129-00-0	Pyrene	340	U
85-68-7	Butylbenzylphthalate	340	U
91-94-1	3,3'-Dichlorobenzidine	340	U
56-55-3	Benzo(a)anthracene	340	U
218-01-9	Chrysene	340	U
117-81-7	bis(2-Ethylhexyl)phthalate	56	J
117-84-0	Di-n-octyl phthalate	340	U
205-99-2	Benzo(b)fluoranthene	340	U
207-08-9	Benzo(k)fluoranthene	340	U
50-32-8	Benzo(a)pyrene	340	U
193-39-5	Indeno(1,2,3-cd)pyrene	340	U
53-70-3	Dibenz(a,h)anthracene	340	U
191-24-2	Benzo(g,h,i)perylene	340	U

(1) - Cannot be separated from Diphenylamine

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B073B5

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L354-001

Sample wt/vol: 30.2 (g/mL) Q

Lab File ID: A090321

Level: (low/med) LOW

Date Received: 08/08/92

% Moisture: 3 decanted: (Y/N)

Date Extracted: 08/18/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 09/04/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.5

CONCENTRATION UNITS:

Number TICs found: 18

(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	TOLUENE	4.53	100	JB
2.	ALDOL CONDENSATE	5.66	600	JAB
3.	ALDOL CONDENSATE	6.20	10000	JAB
4.	ALKANE	6.35	100	JB
5.	ALKANE	6.43	100	J
6.	ALKANE	6.49	200	JB
7.	ALKANE	6.65	300	JB
8.	ALDOL CONDENSATE	7.71	300	JAB
9.	ALDOL CONDENSATE	8.31	200	JAB
10.	ALDOL CONDENSATE	9.06	400	JAB
11.	ALDOL CONDENSATE	9.53	70	JA
12.	ALDOL CONDENSATE	10.22	90	JA
13.	UNKNOWN	11.75	90	J
14.	ORGANIC ACID	21.04	200	J
15.	ALKENE	21.83	200	J
16.	UNKNOWN	22.22	100	J
17.	ADIPATE	23.60	20000	J
18.	UNKNOWN	27.00	200	J

000019

1D

CLIENT SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

B073B5

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L354-001

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: 09089235.41

% Moisture: 2.9 decanted: (Y/N) _

Date Received: 08/08/92

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/17/92

Concentrated Extract Volume: 5000(uL)

Date Analyzed: 09/10/92

Injection Volume: 0.5(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.7

Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

319-84-6	Alpha-BHC	1.7	U
319-85-7	Beta-BHC	1.7	U
319-86-8	Delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.4	U
72-55-9	4,4'-DDE	3.4	U
72-20-8	Endrin	3.4	U
33213-65-9	Endosulfan II	3.4	U
72-54-8	4,4'-DDD	3.4	U
1031-07-8	Endosulfan sulfate	3.4	U
50-29-3	4,4'-DDT	3.4	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.4	U
7421934	Endrin aldehyde	3.4	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	34	U
11104-28-2	Aroclor-1221	69	U
11141-16-5	Aroclor-1232	34	U
53469-21-9	Aroclor-1242	34	U
12672-29-6	Aroclor-1248	34	U
11097-69-1	Aroclor-1254	34	U
11096-82-5	Aroclor-1260	34	U

B.M
09/27/92

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 08/31/92

CLIENT: WESTINGHOUSE HANFORD
 WORK ORDER: 6168-02-01-0000

WESTON BATCH #: 9208L354

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-001	B073B5	% Solids	97.1	%	0.10
		Chloride by IC	19.2	MG/KG	1.3
		Fluoride by IC	1.7	MG/KG	1.3
		Cyanide, Total	1.0	u MG/KG	1.0
		Phosphate by IC	1.7	MG/KG	1.3
		Sulfate by IC	23.0	MG/KG	1.3
		Nitrate Nitrite	0.52	u MG-N/KG	0.52
		pH	8.4	PH UNITS	0.010

0700020

U.S. EPA - CLP

EPA SAMPLE NO.

1
INORGANIC ANALYSIS DATA SHEET

B073B5

Lab Name: ROY F. WESTON, INC - L372 Contract: 6168-02-01

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP354

Matrix (soil/water): SOIL Lab Sample ID: 920835401

Level (low/med): LOW Date Received: 8/08/92

% Solids: 97.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6450.00	-	*	P
7440-36-0	Antimony	9.06	U		P
7440-38-2	Arsenic	1.50	B	S	F
7440-39-3	Barium	99.50		E	P
7440-41-7	Beryllium	.41	B		P
7440-43-9	Cadmium	.82	U		P
7440-70-2	Calcium	7230.00		*E	P
7440-47-3	Chromium	8.10			P
7440-48-4	Cobalt	14.00			P
7440-50-8	Copper	13.90			P
7439-89-6	Iron	22400.00		*E	P
7439-92-1	Lead	4.00		S	F
7439-95-4	Magnesium	5000.00		*E	P
7439-96-5	Manganese	415.00		*E	P
7439-97-6	Mercury	.05	U		CV
7440-02-0	Nickel	10.20			P
7440-09-7	Potassium	1720.00			P
7782-49-2	Selenium	.41	U	W	F
7440-22-4	Silver	3.60			P
7440-23-5	Sodium	203.00	B		P
7440-28-0	Thallium	.41	U	W	F
7440-62-2	Vanadium	47.00		*	P
7440-66-6	Zinc	48.70		*	P
	Cyanide	1.03	U		C

Color Before: BROWN

Clarity Before:

Texture: FINE

Color After: BROWN

Clarity After:

Artifacts:

Comments:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B073B6

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L387-001

Sample wt/vol: 30.7 (g/mL) G

Lab File ID: A090406

Level: (low/med) LOW

Date Received: 08/12/92

% Moisture: 1 decanted: (Y/N)

Date Extracted: 08/18/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 09/04/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.2

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(2-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-di-n-propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	820	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	820	U
131-11-3	Dimethylphthalate	330	U
208-96-8	Acenaphthylene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
99-09-2	3-Nitroaniline	820	U
83-32-9	Acenaphthene	330	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

B073B6

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L387-001

Sample wt/vol: 30.7 (g/mL) G

Lab File ID: A090406

Level: (low/med) LOW

Date Received: 08/12/92

% Moisture: 1 decanted: (Y/N)

Date Extracted: 08/18/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 09/04/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) X pH: 7.2

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

CAS NO.	COMPOUND	(ug/L or ug/Kg)	ug/Kg	Q
51-28-5	2,4-Dinitrophenol	820		U
100-02-7	4-Nitrophenol	820		U
132-64-9	Dibenzofuran	330		U
121-14-2	2,4-Dinitrotoluene	330		U
84-66-2	Diethylphthalate	330		U
7005-72-3	4-Chlorophenyl-phenylether	330		U
86-73-7	Fluorene	330		U
100-01-6	4-Nitroaniline	820		U
534-52-1	4,6-Dinitro-2-methylphenol	820		U
86-30-6	N-Nitrosodiphenylamine (1)	330		U
101-55-3	4-Bromophenyl-phenylether	330		U
118-74-1	Hexachlorobenzene	330		U
87-86-5	Pentachlorophenol	820		U
85-01-8	Phenanthrene	330		U
120-12-7	Anthracene	330		U
86-74-8	Carbazole	330		U
84-74-2	Di-n-butylphthalate	140		J
206-44-0	Fluoranthene	330		U
129-00-0	Pyrene	330		U
85-68-7	Butylbenzylphthalate	330		U
91-94-1	3,3'-Dichlorobenzidine	330		U
56-55-3	Benzo(a)anthracene	330		U
218-01-9	Chrysene	330		U
117-81-7	bis(2-Ethylhexyl)phthalate	120		J
117-84-0	Di-n-octyl phthalate	330		U
205-99-2	Benzo(b)fluoranthene	330		U
207-08-9	Benzo(k)fluoranthene	330		U
50-32-8	Benzo(a)pyrene	330		U
193-39-5	Indeno(1,2,3-cd)pyrene	330		U
53-70-3	Dibenz(a,h)anthracene	330		U
191-24-2	Benzo(g,h,i)perylene	330		U

(1) - Cannot be separated from Diphenylamine

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B073B6

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L387-001

Sample wt/vol: 30.7 (g/mL) G

Lab File ID: A090406

Level: (low/med) LOW

Date Received: 08/12/92

% Moisture: 1 decanted: (Y/N) __

Date Extracted: 08/18/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 09/04/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) X

pH: 7.2

CONCENTRATION UNITS:

Number TICs found: 15

(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	TOLUENE	4.53	100	JB
2.	ALDOL CONDENSATE	5.66	400	JAB
3.	ALDOL CONDENSATE	6.19	9000	JAB
4.	ALKANE	6.48	100	JB
5.	UNKNOWN	6.65	200	JB
6.	ALDOL CONDENSATE	7.70	200	JAB
7.	ALDOL CONDENSATE	8.29	200	JA
8.	UNKNOWN	8.58	100	J
9.	ALDOL CONDENSATE	9.06	200	JAB
10.	ALDOL CONDENSATE	10.21	100	JA
11.	UNKNOWN	20.43	100	J
12.	ORGANIC ACID	21.03	200	J
13.	ADIPATE	23.61	30000	J
14.	UNKNOWN	24.22	300	J
15.	UNKNOWN	27.00	100	J

B07386

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL Lab Sample ID: 9208L387-001

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 09089235.49

% Moisture: 1.3 decanted: (Y/N) _ Date Received: 08/12/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 08/18/92

Concentrated Extract Volume: 5000(uL) Date Analyzed: 09/10/92

Injection Volume: 0.5(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.4 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/Kg</u>	<u>Q</u>
319-84-6	Alpha-BHC	1.7	U
319-85-7	Beta-BHC	1.7	U
319-86-8	Delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.4	U
72-55-9	4,4'-DDE	3.4	U
72-20-8	Endrin	3.4	U
33213-65-9	Endosulfan II	3.4	U
72-54-8	4,4'-DDD	3.4	U
1031-07-8	Endosulfan sulfate	3.4	U
50-29-3	4,4'-DDT	3.4	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.4	U
7421934	Endrin aldehyde	3.4	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	34	U
11104-28-2	Aroclor-1221	68	U
11141-16-5	Aroclor-1232	34	U
53469-21-9	Aroclor-1242	34	U
12672-29-6	Aroclor-1248	34	U
11097-69-1	Aroclor-1254	34	U
11096-82-5	Aroclor-1260	66	U

B.M
09/27/92

0000004

WHC-SD-EN-EE-011, Rev. 0

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 09/16/92

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 6168-02-01-0000

WESTON BATCH #: 9208L387

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-001	B073B6	% Solids	98.7	%	0.10
		Chloride by IC	31.2	MG/KG	1.3
		Fluoride by IC	1.9	MG/KG	1.3
		Cyanide, Total	1.0	u MG/KG	1.0
		Phosphate by IC	14.9	MG/KG	1.3
		Sulfate by IC	232	MG/KG	25.3
		Nitrate Nitrite	36.6	MG-N/KG	1.3
		pH	7.5	PH UNITS	0.010

1
INORGANIC ANALYSIS DATA SHEET

B073B6

Lab Name: ROY F. WESTON, INC - L372 Contract: 6168-02-01

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP387

Matrix (soil/water): SOIL Lab Sample ID: 920838701

Level (low/med): LOW Date Received: 8/12/92

* Solids: 98.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5220.00	-		P
7440-36-0	Antimony	8.91	U	N	P
7440-38-2	Arsenic	.56	B	S**	F
7440-39-3	Barium	114.00		E	P
7440-41-7	Beryllium	.51	B		P
7440-43-9	Cadmium	.81	U		P
7440-70-2	Calcium	9480.00			P
7440-47-3	Chromium	7.60			P
7440-48-4	Cobalt	9.00	B		P
7440-50-8	Copper	14.00			P
7439-89-6	Iron	15300.00			P
7439-92-1	Lead	9.70		N*	F
7439-95-4	Magnesium	3630.00			P
7439-96-5	Manganese	296.00			P
7439-97-6	Mercury	.05	U		CV
7440-02-0	Nickel	9.90			P
7440-09-7	Potassium	1240.00			P
7782-49-2	Selenium	.40	U		F
7440-22-4	Silver	2.90			P
7440-23-5	Sodium	246.00	B		P
7440-28-0	Thallium	.40	U	NW	F
7440-62-2	Vanadium	31.10			P
7440-66-6	Zinc	53.10			P
	Cyanide	1.01	U	N	C

Color Before: BROWN

Clarity Before:

Texture: FINE

Color After: BROWN

Clarity After:

Artifacts:

Comments:

Arsenic + MSA 0.9874 best of two times.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

0700027

CLIENT SAMPLE NO.

WHC-SD-EN-EE-011, Rev. 0

BO73B7

Lab Name: Ray F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L439-001

Sample wt/vol: 5.00 (g/mL) G

Lab File ID: W082110

Level: (low/med) LOW

Date Received: 08/14/92

% Moisture: not dec. 2

Date Analyzed: 08/21/92

GC Column: SP1000 ID: 2.00(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	34	B
67-64-1	Acetone	19	B
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

807387

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L439-001

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: M090710

Level: (low/med) LOW

Date Received: 08/14/92

% Moisture: 2 decanted: (Y/N)

Date Extracted: 08/19/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 09/07/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

pH: 8.9

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

108-95-2	Phenol	340	U
111-44-4	bis(2-Chloroethyl) ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(2-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-di-n-propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
111-91-1	bis(2-Chloroethoxy)methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-methylphenol	340	U
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	850	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	850	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
606-20-2	2,6-Dinitrotoluene	340	U
99-09-2	3-Nitroaniline	850	U
83-32-9	Acenaphthene	340	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

BO73B7

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L439-001

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: MO90710

Level: (low/med) LOW

Date Received: 08/14/92

% Moisture: 2 decanted: (Y/N)

Date Extracted: 08/19/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 09/07/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

pH: 8.9

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

51-28-5	2,4-Dinitrophenol	850	U
100-02-7	4-Nitrophenol	850	U
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	850	U
534-52-1	4,6-Dinitro-2-methylphenol	850	U
86-30-6	N-Nitrosodiphenylamine (1)	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	66	J
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
86-74-8	Carbazole	340	U
84-74-2	Di-n-butylphthalate	120	J
206-44-0	Fluoranthene	340	U
129-00-0	Pyrene	340	U
85-68-7	Butylbenzylphthalate	340	U
91-94-1	3,3'-Dichlorobenzidine	340	U
56-55-3	Benzo(a)anthracene	340	U
218-01-9	Chrysene	340	U
117-81-7	bis(2-Ethylhexyl)phthalate	140	JB
117-84-0	Di-n-octyl phthalate	340	U
205-99-2	Benzo(b)fluoranthene	340	U
207-08-9	Benzo(k)fluoranthene	340	U
50-32-8	Benzo(a)pyrene	340	U
193-39-5	Indeno(1,2,3-cd)pyrene	340	U
53-70-3	Dibenz(a,h)anthracene	340	U
191-24-2	Benzo(g,h,i)perylene	340	U

(1) - Cannot be separated from Diphenylamine

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B073B7

Lab Name: Rov F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L439-001

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: M090710

Level: (low/med) LOW

Date Received: 08/14/92

% Moisture: 2 decanted: (Y/N)

Date Extracted: 08/19/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 09/07/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.9

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 10

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALKANE	4.57	400	JB
2.	ALKANE	4.70	400	JB
3.	ALDOL CONDENSATE	5.53	200	JAB
4.	ALDOL CONDENSATE	6.07	1000	JA
5.	ALDOL CONDENSATE	6.78	800	JA
6.	ALDOL CONDENSATE	7.80	400	JA
7.	UNKNOWN	9.28	300	J
8.	UNKNOWN	11.23	200	J
9.	ORGANIC ACID	19.13	200	J
10.	UNKNOWN	24.72	400	J

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

BO73B8

Lab Name: Rov F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L439-002

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: MO91411

Level: (low/med) LOW

Date Received: 08/14/92

% Moisture: 1 decanted: (Y/N)

Date Extracted: 08/19/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 09/14/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.3

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/Kg</u>	Q
108-95-2	Phenol	340	U
111-44-4	bis(2-Chloroethyl)ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(2-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-di-n-propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
111-91-1	bis(2-Chloroethoxy)methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-methylphenol	340	U
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	840	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	840	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
606-20-2	2,6-Dinitrotoluene	340	U
99-09-2	3-Nitroaniline	840	U
83-32-9	Acenaphthene	340	U

PESTICIDE ORGANICS ANALYSIS DATA SHEET

BO73B7

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L439-001

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: 09089235.61

% Moisture: 2.0 decanted: (Y/N) _

Date Received: 08/14/92

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/18/92

Concentrated Extract Volume: 5000(uL)

Date Analyzed: 09/11/92

Injection Volume: 0.5(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.7

Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/Kg</u>	Q
319-84-6	Alpha-BHC	1.7	U
319-85-7	Beta-BHC	1.7	U
319-86-8	Delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.4	U
72-55-9	4,4'-DDE	3.4	U
72-20-8	Endrin	3.4	U
33213-65-9	Endosulfan II	3.4	U
72-54-8	4,4'-DDD	3.4	U
1031-07-8	Endosulfan sulfate	3.4	U
50-29-3	4,4'-DDT	3.4	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.4	U
7421934	Endrin aldehyde	3.4	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	34	U
11104-28-2	Aroclor-1221	68	U
11141-16-5	Aroclor-1232	34	U
53469-21-9	Aroclor-1242	34	U
12672-29-6	Aroclor-1248	34	U
11097-69-1	Aroclor-1254	34	U
11096-82-5	Aroclor-1260	34	U

DS
4-77-92

0700004

WHC-SD-EN-EE-011, Rev. 0

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 09/16/92

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 6168-02-01-0000

WESTON BATCH #: 9208L439

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-001	BO73B7	% Solids	98.0	%	0.10
		Chloride by IC	4.5	MG/KG	1.3
		Fluoride by IC	1.6	MG/KG	0.50
		Cyanide, Total	1.0	u MG/KG	1.0
		Phosphate by IC	1.3	u MG/KG	1.3
		Sulfate by IC	15.0	MG/KG	1.3
		Nitrate Nitrite	0.55	MG-N/KG	0.051
		pH	9.3	PH UNITS	0.010
-002	BO73B8	% Solids	98.9	%	0.10
		Chloride by IC	6.8	MG/KG	1.3
		Fluoride by IC	1.7	MG/KG	0.50
		Cyanide, Total	1.0	u MG/KG	1.0
		Phosphate by IC	1.3	u MG/KG	1.3
		Sulfate by IC	16.7	MG/KG	1.3
		Nitrate Nitrite	0.46	MG-N/KG	0.051
		pH	9.5	PH UNITS	0.010
-003	BO73B9	% Solids	98.4	%	0.10
		Chloride by IC	8.7	MG/KG	1.3
		Fluoride by IC	1.7	MG/KG	0.50
		Cyanide, Total	1.0	u MG/KG	1.0
		Phosphate by IC	1.3	u MG/KG	1.3
		Sulfate by IC	12.0	MG/KG	1.3
		Nitrate Nitrite	0.62	MG-N/KG	0.051
		pH	8.7	PH UNITS	0.010

1
INORGANIC ANALYSIS DATA SHEET

B073B7

Lab Name: ROY F. WESTON, INC - L372 Contract: 6168-02-01

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP439

Matrix (soil/water): SOIL Lab Sample ID: 920843901

Level (low/med): LOW Date Received: 8/14/92

% Solids: 98.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3780.00			P
7440-36-0	Antimony	8.98	U		P
7440-38-2	Arsenic	1.80	B	N	F
7440-39-3	Barium	54.80			P
7440-41-7	Beryllium	.71	B		P
7440-43-9	Cadmium	.82	U		P
7440-70-2	Calcium	7350.00			P
7440-47-3	Chromium	5.50			P
7440-48-4	Cobalt	7.80	B		P
7440-50-8	Copper	21.90		N*	P
7439-89-6	Iron	12700.00			P
7439-92-1	Lead	3.70		NS	F
7439-95-4	Magnesium	3280.00			P
7439-96-5	Manganese	236.00		N	P
7439-97-6	Mercury	.05	U		CV
7440-02-0	Nickel	6.20	B		P
7440-09-7	Potassium	784.00	B		P
7782-49-2	Selenium	.41	U	NW	F
7440-22-4	Silver	2.30		N	P
7440-23-5	Sodium	236.00	B		P
7440-28-0	Thallium	.41	U		F
7440-62-2	Vanadium	20.60			P
7440-66-6	Zinc	23.80			P
	Cyanide	1.02	U		C

Color Before: BROWN

Clarity Before:

Texture: FINE

Color After: BROWN

Clarity After:

Artifacts:

Comments:

VOLATILE ORGANICS ANALYSIS DATA SHEET

B07388

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L439-002

Sample wt/vol: 5.00 (g/mL) G

Lab File ID: R082206

Level: (low/med) LOW

Date Received: 08/14/92

% Moisture: not dec. 1

Date Analyzed: 08/22/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	1	JB
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	1	JB
67-64-1	Acetone	2	JB
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

BO73B8

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL Lab Sample ID: 9208L439-002

Sample wt/vol: 30.1 (g/mL) G Lab File ID: M091411

Level: (low/med) LOW Date Received: 08/14/92

% Moisture: 1 decanted: (Y/N) Date Extracted: 08/19/92

Concentrated Extract Volume: 500(uL) Date Analyzed: 09/14/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/Kg</u>	Q
51-28-5	2,4-Dinitrophenol	840	U
100-02-7	4-Nitrophenol	840	U
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	840	U
534-52-1	4,6-Dinitro-2-methylphenol	840	U
86-30-6	N-Nitrosodiphenylamine (1)	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	840	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
86-74-8	Carbazole	340	U
84-74-2	Di-n-butylphthalate	340	U
206-44-0	Fluoranthene	340	U
129-00-0	Pyrene	340	U
85-68-7	Butylbenzylphthalate	340	U
91-94-1	3,3'-Dichlorobenzidine	340	U
56-55-3	Benzo(a)anthracene	340	U
218-01-9	Chrysene	340	U
117-81-7	bis(2-Ethylhexyl)phthalate	340	U
117-84-0	Di-n-octyl phthalate	340	U
205-99-2	Benzo(b)fluoranthene	340	U
207-08-9	Benzo(k)fluoranthene	340	U
50-32-8	Benzo(a)pyrene	340	U
193-39-5	Indeno(1,2,3-cd)pyrene	340	U
53-70-3	Dibenz(a,h)anthracene	340	U
191-24-2	Benzo(g,h,i)perylene	340	U

(1) - Cannot be separated from Diphenylamine

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

BO73B8

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L439-002

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: M091411

Level: (low/med) LOW

Date Received: 08/14/92

% Moisture: 1 decanted: (Y/N)

Date Extracted: 08/19/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 09/14/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

pH: 7.3

CONCENTRATION UNITS:

Number TICs found: 4

(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	5.52	600	JAB
2.	ALKENE	7.33	200	J
3.	ADIPATE	21.92	200	J
4.	UNKNOWN	22.45	70	J

PESTICIDE ORGANICS ANALYSIS DATA SHEET

BO73B8

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water)SOIL

Lab Sample ID: 9208L439-002

Sample wt/vol: 30.2 (g/mL) G

Lab File ID: 09169235.61

% Moisture: 1.1 decanted: (Y/N) _

Date Received: 08/14/92

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/19/92

Concentrated Extract Volume: 5000(uL)

Date Analyzed: 09/19/92

Injection Volume: 0.5(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.3

Sulfur Cleanup: (Y/N) _

CONCENTRATION UNITS:

CAS NO.

COMPOUND

(ug/L or ug/Kg) ug/Kg

Q

319-84-6	Alpha-BHC	1.7	U
319-85-7	Beta-BHC	1.7	U
319-86-8	Delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.3	U
72-55-9	4,4'-DDE	3.3	U
72-20-8	Endrin	3.3	U
33213-65-9	Endosulfan II	3.3	U
72-54-8	4,4'-DDD	3.3	U
1031-07-8	Endosulfan sulfate	3.3	U
50-29-3	4,4'-DDT	3.3	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.3	U
7421934	Endrin aldehyde	3.3	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	67	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

DS
9-27-92

0700004

WHC-SD-EN-EE-011, Rev. 0

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 09/16/92

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 6168-02-01-0000

WESTON BATCH #: 9208L439

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-001	BO73B7	% Solids	98.0	%	0.10
		Chloride by IC	4.5	MG/KG	1.3
		Fluoride by IC	1.6	MG/KG	0.50
		Cyanide, Total	1.0	u MG/KG	1.0
		Phosphate by IC	1.3	u MG/KG	1.3
		Sulfate by IC	15.0	MG/KG	1.3
		Nitrate Nitrite	0.55	MG-N/KG	0.051
		pH	9.3	PH UNITS	0.010
-002	BO73B8	% Solids	98.9	%	0.10
		Chloride by IC	6.8	MG/KG	1.3
		Fluoride by IC	1.7	MG/KG	0.50
		Cyanide, Total	1.0	u MG/KG	1.0
		Phosphate by IC	1.3	u MG/KG	1.3
		Sulfate by IC	16.7	MG/KG	1.3
		Nitrate Nitrite	0.46	MG-N/KG	0.051
		pH	9.5	PH UNITS	0.010
-003	BO73B9	% Solids	98.4	%	0.10
		Chloride by IC	8.7	MG/KG	1.3
		Fluoride by IC	1.7	MG/KG	0.50
		Cyanide, Total	1.0	u MG/KG	1.0
		Phosphate by IC	1.3	u MG/KG	1.3
		Sulfate by IC	12.0	MG/KG	1.3
		Nitrate Nitrite	0.62	MG-N/KG	0.051
		pH	8.7	PH UNITS	0.010

1
INORGANIC ANALYSIS DATA SHEET

B073B8

Lab Name: ROY F. WESTON, INC - L372 Contract: 6168-02-01

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP439

Matrix (soil/water): SOIL Lab Sample ID: 920843902

Level (low/med): LOW Date Received: 8/14/92

‡ Solids: 98.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3240.00	-		P
7440-36-0	Antimony	8.89	U		P
7440-38-2	Arsenic	1.80	B	N	F
7440-39-3	Barium	49.40			P
7440-41-7	Beryllium	.20	U		P
7440-43-9	Cadmium	.81	U		P
7440-70-2	Calcium	5170.00			P
7440-47-3	Chromium	4.10			P
7440-48-4	Cobalt	7.50	B		P
7440-50-8	Copper	44.00		*N	P
7439-89-6	Iron	11600.00			P
7439-92-1	Lead	9.10		NS	F
7439-95-4	Magnesium	2550.00			P
7439-96-5	Manganese	209.00		N	P
7439-97-6	Mercury	.05	U		CV
7440-02-0	Nickel	6.50	B		P
7440-09-7	Potassium	709.00	B		P
7782-49-2	Selenium	.40	U	NW	F
7440-22-4	Silver	1.21	U	N	P
7440-23-5	Sodium	266.00	B		P
7440-28-0	Thallium	.40	U		F
7440-62-2	Vanadium	23.20			P
7440-66-6	Zinc	25.50			P
	Cyanide	1.01	U		C

Color Before: BROWN

Clarity Before:

Texture: FINE

Color After: BROWN

Clarity After:

Artifacts:

Comments:

1A 000045 CLIENT SAMPLE NO.
VOLATILE ORGANICS ANALYSIS DATA SHEET

BO73B9

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL Lab Sample ID: 9208L439-003

Sample wt/vol: 5.00 (g/mL) G Lab File ID: W082111

Level: (low/med) LOW Date Received: 08/14/92

% Moisture: not dec. 2 Date Analyzed: 08/21/92

GC Column: SP1000 ID: 2.00(mm) Dilution Factor: 1.00

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	31	B
67-64-1	Acetone	13	B
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

BO73B9

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L439-003

Sample wt/vol: 30.6 (g/mL) G

Lab File ID: M090713

Level: (low/med) LOW

Date Received: 08/14/92

% Moisture: 2 decanted: (Y/N) ___

Date Extracted: 08/19/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 09/07/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

pH: 9.0

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(2-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-di-n-propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	830	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	830	U
131-11-3	Dimethylphthalate	330	U
208-96-8	Acenaphthylene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
99-09-2	3-Nitroaniline	830	U
83-32-9	Acenaphthene	330	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

BO73B9

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L439-003

Sample wt/vol: 30.6 (g/mL) G

Lab File ID: M090713

Level: (low/med) LOW

Date Received: 08/14/92

% Moisture: 2 decanted: (Y/N)

Date Extracted: 08/19/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 09/07/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

pH: 9.0

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

51-28-5	2,4-Dinitrophenol	830	U
100-02-7	4-Nitrophenol	830	U
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	330	U
84-66-2	Diethylphthalate	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-01-6	4-Nitroaniline	830	U
534-52-1	4,6-Dinitro-2-methylphenol	830	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	830	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-butylphthalate	97	J
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	330	U
56-55-3	Benzo(a)anthracene	330	U
218-01-9	Chrysene	330	U
117-81-7	bis(2-Ethylhexyl)phthalate	74	JB
117-84-0	Di-n-octyl phthalate	330	U
205-99-2	Benzo(b)fluoranthene	330	U
207-08-9	Benzo(k)fluoranthene	330	U
50-32-8	Benzo(a)pyrene	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	330	U
53-70-3	Dibenz(a,h)anthracene	330	U
191-24-2	Benzo(g,h,i)perylene	330	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

BO73B9

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L439-003

Sample wt/vol: 30.6 (g/mL) G

Lab File ID: M090713

Level: (low/med) LOW

Date Received: 08/14/92

% Moisture: 2 decanted: (Y/N)

Date Extracted: 08/19/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 09/07/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

pH: 9.0

CONCENTRATION UNITS:

Number TICs found: 10

(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALKANE	4.57	200	JB
2.	ALKANE	4.70	200	JB
3.	ALDOL CONDENSATE	5.55	100	JAB
4.	ALDOL CONDENSATE	6.07	400	JA
5.	ALDOL CONDENSATE	6.78	300	JA
6.	ALDOL CONDENSATE	7.80	200	JA
7.	UNKNOWN	9.28	100	J
8.	ADIPATE	21.95	300	J
9.	UNKNOWN	23.75	80	J
10.	UNKNOWN	24.72	300	J

PESTICIDE ORGANICS ANALYSIS DATA SHEET

807389

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L439-003

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: 09089235.56

% Moisture: 1.6 decanted: (Y/N) _

Date Received: 08/14/92

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/18/92

Concentrated Extract Volume: 5000(uL)

Date Analyzed: 09/11/92

Injection Volume: 0.5(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.7

Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

319-84-6	Alpha-BHC	1.7	U
319-85-7	Beta-BHC	1.7	U
319-86-8	Delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.4	U
72-55-9	4,4'-DDE	3.4	U
72-20-8	Endrin	3.4	U
33213-65-9	Endosulfan II	3.4	U
72-54-8	4,4'-DDD	3.4	U
1031-07-8	Endosulfan sulfate	3.4	U
50-29-3	4,4'-DDT	3.4	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.4	U
7421934	Endrin aldehyde	3.4	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	34	U
11104-28-2	Aroclor-1221	68	U
11141-16-5	Aroclor-1232	34	U
53469-21-9	Aroclor-1242	34	U
12672-29-6	Aroclor-1248	34	U
11097-69-1	Aroclor-1254	34	U
11096-82-5	Aroclor-1260	34	U

Handwritten: 4-27-92

0700004

WHC-SD-EN-EE-011, Rev. 0

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 09/16/92

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 6168-02-01-0000

WESTON BATCH #: 9208L439

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-001	B073B7	% Solids	98.0	%	0.10
		Chloride by IC	4.5	MG/KG	1.3
		Fluoride by IC	1.6	MG/KG	0.50
		Cyanide, Total	1.0	u MG/KG	1.0
		Phosphate by IC	1.3	u MG/KG	1.3
		Sulfate by IC	15.0	MG/KG	1.3
		Nitrate Nitrite	0.55	MG-N/KG	0.051
		pH	9.3	PH UNITS	0.010
		-002	B073B8	% Solids	98.9
Chloride by IC	6.8			MG/KG	1.3
Fluoride by IC	1.7			MG/KG	0.50
Cyanide, Total	1.0			u MG/KG	1.0
Phosphate by IC	1.3			u MG/KG	1.3
Sulfate by IC	16.7			MG/KG	1.3
Nitrate Nitrite	0.46			MG-N/KG	0.051
pH	9.5			PH UNITS	0.010
-003	B073B9			% Solids	98.4
		Chloride by IC	8.7	MG/KG	1.3
		Fluoride by IC	1.7	MG/KG	0.50
		Cyanide, Total	1.0	u MG/KG	1.0
		Phosphate by IC	1.3	u MG/KG	1.3
		Sulfate by IC	12.0	MG/KG	1.3
		Nitrate Nitrite	0.62	MG-N/KG	0.051
		pH	8.7	PH UNITS	0.010

1
 INORGANIC ANALYSIS DATA SHEET

B073B9

Lab Name: ROY F. WESTON, INC - L372 Contract: 6168-02-01

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP439

Matrix (soil/water): SOIL Lab Sample ID: 920843903

Level (low/med): LOW Date Received: 8/14/92

‡ Solids: 98.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4860.00	-		P
7440-36-0	Antimony	9.10	B		P
7440-38-2	Arsenic	2.30		N	F
7440-39-3	Barium	73.80			P
7440-41-7	Beryllium	.63	B		P
7440-43-9	Cadmium	.72	U		P
7440-70-2	Calcium	10100.00			P
7440-47-3	Chromium	7.50			P
7440-48-4	Cobalt	10.60			P
7440-50-8	Copper	15.90		*N	P
7439-89-6	Iron	16400.00			P
7439-92-1	Lead	6.90		NS+	F
7439-95-4	Magnesium	3700.00			P
7439-96-5	Manganese	279.00		N	P
7439-97-6	Mercury	.05	U		CV
7440-02-0	Nickel	3.90	B		P
7440-09-7	Potassium	1020.00			P
7782-49-2	Selenium	.40	U	NW	F
7440-22-4	Silver	2.50		N	P
7440-23-5	Sodium	153.00	B		P
7440-28-0	Thallium	.40	U		F
7440-62-2	Vanadium	28.40			P
7440-66-6	Zinc	33.00			P
	Cyanide	1.02	U		C

Color Before: BROWN

Clarity Before:

Texture: FINE

Color After: BROWN

Clarity After:

Artifacts:

Comments:

Pb + MSA r= 0.9858 best of two runs.

B073C0

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L452-001

Sample wt/vol: 5.00 (g/mL) G

Lab File ID: W082211

Level: (low/med) LOW

Date Received: 08/15/92

% Moisture: not dec. 0

Date Analyzed: 08/22/92

GC Column: SP1000 ID: 2.00(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) <u>UG/KG</u>	<u>Q</u>
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	18	B
67-64-1	Acetone	12	
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

VOLATILE ORGANICS ANALYSIS DATA

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

B073C0

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L452-001

Sample wt/vol: 30.2 (g/mL) G

Lab File ID: M091113

Level: (low/med) LOW

Date Received: 08/15/92

% Moisture: 0 decanted: (Y/N)

Date Extracted: 08/21/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 09/11/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NO.	COMPOUND	(ug/L or ug/Kg)	ug/Kg	Q
51-28-5	2,4-Dinitrophenol	830		U
100-02-7	4-Nitrophenol	830		U
132-64-9	Dibenzofuran	330		U
121-14-2	2,4-Dinitrotoluene	330		U
84-66-2	Diethylphthalate	82		J
7005-72-3	4-Chlorophenyl-phenylether	330		U
86-73-7	Fluorene	330		U
100-01-6	4-Nitroaniline	830		U
534-52-1	4,6-Dinitro-2-methylphenol	830		U
86-30-6	N-Nitrosodiphenylamine (1)	330		U
101-55-3	4-Bromophenyl-phenylether	330		U
118-74-1	Hexachlorobenzene	330		U
87-86-5	Pentachlorophenol	830		U
85-01-8	Phenanthrene	330		U
120-12-7	Anthracene	330		U
86-74-8	Carbazole	330		U
84-74-2	Di-n-butylphthalate	60		JB
206-44-0	Fluoranthene	330		U
129-00-0	Pyrene	330		U
85-68-7	Butylbenzylphthalate	36		J
91-94-1	3,3'-Dichlorobenzidine	330		U
56-55-3	Benzo(a)anthracene	330		U
218-01-9	Chrysene	330		U
117-81-7	bis(2-Ethylhexyl)phthalate	160		JB
117-84-0	Di-n-octyl phthalate	30		J
205-99-2	Benzo(b)fluoranthene	330		U
207-08-9	Benzo(k)fluoranthene	330		U
50-32-8	Benzo(a)pyrene	330		U
193-39-5	Indeno(1,2,3-cd)pyrene	330		U
53-70-3	Dibenz(a,h)anthracene	330		U
191-24-2	Benzo(g,h,i)perylene	330		U

(1) - Cannot be separated from Diphenylamine

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B073C0

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L452-001

Sample wt/vol: 30.2 (g/mL) G

Lab File ID: M091113

Level: (low/med) LOW

Date Received: 08/15/92

% Moisture: 0 decanted: (Y/N)

Date Extracted: 08/21/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 09/11/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

pH: 7.1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 3

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	5.53	100	JAB
2.	UNKNOWN	22.73	70	J
3.	UNKNOWN	24.75	100	J

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1D WHC-SD-EN-EE-011, Rev. 0
PESTICIDE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

B073C0

Lab Name: Rov F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L452-001

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: 09219235.55

% Moisture: .13 decanted: (Y/N) _

Date Received: 08/15/92

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/21/92

Concentrated Extract Volume: 5000(uL)

Date Analyzed: 09/23/92

Injection Volume: 0.5(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.1

Sulfur Cleanup: (Y/N) _

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/Kg</u>	<u>Q</u>
319-84-6	Alpha-BHC	1.7	U
319-85-7	Beta-BHC	1.7	U
319-86-8	Delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.3	U
72-55-9	4,4'-DDE	3.3	U
72-20-8	Endrin	3.3	U
33213-65-9	Endosulfan II	3.3	U
72-54-8	4,4'-DDD	3.3	U
1031-07-8	Endosulfan sulfate	3.3	U
50-29-3	4,4'-DDT	3.3	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.3	U
7421934	Endrin aldehyde	3.3	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	67	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

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10-14-92

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WHC-SD-EN-EE-011, Rev. 0

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 09/16/92

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 6168-02-01-0000

WESTON BATCH #: 9208L452

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-001	B073C0	% Solids	99.9	%	0.10
		Chloride by IC	5.9	MG/KG	1.3
		Fluoride by IC	0.50	u MG/KG	0.50
		Cyanide, Total	1.0	u MG/KG	1.0
		Phosphate by IC	1.3	u MG/KG	1.3
		Sulfate by IC	1.3	u MG/KG	1.3
		Nitrate Nitrite	0.18	MG-N/KG	0.050
		pH	6.1	PH UNITS	0.010
-002	B073C1	% Solids	88.8	%	0.10
		Chloride by IC	5.8	MG/KG	1.4
		Fluoride by IC	1.5	MG/KG	0.50
		Cyanide, Total	1.1	u MG/KG	1.1
		Phosphate by IC	1.4	u MG/KG	1.4
		Sulfate by IC	5.2	MG/KG	1.4
		Nitrate Nitrite	0.51	MG-N/KG	0.056
		pH	9.1	PH UNITS	0.010

1
INORGANIC ANALYSIS DATA SHEET

B073C0

Lab Name: ROY F. WESTON, INC - L372 Contract: 6168-02-01

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP452

Matrix (soil/water): SOIL Lab Sample ID: 920845201

Level (low/med): LOW Date Received: 8/15/92

* Solids: 99.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	125.00	-		P
7440-36-0	Antimony	8.81	U		P
7440-38-2	Arsenic	.40	U		F
7440-39-3	Barium	61.50		N*	P
7440-41-7	Beryllium	.20	U		P
7440-43-9	Cadmium	.80	U		P
7440-70-2	Calcium	68.90	B		P
7440-47-3	Chromium	1.60	U		P
7440-48-4	Cobalt	1.20	U		P
7440-50-8	Copper	1.00	U		P
7439-89-6	Iron	424.00			P
7439-92-1	Lead	.50	B	W	F
7439-95-4	Magnesium	37.50	B		P
7439-96-5	Manganese	207.00		N*	P
7439-97-6	Mercury	.05	U		CV
7440-02-0	Nickel	3.61	U		P
7440-09-7	Potassium	194.00	U		P
7782-49-2	Selenium	.40	U	NW	F
7440-22-4	Silver	1.20	U		P
7440-23-5	Sodium	18.80	B		P
7440-28-0	Thallium	.40	U		F
7440-62-2	Vanadium	1.20	U		P
7440-66-6	Zinc	2.10	B		P
	Cyanide	1.00	U	N	C

Color Before: BROWN

Clarity Before:

Texture: FINE

Color After: BROWN

Clarity After:

Artifacts:

Comments:

B073C1

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L452-002

Sample wt/vol: 5.00 (g/mL) G

Lab File ID: W082409

Level: (low/med) LOW

Date Received: 08/15/92

% Moisture: not dec. 11

Date Analyzed: 08/24/92

GC Column: SP1000 ID: 2.00(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	17	B
67-64-1	Acetone	11	U
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B073C1

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L452-002

Sample wt/vol: 30.2 (g/mL) G

Lab File ID: M091116

Level: (low/med) LOW

Date Received: 08/15/92

% Moisture: 11 decanted: (Y/N)

Date Extracted: 08/21/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 09/11/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.7

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NO.	COMPOUND	ug/Kg	Q
108-95-2	Phenol	370	U
111-44-4	bis(2-Chloroethyl)ether	370	U
95-57-8	2-Chlorophenol	370	U
541-73-1	1,3-Dichlorobenzene	370	U
106-46-7	1,4-Dichlorobenzene	370	U
95-50-1	1,2-Dichlorobenzene	370	U
95-48-7	2-Methylphenol	370	U
108-60-1	2,2'-oxybis(2-Chloropropane)	370	U
106-44-5	4-Methylphenol	370	U
621-64-7	N-Nitroso-di-n-propylamine	370	U
67-72-1	Hexachloroethane	370	U
98-95-3	Nitrobenzene	370	U
78-59-1	Isophorone	370	U
88-75-5	2-Nitrophenol	370	U
105-67-9	2,4-Dimethylphenol	370	U
111-91-1	bis(2-Chloroethoxy)methane	370	U
120-83-2	2,4-Dichlorophenol	370	U
120-82-1	1,2,4-Trichlorobenzene	370	U
91-20-3	Naphthalene	370	U
106-47-8	4-Chloroaniline	370	U
87-68-3	Hexachlorobutadiene	370	U
59-50-7	4-Chloro-3-methylphenol	370	U
91-57-6	2-Methylnaphthalene	370	U
77-47-4	Hexachlorocyclopentadiene	370	U
88-06-2	2,4,6-Trichlorophenol	370	U
95-95-4	2,4,5-Trichlorophenol	930	U
91-58-7	2-Chloronaphthalene	370	U
88-74-4	2-Nitroaniline	930	U
131-11-3	Dimethylphthalate	370	U
208-96-8	Acenaphthylene	370	U
606-20-2	2,6-Dinitrotoluene	370	U
99-09-2	3-Nitroaniline	930	U
83-32-9	Acenaphthene	370	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B073C1

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L452-002

Sample wt/vol: 30.2 (g/mL) G

Lab File ID: M091116

Level: (low/med) LOW

Date Received: 08/15/92

% Moisture: 11 decanted: (Y/N)

Date Extracted: 08/21/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 09/11/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

pH: 7.7

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/Kg</u>	Q
51-28-5	2,4-Dinitrophenol	930	U
100-02-7	4-Nitrophenol	930	U
132-64-9	Dibenzofuran	370	U
121-14-2	2,4-Dinitrotoluene	370	U
84-66-2	Diethylphthalate	23	J
7005-72-3	4-Chlorophenyl-phenylether	370	U
86-73-7	Fluorene	370	U
100-01-6	4-Nitroaniline	930	U
534-52-1	4,6-Dinitro-2-methylphenol	930	U
86-30-6	N-Nitrosodiphenylamine (1)	370	U
101-55-3	4-Bromophenyl-phenylether	370	U
118-74-1	Hexachlorobenzene	370	U
87-86-5	Pentachlorophenol	930	U
85-01-8	Phenanthrene	370	U
120-12-7	Anthracene	370	U
86-74-8	Carbazole	370	U
84-74-2	Di-n-butylphthalate	60	JB
206-44-0	Fluoranthene	370	U
129-00-0	Pyrene	370	U
85-68-7	Butylbenzylphthalate	130	J
91-94-1	3,3'-Dichlorobenzidine	370	U
56-55-3	Benzo(a)anthracene	370	U
218-01-9	Chrysene	370	U
117-81-7	bis(2-Ethylhexyl)phthalate	120	JB
117-84-0	Di-n-octyl phthalate	370	U
205-99-2	Benzo(b)fluoranthene	370	U
207-08-9	Benzo(k)fluoranthene	370	U
50-32-8	Benzo(a)pyrene	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	370	U
53-70-3	Dibenz(a,h)anthracene	370	U
191-24-2	Benzo(g,h,i)perylene	370	U

(1) - Cannot be separated from Diphenylamine

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B073C1

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L452-002

Sample wt/vol: 30.2 (g/mL) G

Lab File ID: M091116

Level: (low/med) LOW

Date Received: 08/15/92

% Moisture: 11 decanted: (Y/N)

Date Extracted: 08/21/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 09/11/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

pH: 7.7

CONCENTRATION UNITS:

Number TICs found: 4

(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	5.55	100	JAB
2.	ALDOL CONDENSATE	6.07	400	JA
3.	ALDOL CONDENSATE	7.80	400	JA
4.	UNKNOWN	22.73	90	J

PESTICIDE ORGANICS ANALYSIS DATA SHEET

B073C1

Lab Name: Roy F. Weston, Inc. Work Order: 06168-002-001-0000-00

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL Lab Sample ID: 9208L452-002

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 09219235.56

% Moisture: 11. decanted: (Y/N) Date Received: 08/15/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 08/21/92

Concentrated Extract Volume: 5000(uL) Date Analyzed: 09/23/92

Injection Volume: 0.5(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.7 Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

319-84-6	Alpha-BHC	1.9	U
319-85-7	Beta-BHC	1.9	U
319-86-8	Delta-BHC	1.9	U
58-89-9	gamma-BHC (Lindane)	1.9	U
76-44-8	Heptachlor	1.9	U
309-00-2	Aldrin	1.9	U
1024-57-3	Heptachlor epoxide	1.9	U
959-98-8	Endosulfan I	1.9	U
60-57-1	Dieldrin	3.8	U
72-55-9	4,4'-DDE	3.8	U
72-20-8	Endrin	3.8	U
33213-65-9	Endosulfan II	3.8	U
72-54-8	4,4'-DDD	3.8	U
1031-07-8	Endosulfan sulfate	3.8	U
50-29-3	4,4'-DDT	3.8	U
72-43-5	Methoxychlor	19	U
53494-70-5	Endrin ketone	3.8	U
7421934	Endrin aldehyde	3.8	U
5103-71-9	alpha-Chlordane	1.9	U
5103-74-2	gamma-Chlordane	1.9	U
8001-35-2	Toxaphene	190	U
12674-11-2	Aroclor-1016	38	U
11104-28-2	Aroclor-1221	75	U
11141-16-5	Aroclor-1232	38	U
53469-21-9	Aroclor-1242	38	U
12672-29-6	Aroclor-1248	38	U
11097-69-1	Aroclor-1254	38	U
11096-82-5	Aroclor-1260	38	U

10-19-92

0000004

WHC-SD-EN-EE-011, Rev. 0

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 09/16/92

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 6168-02-01-0000

WESTON BATCH #: 9208L452

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-001	B073C0	% Solids	99.9	%	0.10
		Chloride by IC	5.9	MG/KG	1.3
		Fluoride by IC	0.50 u	MG/KG	0.50
		Cyanide, Total	1.0 u	MG/KG	1.0
		Phosphate by IC	1.3 u	MG/KG	1.3
		Sulfate by IC	1.3 u	MG/KG	1.3
		Nitrate Nitrite	0.18	MG-N/KG	0.050
		pH	6.1	PH UNITS	0.010
-002	B073C1	% Solids	88.8	%	0.10
		Chloride by IC	5.8	MG/KG	1.4
		Fluoride by IC	1.5	MG/KG	0.50
		Cyanide, Total	1.1 u	MG/KG	1.1
		Phosphate by IC	1.4 u	MG/KG	1.4
		Sulfate by IC	5.2	MG/KG	1.4
		Nitrate Nitrite	0.51	MG-N/KG	0.056
		pH	9.1	PH UNITS	0.010

1
INORGANIC ANALYSIS DATA SHEET

B073C1

Lab Name: ROY F. WESTON, INC - L372 Contract: 6168-02-01

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP452

Matrix (soil/water): SOIL Lab Sample ID: 920845202

Level (low/med): LOW Date Received: 8/15/92

* Solids: 88.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4180.00	-		P
7440-36-0	Antimony	8.20	U		P
7440-38-2	Arsenic	3.90			F
7440-39-3	Barium	73.70		N*	P
7440-41-7	Beryllium	.58	B		P
7440-43-9	Cadmium	.75	U		P
7440-70-2	Calcium	7530.00			P
7440-47-3	Chromium	5.10			P
7440-48-4	Cobalt	8.40	B		P
7440-50-8	Copper	30.60			P
7439-89-6	Iron	14400.00			P
7439-92-1	Lead	4.70		S	F
7439-95-4	Magnesium	3750.00			P
7439-96-5	Manganese	316.00		N*	P
7439-97-6	Mercury	.06	U		CV
7440-02-0	Nickel	7.30	B		P
7440-09-7	Potassium	1060.00			P
7782-49-2	Selenium	4.23	U	NW	F
7440-22-4	Silver	2.20			P
7440-23-5	Sodium	187.00	B		P
7440-28-0	Thallium	.42	U		F
7440-62-2	Vanadium	24.30			P
7440-66-6	Zinc	33.50			P
	Cyanide	1.13	U	N	C

Color Before: BROWN

Clarity Before:

Texture: FINE

Color After: BROWN

Clarity After:

Artifacts:

Comments:

1A WHC-SD-EN-EE-011, Rev. 0
 VOLATILE ORGANICS ANALYSIS DATA SHEET 00019

CLIENT SAMPLE NO.

C2
 B073LZ

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L488-001

Sample wt/vol: 5.00 (g/mL) G

Lab File ID: B082418

Level: (low/med) LOW

Date Received: 08/18/92

% Moisture: not dec. 4

Date Analyzed: 08/24/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) <u>UG/KG</u>	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	13	U
67-64-1	Acetone	19	B
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

BO73LZ

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L488-001

Sample wt/vol: 30.1 (g/mL) g

Lab File ID: M090805

Level: (low/med) LOW

Date Received: 08/18/92

% Moisture: 4 decanted: (Y/N)

Date Extracted: 08/24/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 09/08/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

pH: 6.9

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

108-95-2	Phenol	340	U
111-44-4	bis(2-Chloroethyl)ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(2-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-di-n-propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
111-91-1	bis(2-Chloroethoxy)methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-methylphenol	340	U
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	860	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	860	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
606-20-2	2,6-Dinitrotoluene	340	U
99-09-2	3-Nitroaniline	860	U
83-32-9	Acenaphthene	340	U

0000027

CLIENT SAMPLE NO.

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

BO73LZ

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L488-001

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: M090805

Level: (low/med) LOW

Date Received: 08/18/92

% Moisture: 4 decanted: (Y/N)

Date Extracted: 08/24/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 09/08/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

pH: 6.9

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

51-28-5	2,4-Dinitrophenol	860	U
100-02-7	4-Nitrophenol	860	U
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	860	U
534-52-1	4,6-Dinitro-2-methylphenol	860	U
86-30-6	N-Nitrosodiphenylamine (1)	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	860	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
86-74-8	Carbazole	340	U
84-74-2	Di-n-butylphthalate	110	JB
206-44-0	Fluoranthene	340	U
129-00-0	Pyrene	340	U
85-68-7	Butylbenzylphthalate	95	J
91-94-1	3,3'-Dichlorobenzidine	340	U
56-55-3	Benzo(a)anthracene	340	U
218-01-9	Chrysene	340	U
117-81-7	bis(2-Ethylhexyl)phthalate	33	JB
117-84-0	Di-n-octyl phthalate	340	U
205-99-2	Benzo(b)fluoranthene	340	U
207-08-9	Benzo(k)fluoranthene	340	U
50-32-8	Benzo(a)pyrene	340	U
193-39-5	Indeno(1,2,3-cd)pyrene	340	U
53-70-3	Dibenz(a,h)anthracene	340	U
191-24-2	Benzo(g,h,i)perylene	340	U

(1) - Cannot be separated from Diphenylamine

1P
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

0000028

CLIENT SAMPLE NO.

c2
B073LZ

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L488-001

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: M090805

Level: (low/med) LOW

Date Received: 08/18/92

% Moisture: 4 decanted: (Y/N)

Date Extracted: 08/24/92

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 09/08/92

Injection Volume: 2.0 (uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

pH: 6.9

CONCENTRATION UNITS:

Number TICs found: 9

(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	5.55	70	JB
2.	UNKNOWN	5.83	200	J
3.	ALDOL CONDENSATE	6.07	200	JA
4.	ALDOL CONDENSATE	6.78	200	JA
5.	ETHOXYETHOXYETHANOL	6.97	300	J
6.	ALDOL CONDENSATE	7.80	200	JA
7.	UNKNOWN	9.15	90	J
8.	ORGANIC ACID	19.15	90	J
9.	UNKNOWN	19.47	400	J

1D 0000018
 PESTICIDE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

66
 B073L2

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL Lab Sample ID: 9208L488-001

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 09259235.23

% Moisture: 3.5 decanted: (Y/N) _ Date Received: 08/18/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 08/26/92

Concentrated Extract Volume: 5000(uL) Date Analyzed: 09/27/92

Injection Volume: 0.5(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 6.9 Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

319-84-6	Alpha-BHC	1.7	U
319-85-7	Beta-BHC	1.7	U
319-86-8	Delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.5	U
72-55-9	4,4'-DDE	3.5	U
72-20-8	Endrin	3.5	U
33213-65-9	Endosulfan II	3.5	U
72-54-8	4,4'-DDD	3.5	U
1031-07-8	Endosulfan sulfate	3.5	U
50-29-3	4,4'-DDT	3.5	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.5	U
7421934	Endrin aldehyde	3.5	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	35	U
11104-28-2	Aroclor-1221	69	U
11141-16-5	Aroclor-1232	35	U
53469-21-9	Aroclor-1242	35	U
12672-29-6	Aroclor-1248	35	U
11097-69-1	Aroclor-1254	35	U
11096-82-5	Aroclor-1260	35	U

Handwritten: 10-14-92

0000004

WHC-SD-EN-EE-011, Rev. 0

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 09/18/92

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 6168-02-01-0000

WESTON BATCH #: 9208L488

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-001	BO73LZC2	% Solids	96.5	%	0.10
		Chloride by IC	15.5	MG/KG	1.4
		Fluoride by IC	1.9	MG/KG	1.4
		Cyanide, Total	1.0	u MG/KG	1.0
		Phosphate by IC	4.1	MG/KG	1.4
		Sulfate by IC	7.7	MG/KG	1.4
		Nitrate Nitrite	7.8	MG-N/KG	1.0
		pH	5.0	PH UNITS	0.010

EPA SAMPLE NO.

1
 INORGANIC ANALYSIS DATA SHEET

C2
 B073LZ

Lab Name: ROY F. WESTON, INC - L372 Contract: 6168-02-01

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP488

Matrix (soil/water): SOIL Lab Sample ID: 920848801

Level (low/med): LOW Date Received: 8/18/92

* Solids: 96.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4690.00	-		P
7440-36-0	Antimony	12.40	U	N	P
7440-38-2	Arsenic	3.00			F
7440-39-3	Barium	74.20			P
7440-41-7	Beryllium	.79	B		P
7440-43-9	Cadmium	1.45	U		P
7440-70-2	Calcium	7510.00			P
7440-47-3	Chromium	5.30			P
7440-48-4	Cobalt	10.80			P
7440-50-8	Copper	11.40			P
7439-89-6	Iron	14600.00			P
7439-92-1	Lead	4.40	B	NW	F
7439-95-4	Magnesium	3960.00			P
7439-96-5	Manganese	305.00		N	P
7439-97-6	Mercury	.05	U		CV
7440-02-0	Nickel	9.70			P
7440-09-7	Potassium	1350.00			P
7782-49-2	Selenium	.42	U	W	F
7440-22-4	Silver	2.80			F
7440-23-5	Sodium	157.00	B		P
7440-28-0	Thallium	.42	U	W	F
7440-62-2	Vanadium	21.50			P
7440-66-6	Zinc	32.70			P
	Cyanide	1.04	U		C

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

0000023

1A

CLIENT SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

B073C3

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L497-001

Sample wt/vol: 5.00 (g/mL) G

Lab File ID: B082421

Level: (low/med) LOW

Date Received: 08/19/92

% Moisture: not dec. 7

Date Analyzed: 08/24/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	10	J
67-64-1	Acetone	10	JB
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B073C3

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L497-001

Sample wt/vol: 30.8 (g/mL) G

Lab File ID: M091620

Level: (low/med) LOW

Date Received: 08/19/92

% Moisture: 7 decanted: (Y/N)

Date Extracted: 08/25/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 09/17/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.5

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/Kg</u>	Q
108-95-2	Phenol	410	
111-44-4	bis(2-Chloroethyl)ether	350	U
95-57-8	2-Chlorophenol	350	U
541-73-1	1,3-Dichlorobenzene	350	U
106-46-7	1,4-Dichlorobenzene	350	U
95-50-1	1,2-Dichlorobenzene	350	U
95-48-7	2-Methylphenol	350	U
108-60-1	2,2'-oxybis(2-Chloropropane)	350	U
106-44-5	4-Methylphenol	350	U
621-64-7	N-Nitroso-di-n-propylamine	350	U
67-72-1	Hexachloroethane	350	U
98-95-3	Nitrobenzene	350	U
78-59-1	Isophorone	350	U
88-75-5	2-Nitrophenol	350	U
105-67-9	2,4-Dimethylphenol	350	U
111-91-1	bis(2-Chloroethoxy)methane	350	U
120-83-2	2,4-Dichlorophenol	350	U
120-82-1	1,2,4-Trichlorobenzene	350	U
91-20-3	Naphthalene	350	U
106-47-8	4-Chloroaniline	350	U
87-68-3	Hexachlorobutadiene	350	U
59-50-7	4-Chloro-3-methylphenol	350	U
91-57-6	2-Methylnaphthalene	350	U
77-47-4	Hexachlorocyclopentadiene	350	U
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	870	U
91-58-7	2-Chloronaphthalene	350	U
88-74-4	2-Nitroaniline	870	U
131-11-3	Dimethylphthalate	350	U
208-96-8	Acenaphthylene	350	U
606-20-2	2,6-Dinitrotoluene	350	U
99-09-2	3-Nitroaniline	870	U
83-32-9	Acenaphthene	350	U



SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B073C3

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L497-001

Sample wt/vol: 30.8 (g/mL) G

Lab File ID: M091620

Level: (low/med) LOW

Date Received: 08/19/92

% Moisture: 7 decanted: (Y/N) __

Date Extracted: 08/25/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 09/17/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

pH: 7.5

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

51-28-5	2,4-Dinitrophenol	870	U
100-02-7	4-Nitrophenol	870	U
132-64-9	Dibenzofuran	350	U
121-14-2	2,4-Dinitrotoluene	350	U
84-66-2	Diethylphthalate	350	U
7005-72-3	4-Chlorophenyl-phenylether	350	U
86-73-7	Fluorene	350	U
100-01-6	4-Nitroaniline	870	U
534-52-1	4,6-Dinitro-2-methylphenol	870	U
86-30-6	N-Nitrosodiphenylamine (1)	350	U
101-55-3	4-Bromophenyl-phenylether	350	U
118-74-1	Hexachlorobenzene	350	U
87-86-5	Pentachlorophenol	870	U
85-01-8	Phenanthrene	350	U
120-12-7	Anthracene	350	U
86-74-8	Carbazole	350	U
84-74-2	Di-n-butylphthalate	1100	B
206-44-0	Fluoranthene	350	U
129-00-0	Pyrene	350	U
85-68-7	Butylbenzylphthalate	350	U
91-94-1	3,3'-Dichlorobenzidine	350	U
56-55-3	Benzo(a)anthracene	350	U
218-01-9	Chrysene	350	U
117-81-7	bis(2-Ethylhexyl)phthalate	290	J
117-84-0	Di-n-octyl phthalate	350	U
205-99-2	Benzo(b)fluoranthene	350	U
207-08-9	Benzo(k)fluoranthene	350	U
50-32-8	Benzo(a)pyrene	350	U
193-39-5	Indeno(1,2,3-cd)pyrene	350	U
53-70-3	Dibenz(a,h)anthracene	350	U
191-24-2	Benzo(g,h,i)perylene	350	U

(1) - Cannot be separated from Diphenylamine

070002 CLIENT SAMPLE NO.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

BO73C3

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L497-001

Sample wt/vol: 30.8 (g/mL) G

Lab File ID: M091620

Level: (low/med) LOW

Date Received: 08/19/92

% Moisture: 7 decanted: (Y/N)

Date Extracted: 08/25/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 09/17/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

pH: 7.5

CONCENTRATION UNITS:

Number TICs found: 16

(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	5.42	200	JAB
2.	ALDOL CONDENSATE	5.95	200	JAB
3.	ALDOL CONDENSATE	7.67	90	JA
4.	UNKNOWN	16.75	90	J
5.	UNKNOWN	18.30	200	J
6.	PHTHALATE	18.45	90	JB
7.	ORGANIC ACID	19.02	300	J
8.	UNKNOWN	19.82	200	J
9.	UNKNOWN	19.92	200	J
10.	UNKNOWN	20.10	200	J
11.	UNKNOWN	20.40	100	J
12.	ALKANE	20.58	70	J
13.	UNKNOWN	21.18	90	J
14.	ADIPATE	21.87	20000	J
15.	ALKANE	22.33	200	J
16.	UNKNOWN	27.67	200	J

0000027

ID

CLIENT SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

BO73C3

Lab Name: Roy F. Weston, Inc. Work Order: 06168-002-001-0000-001

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL Lab Sample ID: 9208L497-001

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 09259235.24

% Moisture: 6.6 decanted: (Y/N) _ Date Received: 08/19/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 08/26/92

Concentrated Extract Volume: 5000(uL) Date Analyzed: 09/27/92

Injection Volume: 0.5(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) X pH: 7.5 Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

319-84-6	Alpha-BHC	1.8	U
319-85-7	Beta-BHC	1.8	U
319-86-8	Delta-BHC	1.8	U
58-89-9	gamma-BHC (Lindane)	1.8	U
76-44-8	Heptachlor	1.8	U
309-00-2	Aldrin	1.8	U
1024-57-3	Heptachlor epoxide	1.8	U
959-98-8	Endosulfan I	1.8	U
60-57-1	Dieldrin	3.6	U
72-55-9	4,4'-DDE	3.6	U
72-20-8	Endrin	3.6	U
33213-65-9	Endosulfan II	3.6	U
72-54-8	4,4'-DDD	3.6	U
1031-07-8	Endosulfan sulfate	3.6	U
50-29-3	4,4'-DDT	3.6	U
72-43-5	Methoxychlor	18	U
53494-70-5	Endrin ketone	3.6	U
7421934	Endrin aldehyde	3.6	U
5103-71-9	alpha-Chlordane	1.8	U
5103-74-2	gamma-Chlordane	1.8	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	36	U
11104-28-2	Aroclor-1221	71	U
11141-16-5	Aroclor-1232	36	U
53469-21-9	Aroclor-1242	36	U
12672-29-6	Aroclor-1248	36	U
11097-69-1	Aroclor-1254	36	U
11096-82-5	Aroclor-1260	36	U

M
10-16-92

B-83

DATA

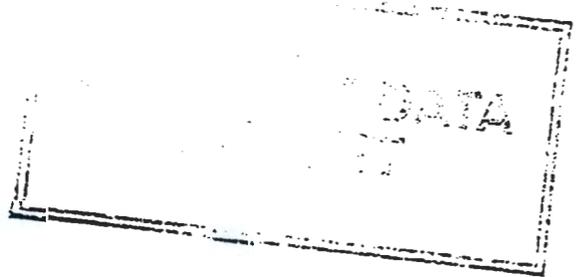
ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 09/24/92

CLIENT: WESTINGHOUSE HANFORD
 WORK ORDER: 6168-02-01-0000

WESTON BATCH #: 9208L497

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-001	B073C3	% Solids	93.4	%	0.10
		Chloride by IC	7.8	MG/KG	1.3
		Fluoride by IC	3.2	MG/KG	2.7
		Cyanide, Total	1.1	u MG/KG	1.1
		Phosphate by IC	1.3	u MG/KG	1.3
		Sulfate by IC	5.7	MG/KG	1.3
		Nitrate Nitrite	3.9	MG-N/KG	1.1
		pH	9.6	PH UNITS	0.0



0000012

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 10/21/92

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 06168-002-001-0000-00

WESTON BATCH #: 9208L497

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-001	BO73C3	Silver, Total	2.1	MG/KG	2.1
		Aluminum, Total	4170	MG/KG	42.8
		Arsenic, Total	4.7	MG/KG	2.1
		Barium, Total	72.0	MG/KG	42.8
		Beryllium, Total	1.1	u MG/KG	1.1
		Calcium, Total	10500	MG/KG	1070
		Cadmium, Total	1.1	u MG/KG	1.1
		Cobalt, Total	10.7	u MG/KG	10.7
		Chromium, Total	3.7	MG/KG	2.1
		Copper, Total	13.5	MG/KG	5.4
		Iron, Total	16100	MG/KG	21.4
		Mercury, Total	0.11	u MG/KG	0.11
		Potassium, Total	1070	u MG/KG	1070
		Magnesium, Total	5110	MG/KG	1070
		Manganese, Total	290	MG/KG	3.2
		Sodium, Total	1070	u MG/KG	1070
		Nickel, Total	8.6	u MG/KG	8.6
		Lead, Total	5.3	MG/KG	0.64
		Antimony, Total	12.8	u MG/KG	12.8
		Selenium, Total	10.7	u MG/KG	10.7
		Thallium, Total	2.1	u MG/KG	2.1
		Vanadium, Total	21.2	MG/KG	10.7
		Zinc, Total	44.3	MG/KG	4.3

01100025

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

BO73C4

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L512-001

Sample wt/vol: 5.10 (g/mL) G

Lab File ID: W082514

Level: (low/med) LOW

Date Received: 08/20/92

% Moisture: not dec. 3

Date Analyzed: 08/25/92

GC Column: SP1000 ID: 2.00(mm)

Dilution Factor: 0.980

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	52	B
67-64-1	Acetone	31	B
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethane	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethane (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

000028

1B

CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

BO73C4

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L512-001

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: M091820

Level: (low/med) LOW

Date Received: 08/20/92

% Moisture: 3 decanted: (Y/N)

Date Extracted: 08/25/92

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/18/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: 8.8

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

108-95-2	Phenol	340	U
111-44-4	bis(2-Chloroethyl)ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(2-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-di-n-propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
111-91-1	bis(2-Chloroethoxy)methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-methylphenol	340	U
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	860	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	860	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
606-20-2	2,6-Dinitrotoluene	340	U
99-09-2	3-Nitroaniline	860	U
83-32-9	Acenaphthene	340	U

000029

1C

CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

BO73C4

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L512-001

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: M091820

Level: (low/med) LOW

Date Received: 08/20/92

% Moisture: 3 decanted: (Y/N)

Date Extracted: 08/25/92

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/18/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 8.8

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

51-28-5	2,4-Dinitrophenol	860	U
100-02-7	4-Nitrophenol	860	U
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	860	U
534-52-1	4,6-Dinitro-2-methylphenol	860	U
86-30-6	N-Nitrosodiphenylamine (1)	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	860	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
86-74-8	Carbazole	340	U
84-74-2	Di-n-butylphthalate	48	JB
206-44-0	Fluoranthene	340	U
129-00-0	Pyrene	340	U
85-68-7	Butylbenzylphthalate	340	U
91-94-1	3,3'-Dichlorobenzidine	340	U
56-55-3	Benzo(a)anthracene	340	U
218-01-9	Chrysene	340	U
117-81-7	bis(2-Ethylhexyl)phthalate	120	J
117-84-0	Di-n-octyl phthalate	340	U
205-99-2	Benzo(b)fluoranthene	340	U
207-08-9	Benzo(k)fluoranthene	340	U
50-32-8	Benzo(a)pyrene	340	U
193-39-5	Indeno(1,2,3-cd)pyrene	340	U
53-70-3	Dibenz(a,h)anthracene	340	U
191-24-2	Benzo(g,h,i)perylene	340	U

(1) - Cannot be separated from Diphenylamine

0000030

1F

CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

BO73C4

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L512-001

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: M091820

Level: (low/med) LOW

Date Received: 08/20/92

% Moisture: 3 decanted: (Y/N) __

Date Extracted: 08/25/92

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/18/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: 8.8

CONCENTRATION UNITS:

Number TICs found: 7

(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALKANE	4.72	200	JB
2.	ALDOL CONDENSATE	5.53	100	JAB
3.	ALDOL CONDENSATE	7.77	90	J
4.	UNKNOWN	21.23	100	J
5.	ADIPATE	21.90	40000	J
6.	UNKNOWN	22.37	100	J
7.	UNKNOWN	22.62	70	J



111100022 CLIENT SAMPLE NO.
 PESTICIDE ORGANICS ANALYSIS DATA SHEET

WHC-SD-EN-EE-011, Rev. 0
 B073C4

Lab Name: Roy F. Weston, Inc. Work Order: 06168-002-001-0000-001

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL Lab Sample ID: 9208L512-001
 Sample wt/vol: 30.0 (g/mL) G Lab File ID: 09259235.25
 % Moisture: 2.6 decanted: (Y/N) _ Date Received: 08/20/92
 Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 08/26/92
 Concentrated Extract Volume: 5000 (uL) Date Analyzed: 09/27/92
 Injection Volume: 0.5 (uL) Dilution Factor: 1.00
 GPC Cleanup: (Y/N) X pH: 8.8 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/Kg</u>	Q
319-84-6	Alpha-BHC	1.7	U
319-85-7	Beta-BHC	1.7	U
319-86-8	Delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.4	U
72-55-9	4,4'-DDE	3.4	U
72-20-8	Endrin	3.4	U
33213-65-9	Endosulfan II	3.4	U
72-54-8	4,4'-DDD	3.4	U
1031-07-8	Endosulfan sulfate	3.4	U
50-29-3	4,4'-DDT	3.4	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.4	U
7421934	Endrin aldehyde	3.4	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	34	U
11104-28-2	Aroclor-1221	68	U
11141-16-5	Aroclor-1232	34	U
53469-21-9	Aroclor-1242	34	U
12672-29-6	Aroclor-1248	34	U
11097-69-1	Aroclor-1254	34	U
11096-82-5	Aroclor-1260	34	U

DS
10-16-92

0000004

WHC-SD-EN-EE-011, Rev. 0

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 09/18/92

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 6168-02-01-0000

WESTON BATCH #: 9208L512

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-001	BO73C4	% Solids	97.4	%	0.10
		Chloride by IC	46.9	MG/KG	1.3
		Fluoride by IC	2.2	MG/KG	1.3
		Cyanide, Total	1.0	u MG/KG	1.0
		Phosphate by IC	1.3	u MG/KG	1.3
		Sulfate by IC	335	MG/KG	25.7
		Nitrate Nitrite	5.4	MG-N/KG	1.0
		pH	9.3	PH UNITS	0.010
-002	BO73C5	% Solids	98.4	%	0.10
		Chloride by IC	48.7	MG/KG	1.3
		Fluoride by IC	2.2	MG/KG	1.3
		Cyanide, Total	1.0	u MG/KG	1.0
		Phosphate by IC	1.3	u MG/KG	1.3
		Sulfate by IC	332	MG/KG	25.4
		Nitrate Nitrite	3.9	MG-N/KG	0.51
		pH	9.3	PH UNITS	0.010

EPA SAMPLE NO.

1
 INORGANIC ANALYSIS DATA SHEET

B073C4

Lab Name: ROY F. WESTON, INC - L372 Contract: 6168-02-01

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP512

Matrix (soil/water): SOIL Lab Sample ID: 920851201

Level (low/med): LOW Date Received: 8/20/92

% Solids: 97.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2940.00	-	*E	P
7440-36-0	Antimony	12.30	U	N	P
7440-38-2	Arsenic	1.30	B	WN	F
7440-39-3	Barium	48.80			P
7440-41-7	Beryllium	.20	U		P
7440-43-9	Cadmium	1.44	U		P
7440-70-2	Calcium	7000.00		E	P
7440-47-3	Chromium	3.60			P
7440-48-4	Cobalt	4.50	B		P
7440-50-8	Copper	7.40			P
7439-89-6	Iron	6640.00		*E	P
7439-92-1	Lead	2.60			F
7439-95-4	Magnesium	2460.00		E	P
7439-96-5	Manganese	177.00		NE	P
7439-97-6	Mercury	.05	U		CV
7440-02-0	Nickel	6.90	B		P
7440-09-7	Potassium	746.00	B		P
7782-49-2	Selenium	.41	U		F
7440-22-4	Silver	2.05	U		P
7440-23-5	Sodium	529.00	B		P
7440-28-0	Thallium	.41	U	N	F
7440-62-2	Vanadium	10.00	B		P
7440-66-6	Zinc	18.60			P
	Cyanide	1.03	U		C

Color Before: BROWN

Clarity Before:

Texture: FINE

Color After: BROWN

Clarity After:

Artifacts:

Comments:

BO73C5

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L512-002

Sample wt/vol: 5.10 (g/mL) G

Lab File ID: B082713

Level: (low/med) LOW

Date Received: 08/20/92

% Moisture: not dec. 2

Date Analyzed: 08/27/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 0.980

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	<u>Q</u>
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	36	B
67-64-1	Acetone	10	B
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

0000049

1B

CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

BO73C5

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L512-002

Sample wt/vol: 30.4 (g/mL) G

Lab File ID: M091619

Level: (low/med) LOW

Date Received: 08/20/92

% Moisture: 2 decanted: (Y/N)

Date Extracted: 08/25/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 09/17/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

pH: 8.5

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(2-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-di-n-propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	840	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	840	U
131-11-3	Dimethylphthalate	330	U
208-96-8	Acenaphthylene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
99-09-2	3-Nitroaniline	840	U
83-32-9	Acenaphthene	330	U

0700050

1C

CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

BO73C5

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L512-002

Sample wt/vol: 30.4 (g/mL) G

Lab File ID: M091619

Level: (low/med) LOW

Date Received: 08/20/92

% Moisture: 2 decanted: (Y/N)

Date Extracted: 08/25/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 09/17/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) X

pH: 8.5

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

51-28-5	2,4-Dinitrophenol	840	U
100-02-7	4-Nitrophenol	840	U
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	330	U
84-66-2	Diethylphthalate	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-01-6	4-Nitroaniline	840	U
534-52-1	4,6-Dinitro-2-methylphenol	840	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	840	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-butylphthalate	42	JB
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	330	U
56-55-3	Benzo(a)anthracene	330	U
218-01-9	Chrysene	330	U
117-81-7	bis(2-Ethylhexyl)phthalate	180	J
117-84-0	Di-n-octyl phthalate	330	U
205-99-2	Benzo(b)fluoranthene	330	U
207-08-9	Benzo(k)fluoranthene	330	U
50-32-8	Benzo(a)pyrene	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	330	U
53-70-3	Dibenz(a,h)anthracene	330	U
191-24-2	Benzo(g,h,i)perylene	330	U

(1) - Cannot be separated from Diphenylamine

000057

CLIENT SAMPLE NO.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B073C5

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L512-002

Sample wt/vol: 30.4 (g/mL) G

Lab File ID: M091619

Level: (low/med) LOW

Date Received: 08/20/92

% Moisture: 2 decanted: (Y/N)

Date Extracted: 08/25/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 09/17/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

pH: 8.5

CONCENTRATION UNITS:

Number TICs found: 14

(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALKANE	4.57	300	JB
2.	ALDOL CONDENSATE	5.42	300	JAB
3.	ALDOL CONDENSATE	5.95	200	JAB
4.	ALDOL CONDENSATE	7.68	70	JA
5.	PHTHALATE	18.45	80	JB
6.	ORGANIC ACID	19.03	300	J
7.	ALKENE	19.92	300	J
8.	UNKNOWN	20.40	100	J
9.	UNKNOWN	20.50	80	J
10.	UNKNOWN	21.18	100	J
11.	ADIPATE	21.83	30000	J
12.	UNKNOWN	22.32	300	J
13.	UNKNOWN	22.57	100	J
14.	UNKNOWN	24.45	100	J



1D

0700029

CLIENT SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

WHC-SD-EN-EE-011, Rev. 0

|B073C5

Lab Name: Roy F. Weston, Inc. Work Order: 06168-002-001-0000-00Client: WESTINGHOUSE HANFORDMatrix: (soil/water) SOILLab Sample ID: 9208L512-002Sample wt/vol: 30.0 (g/mL) GLab File ID: 09259235.26% Moisture: 1.6 decanted: (Y/N) Date Received: 08/20/92Extraction: (SepF/Cont/Sonc) SONCDate Extracted: 08/26/92Concentrated Extract Volume: 5000(uL)Date Analyzed: 09/27/92Injection Volume: 0.5(uL)Dilution Factor: 1.00GPC Cleanup: (Y/N) Y pH: 8.5Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/Kg</u>	Q
319-84-6	Alpha-BHC	1.7	U
319-85-7	Beta-BHC	1.7	U
319-86-8	Delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.4	U
72-55-9	4,4'-DDE	3.4	U
72-20-8	Endrin	3.4	U
33213-65-9	Endosulfan II	3.4	U
72-54-8	4,4'-DDD	3.4	U
1031-07-8	Endosulfan sulfate	3.4	U
50-29-3	4,4'-DDT	3.4	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.4	U
7421934	Endrin aldehyde	3.4	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	34	U
11104-28-2	Aroclor-1221	68	U
11141-16-5	Aroclor-1232	34	U
53469-21-9	Aroclor-1242	34	U
12672-29-6	Aroclor-1248	34	U
11097-69-1	Aroclor-1254	34	U
11096-82-5	Aroclor-1260	34	U

DS
10-16-92

FORM 1 PEST

03/90

0000004

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 09/18/92

CLIENT: WESTINGHOUSE HANFORD
 WORK ORDER: 6168-02-01-0000

WESTON BATCH #: 9208L512

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-001	BO73C4	% Solids	97.4	%	0.10
		Chloride by IC	46.9	MG/KG	1.3
		Fluoride by IC	2.2	MG/KG	1.3
		Cyanide, Total	1.0	u MG/KG	1.0
		Phosphate by IC	1.3	u MG/KG	1.3
		Sulfate by IC	335	MG/KG	25.7
		Nitrate Nitrite	5.4	MG-N/KG	1.0
		pH	9.3	PH UNITS	0.010
-002	BO73C5	% Solids	98.4	%	0.10
		Chloride by IC	48.7	MG/KG	1.3
		Fluoride by IC	2.2	MG/KG	1.3
		Cyanide, Total	1.0	u MG/KG	1.0
		Phosphate by IC	1.3	u MG/KG	1.3
		Sulfate by IC	332	MG/KG	25.4
		Nitrate Nitrite	3.9	MG-N/KG	0.51
		pH	9.3	PH UNITS	0.010

EPA SAMPLE NO.

1
 INORGANIC ANALYSIS DATA SHEET

B073C5

Lab Name: ROY F. WESTON, INC - L372 Contract: 6168-02-01

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP512

Matrix (soil/water): SOIL Lab Sample ID: 920851202

Level (low/med): LOW Date Received: 8/20/92

% Solids: 98.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3390.00	-	*E	P
7440-36-0	Antimony	12.20	U	N	P
7440-38-2	Arsenic	1.30	B	WN	F
7440-39-3	Barium	62.40			P
7440-41-7	Beryllium	.22	B		P
7440-43-9	Cadmium	1.42	U		P
7440-70-2	Calcium	7960.00		E	P
7440-47-3	Chromium	5.50			P
7440-48-4	Cobalt	5.80	B		P
7440-50-8	Copper	9.10			P
7439-89-6	Iron	7980.00		*E	P
7439-92-1	Lead	2.50			F
7439-95-4	Magnesium	2880.00		E	P
7439-96-5	Manganese	197.00		NE	P
7439-97-6	Mercury	.05	U		CV
7440-02-0	Nickel	7.10	B		P
7440-09-7	Potassium	830.00	B		P
7782-49-2	Selenium	.39	U		F
7440-22-4	Silver	2.03	U		P
7440-23-5	Sodium	616.00	B		P
7440-28-0	Thallium	.39	U	N	F
7440-62-2	Vanadium	12.00			P
7440-66-6	Zinc	21.40			P
	Cyanide	1.02	U		C

Color Before: BROWN Clarity Before: Texture: FINE
 Color After: BROWN Clarity After: Artifacts:
 Comments:

VOLATILE ORGANICS ANALYSIS DATA SHEET

BO73C6

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L529-001

Sample wt/vol: 5.10 (g/mL) G

Lab File ID: B082710

Level: (low/med) LOW

Date Received: 08/21/92

% Moisture: not dec. 5

Date Analyzed: 08/27/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 0.980

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	13	B
67-64-1	Acetone	9	JB
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

BO73C6

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-0

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L529-001

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: A091710

Level: (low/med) LOW

Date Received: 08/21/92

% Moisture: 5 decanted: (Y/N)

Date Extracted: 08/27/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 09/17/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

pH: 6.8

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

108-95-2	Phenol	350	U
111-44-4	bis(2-Chloroethyl)ether	350	U
95-57-8	2-Chlorophenol	350	U
541-73-1	1,3-Dichlorobenzene	350	U
106-46-7	1,4-Dichlorobenzene	350	U
95-50-1	1,2-Dichlorobenzene	350	U
95-48-7	2-Methylphenol	350	U
108-60-1	2,2'-oxybis(2-Chloropropane)	350	U
106-44-5	4-Methylphenol	350	U
621-64-7	N-Nitroso-di-n-propylamine	350	U
67-72-1	Hexachloroethane	350	U
98-95-3	Nitrobenzene	350	U
78-59-1	Isophorone	350	U
88-75-5	2-Nitrophenol	350	U
105-67-9	2,4-Dimethylphenol	350	U
111-91-1	bis(2-Chloroethoxy)methane	350	U
120-83-2	2,4-Dichlorophenol	350	U
120-82-1	1,2,4-Trichlorobenzene	350	U
91-20-3	Naphthalene	350	U
106-47-8	4-Chloroaniline	350	U
87-68-3	Hexachlorobutadiene	350	U
59-50-7	4-Chloro-3-methylphenol	350	U
91-57-6	2-Methylnaphthalene	350	U
77-47-4	Hexachlorocyclopentadiene	350	U
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	880	U
91-58-7	2-Chloronaphthalene	350	U
88-74-4	2-Nitroaniline	880	U
131-11-3	Dimethylphthalate	350	U
208-96-8	Acenaphthylene	350	U
606-20-2	2,6-Dinitrotoluene	350	U
99-09-2	3-Nitroaniline	880	U
83-32-9	Acenaphthene	350	U

1F

CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

BO73C6

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-0

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L529-001

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: A091710

Level: (low/med) LOW

Date Received: 08/21/92

% Moisture: 5 decanted: (Y/N) ___

Date Extracted: 08/27/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 09/17/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

pH: 6.8

CONCENTRATION UNITS:

Number TICs found: 19

(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	5.67	1000	JAB
2.	ALKANE	5.89	80	J
3.	ALDOL CONDENSATE	6.27	20000	JAB
4.	ALKANE	6.36	200	JB
5.	ALKANE	6.43	100	JB
6.	ALKANE	6.50	300	JB
7.	ALKANE	6.66	400	JB
8.	ALDOL CONDENSATE	7.71	300	JAB
9.	UNKNOWN	7.97	100	J
10.	ALDOL CONDENSATE	8.29	300	JA
11.	ALDOL CONDENSATE	9.07	300	JA
12.	ALDOL CONDENSATE	9.52	400	JA
13.	UNKNOWN	10.00	90	J
14.	ALDOL CONDENSATE	10.22	200	JA
15.	ORGANIC ACID	21.04	200	J
16.	ADIPATE	23.57	200	J
17.	UNKNOWN	24.56	200	J
18.	UNKNOWN	27.00	500	J
19.	ALKANE	27.93	100	J

0000027

1C

CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

BO73C6

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-0

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9208L529-001

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: A091710

Level: (low/med) LOW

Date Received: 08/21/92

% Moisture: 5 decanted: (Y/N)

Date Extracted: 08/27/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 09/17/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 6.8

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

51-28-5-----	2,4-Dinitrophenol	880	U
100-02-7-----	4-Nitrophenol	880	U
132-64-9-----	Dibenzofuran	350	U
121-14-2-----	2,4-Dinitrotoluene	350	U
84-66-2-----	Diethylphthalate	350	U
7005-72-3-----	4-Chlorophenyl-phenylether	350	U
86-73-7-----	Fluorene	350	U
100-01-6-----	4-Nitroaniline	880	U
534-52-1-----	4,6-Dinitro-2-methylphenol	880	U
86-30-6-----	N-Nitrosodiphenylamine (1)	350	U
101-55-3-----	4-Bromophenyl-phenylether	350	U
118-74-1-----	Hexachlorobenzene	350	U
87-86-5-----	Pentachlorophenol	880	U
85-01-8-----	Phenanthrene	350	U
120-12-7-----	Anthracene	350	U
86-74-8-----	Carbazole	350	U
84-74-2-----	Di-n-butylphthalate	80	J
206-44-0-----	Fluoranthene	350	U
129-00-0-----	Pyrene	350	U
85-68-7-----	Butylbenzylphthalate	350	U
91-94-1-----	3,3'-Dichlorobenzidine	350	U
56-55-3-----	Benzo(a)anthracene	350	U
218-01-9-----	Chrysene	350	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	240	J
117-84-0-----	Di-n-octyl phthalate	350	U
205-99-2-----	Benzo(b)fluoranthene	350	U
207-08-9-----	Benzo(k)fluoranthene	350	U
50-32-8-----	Benzo(a)pyrene	350	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	350	U
53-70-3-----	Dibenz(a,h)anthracene	350	U
191-24-2-----	Benzo(g,h,i)perylene	350	U

(1) - Cannot be separated from Diphenylamine

0000015A

1D

CLIENT SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

BO73C6

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water)SOIL

Lab Sample ID: 9208L529-001

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: 09259235.27

% Moisture: 4.8 decanted: (Y/N)_

Date Received: 08/21/92

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/26/92

Concentrated Extract Volume: 5000(uL)

Date Analyzed: 09/27/92

Injection Volume: 0.5(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.5

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/Kg</u>	Q
319-84-6	Alpha-BHC	1.8	U
319-85-7	Beta-BHC	1.8	U
319-86-8	Delta-BHC	1.8	U
58-89-9	gamma-BHC (Lindane)	1.8	U
76-44-8	Heptachlor	1.8	U
309-00-2	Aldrin	1.8	U
1024-57-3	Heptachlor epoxide	1.8	U
959-98-8	Endosulfan I	1.8	U
60-57-1	Dieldrin	3.5	U
72-55-9	4,4'-DDE	3.5	U
72-20-8	Endrin	3.5	U
33213-65-9	Endosulfan II	3.5	U
72-54-8	4,4'-DDD	3.5	U
1031-07-8	Endosulfan sulfate	3.5	U
50-29-3	4,4'-DDT	3.5	U
72-43-5	Methoxychlor	18	U
53494-70-5	Endrin ketone	3.5	U
7421934	Endrin aldehyde	3.5	U
5103-71-9	alpha-Chlordane	1.8	U
5103-74-2	gamma-Chlordane	1.8	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	35	U
11104-28-2	Aroclor-1221	70	U
11141-16-5	Aroclor-1232	35	U
53469-21-9	Aroclor-1242	35	U
12672-29-6	Aroclor-1248	35	U
11097-69-1	Aroclor-1254	35	U
11096-82-5	Aroclor-1260	35	U

DS
10-14-92

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 09/19/92

CLIENT: WESTINGHOUSE HANFORD

WORK ORDER: 6168-02-01-0000

WESTON BATCH #: 9208L529

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-001	BO73C6	% Solids	95.2	%	0.10
		Chloride by IC	17.7	MG/KG	1.3
		Fluoride by IC	1.3	u MG/KG	1.3
		Cyanide, Total	1.0	u MG/KG	1.0
		Phosphate by IC	1.3	u MG/KG	1.3
		Sulfate by IC	10.3	MG/KG	1.3
		Nitrate Nitrite	3.2	MG-N/KG	1.0
		pH	8.8	PH UNITS	0.010

EPA SAMPLE NO.

1
 INORGANIC ANALYSIS DATA SHEET

B073C6

Lab Name: ROY F. WESTON, INC - L372 Contract: 6168-02-01

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP529

Matrix (soil/water): SOIL Lab Sample ID: 920852901

Level (low/med): LOW Date Received: 8/21/92

% Solids: 95.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5000.00	-		P
7440-36-0	Antimony	12.60	U		P
7440-38-2	Arsenic	2.40			F
7440-39-3	Barium	78.50			P
7440-41-7	Beryllium	.21	U		P
7440-43-9	Cadmium	1.47	U		P
7440-70-2	Calcium	7730.00			P
7440-47-3	Chromium	6.40			P
7440-48-4	Cobalt	9.60	B		P
7440-50-8	Copper	12.40			P
7439-89-6	Iron	16100.00			P
7439-92-1	Lead	5.10		N	F
7439-95-4	Magnesium	3940.00			P
7439-96-5	Manganese	321.00			P
7439-97-6	Mercury	.05	U		CV
7440-02-0	Nickel	8.60			P
7440-09-7	Potassium	1170.00			P
7782-49-2	Selenium	.42	U	N	F
7440-22-4	Silver	3.10			P
7440-23-5	Sodium	152.00	B		P
7440-28-0	Thallium	.42	U		F
7440-62-2	Vanadium	30.40			P
7440-66-6	Zinc	36.10			P
	Cyanide	1.05	U		C

Color Before: BROWN

Clarity Before:

Texture: FINE

Color After: BROWN

Clarity After:

Artifacts:

Comments: