
ARCS

**Remedial Planning Activities
At Selected Uncontrolled
Hazardous Substance Disposal Sites
In The Zone of Regions VI, VII and VIII**

004288

Ash and Salt Concentrations

Dioxins, Furans, Organics, Metals

November 1990 - June 1991

**Vertac Chemical Corp.
Superfund Site**

WA #04-6E04



Environmental Protection Agency

Contract No. 68-W9-0053

URS
CONSULTANTS, INC.

**SEC Donohue
Brown and Caldwell
Harza Environmental Services, Inc.
Shannon & Wilson, Inc.
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February 2, 1993

Mr. Rick Ehrhart, Regional Project Manager
Arkansas/Louisiana Section
U.S. Environmental Protection Agency
Region VI, Mail Code 6H-EA
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

**SUBJECT: ARCS VI, VII and VIII, Contract No. 68-W9-0053, WA# 04-6E04
Vertac Chemical Corporation Superfund Site
Ash and Salt Concentrations, Final Report
Vertac Incinerator Support**

Dear Mr. Ehrhart:

Enclosed for your use are concentrations of target organic and inorganic compounds collected during the sampling of ash and salt produced from November 1990 through June 1991.

Please feel free to contact me with any questions.

Sincerely,

URS CONSULTANTS, INC.



James P. Connell
Site Manager

cc: Eve Boss/EPA/Region VI
Mark Hansen/EPA/Region VI
John Coats/URS/Denver
Lori Raschke/URS/Denver
Site File/URS/Denver
ARCS File/URS/Denver

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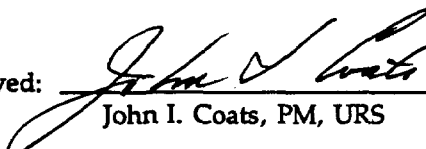
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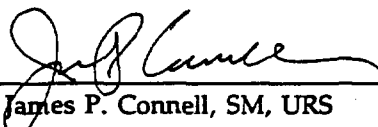
**ASH AND SALT CONCENTRATIONS
VERTAC INCINERATOR SUPPORT
FINAL REPORT
November 1990 through June 1991**

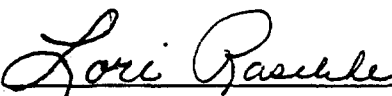
**Vertac Chemical Corporation Superfund Site
Jacksonville, Arkansas**

**U.S. EPA Contract No. 68-W9-0053
Work Assignment No. 04-6E04**

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IDENTIFICATION FORM

Document Title: Vertac Chemical Corporation Superfund Site
Jacksonville, Arkansas
Ash and Salt Concentrations
Final Report
Vertac Incinerator Support - November 1990 through June 1991
Work Assignment No. 04-6E04

Document Control No.: 41111.AD.67.A4205

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Report Coverage: This report covers the November 1990 through June 1991 Ash and Salt Concentrations at the Vertac Chemical Corporation Superfund Site, Jacksonville, Arkansas in Region VI, under EPA Contract No. 68-W9-0053. These services are provided by URS Consultants, Inc. as Prime Contractor.

URS Consultants, Inc.
ARCS, EPA Regions VI, VII and VIII
Contract No. 68-W9-0053

Vertac Chemical Corp. Superfund Site
Ash & Salt Concentrations
Revision: 0
Date: 02/02/93
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Mark Hansen (1 copy)	Superfund Coordinator, ARCS, EPA Region VI, WA# 04-6E04

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**VERTAC CHEMICAL CORP. SUPERFUND SITE
Vertac Incinerator Support
Jacksonville, Arkansas**

**Ash and Salt Concentrations
Final Report
November 1990 through June 1991**

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URS Consultants, Inc.
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Vertac Chemical Corp. Superfund Site
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1.0 INTRODUCTION AND OVERVIEW

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1.0 INTRODUCTION

This summary report was prepared as part of Work Assignment No. 04-6E04, EPA Contract No. 68-W9-0053 for the Vertac Chemical Corporation Superfund Site (Vertac).

URS is responsible for the sampling of ash and salt produced during incineration of the drummed waste at the Vertac Chemical Corporation Superfund Site in Jacksonville, Arkansas. It is also responsible for sending these samples to EPA Contract Laboratory Program (CLP) laboratories for analysis.

The summary tables presented in this report were prepared from data provided to URS by the Environmental Protection Agency (EPA), Region VI. The sample analyses were administered by the EPA CLP and the data validation was conducted by the EPA Region VI Environmental Services Assistance Teams (ESAT).

This report is to be considered final as all original and resubmitted data are included.

The following paragraphs provide a brief narrative description of the attached information. The summary tables present data as they were received from the laboratories. Validator qualifiers have been added to the laboratory qualifiers when they were significant to the understanding of the value of the data.

2.0 OVERVIEW

Ash and salt sample matrices were complex and varied. They consisted of liquids, dry powders, crystalline solids and mixed phase samples. Although these matrices presented considerable problems for the laboratories, the data qualifiers suggested by the laboratories and by the data validators cannot necessarily be considered a reflection of laboratory performance. Overall, the data, although provisional in quality, are useable for the purpose of determining if target compounds are present at levels which allow delisting.

All samples exceeded technical holding times due to the delay between the time of incineration, sampling, procurement of CLP laboratories, and analyses.

2.1 TOTAL DIOXINS AND FURANS (Tab 2)

Analyses for total dioxins and furans were performed by Triangle Labs in Research Triangle Park, North Carolina. EPA SW-846 Method 8290, "Polychlorinated Dibenzo-p-Dioxins and Dibenzofurans by High-Resolution Gas Chromatography/High-Resolution Mass Spectrometry" was used. All data are considered provisional due to problems with instrument performance, calibrations, internal standards, MS/MSD recoveries, and compound identification and quantitation. However, in all samples, these nonconformances affected only one or two isomers and did not affect the overall evaluation of the sample. In all samples, various isomers of dioxin and furan were found in concentrations which exceeded permissible delisting levels.

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Four samples (two ash and two salt) were split and sent to Southwest Research Institute in San Antonio, Texas (SWRI). Comparison of data produced by SWRI and Triangle Labs shows poor reproducibility. SWRI data indicate higher levels of dioxins and furans. In addition, two samples each from August 1991 and September 1991 were collected and analyzed by SWRI to determine if a change had occurred in the incinerator residues.

2.2 METALS (Tab 3)

Metals analyses were performed by TMS Analytical Services, Inc. in Indianapolis, Indiana, and by EA Laboratories in Sparks, Maryland. The analytical methods used were EPA SW-846 Method 1311 and EPA CLP Statement of Work 3/90.

Data for ash samples analyzed by TMS (H6336F-1 through H6336F-35) are considered provisional due to matrix effects. The data are useable for the intended purpose of determining delisting potential. Data for salt samples analyzed by EA Laboratories (H6336F-36 through H6336F-125) are heavily qualified, and some sample data have been rejected as unusable due to consistently poor pre- and post-digestion spike recoveries, serial dilution differences, and blank contamination. These data may be used to determine if the samples meet delisting requirements, but must be considered semi-quantitative.

2.3 ORGANIC COMPOUNDS (Tabs 4, 5, 6, 7, 8)

2.3.1 Salt Samples

Analyses of salt samples for organic compounds, which included volatiles, semivolatiles, pesticides/PCBs and herbicides, were performed by Pacific Analytical, Inc. in Carlsbad, California, and Analytical Resources, Inc. in Seattle, Washington. The case narratives from both labs can be found in Tab 10. These narratives are included because Analytical Resources, Inc. chose to deviate from the procedures described in the CLP Special Analytical Services Request. These procedures resulted in lower detection limits and an apparent incongruity in the data presented in the attached summary tables. However, both approaches are equally valid.

All salt organic data are qualified as provisional due to various problems with calibration, surrogate recovery, internal standard area, and compound identification and quantitation. Extreme matrix effects are the apparent cause of most qualifiers.

No volatile, herbicide or pesticide/PCB target compounds were detected above delisting levels in the salt samples.

2,4-dichlorophenol and 2,4,6-trichlorophenol were detected above delisting levels in the salt semivolatile compound fraction. Toluene, a non-target compound, was found at high levels in some volatile fractions and in others at lower levels. Hexachlorobenzene was detected above the delisting level in one sample.

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2,4-D and 2,4,5-T herbicides were frequently detected. However, concentrations were below delisting levels. In samples analyzed for herbicides, however, these results should be used with caution due to matrix effects and possible false positives. Polynuclear Aromatic Compounds (PAHs) were reported at less than detection level in all samples. However, for samples analyzed by Analytical Resources, Inc., the detection limit in some samples exceeded the maximum allowable concentration for dibenz (a,h) anthracene and benzo (a) pyrene.

2.3.2 Ash Samples

Analyses of ash samples for organic compounds, which included volatiles, semivolatiles, pesticides/PCBs and herbicides, were performed by Wadsworth/Alert Laboratories, Inc. of Pittsburgh, Pennsylvania. The data packages were received with severe contractual violations in the PAH and herbicides analyses and numerous contractual violations in the other analyses. Although the laboratory provided resubmissions and reanalyses, the data package remains qualified as provisional and all ash data should be treated with caution. In addition, 2,4,6-trichlorophenol and all target PAH compounds (except benzo (a) anthracene) have detection limits above delisting limits. Therefore, ash analytical data are unusable in determining if the samples meet PAH delisting requirements.

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Delisting Levels for Incineration Residues

Inorganics (Leachable)

Maximum Allowable Concentration

Arsenic	0.32	ppm
Barium	6.3	ppm
Cadmium	0.06	ppm
Chromium	0.32	ppm
Cyanide	4.4	ppm
Lead	0.32	ppm
Mercury	0.01	ppm
Nickel	4.4	ppm
Selenium	0.06	ppm
Silver	0.32	ppm

Organics

Maximum Allowable Concentration

Benzene	0.87	ppm
Benzo (a) anthracene	0.10	ppm
Benzo (a) pyrene	0.04	ppm
Benzo (b) fluoranthene	0.16	ppm
Chlorobenzene	152	ppm
o-Chlorophenol	44	ppm
Chrysene	15	ppm
2, 4-D	107	ppm
DDE	1.0	ppm
Dibenz (a,h) anthracene	0.007	ppm
1, 4-Dichlorobenzene	265	ppm
1, 1-Dichloroethylene	1.3	ppm
trans-1, 2-Dichloroethylene	37	ppm
Dichloromethane	0.23	ppm
2, 4-Dichlorophenol	43	ppm
Hexachlorobenzene	0.26	ppm
Indeno (1,2,3-cd) pyrene	30	ppm
Polychlorinated biphenyls	12	ppm
2,4,5-T	1 x 10 ⁶	ppm
1,2,4,5-Tetrachlorobenzene	56	ppm

Organics

Maximum Allowable Concentration

Tetrachloroethylene	3.4 ppm
Trichloroethylene	1.1 ppm
2,4,5-Trichlorophenol	2.1×10^4 ppm
2,4,6-Trichlorophenol	0.35 ppm

Chlorinated Dioxins and Furans

Maximum Allowable Concentration

2,3,7,8-Tetrachlorodibenzo-p-dioxin equivalents	4×10^{-7} ppm
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APPENDIX VIII—HAZARDOUS CONSTITUENTS—Continued

Common name	Chemical abstracts name	Chemical abstracts No.	Hazardous waste No.
Toluene-3,4-diamine	1,2-Benzenediamine, 4-methyl-	496-72-0	
Toluene dithiocyanate	Benzene, 1,3-dithiocyanatomethyl-	26471-62-5	U225
o-Toluidine	Benzenamine, 2-methyl-	95-63-4	U328
o-Toluidine hydrochloride	Benzenamine, 2-methyl-, hydrochloride	638-21-5	U222
p-Toluidine	Benzenamine, 4-methyl-	106-49-0	U353
Toxaphene	Same	8001-35-2	P123
1,2,4-Trichlorobenzene	Benzene, 1,2,4-trichloro-	120-82-1	
1,1,2-Trichloroethane	Ethane, 1,1,2-trichloro-	79-00-5	U227
Trichloroethylene	Ethane, trichloro-	79-01-6	U228
Trichloromethane	Methane, trichloro-	75-70-7	P118
Trichloromonofluoromethane	Methane, trichlorofluoro-	75-89-4	U121
2,4,5-Trichlorophenol	Phenol, 2,4,5-trichloro-	95-65-4	See F027
2,4,6-Trichlorophenol	Phenol, 2,4,6-trichloro-	88-06-2	See F027
2,4,5-T	Acetic acid, (2,4,5-trichlorophenoxy)-	93-76-5	See F027
Trichloroethane, N.O.S. ¹		25735-29-9	
1,2,3-Trichloropropane	Propane, 1,2,3-trichloro-	96-18-4	
O,O,O-Trichlorophosphorothioic acid	Phosphorothioic acid, O,O,O-trichloro ester	126-88-1	
1,3,5-Trisubstituted benzene	Benzene, 1,3,5-trisubstituted	99-36-4	U234
Tris(1-aziridinyl)phosphine sulfide	Aziridine, 1,1,1'-triphosphorotriaziridinyl-	52-24-4	
Tris(2,3-dibromopropyl) phosphite	1-Propanol, 2,3-dibromo-, phosphite (3:1)	128-72-7	U235
Tripan blue	2,7-Naphthalenedisulfonic acid, 3,3'-(3,3'-dimethyl(1,1'-biphenyl)-4,4'-diyl)bis(azo)-bis(5-amino-4-hydroxy-, tetrasodium salt	72-37-1	U236
Ureac mustard	2,4-(1H,3H)-Pyrimidinedione, 5-(bis(2-chloroethyl)amino)-	66-76-1	U237
Vanadium pentoxide	Vanadium oxide v ₂ O ₅	1314-62-1	P120
Vinyl chloride	Ethene, chloro-	75-01-4	U043
Warfarin	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, when present at concentrations less than 0.3%	81-81-2	U248
Warfarin	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, when present at concentrations greater than 0.3%	81-81-2	P001
Warfarin salt, when present at concentrations less than 0.3%			U248
Warfarin salt, when present at concentrations greater than 0.3%			P001
Zinc cyanide	Zinc cyanide Zn(CN) ₂	557-21-1	P121
Zinc phosphide	Zinc phosphide Zn ₃ P ₂ , when present at concentrations greater than 10%	1314-84-7	P122
Zinc phosphine	Zinc phosphide Zn ₃ P ₂ , when present at concentrations of 10% or less	1314-84-7	U249

¹ The abbreviation N.O.S. (not otherwise specified) signifies those members of the general class not specifically listed by name in the appendix.

Appendix IX—Wastes Excluded Under §§ 260.20 and 260.22

TABLE 1.—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES—Contd.

TABLE 1.—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES—Contd.

TABLE 1.—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES

Facility	Address	Waste description
Area Chemical Co.	Miami, FL	Dechlorinated wastewater treatment sludge (EPA Hazardous Waste No. F019) generated from the chemical conversion coating of aluminum after April 29, 1988.
Area Building Products	Sugar Creek, Ohio	Dechlorinated wastewater treatment sludge (EPA Hazardous Waste No. F019) generated from the chemical conversion coating of aluminum after August 15, 1988.
Antares Department of Pollution Control and Ecology	Varies Suburban, IN; Jackson, VA; Antares, Antares.	Kin ash, cyclone ash, and calcium chloride salt from incineration of residues (EPA Hazardous Waste No. F020 and F023) generated from the primary production of 2,4,5-T and 2,4-D after August 24, 1990. This one-time exclusion ap-

Facility	Address	Waste description
		<p>plies only to the incineration of the waste materials described in the petition, and it is conditional upon the data obtained from AOPCSE's full-scale incineration facility. To ensure that hazardous constituents are not present in the waste at levels of regulatory concern once the full-scale treatment facility is in operation, AOPCSE must implement a testing program for the petitioned waste. This testing program must meet the following conditions for the exclusion to be valid:</p> <p>(1) Testing: Sample collection and analysis (including quality control (QC) procedures) must be performed according to SW-846 methodologies.</p> <p>(A) Initial testing: Representative grab samples must be taken from each drum and kin ash and cyclone ash generated from</p>

Facility	Address	Waste description
		<p>each 24 hours of operation, and the grab samples collected to form one composite sample of ash for each 24-hour period. Representative grab samples must also be taken from each drum of calcium chloride salt generated from each 24 hours of operation and composite to form one composite sample of calcium chloride salt for each 24-hour period. The initial testing requirements must be fulfilled for the following wastes at incineration by-product generated only to and during the incinerator's start-up:</p> <p>(B) Incineration by-product from the treatment of 2,4-D waste for one week (or 7 days if incineration is not an consecutive event) after completion of the in-</p>

TABLE 1.— WASTES EXCLUDED FROM NON-SPECIFIC SOURCES—Contd.

Facility	Address	Waste description
		<p>al burn; (ii) incineration by-products from the treatment of blended 2,4-D and 2,4,5-T wastes for two weeks (or 14 days if incineration is not on consecutive days) after completion of the trial burn; and (iii) incineration by-products from the treatment of blended 2,4-D and 2,4,5-T wastes for one week (or 7 days if incineration is not on consecutive days) when the percentage of 2, 4, 5-T wastes exceeds the maximum percentage treated under Condition (1)(A)(ii). Prior to disposal of the residues from each 24-hour sampling period, the daily composite must be analyzed for all the constituents listed in Condition (3). ADPC&E must report the analytical test data, including quality control information, obtained during this test period no later than 90 days after the start of the operation.</p> <p>(B) Subsequent testing: Representative grab samples of each drum of bin and cyclone ash generated from each week of operation must be composited to form one composite sample of ash for each weekly period. Representative grab samples of each drum of calcium chloride salts generated from each week of operation must also be composited to form one composite sample of calcium chloride salts for each weekly period.</p> <p>Prior to disposal of the residues from each weekly sampling period, the weekly composites must be analyzed for all of the constituents listed in Condition (3). The analytical data, including quality con-</p>

TABLE 1.— WASTES EXCLUDED FROM NON-SPECIFIC SOURCES—Contd.

Facility	Address	Waste description
		<p>(1) Information must be compiled and maintained on site for a minimum of three years. These data must be furnished upon request and made available for inspection by any employee or representative of EPA.</p> <p>(2) Waste holding: The incineration residues that are generated must be stored as hazardous until the initial verification analyses or subsequent analyses are completed. If the composite incineration residue samples from either Condition (1)(A) or Condition (1)(B) do not exceed any of the listing levels set in Condition (3), the incineration residues corresponding to these samples may be managed and disposed of in accordance with all applicable solid waste regulations.</p> <p>If any composite incineration residue sample exceeds any of the listing levels set in Condition (3), the incineration residues generated during the time period corresponding to the sample must be retested until they meet these levels (analyses must be repeated) or managed and disposed of in accordance with subtitle C of RCRA. Incineration residues which are generated but for which analysis is not complete or valid must be managed and disposed of in accordance with subtitle C of RCRA, until valid analyses demonstrate that the wastes meet the listing levels.</p> <p>(3) Listing levels: If concentrations in one or more of the incineration residues for any of the hazardous constituents listed below exceed their respective maximum allowable concentrations also listed below, the batch of failing waste must either be re-treated until it meets these levels or managed and disposed of</p>

TABLE 1.— WASTES EXCLUDED FROM NON-SPECIFIC SOURCES—Contd.

Facility	Address	Waste description
		<p>in accordance with subtitle C of RCRA.</p> <p>(A) Inorganics (leachable): Arsenic—0.32 ppm; Barium, 6.3 ppm; Cadmium, 0.06 ppm; Chromium, 0.32 ppm; Cyanide, 4.4 ppm; Lead, 0.32 ppm; Mercury, 0.01 ppm; Nickel, 4.4 ppm; Selenium, 0.06 ppm; Silver, 0.32 ppm. Metal concentrations must be measured in the waste leachate as per 40 CFR 261.24. Cyanide extractions must be conducted using distilled water.</p> <p>(B) Organics: Benzene, 0.87 ppm; Benzofluoranthracene, 0.10 ppm; Benzopyrene, 0.04 ppm; Benzofluoranthracene, 0.16 ppm; Chlorobenzene, 152 ppm; o-Chlorophenol, 44 ppm; Chrysene, 15 ppm; 2,4-D, 107 ppm; DDE, 1.0 ppm; Dibenzofluoranthracene, 0.007 ppm; 1,4-Dichlorobenzene, 265 ppm; 1,1-Dichloroethylene, 1.3 ppm; trans-1,2-Dichloroethylene, 37 ppm; Dichloromethane, 0.23 ppm; 2,4-Dichlorophenol, 43 ppm; Hexachlorobenzene, 0.26 ppm; Indeno (1,2,3-cd) pyrene, 30 ppm; Polychlorinated biphenyls, 12 ppm; 2,4,5-T, 1×10^4 ppm; 1,2,4,5-Tetrachlorobenzene, 56 ppm; Tetrachloroethylene, 3.4 ppm; Trichloroethylene, 1.1 ppm; 2,4,5-Trichlorophenol, 21,000 ppm; 2,4,6-Trichlorophenol, 0.35 ppm.</p> <p>(C) Chlorinated dioxins and furans: 2,3,7,8-Tetrachlorodibenzo-p-dioxin equivalents, 4×10^{-7} ppm.</p> <p>The petroleum by-product must be analyzed for the tetra-, penta-, hexa-, and heptachlorobenzop-dioxins, and the tetra-, penta-, hexa-, and heptachlorodibenzofurans to determine the 2,3,7,8-tetrach-</p>

TABLE 1.—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES—Contd.

Facility	Address	Waste description
		<p>lorodibenzo-dioxin equivalent concentration. The analyses must be conducted using Method 8290, a high resolution gas chromatography/mass spectrometry method, and must achieve practical quantitation limits of 15 parts per trillion (ppt) for the tetra- and penta-homologs, and 37 ppt for the hexa- and hepta-homologs.</p> <p>(4) Termination of testing: Due to the possible variability of the incinerator feeds, the testing requirements of Condition (1)(B) will continue indefinitely.</p> <p>(5) Data summary: Within one week of system start-up ADPC&E must notify the Section Chief, Variance Section (see address below when the full-scale incineration system is on-line and waste treatment has begun. The data obtained through Condition (1)(A) must be submitted to the Section Chief, Variance Section, PSPD/OSW (OS-343), U.S. EPA, 401 M Street SW, Washington, DC 20460 within the time period specified. At the Section Chief's request, ADPC&E must submit analytical data obtained through Condition (1)(B) within the time period specified by the Section Chief. Failure to submit the required data obtained from Condition (1)(A) within the specified time period or maintain the required records for the time specified in Condition (1)(B) (or to submit data within the time specified by the Section Chief) will be considered by the Agency, at its discretion, sufficient basis to revoke ADPC&E's exclusion to the extent directed by EPA. All data must be accompanied by the following certification statement:</p> <p>"Under civil and criminal penalty of law for the making or submission</p>

TABLE 1.—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES—Contd.

Facility	Address	Waste description
BBC Brown Boveri, Inc.	Sanford, FL	<p>of false or fraudulent statements or representations (pursuant to the applicable provisions of the Federal Code, which include, but may not be limited to, 18 U.S.C. 1001 and 42 U.S.C. 8928). I certify that the information contained in or accompanying this document is true, accurate and complete. As to the (those identified sections) of this document for which I cannot personally verify its truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete. In the event that any of this information is determined by EPA in its sole discretion to be false, inaccurate or incomplete, and upon conveyance of this fact to the company, I recognize and agree that this exclusion of wastes will be void as if it never had effect or to the extent directed by EPA and that the company will be liable for any actions taken in consequence of the company's RCRA and CERCLA obligations promised upon the company's reliance on the void exclusion."</p> <p>Deactivated Wastewater treatment sludges (EPA Hazardous Waste No. F008) generated from electroplating operations after October 17, 1988.</p>
Boeing Commercial Airplane Co	Auburn, Washington	<p>Residually contaminated soils in an inactive sludge pie containment area on March 27, 1990, previously used to store wastewater treatment sludges generated from electroplating operations (EPA Hazardous Waste No. F006).</p>

TABLE 1.—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES—Contd.

Facility	Address	Waste description
Bommer Industries Incorporated	Landrum, South Carolina	<p>Wastewater treatment sludges (EPA Hazardous Waste No. F008) generated from their electroplating operations and contained in evaporation cones #1 and #2 on August 12, 1987.</p>
Capitol Products Corporation	Kensand, IN	<p>Deactivated wastewater treatment sludges (EPA Hazardous Waste No. F019) generated from the chemical conversion coating of aluminum after November 17, 1988.</p>
Chamberlain-Featherline, Inc.	Hot Springs, AR	<p>Deactivated wastewater treatment sludges (EPA Hazardous Waste No. F019) generated from the chemical conversion coating of aluminum after July 18, 1988.</p>
Capitol Products Corp.	Harrisburg, PA	<p>Deactivated wastewater treatment sludges (EPA Hazardous Waste No. F019) generated from the chemical conversion coating of aluminum after September 12, 1988.</p>
Cincinnati Metropolitan Sewer District	Cincinnati, Oh	<p>Sludged bottom ash sludge (approximately 25,000 cubic yards) contained in the South Lagoon on September 13, 1988 when contains EPA Hazardous Waste Nos. F001, F002, F003, F004, and F005.</p>
Clay Equipment Corporation	Cedar Falls, Iowa	<p>Deactivated wastewater treatment sludges (EPA Hazardous Waste No. F008) and spent cyanide bath solutions (EPA Hazardous Waste No. F009) generated from electroplating operations and residues of an on-site surface impoundment. This is a chronic exclusion. This exclusion was published on August 1, 1989.</p>

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DATA QUALIFIER DEFINITIONS

Organic Flags

- B - The analyte is found in the associated blank as well as the sample.
- D - Identifies all compounds identified in an analysis at a secondary dilution factor.
- E - Identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis.
- J - The associated numerical value is an estimated quantity. Presence of the material is reliable.
- U - Indicates the compound was analyzed for but not detected.
- Y - Detection limit elevated due to matrix interference (herbicides).

Inorganic Flags

- C - Concentration qualifier.
 - B - The reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but greater than or equal to the Instrument Detection Limit (IDL).
 - U - Indicates the compound was analyzed for but not detected.
- Q - Data qualifiers applied by the laboratory or the data validator.
 - E - The reported value is estimated because of the presence of interference.
 - J - The associated numerical value is an estimated quantity. Presence of the material is reliable.
 - M - Duplicate injection precision not met.
 - N - Spiked sample recovery not within control limits.
 - R - Data is rejected due to technical and/or contractual non-compliance.
 - S - The reported value was determined by the Method of Standard Additions (MSA).

URS Consultants, Inc.
ARCS, EPA Regions VI, VII and VIII
Contract No. 68-W9-0053

Vertac Chemical Corp. Superfund Site
Ash & Salt Concentrations
Revision: 0
Date: 02/02/93

..C04304

ABBREVIATIONS

Kg - Kilogram

L - Liter

μ g - Microgram

mg - Milligram

ND - No Data

04305

DATA QUALIFIER DEFINITIONS

Organic Flags

- B - The analyte is found in the associated blank as well as the sample.
- D - Identifies all compounds identified in an analysis at a secondary dilution factor.
- E - Identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis.
- J - The associated numerical value is an estimated quantity. Presence of the material is reliable.
- U - Indicates the compound was analyzed for but not detected.
- Y - Detection limit elevated due to matrix interference (herbicides).

Inorganic Flags

- C - Concentration qualifier.
 - B - The reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but greater than or equal to the Instrument Detection Limit (IDL).
 - U - Indicates the compound was analyzed for but not detected.
- Q - Data qualifiers applied by the laboratory or the data validator.
 - E - The reported value is estimated because of the presence of interference.
 - J - The associated numerical value is an estimated quantity. Presence of the material is reliable.
 - M - Duplicate injection precision not met.
 - N - Spiked sample recovery not within control limits.
 - R - Data is rejected due to technical and/or contractual non-compliance.
 - S - The reported value was determined by the Method of Standard Additions (MSA).

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W - Post-digestion spike for Furnace AA analysis is out of control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.

Entering "S," "W" or "+" is mutually exclusive. No combination of these qualifiers can appear in the same field for an analyte.

Dioxin Flags

TEF or TEV - Toxicity Equivalency Factor.

EMPC - Estimated Maximum Possible Concentration.

S - Indicates that the analyte in question is, in the opinion of the GC/MS Interpretation Specialist, a PCDD/PCDF even though the M-[COCL]+ ion did not meet the requirement of 2.5 times signal-to-noise.

Q - Ion instabilities as a result of quantitative interferences.

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Vertac Chemical Corp. Superfund Site
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04307

ABBREVIATIONS

Kg - Kilogram
L - Liter
 μ g - Microgram
mg - Milligram
ND - No Data

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2.0 DIOXIN, FURAN DATA TABLES

Vertac Ash & Salt Sample Results

ORGANIC ANALYSIS DATA SHEET				DIOXIN																																		
MATRIX: SALT/ASH																																						
EPA ID	SAMPLE ID	SAMPLING DATE	INCINERATOR DATE	MAT-RX	UNITS	TOTAL TCDD	Q	EMPC	TOTAL PeCDD	Q	EMPC	TOTAL HxCDD	Q	EMPC	TOTAL HxCDD	Q	EMPC	TOTAL TCDF	Q	EMPC	TOTAL PeCDF	Q	EMPC	TOTAL HxCDF	Q	EMPC	TOTAL HxCDF	Q	EMPC	OCDD	Q	OCDF	Q	EMPC				
6336F-1A	S-1	08-Feb-91	04-Nov-90	SALT	PPT	33.2	Q	37.1	120	Q	139	269	Q	511	757	Q	64.2	92.4	146	147	368	Q	420	441	714.0	1050	B	1400										
6336F-2A	S-2	08-Feb-91	07-Nov-90	SALT	PPT	66.7			258		266	510		511	757		66.7	92.4	146	147	368		420	441	714.0	1050	B	1400										
6336F-3A	S-3	08-Feb-91	08-Nov-90	SALT	PPT	30.2			59.1		137	252		254	455		30.2	34.0	59.1	137	133	134	414	444	670	779.0	761	B	1440									
6336F-4A	S-4	08-Feb-91	09-Nov-90	SALT	PPT	84.0			50.5		117	171			145		84.0	37.9	50.5	117	171	171	33.8	43.0	8.0	37.3	44.0	61.1	65.9	207	B	85.9						
6336F-5A	S-5	08-Feb-91	11-Nov-90	SALT	PPT	133			144		411	958	Q	966	938	Q	133	144	411	441	183	198	329	411	575	1950	B	824										
6336F-6A	S-6	08-Feb-91	13-Nov-90	SALT	PPT	31.8			32.5		60.3	Q	66.2	136	Q	142		31.8	32.5	60.3	136	142	167	107	118	60.8	168.0	279	B	821								
6336F-7A	S-7	08-Feb-91	14-Nov-90	SALT	PPT	919	Q		921	Q	4250	Q		8120	QS			919	921	4250	8120	QS	5300	Q		4830	Q	5050	4240									
6336F-8A	S-8	08-Feb-91	16-Nov-90	SALT	PPT	2140	Q		2140	QS	2050	QS	11310	6740	QS	10970	5370	QS	2140	2140	2050	2530	2530	8550	Q	8560	7490	QS	5500	BS	6390	QS						
6336F-9A	S-9	08-Feb-91	21-Nov-90	SALT	PPT	33.2			175	Q	206	481	Q	484	660	Q	33.2	34.0	175	206	481	484	660	64.1	229	265	483	599	B	914								
6336F-10A	S-10	08-Feb-91	25-Nov-90	SALT	PPT	31.9			34.0		221	226	336	Q	337	1040	Q	31.9	34.0	221	226	336	248	280	444	463	1190	Q	1190	1510	1060	B	1620					
6336F-11A	S-11	08-Feb-91	26-Nov-90	SALT	PPT	98.6			107		632	906	1290	Q		2120	Q	98.6	107	632	906	1290	1050	1100	1070	1060	3190	Q	3190	1890	2570	2500	B	4010	Q			
6336F-12A	S-12	08-Feb-91	27-Nov-90	SALT	PPT	1290	B		1310		318	335	121	Q		202	Q	1290	1310	318	335	121	1170	B	1180	111		181	Q	204	189	Q	275	313	B	329		
6336F-13A	S-13	08-Feb-91	28-Nov-90	SALT	PPT	34.7	Q		34.7	Q	180	229	393	Q	394	689	Q	34.7	34.7	180	229	393	88.1	105	186	465		486	858	B	885							
6336F-14A	S-14	08-Feb-91	29-Nov-90	SALT	PPT	22.7			24.1		96.5	Q	105	261	Q		469		22.7	24.1	96.5	105	261	86.1	63.2	79.7	Q	87.9	190	204	264	410	B	342	B			
6336F-15A	S-15	08-Feb-91	30-Nov-90	SALT	PPT	101			106		187	Q	201	578	Q	655	1300		101	106	187	201	578	262	286	376	Q	388	592	623	1290	1820	B	1080	B			
6336F-16A	S-16	08-Feb-91	01-Dec-90	SALT	PPT	51.1			53.6		199	Q	205	407	Q	408	905		51.1	53.6	199	205	407	118	126	277	Q	285	901	660	949	1220	B	1250	B			
6336F-17A	S-17	08-Feb-91	02-Dec-90	SALT	PPT	47.3			54.0		158	Q	167	359	Q	363	733		47.3	54.0	158	167	359	101	115	165	Q	210	274	457	461	602	882	B	692	B		
6336F-18A	S-18	08-Feb-91	03-Dec-90	SALT	PPT	78.8			83.5		226	Q	242	384	Q		598		78.8	83.5	226	242	384	124	131	183	Q	198	497	485	530	701	B	711	B			
6336F-18A	S-19	08-Feb-91	04-Dec-90	SALT	PPT	40.8			41.4		86.0	Q	107	183	Q	155	292		40.8	41.4	86.0	107	183	63.9	74.5	83.4	Q	122	184	226	217	257	298	B	311	B		
6336F-20A	S-20	08-Feb-91	05-Dec-90	SALT	PPT	40.2			42.6		111	158	305	Q	308	645		40.2	42.6	111	158	305	76.5	87.7	181	Q	182	358	364	391	472	508	B	614	B			
6336F-21A	S-21	08-Feb-91	06-Dec-90	SALT	PPT	18.9			26.2		73.1	78.8	167	Q		298		18.9	26.2	73.1	78.8	167	47.5	56.9	111	Q	126	228	273	172	330	388	B	519	B			
6336F-22A	S-22	08-Feb-91	07-Dec-90	SALT	PPT	55.9			59		161	Q	161	243	Q	247	483		55.9	59	161	161	243	83.3	99.8	193	Q	202	368	415	367	487	818	B	791	B		
6336F-23A	S-23	08-May-91	08-Dec-90	SALT	PPT	13			18.9		56.0	Q	63.3	112		263		13	18.9	56.0	63.3	112	38.5	48.9	106	Q	117	239	259	274	370	471						
6336F-24A	S-24	08-May-91	17-Dec-90	SALT	PPT	71.1			76.0		114	Q	137	228	Q	229	417		71.1	76.0	114	137	228	75.8	103	143	Q	163	284	307	240	397	602					
6336F-25A	S-27	08-May-91	18-Dec-90	SALT	PPT	39.2			43.4		111	Q	116	187	Q		362		39.2	43.4	111	116	187	63.1	66.3	92.6	Q	102	119	194	199	231	463	255				
6336F-26A	S-28	08-May-91	30-Dec-90	SALT	PPT	86.8			92.2		215	Q	220	330	Q	335	374		86.8	92.2	215	220	330	95.0	123	128	Q	128	172	163	174	382						
6336F-27A	S-29	08-May-91	31-Dec-90	SALT	PPT	192			110		264	308	707	Q		1160		192	110	264	308	707	110	134	204	212	582	608	1770	B	994	B						
6336F-28A	S-30	08-May-91	03-Jan-91	SALT	PPT	301			306		801	633	1070	Q	1070	1310		301	306	801	633	1070	607	628	378	404	711	721	768	1910	B	733	B					
6336F-29A	S-31	08-May-91	04-Jan-91	SALT	PPT	191			192		335	378	595	Q	596	863		191	192	335	378	595	239	244	338	340	565	493	877	B	412	B						
6336F-30A	S-32	08-May-91	07-Jan-91	SALT	PPT	335			339		889	749	1300	Q	1300	2000		335	339	889	749	1300	380	417	731		1750	2870	B	1680	B							
6336F-31A	S-33	08-May-91	08-Jan-91	SALT	PPT	1090			1730		1760	2420	Q	2420	1880		1090	1730	1760	2420	1880	1080	1160	1160	1160	1830	1490	1780	B	1350	B							
6336F-32A	S-34	08-May-91	16-Jan-91	SALT	PPT	6050			7790		6050	7410	Q	7530	3890		6050	7790	6050	7410	3890	2670	2780	2120	2210	3740	3690	4180	B	5080	B							
6336F-33A	S-35	09-May-91	29-Jan-91	SALT	PPT	160			161		435	460	713	Q	713	1130		160	161	435	460	713	141	174	261	264	498	473	1330	B	415	B						
6336F-34A	S-36	09-May-91	01-Feb-91	SALT	EMPC				0.80		EMPC	1.4	1.3		8.1							13.8	EMPC	Q	0.68	ND	ND	2.9	46.1	B	EMPC	B	3.0					
6336F-35A	S-37	09-May-91	06-Feb-91	SALT	PPT	528	Q		532		1340	1360	1620	Q	1640	1270		528	532	1340	1360	1620	280	298	279	281	442	443	298	897	B	146	B					
6336F-36A	S-38	09-May-91	07-Feb-91	SALT	PPT	288			289		539	548	537	Q	543	478		288	289	539	548	537	110	127	147	148	177	188.0	101	331	B	63.9	B					
6336F-37A	S-39	09-May-91	08-Feb-91	SALT	PPT	525			528		1310	1320	1600	Q	1500	1100		525	528	1310	1320	1600	235	269	249	252	329	352	259	764	B	130	B					
6336F-38A	S-40	09-May-91	11-Feb-91	SALT																																		

Vertec Ash & Salt Sample Results

ORGANIC ANALYSIS DATA SHEET			DIOXIN																																
MATRIX:			SALT/ASH																																
EPA ID	SAMPLE ID	SAMPLING DATE	INCINERATOR DATE	MAT-RX	UNITS	TOTAL TCDD	Q	EMPC	TOTAL HxCDD	Q	EMPC	TOTAL HxCDF	Q	EMPC	TOTAL HpCDD	Q	EMPC	TOTAL HpCDF	Q	EMPC	TOTAL HxCDF	Q	EMPC	TOTAL HpCDF	Q	EMPC	OCDD	Q	OCDF	Q	EMPC				
6336F-93A	A-2	07-Feb-91	09-Nov-90	ASH	PPT	265		266	116	129	84	88.7			112			35.6		39.0	74.6	Q	205												
6336F-94A	A-3	07-Feb-91	04-Dec-90	ASH	PPT	2340	S	7990	4030	S	6430	2030	S	2930	5290			4010	S	5470	2130		2890	S	6010	8130	S		11290	BS	11370	BS			
6336F-95A	A-4	07-Feb-91	07-Dec-90	ASH	PPT	1740	S	5410	2990	S	2900	1390		1400	2740			1260	S	2080	769		2770	S	2780	6650	S		5330	BS	5290	BS			
6336F-96A	A-5	11-May-91	10-Dec-90	ASH	PPT	1690		1690	361		367	488	Q		293			965	S	956	132		141	360	QS	1070			1130	B	2380	B			
6336F-97A	A-6	11-May-91	12-Dec-90	ASH	PPT	912		914	335		335	234		235	63.2			417		428	88.7		69.9	49.0	Q	50.0	56.5		141	B	54.0	B			
6336F-98A	A-7	11-May-91	14-Dec-90	ASH	PPT	840	S	1650	368		390	345			424			839	S	127		197	404		405	1280			1450	B	2830	B			
6336F-99A	A-8	11-May-91	16-Dec-90	ASH	PPT	1070	S	4220	2690	Q	2710	1770			2300			2340	S	3510	968	Q		2950	Q	2660	6990	S		6040	BS	6470	BS		
SWFR*	A-9	11-May-91	05-Feb-91	ASH	PPT	3190			730		740			385				7940		1740			229			408			487						
6336F-100A	A-9	11-May-91	05-Feb-91	ASH	PPT	658	S	2470	2110		2900	QS		1890				1180	S	1200	490		494	1090	Q		2090			2930	B	3180	B		
6336F-101A	A-10	11-May-91	08-Mar-91	ASH	PPT	1050	S	1760	533		370			308				290	S	871	169	Q	171	318	Q	318	1090			1190	B	2120	B		
SWFR*	A-10	11-May-91	08-Mar-91	ASH	PPT	2640			240		100			78				3780		95			84			266			242			331			
6336F-102A	A-11	11-May-91	08-Mar-91	ASH	PPT	262			122		148		150	92.5				231		232	58.3		60.0	63.8		69.9	100			198	B	126	B		
6336F-103A	A-12	11-May-91	11-May-91	ASH	PPT	244		244	58.8		58.9	74.3		43.1				212		213	38.8		41.5	42.6	Q	44.2	63.8			138	B	57.8	B		
6336F-104A	A-13	11-May-91	13-Mar-91	ASH	PPT	382		390	191	Q	195	116	Q	106				564		675	82.8	Q	107	94.9		109		124	190	B	184				
6336F-105A	A-14	11-May-91	15-Mar-91	ASH	PPT	171		178	39.9		57.6	57.8		61.5	42.2			247		259	14.9			30.2	28.0		29.8	38.9			74.9	B	49.5		
6336F-106A	A-15	11-May-91	18-Mar-91	ASH	PPT	184		187	50.8	Q	67.2	50.6		56.0	48.7			350		355	31.8	Q	43.5	31.1			36.5		46	94.9	B	52.3			
6336F-107A	A-16	11-May-91	20-Mar-91	ASH	PPT	11.1		3.4	Q	16.7	1.7	Q	4.3	18.5				21.9		26.4	9.0	Q	16.2	14.9	Q	15.9	6.8		14.9	22.4	B	11.2			
6336F-108A	A-17	12-May-91	21-Mar-91	ASH	PPT	128		128	20.4	Q	37.9	44.4	Q	44.2				268		269	63.0	Q	78.4	60.1		65.8	14.0		82.9	141	B	81.3			
6336F-109A	A-18	12-May-91	22-Mar-91	ASH	PPT	77.2		107	41.0	Q	45.6	42.7	Q	38.1				187		194	24.5	Q	35.6	16.3	Q	31.9	29.5		38.9	47.8	B	40.3			
6336F-110A	A-19	12-May-91	23-Mar-91	ASH	PPT	100		102	33.9	Q	194	70.5	Q	41.5				145		145	31.1	Q	38.2	29.1		32.0	33.2			54.9	B	28.8			
6336F-111A	A-20	12-May-91	24-Mar-91	ASH	PPT	84.4		85.4	25.4	Q	56.8	19.5	Q	25.2				129		132	21.2	Q	32.8	23.5	Q	24.9	22.2		25.7	55.1	B	25.4			
6336F-112A	A-21	12-May-91	14-Apr-91	ASH	PPT	1010		1020	327	Q	354	325	Q	328	289			3380	SQ	3380	227	Q	247	218	Q	221	189		185	399	B	170			
6336F-113A	A-22	12-May-91	16-Apr-91	ASH	PPT	276		280	64.8	Q	79.6	74.9	Q	76.3	69.2			784		777	82.4	Q	68.2	44.7		57.3	63.3			123	B	67.0			
6336F-114A	A-23	12-May-91	17-Apr-91	ASH	PPT	129		134	40.1	Q	45.0	44.8	Q	46.1	39.9			321		325	27.3	Q	37.9	27.0	Q	33.8	34.6		40.8	75.2	B	47.9			
6336F-115A	A-24	12-May-91	18-Apr-91	ASH	PPT	45.3		48.8	15.1	Q	16.1	17.7	Q	10.4				18.8		30.9	96.8	8.4	Q	10.3	8.7	Q	10.8	15.6		40.0	B	16.0			
6336F-116A	A-25	12-May-91	20-Apr-91	ASH	PPT	5.1		7.1	EMPC	Q	74.3	ND		ND				6.9		32.2	4.3	Q	EMPC			3.7	6.3		ND	ND	ND				
6336F-117A	A-26	12-May-91	22-Apr-91	ASH	PPT	103		123	92.0	Q	118	88.6		90.9	123			409		419	190	Q	197	189		230	159		192	137		139	Q		
6336F-118A	A-27	12-May-91	23-Apr-91	ASH	PPT	64.7		79.9	18.1	Q	71.8	14.5		45.8	29.4			55.8		201	208	118	Q	132	94.6		109	79.4		106	109	Q	EMPC		93.1
6336F-119A	A-28	12-May-91	26-Apr-91	ASH	PPT	92.3		99.1	61.2	Q	61.3	71.4	Q	71.8	114				353		220	Q	222	214			184		184	137		184	Q		
6336F-120A	A-29	12-May-91	27-Apr-91	ASH	PPT	93.1		99.6	80.9	Q	278	67.1		80.4	68.8				361		364	122		184	139		155	96.2		113	91.1	EMPC		116	
6336F-121A	A-30	12-May-91	29-Apr-91	ASH	PPT	52.1		56.0	36.5	Q	76.2	46.1		49.1	63.7			196		202	132	Q	147	112		120	109			117		93.1	Q		
6336F-122A	A-31	12-May-91	30-Apr-91	ASH	PPT	279	Q	414	717	Q	728	514	Q	146				336	Q	345	212	Q	216	212		222	183			139		134	Q		
6336F-123A	A-32	16-Jul-91	01-May-91	ASH	PPT	265	Q	274	777	Q	484	208	Q	308				920		921	840	Q	848	825		692	448		239	B	260	BO			
6336F-124A	A-33	18-Jul-91	02-May-91	ASH	PPT	112		118	94.4	Q	282	84.0	Q	68.6				441		447	493	Q	343	345		345	173			86.4		91.6	Q		
6336F-125A	A-34	18-Jul-91	03-May-91	ASH	PPT	33.6	Q	38.4	52.7	Q	55.3	28.2	Q	28.6	81.2			112		114	63.4	Q	75.2	67.5		75.9	65.1			48.1		69.8	Q		
6336F-126A	A-35	18-Jul-91	04-May-91	ASH	PPT	73.7		78.0	32.1		106	48.8		22.8				50.8		199	132		132	103		110	102			81.0		78.6	Q		
SWFR*	A-74	31-Aug-91	01-Sep-91	ASH	PPT	75.0			25.0		41.4			77.0				20.7			75.0			114			169			138		87.0			
SWFR*	A-81	17-Sep-91	28-Sep-91	ASH	PPT	567			369			449			867			614			982			1380			1250			947		700			

* Split samples analyzed by SWRI Laboratories

ANALYSIS: EPA SW-846, Method 8290 (All Samples)

004310

Vertac Ash & Silt Sample Results

ORGANIC ANALYSIS DATA SHEET
MATRIX: SALT/ASH DIOXIN

EPA ID	SAMPLE ID	SAMPLING DATE	INCINERATOR DATE	MAT-RX	UNITS	TOTAL TCDD	Q	EMPC	TOTAL PwCDD	Q	EMPC	TOTAL HxCDD	Q	EMPC	TOTAL HpCDD	Q	EMPC	TOTAL TCDF	Q	EMPC	TOTAL PwCDF	Q	EMPC	TOTAL HxCDF	Q	EMPC	TOTAL HpCDF	Q	EMPC	OCDD	Q	OCDF	Q	EMPC
6336F-49A	S-61	10-May-91	10-Mar-91	SALT	PPT	677		683	621		629	1690	Q		924			170		219	150		176	198	Q	198	134			1080	B	72.9	B	
6336F-50A	S-62	10-May-91	11-Mar-91	SALT	PPT	141		144	158		185	562			566			98.2		99.3	145		180	180		189	117			996	B	48.4	B	
6336F-51A	S-63	10-May-91	12-Mar-91	SALT	PPT	241		241	201	Q	312	914	Q	914	408			73.7		89.4	78.8		80.3	91.8	Q	93.5	62.8			618	B	28.8	B	
6336F-52A	S-64	10-May-91	13-Mar-91	SALT	PPT	358		358	844		353	1030		1030	798			135		157	170		170	207			161			1170	B	87.8	B	
6336F-53A	S-65	10-May-91	14-Mar-91	SALT	PPT	343		344	311		318	862		987	770			148		187	218		218	267		288	198			1040	B	108	B	
6336F-54A	S-66	10-May-91	15-Mar-91	SALT	PPT	232		235	213		222	649			628			140		146	212		218	234			143		162		830	B	84.8	B
6336F-55A	S-67	10-May-91	17-Mar-91	SALT	PPT	309		328	795		614	871		988	1710			183		1830	800		303	785			888			1320	B	658	B	
6336F-56A	S-68	10-May-91	18-Mar-91	SALT	PPT	281		282	887		596	823	Q	824	1470			1470		219	698	385		385	1210	Q	1230	2020		2030	1800	B	2830	B
6336F-57A	S-69	10-May-91	19-Mar-91	SALT	PPT	93.7		96.1	296		288	209	Q	209	485			80.4		219	120		142	318			429			560	B	423	B	
6336F-58A	S-69	10-May-91	20-Mar-91	SALT	PPT	15.9		24.2	58.2		94.5	77.0	Q	77.9	175			31.5		89.8	27.0		37.0	81.7		92.4	111		127		183	B	132	B
6336F-59A	S-61	10-May-91	21-Mar-91	SALT	PPT	29.9		32.8	78.8		128	89.0	Q		120			28.8		58.4	28.7		30.1	89.0		89.5	96.1			183	B	93.8	B	
6336F-60A	S-62	10-May-91	22-Mar-91	SALT	PPT	81.7		84.8	240		278	219	Q	222	458			98.9		181	86.7		85.6	163		178	212			599	B	174	B	
6336F-61A	S-63	10-May-91	24-Mar-91	SALT	PPT	248		257	974		985	1240	Q	1240	1640			260		293	408		888	888		889	482			1400	B	210	B	
6336F-62A	S-64	10-May-91	26-Mar-91	SALT	PPT	26.5		30.4	66.4		67.8	84.8	Q		102			29.1		38.8	13.4		27.1	29.1		30.5	20.3			89.4	B	11.6	B	
6336F-63A	S-65	10-May-91	28-Mar-91	SALT	PPT	441		442	1310		1390	1580		1800	1310			349		390	483		474	747			750			1450	B	200	B	
6336F-64A	S-66	10-May-91	31-Mar-91	SALT	PPT	80.3		82.2	213		236	188	Q	189	170			51.9		74.8	63.5		78.7	105		112	74.9			111	B	28.7	B	
6336F-65A	S-67	10-May-91	08-Apr-91	SALT	PPT	574		590	1400		1400	1690		1710	2090			475		548	891		1160			740			1710	B	309	B		
6336F-66A	S-68	10-May-91	09-Apr-91	SALT	PPT	44.8		46.8	188		224	244	Q	250	352	Q		83.9		723	82.8		87.1	187		192	201			310	B	141	B	
6336F-67A	S-69	10-May-91	11-Apr-91	SALT	PPT	92.0		95.5	137		258	258	Q		350			135		222	38.8		51.5	83.3	Q	83.4	71.7			245	B	68.8	B	
6336F-68A	S-70	10-May-91	13-Apr-91	SALT	PPT	74.8		74.8	109		133	226	Q	229	179			54.8		131	51.4		54.2	78.1	Q		82.8			182	B	43.8	B	
6336F-69A	S-71	10-May-91	14-Apr-91	SALT	PPT	38.8		48.1	31.8	Q	38.8	98.8	Q	100	121			80.3		102	20.9		24.9	36.8	Q	37.7	33.7			121	B	31.9	B	
6336F-70A	S-72	10-May-91	15-Apr-91	SALT	PPT	86.1		87.2	90.4		98.2	247	Q	248	190			83.8		121	37.7		38.2	48.0	Q	49.2	34.3		38.9		161	B	30.4	B
6336F-71A	S-73	10-May-91	18-Apr-91	SALT	PPT	209		212	1080	Q	1120	3050	QS	3050	2060			383		425	280		285	265	Q	278	219			4880	B	121	Q	
6336F-72A	S-74	11-May-91	18-Apr-91	SALT	PPT	124		128	198	Q	232	1220	Q	1220	730			109		119	88.1		91.8	110	Q	111	66.7			1170	B	41.7	B	
6336F-73A	S-75	11-May-91	19-Apr-91	SALT	PPT	97.3		108	280		295	708		710	703			210		249	93.8		107	121	Q	124	73.8			583	B	44.2	B	
6336F-74A	S-76	11-May-91	20-Apr-91	SALT	PPT	441		443	897	Q	1010	3350	QS		1820			368		278	224		231	229	Q	229	125			2400	B	78.7	B	
6336F-75A	S-77	11-May-91	23-Apr-91	SALT	PPT	51.8		58.4	112	Q	222	494			854			178		179	298		249	951	Q	354	342			830	B	252	B	
6336F-76A	S-78	11-May-91	24-Apr-91	SALT	PPT	41.8			23.4		28.8	194	Q	188	928			273			118		127	188	Q	188	181			304	B	171	B	
6336F-77A	S-79	11-May-91	28-Apr-91	SALT	PPT	43.7		60.3	151	Q	153	879	Q	888	2180			148		243	279		831	Q	834	893			2850	B	1220	B		
6336F-78A	S-80	11-May-91	28-Apr-91	SALT	PPT	48.7		50.5	94.8		124	381	Q	355	778			112		175	198		202	391	Q	395	347			830	B	301	B	
SWRI*	S-81	11-May-91	28-Apr-91	SALT	PPT	6250			13600			23700			11700			714			910			1180			1480			6500		448		
6336F-79A	S-81	11-May-91	28-Apr-91	SALT	PPT	1710		1740	8190		9230	10610	QS	10700	17880			884		1310	718		718	2090	Q	2090	2570			8930	B	1240	B	
6336F-80A	S-82	11-May-91	30-Apr-91	SALT	PPT	96.4		102	631	Q	635	4330	Q	4330	6770			147		248	322		1860	1860		1440	1050			8480	B	1930	B	
6336F-81A	S-83	11-May-91	01-May-91	SALT	PPT	47.3		53.2	287	Q	280	1490	Q	1500	2880			83.2		158	179		205	736		737	1050			2900	B	1000	B	
6336F-82A	S-84	11-May-91	02-May-91	SALT	PPT	101		102	803	Q	833	3580	Q	3600	6280			183		438	420		1750			1770	1420			4240	B	1490	B	
6336F-83A	S-85	11-May-91	03-May-91	SALT	PPT	5.8		17.8	55.4	Q	88.0	689	Q	818	1836			92.8		425	233		246	1888			1390			1550	B	1120	B	
6336F-84A	S-86	11-May-91	05-May-91	SALT	PPT	7.9		18.0	78.1	Q	85.3	1180	Q	1170	2810			103		188	186		214	3510		3600	1880			4080	B	1310	B	
SWRI*	S-87	11-Jul-91	11-May-91	SALT	PPT	735			1830			4780			4170			288			719			705			872			3240		420		
6336F-85A	S-87	11-Jul-91	11-May-91	SALT	PPT	178		195	1010	Q		8050	S	7910	QS			728		1340	1880		1870	25230			13320			8990	BS	3910	BQ	
6336F-86A	S-88	11-Jul-91	14-May-91	SALT	PPT	22.1		28.8	72.4		95.4	588	Q	579	803			45.1		1330	117		136	1420		1440	1050			837	B	453	B	
6336F-87A	S-89	11-Jul-91	17-May-91	SALT	PPT	49.8		49.9	217		219	1170	QS		1330			181	Q	485	441		8800	8800		8800	3450			1610	BS	803	B	
6336F-88A	S-90	11-Jul-91	19-May-91	SALT	PPT	84.2		73.8	187		198	1340	Q	1370	882			108	Q	478	175		180	758		780	681			888	B	480	B	
6336F-89A	S-91	11-Jul-91	31-May-91	SALT	PPT	34.8		37.0	188		198	1800	B																					

Vertec Ash & Salt Sample Results

ORGANIC ANALYSIS DATA SHEET		DIOXIN																																
MATRIX:		SALT/ASH																																
EPA ID	SAMPLE ID	SAMPLING DATE	INCINERATOR DATE	MAT-RIX	UNITS	TOTAL TCDD	Q	EMPC	TOTAL PCDD	Q	EMPC	TOTAL HxCDD	Q	EMPC	TOTAL HpCDD	Q	EMPC	TOTAL TCDF	Q	EMPC	TOTAL PxCDF	Q	EMPC	TOTAL HxCDF	Q	EMPC	TOTAL HpCDF	Q	EMPC	OCDD	Q	OCDF	Q	EMPC
6336F-03A	A-2	07-Feb-91	09-Nov-90	ASH	PPT	266		266	118		129	84		69.7		112		35.9		39.0		74.5	Q	205		333	B	488	B					
6336F-04A	A-3	07-Feb-91	04-Dec-90	ASH	PPT	2340	S	7980	4030	S	6430	2930	S	2630	6260		4010	S	5470	2130		2880	S	6010	6130	S		11290	BS	11370	BS			
6336F-05A	A-4	07-Feb-91	07-Dec-90	ASH	PPT	1740	S	5410	2890	S	2900	1990		1400	2740		1260	S	2080	750		2770	S	2780	6650	S		6330	BS	6260	BS			
6336F-06A	A-5	11-May-91	10-Dec-90	ASH	PPT	1590		1590	351		357	465	Q		593		955	132		141	350	QS		1070			1130	B	2360	B				
6336F-07A	A-6	11-May-91	12-Dec-90	ASH	PPT	912		914	535		335	234		235	63.2		417		426	69.7		99.9	48.0	Q	60.0	66.5		56.6	141	B	54.0	B		
6336F-08A	A-7	11-May-91	14-Dec-90	ASH	PPT	840	S	1850	388		395	345			424		839	S		127		197	404		405	1290			1460	B	2830	B		
6336F-09A	A-8	11-May-91	18-Dec-90	ASH	PPT	1070	S	4220	2680	Q	2710	1770			2300		2340	S	3510	668	Q		2650	Q	2660	6680	S		6040	BS	5670	BS		
SWR1	A-9	11-May-91	05-Feb-91	ASH	PPT	3190			730			740			380		7940			1740			229		468				487				374	
6336F-100A	A-9	11-May-91	05-Feb-91	ASH	PPT	658	S	2470	2110			2900	QS		1890		1180	S	1200	490		464	1090	Q		2080			2630	B	3160	B		
6336F-101A	A-10	11-May-91	08-Mar-91	ASH	PPT	1950	S	1760	533			370			308		290	S	871	189	Q	171	316	Q	316	1090			1160	B	2120	B		
SWR1*	A-10	11-May-91	08-Mar-91	ASH	PPT	2640			240			100			78		3780			35			84		256				242				331	
6336F-102A	A-11	11-May-91	09-Mar-91	ASH	PPT	292			122		129	148		150	62.8		231		232	59.3		60.0	63.8		69.9	100			198	B	128	B		
6336F-103A	A-12	11-May-91	11-Mar-91	ASH	PPT	244		244	66.8		56.9	74.3			43.1		212		213	38.8		41.5	42.6	Q	44.2	63.8			198	B	67.8	B		
6336F-104A	A-13	11-May-91	13-Mar-91	ASH	PPT	382		390	131	Q	195	118	Q		108		554		575	82.6	Q	107	84.9			109		124	190	B	164			
6336F-105A	A-14	11-May-91	15-Mar-91	ASH	PPT	171		178	99.0		57.6	57.8		81.5	42.2		247		259	14.9		30.2	26.0		29.8	36.9		41.3	74.8	B	49.8			
6336F-106A	A-15	11-May-91	16-Mar-91	ASH	PPT	164		167	50.8	Q	67.2	50.8		58.0	46.7		850		355	31.8	Q	43.5	31.1		36.5		46	84.9	B	52.3				
6336F-107A	A-16	11-May-91	20-Mar-91	ASH	PPT	11.1			3.4	Q	16.7	1.7	Q	4.3	10.5		21.9		25.4	9.0	Q	16.2	14.9	Q	15.6	6.5		14.9	22.4	B	11.2			
6336F-108A	A-17	12-May-91	21-Mar-91	ASH	PPT	126		128	20.4	Q	37.9	44.4	Q		44.2		288		289	63.0	Q	78.4	60.1		65.8	14.0		62.9	141	B	61.3			
6336F-109A	A-18	12-May-91	22-Mar-91	ASH	PPT	77.2		107	41.0	Q	45.6	42.7	Q		36.1		187		184	24.5	Q	35.6	10.3	Q	31.9	29.5		36.9	47.6	B	40.3			
6336F-110A	A-19	12-May-91	29-Mar-91	ASH	PPT	100		102	93.9	Q	194	76.5	Q		41.5	48.7	145			31.1	Q	38.2	29.1		32.0	33.2			54.9	B	26.8			
6336F-111A	A-20	12-May-91	24-Mar-91	ASH	PPT	84.4		85.4	25.4	Q	58.6	19.5	Q		26.2		129		132	21.2	Q	32.8	23.5	Q	24.9	22.2		25.7	55.1	B	25.4			
6336F-112A	A-21	12-May-91	14-Apr-91	ASH	PPT	1010		1020	327	Q	354	325	Q	328	289		3380	BQ	3380	227	Q	247	216	Q	221	199		185	399	B	170			
6336F-113A	A-22	12-May-91	16-Apr-91	ASH	PPT	275		280	54.8	Q	79.8	74.9	Q	76.3	68.2		764		777	82.4	Q	68.2	44.7		57.3	83.3			123	B	87.0			
6336F-114A	A-23	12-May-91	17-Apr-91	ASH	PPT	128		134	40.1	Q	45.0	44.5	Q	48.1	39.0		321		325	27.3	Q	37.9	27.0	Q	33.6	34.6		40.6	75.2	B	47.9			
6336F-115A	A-24	12-May-91	19-Apr-91	ASH	PPT	45.3		45.8	15.1	Q	18.1	17.7	Q		10.4	18.6	90.9		96.8	9.4	Q	10.3	6.7	Q	10.6	15.5			40.0	B	19.0			
6336F-116A	A-25	12-May-91	20-Apr-91	ASH	PPT	5.1		7.1	EMPC	Q	74.3	ND			ND		6.9		32.2	4.3	Q		EMPC		3.7	8.3			ND				ND	
6336F-117A	A-26	12-May-91	22-Apr-91	ASH	PPT	103		123	92.0	Q	116	88.8		90.9	123		409		419	190	Q	197	189		230	150		192	137			139	Q	
6336F-118A	A-27	12-May-91	23-Apr-91	ASH	PPT	64.7		79.9	16.1	Q	71.8	14.5		45.8	20.4		201		208	118	Q	132	94.6		109	79.4		106	109	Q	EMPC		93.1	
6336F-119A	A-28	12-May-91	26-Apr-91	ASH	PPT	92.3		99.1	61.2	Q	61.3	71.4	Q		71.6	114		353		220	Q	222	214		157			184	137			164	Q	
6336F-120A	A-29	12-May-91	27-Apr-91	ASH	PPT	80.1		99.6	80.8	Q	278	67.1		80.4	68.6		361		364	122		164	139		155	98.2		113	91.1		EMPC		115	
6336F-121A	A-30	12-May-91	29-Apr-91	ASH	PPT	62.1		58.0	36.5	Q	78.2	48.1		49.1	63.7		198		202	132	Q	147	112		120	109			117			93.1	Q	
6336F-122A	A-31	12-May-91	30-Apr-91	ASH	PPT	279	Q	414	717	Q	728	614	Q		148		896	Q	345	212	Q	218	212		222	183			138			134	Q	
6336F-123A	A-32	16-Jul-91	01-May-91	ASH	PPT	265	Q	274	477	Q	484	206	Q		298		820		821	840	Q	848	635		662	448			239	B	260	BQ		
6336F-124A	A-33	16-Jul-91	02-May-91	ASH	PPT	112		118	94.4	Q	282	64.0	Q		68.6		441		447	493	Q		343		345	173			88.4			91.8	Q	
6336F-125A	A-34	16-Jul-91	03-May-91	ASH	PPT	33.6	Q	38.4	62.7	Q	56.3	28.2	Q	26.8	31.2		112		114	63.4	Q	75.2	97.5		75.9	65.1			48.1			59.6	Q	
6336F-126A	A-35	16-Jul-91	04-May-91	ASH	PPT	73.7		78.0	32.1		108	48.8			22.5	50.6	199		209	132		132	103		110	102			81.0			75.8	Q	
SWR1	A-74	31-Aug-91	01-Sep-91	ASH	PPT	76.0			25.0			41.4			77.0		20.7			75.0			114		150			138			87.0			
SWR1*	A-81	17-Sep-91	28-Sep-91	ASH	PPT	587			369			449			667		614			662			1380		1250			847			700			

* Split samples analyzed by SWR1 Laboratories

ANALYSIS: EPA SW-846, Method 8290 (All Samples)

004312

URS Consultants, Inc.
ARCS, EPA Regions VI, VII and VIII
Contract No. 68-W9-0053

Vertac Chemical Corp. Superfund Site
Ash & Salt Concentrations
Revision: 0
Date: 02/02/93

04313

3.0 METALS DATA TABLES

INORGANIC ANALYSIS DATA SHEET				METALS		COMPOUNDS ABOVE DELISTING LIMITS																																
MATRIX: ASH/SALT				DELISTING LEVELS (UG/L)		320		6,300		60		320		320		10		4,400		60		320		4,400														
EPA ID	SAMPLE ID	SAMPLING DATE	INCINERATOR DATE	MATRIX	DELISTION	UNITS	ARSENIC	C	Q	BARIUM	C	Q	CADMIUM	C	Q	CHROMIUM	C	Q	LEAD	C	Q	MERCURY	C	Q	NICKEL	C	Q	SELENIUM	C	Q	SILVER	C	Q	CYANIDE	C	Q		
6336F-1C	A-1	07-Feb-91	03-Nov-90	ASH	N/A	UG/L																																
6336F-2C	A-2	07-Feb-91	09-Nov-90	ASH	N/A	UG/L																																
6336F-3C	A-3	07-Feb-91	04-Dec-90	ASH	N/A	UG/L																																
6336F-4C	A-4	07-Feb-91	07-Dec-90	ASH	N/A	UG/L																																
6336F-5C	A-5	11-May-91	10-Dec-90	ASH	N/A	UG/L																																
6336F-6C	A-6	11-May-91	12-Dec-90	ASH	N/A	UG/L																																
6336F-7C	A-7	11-May-91	14-Dec-90	ASH	N/A	UG/L																			4440		RI											
6336F-8C	A-8	11-May-91	16-Dec-90	ASH	N/A	UG/L																																
6336F-9C	A-9	11-May-91	05-Feb-91	ASH	N/A	UG/L																																
6336F-10C	A-10	11-May-91	08-May-91	ASH	N/A	UG/L																																
6336F-11C	A-11	11-May-91	09-May-91	ASH	N/A	UG/L										6750																						
6336F-12C	A-12	11-May-91	11-May-91	ASH	N/A	UG/L										2150																						
6336F-13C	A-13	11-May-91	13-May-91	ASH	N/A	UG/L										1150																						
6336F-14C	A-14	11-May-91	15-May-91	ASH	N/A	UG/L																																
6336F-15C	A-15	11-May-91	16-May-91	ASH	N/A	UG/L										357																						
6336F-16C	A-16	11-May-91	20-May-91	ASH	N/A	UG/L										809																						
6336F-17C	A-17	11-May-91	21-May-91	ASH	N/A	UG/L										821																						
6336F-18C	A-18	11-May-91	22-May-91	ASH	N/A	UG/L																																
6336F-19C	A-19	11-May-91	23-May-91	ASH	N/A	UG/L																																
6336F-20C	A-20	11-May-91	24-May-91	ASH	N/A	UG/L																																
6336F-21C	A-21	12-May-91	14-Apr-91	ASH	N/A	UG/L																																
6336F-22C	A-22	12-May-91	16-Apr-91	ASH	N/A	UG/L																																
6336F-23C	A-23	12-May-91	17-Apr-91	ASH	N/A	UG/L																																
6336F-24C	A-24	12-May-91	18-Apr-91	ASH	N/A	UG/L																																
6336F-25C	A-25	12-May-91	20-Apr-91	ASH	N/A	UG/L																																
6336F-26C	A-26	12-May-91	22-Apr-91	ASH	N/A	UG/L																																
6336F-27C	A-27	12-May-91	23-Apr-91	ASH	N/A	UG/L										607																						
6336F-28C	A-28	12-May-91	26-Apr-91	ASH	N/A	UG/L																																
6336F-29C	A-29	12-May-91	27-Apr-91	ASH	N/A	UG/L																																
6336F-30C	A-30	12-May-91	29-Apr-91	ASH	N/A	UG/L																																
6336F-31C	A-31	12-May-91	30-Apr-91	ASH	N/A	UG/L																																
6336F-32C	A-32	16-Jul-91	01-May-91	ASH	N/A	UG/L										837																						
6336F-33C	A-33	16-Jul-91	02-May-91	ASH	N/A	UG/L																																
6336F-34C	A-34	16-Jul-91	03-May-91	ASH	N/A	UG/L																																
6336F-35C	A-35	16-Jul-91	04-May-91	ASH	N/A	UG/L																																
6336F-36C	S-1	08-Feb-91	04-Nov-90	SALT	N/A	UG/L																																
6336F-37C	S-2	08-Feb-91	07-Nov-90	SALT	N/A	UG/L																																
6336F-38C	S-3	08-Feb-91	08-Nov-90	SALT	N/A	UG/L																																
6336F-39C	S-4	08-Feb-91	09-Nov-90	SALT	N/A	UG/L										171																						
6336F-40C	S-5	08-Feb-91	11-Nov-90	SALT	N/A	UG/L										98.2																						
6336F-41C	S-6	08-Feb-91	13-Nov-90	SALT	N/A	UG/L																																
6336F-42C	S-7	08-Feb-91	14-Nov-90	SALT	N/A	UG/L																																
6336F-43C	S-8	08-Feb-91	16-Nov-90	SALT	N/A	UG/L																																
6336F-44C	S-9	08-Feb-91	21-Nov-90	SALT	N/A	UG/L																																
6336F-45C	S-10	08-Feb-91	23-Nov-90	SALT	N/A	UG/L										123																						

R1 Arsenic, Selenium and Nickel results are qualified as unusable (R) due to pre-digestion Matrix Spike Recoveries of less than 30%.

R2 Selenium sample results are qualified as unusable (R) due to two pre-digestion Matrix Spike Recoveries of 0%. False negatives are possible. Matrix interference is suspected.

ANALYSIS : EPA SW-846, METHOD 1311 (TCLP)

04314

verse Ash & soil sample Results

INORGANIC ANALYSIS DATA SHEET												METALS																											
MATRIX: ASH/SALT												COMPOUNDS ABOVE DELISTING LIMITS																											
EPA ID	SAMPLE ID	SAMPLING DATE	INCINERATOR DATE	MATRIX	DILUTION	UNITS	DELISTING LEVELS (UG/L)																																
							320		6,300		60		320		320		10		4,400		60		320		4,400														
							ARSENIC	C	Q	BARIUM	C	Q	CADMIUM	C	Q	CHROMIUM	C	Q	LEAD	C	Q	MERCURY	C	Q	NICKEL	C	Q	SELENIUM	C	Q	SILVER	C	Q	CYANIDE	C	Q			
6336F-46C	S-11	08-Feb-91	26-Nov-90	SALT	N/A	UG/L							306	J																									
6336F-47C	S-12	08-Feb-91	27-Nov-90	SALT	N/A	UG/L							124	J																									
6336F-48C	S-13	08-Feb-91	28-Nov-90	SALT	N/A	UG/L							138	J																									
6336F-49C	S-14	08-Feb-91	29-Nov-90	SALT	N/A	UG/L																																	
6336F-50C	S-15	08-Feb-91	30-Nov-90	SALT	N/A	UG/L																																	
6336F-51C	S-16	08-Feb-91	01-Dec-90	SALT	N/A	UG/L																																	
6336F-52C	S-17	08-Feb-91	02-Dec-90	SALT	N/A	UG/L																																	
6336F-53C	S-18	08-Feb-91	03-Dec-90	SALT	N/A	UG/L																																	
6336F-54C	S-19	08-Feb-91	04-Dec-90	SALT	N/A	UG/L																																	
6336F-55C	S-20	08-Feb-91	05-Dec-90	SALT	N/A	UG/L																																	
6336F-56C	S-21	08-Feb-91	06-Dec-90	SALT	N/A	UG/L																																	
6336F-57C	S-22	08-Feb-91	07-Dec-90	SALT	N/A	UG/L																																	
6336F-58C	S-23	08-May-91	08-Dec-90	SALT	N/A	UG/L																																	
6336F-59C	S-26	08-May-91	17-Dec-90	SALT	N/A	UG/L																																	
6336F-60C	S-27	08-May-91	18-Dec-90	SALT	N/A	UG/L																																	
6336F-61C	S-28	08-May-91	30-Dec-90	SALT	N/A	UG/L																																	
6336F-62C	S-29	08-May-91	31-Dec-90	SALT	N/A	UG/L																																	
6336F-63C	S-30	08-May-91	03-Jan-91	SALT	N/A	UG/L																																	
6336F-64C	S-31	08-May-91	04-Jan-91	SALT	N/A	UG/L																																	
6336F-65C	S-32	08-May-91	07-Jan-91	SALT	N/A	UG/L																																	
6336F-66C	S-33	08-May-91	08-Jan-91	SALT	N/A	UG/L																																	
6336F-67C	S-34	08-May-91	16-Jan-91	SALT	N/A	UG/L																																	
6336F-68C	S-35	08-May-91	29-Jan-91	SALT	N/A	UG/L																																	
6336F-69C	S-36	08-May-91	01-Feb-91	SALT	N/A	UG/L																																	
6336F-70C	S-37	08-May-91	06-Feb-91	SALT	N/A	UG/L																																	
6336F-71C	S-38	08-May-91	07-Feb-91	SALT	N/A	UG/L																																	
6336F-72C	S-39	08-May-91	08-Feb-91	SALT	N/A	UG/L																																	
6336F-73C	S-40	08-May-91	11-Feb-91	SALT	N/A	UG/L																																	
6336F-74C	S-41	08-May-91	15-Feb-91	SALT	N/A	UG/L																																	
6336F-75C	S-42	08-May-91	16-Feb-91	SALT	N/A	UG/L																																	
6336F-76C	S-43	08-May-91	17-Feb-91	SALT	N/A	UG/L																																	
6336F-77C	S-44	08-May-91	18-Feb-91	SALT	N/A	UG/L																																	
6336F-78C	S-45	08-May-91	19-Feb-91	SALT	N/A	UG/L																																	
6336F-79C	S-46	08-May-91	24-Feb-91	SALT	N/A	UG/L																																	
6336F-80C	S-47	08-May-91	06-Mar-91	SALT	N/A	UG/L																																	
6336F-81C	S-48	10-May-91	07-Mar-91	SALT	N/A	UG/L																																	
6336F-82C	S-49	10-May-91	08-Mar-91	SALT	N/A	UG/L																																	
6336F-83C	S-50	10-May-91	09-Mar-91	SALT	N/A	UG/L																																	
6336F-84C	S-51	10-May-91	10-Mar-91	SALT	N/A	UG/L																																	
6336F-85C	S-52	10-May-91	11-Mar-91	SALT	N/A	UG/L																																	
6336F-86C	S-53	10-May-91	12-Mar-91	SALT	N/A	UG/L																																	
6336F-87C	S-54	10-May-91	13-Mar-91	SALT	N/A	UG/L																																	
6336F-88C	S-55	10-May-91	14-Mar-91	SALT	N/A	UG/L																																	
6336F-89C	S-56	10-May-91	15-Mar-91	SALT	N/A	UG/L																																	
6336F-90C	S-57	10-May-91	17-Mar-91	SALT	N/A	UG/L																																	

R1 Arsenic, Selenium and Nickel results are qualified as unusable (R) due to pre-digestion Matrix Spike Recoveries of less than 30%.

R2 Selenium sample results are qualified as unusable (R) due to two pre-digestion Matrix Spike Recoveries of 0%. False negatives are possible. Matrix interference is suspected.

ANALYSIS : EPA SW-846, METHOD 1311 (TCLP)

004315

INORGANIC ANALYSIS DATA SHEET											METALS																									
MATRIX: ASH/SALT																																				
DELISTING LEVELS (UG/L)																																				
EPA ID	SAMPLE ID	SAMPLING DATE	INCINERATOR DATE	MATRIX	DILUTION	UNITS	320			6,300			60			320			320			10			4,400			60			320			4,400		
							ARSENIC	C	Q	BARIIUM	C	Q	CADMIUM	C	Q	CHROMIUM	C	Q	LEAD	C	Q	MERCURY	C	Q	NICKEL	C	Q	SELENIUM	C	Q	SILVER	C	Q	CYANIDE	C	Q
6336F-1C	A-1	07-Feb-91	03-Nov-90	ASH	N/A	UG/L	11.8	B	RI	156	B		1.6	U		4.6	B	J	7.6	B	WJ	0.7	U	165	B	RI	-3.0	U	WR1	1.2	U	0.00	B			
6336F-2C	A-2	07-Feb-91	09-Nov-90	ASH	N/A	UG/L	14	B	RI	60.6	B		-2.8	B	J	16.3	B	SJ	1.2	B	189	B	RI	-0.4	U	WR1	1.3	U	0.00	B						
6336F-3C	A-3	07-Feb-91	04-Dec-90	ASH	N/A	UG/L	5.0	U	WR1	283	B		17.0	B	J	3.1	B	J	4.7	B	WJ	1.2	B	504	B	RI	0.8	U	WR1	0.9	U	0.00	B			
6336F-4C	A-4	07-Feb-91	07-Dec-90	ASH	N/A	UG/L	4.8	U	RI	243	B		9.6	B	J	7.6	B	J	5.4	B	WJ	1.3	B	330	B	RI	1	U	WR1	1.2	U	0.00	B			
6336F-5C	A-5	11-May-91	10-Dec-90	ASH	N/A	UG/L	2.5	U	RI	71.4	B		4.0	B	J	27.6	B	J	3.8	U	WJ	1.2	B	87.3	B	RI	0.2	U	WR1	0	U	0.00	U			
6336F-6C	A-6	11-May-91	12-Dec-90	ASH	N/A	UG/L	2.9	U	RI	22.5	B		3.7	U		41.6	B	J	6.0	B	WJ	1.1	B	49.0	B	RI	0	U	WR1	-1.1	U	0.00	U			
6336F-7C	A-7	11-May-91	14-Dec-90	ASH	N/A	UG/L	6.8	U	RI	93.0	B		1.1	U		147	B	J	4.2	U	WJ	1.0	B	4440	B	RI	1.3	U	WR1	1.1	U	0.00	U			
6336F-8C	A-8	11-May-91	16-Dec-90	ASH	N/A	UG/L	6.2	U	RI	39.7	B		-1.8	U		36.1	B	J	6.1	B	WJ	1.0	B	276	B	RI	-1.1	U	WR1	-4.5	U	0.00	U			
6336F-9C	A-9	11-May-91	05-Feb-91	ASH	N/A	UG/L	3.3	U	RI	168	B		6.9	B	J	199	B	J	4.8	B	WJ	1.2	B	388	B	RI	-0.2	U	WR1	-3.0	U	0.00	U			
6336F-10C	A-10	11-May-91	08-Mar-91	ASH	N/A	UG/L	5.3	U	RI	157	B		2.1	U		-12.5	B	J	11.3	B	J	-0.6	U	1100	B	RI	1.6	U	WR1	0.6	U	0.36	U			
6336F-11C	A-11	11-May-91	09-Mar-91	ASH	N/A	UG/L	10.1	B	RI	348	B		3.0	U		6750	B	J	20.4	B	J	-0.5	U	1760	B	RI	-0.3	U	WR1	-2.9	U	0.00	U			
6336F-12C	A-12	11-May-91	11-Mar-91	ASH	N/A	UG/L	79.5	B	RI	738	B		55.5	B	J	2150	B	J	65.5	B	J	-0.6	U	2160	B	RI	-0.1	U	WR1	-2.7	U	0.00	U			
6336F-13C	A-13	11-May-91	13-Mar-91	ASH	N/A	UG/L	28.0	B	RI	647	B		18.3	B	J	1150	B	J	15.2	B	SJ	-0.5	U	4160	B	RI	0.4	U	WR1	10.1	U	0.00	U			
6336F-14C	A-14	11-May-91	15-Mar-91	ASH	N/A	UG/L	9.4	B	RI	122	B		0.2	U		96.8	B	J	16.9	B	J	-0.7	U	286	B	RI	2.8	U	WR1	5.3	U	0.00	U			
6336F-15C	A-15	11-May-91	16-Mar-91	ASH	N/A	UG/L	2.5	U	RI	183	B		3.1	U		357	B	J	17.2	B	SJ	-0.6	U	428	B	RI	1.0	U	WR1	-8.5	U	0.00	U			
6336F-16C	A-16	11-May-91	20-Mar-91	ASH	N/A	UG/L	2.3	U	RI	200	B		2.0	U		809	B	J	4.1	B	J	-0.4	U	241	B	RI	5.2	B	ERI	-6.5	U	0.18	U			
6336F-17C	A-17	11-May-91	21-Mar-91	ASH	N/A	UG/L	5.4	U	WR1	189	B		4.2	U		821	B	J	6.1	B	J	0	U	785	B	RI	4.6	B	ERI	-9.2	B	0.00	U			
6336F-18C	A-18	11-May-91	22-Mar-91	ASH	N/A	UG/L	5.7	U	RI	181	B		-3.3	U		-4.7	B	J	3.9	B	WJ	-0.4	U	505	B	RI	1.9	B	ERI	-8.4	B	0.00	U			
6336F-19C	A-19	11-May-91	23-Mar-91	ASH	N/A	UG/L	1.4	U	RI	257	B		4.3	B	J	55.2	B	J	2.4	B	J	2.3	B	699	B	RI	4.1	B	ERI	0.9	U	0.62	U			
6336F-20C	A-20	11-May-91	24-Mar-91	ASH	N/A	UG/L	3.2	U	RI	192	B		4.3	B	J	20.7	B	J	2.1	B	J	0.6	U	404	B	RI	4.0	B	ERI	-3.9	U	0.00	U			
6336F-21C	A-21	12-May-91	14-Apr-91	ASH	N/A	UG/L	4.1	U	RI	134	B		6.1	B	J	81.6	B	J	2.3	B	WJ	2.1	B	392	B	RI	1.4	U	WR1	-10.0	B	0.00	U			
6336F-22C	A-22	12-May-91	16-Apr-91	ASH	N/A	UG/L	6.0	U	RI	238	B		5.9	B	J	156	B	J	-0.8	U	WJ	1.0	B	350	B	RI	2.5	B	ERI	-8.6	B	0.00	U			
6336F-23C	A-23	12-May-91	17-Apr-91	ASH	N/A	UG/L	5.7	U	RI	140	B		-1.3	U		3.2	B	J	0.4	U	WJ	1.7	B	145	B	RI	2.8	B	ERI	-7.9	B	0.00	U			
6336F-24C	A-24	12-May-91	18-Apr-91	ASH	N/A	UG/L	3.1	U	RI	173	B		7.2	B	J	69.1	B	J	3.6	B	WJ	3.1	B	249	B	RI	0.7	U	WR1	-7.1	B	0.00	U			
6336F-25C	A-25	12-May-91	20-Apr-91	ASH	N/A	UG/L	0.1	U	RI	102	B		-3.6	U		-6.1	B	J	1.7	B	WJ	3.5	B	134	B	RI	0.9	U	WR1	-6.7	U	0.00	U			
6336F-26C	A-26	12-May-91	22-Apr-91	ASH	N/A	UG/L	6.0	U	WR1	164	B		-1.7	U		-12.7	B	J	4.1	B	WJ	1.2	B	138	B	RI	0.7	U	WR1	-7.8	B	0.00	U			
6336F-27C	A-27	12-May-91	23-Apr-91	ASH	N/A	UG/L	256	B	RI	204	B		-1.4	U		467	B	J	0	U	WJ	0.4	U	-0.4	U	RI	1.5	B	ERI	-8.4	B	0.00	U			
6336F-28C	A-28	12-May-91	26-Apr-91	ASH	N/A	UG/L	194	B	SR1	72.4	B		-3.7	U		69.0	B	J	1.1	U	WJ	1.7	B	-3.4	U	RI	2.2	B	ERI	-9.7	B	0.00	U			
6336F-29C	A-29	12-May-91	27-Apr-91	ASH	N/A	UG/L	152	B	RI	150	B		3.9	B	J	270	B	J	0.0	U	WJ	1.7	B	5.3	U	RI	2.4	B	ERI	-18.9	B	0.00	U			
6336F-30C	A-30	12-May-91	29-Apr-91	ASH	N/A	UG/L	13.4	B	WR1	369	B		-1.7	U		57.0	B	J	1.3	B	WJ	0.6	U	362	B	RI	2.4	B	ERI	-19.0	B	0.00	U			
6336F-31C	A-31	12-May-91	30-Apr-91	ASH	N/A	UG/L	9.3	B	WR1	300	B		2.0	U		2.6	B	J	0.7	U	J	0.2	U	174	B	RI	2.5	B	ERI	-25.4	B	0.00	U			
6336F-32C	A-32	16-Jul-91	01-May-91	ASH	N/A	UG/L	58.4	B	RI	132	B		0.0	U		837	B	J	1.3	B	WJ	0.6	U	2.0	U	RI	3.6	B	ERI	-19.4	B	0.00	U			
6336F-33C	A-33	16-Jul-91	02-May-91	ASH	N/A	UG/L	3.2	U	WR1	138	B		-1.7	U		19.5	B	J	0.5	U	WJ	0.6	U	70.6	B	RI	0.4	U	WR1	-23.3	B	0.00	U			
6336F-34C	A-34	16-Jul-91	03-May-91	ASH	N/A	UG/L	5.9	U	WR1	287	B		0.4	U		-0.2	U		1.9	B	WJ	0.6	U	137	B	RI	0.6	U	WR1	-21.6	B	0.00	U			
6336F-35C	A-35	16-Jul-91	04-May-91	ASH	N/A	UG/L	4.6	U	WR1	282	B		0.1	U		2.4	B	*	11.6	B	EF	0.2	U	143	B	RI	2.1	B	WR1	-21.4	B	8.00	U			
6336F-36C	S-1	08-Feb-91	04-Nov-90	SALT	N/A	UG/L	36.1	B	NJ	489			27.7	J		196	*		1640			0.20	U	702			20.0	U	NWR2	256	NJ	10.00	U			
6336F-37C	S-2	08-Feb-91	07-Nov-90	SALT	N/A	UG/L	35.4	B	NJ	398			50.3	J		153	*		1250			0.34		839			20.0	U	NWR2	249	NJ	16.90	U			
6336F-38C	S-3	08-Feb-91	08-Nov-90	SALT	N/A	UG/L	43.2	B	NJ	534			46.1	J		66.4	*		1810			0.26		793			20.0	U	NWR2	258	NJ	10.00	U			
6336F-39C	S-4	08-Feb-91	09-Nov-90	SALT	N/A	UG/L	20.0	U	NJ	750			171	J		286	*		361			0.20	U	1020			20.0	U	NWR2	231	NJ	10.00	U			
6336F-40C	S-5	08-Feb-91	11-Nov-90	SALT	N/A	UG/L	23.6	B	NJ	728			98.2	J		33.6	*		758			0.20	U	892			20.0	U	NWR2	237	NJ	10.00	U			
6336F-41C	S-6	08-Feb-91	13-Nov-90	SALT	N/A	UG/L	30.1	B	NJ	583			38.4	J		43.1	*		1970			0.20	U	742			20.0	U	NWR2	238	NJ	10.00	U			
6336F-42C	S-7	08-Feb-91	14-Nov-90	SALT	N/A	UG/L	20.0	U	NJ	570			30.7	J		20.8	*		95.0			0.20	U	1100			20.0	U	NWR2	138	NJ	10.00	U			
6336F-43C	S-8	08-Feb-91	16-Nov-90	SALT	N/A	UG/L	40.7	B	NJ	637			38.5	J		338	*		503			0.20	U	1510			20.0	U	NWR2	263	NJ	10.00	U			
6336F-44C	S-9	08-Feb-91	21-Nov-90	SALT	N/A	UG/L	20.0	U	NJ	373			17.6	J		61.3	*		10.0	U		0.20	U	347			20.0	U	NWR2	233	NJ	10.00	U			
6336F-45C	S-10	08-Feb-91	25-Nov-90	SALT	N/A	UG/L	20.0	U	NJ	559			123	J		41.8	*		603			0.20	U	211			20.0	U	NWR2	244	NJ	10.00	U			

R1 Arsenic, Selenium and Nickel results are qualified as unusable (R) due to pre-digestion Matrix Spike Recovery of less than 30%.

R2 Selenium sample results are qualified as unusable (R) due to two pre-digestion Matrix Spike Recoveries of 0%. False negatives are possible. Matrix interference is suspected.

INORGANIC ANALYSIS DATA SHEET												METALS																								
MATRIX: ASH/SALT																																				
DELISTING LEVELS (UO/L)																																				
EPA ID	SAMPLE ID	SAMPLING DATE	INCINERATOR DATE	MATRIX	DILUTION	UNITS	320		6,300		60		320		320		10		4,400		60		320		4,400											
							ARSENIC	C	Q	BARIUM	C	Q	CADMIUM	C	Q	CHROMIUM	C	Q	LEAD	C	Q	MERCURY	C	Q	NICKEL	C	Q	SELENIUM	C	Q	SILVER	C	Q	CYANIDE	C	Q
6336F-46C	S-11	08-Feb-91	26-Nov-90	SALT	N/A	UG/L	20.0	U	NJ	387			206	J		83.0	*		34.6			0.5F			426			20.0	U	NWR2	273	NJ	10.00	U		
6336F-47C	S-12	08-Feb-91	27-Nov-90	SALT	N/A	UG/L	20.0	U	NJ	212			124	J		191	*		33.0	B		0.51			452			20.0	U	NWR2	178	NJ	10.00	U		
6336F-48C	S-13	08-Feb-91	28-Nov-90	SALT	N/A	UG/L	20.0	U	NJ	663			138	J		97.7	*		10.0	U		0.20	U		601			20.0	U	NR2	145	NJ	10.00	U		
6336F-49C	S-14	08-Feb-91	29-Nov-90	SALT	N/A	UG/L	20.0	U	NJ	314			20.0	J		211	*		13.0	B		0.20	U		605			20.0	U	NR2	144	NJ	10.00	U		
6336F-50C	S-15	08-Feb-91	30-Nov-90	SALT	N/A	UG/L	20.0	U	NJ	853			23.1	J		197	*		568			0.45			397			20.0	U	NWR2	232	NJ	10.00	U		
6336F-51C	S-16	08-Feb-91	01-Dec-90	SALT	N/A	UG/L	20.0	U	NJ	218			16.4	J		110	*		14.0	B	EJ	0.40			409			20.0	U	NR2	132	NJ	10.00	U		
6336F-52C	S-17	08-Feb-91	02-Dec-90	SALT	N/A	UG/L	20.0	U	NJ	434			19.5	J		165	*		10.0	U	EJ	0.27			638			20.0	U	NWR2	136	NJ	10.00	U		
6336F-53C	S-18	09-Feb-91	03-Dec-90	SALT	N/A	UG/L	20.0	U	NJ	693			5.4	J		171	*		10.0	U	EJ	0.20	U		484			20.0	U	NWR2	148	NJ	10.00	U		
6336F-54C	S-19	09-Feb-91	04-Dec-90	SALT	N/A	UG/L	20.0	B	NJ	464			5.0	U		186	*		10.0	B		0.20	U		622			20.0	U	NWR2	122	NJ	10.00	U		
6336F-55C	S-20	09-Feb-91	05-Dec-90	SALT	N/A	UG/L	20.0	U	NEJ	383			5.0	U		214	*		13.0	B		1.2			638			20.0	U	NWR2	131	NJ	10.00	U		
6336F-56C	S-21	09-Feb-91	06-Dec-90	SALT	N/A	UG/L	20.0	U	N	580	B	NEJ	26.4	B	NJ	611	B	E	106	B	NJ	0.20	U		1330	NJ		10.0	U	EJ	240	B		10.00	U	
6336F-57C	S-22	09-Feb-91	07-Dec-90	SALT	N/A	UG/L	20.0	U	N	611	B	NEJ	25.0	B	NJ	304	B	E	237	B	NJ	0.77	B		820	NJ		10.0	U	EJ	251	B		10.00	U	
6336F-58C	S-23	08-May-91	08-Dec-90	SALT	N/A	UG/L	20.0	U	N	579	B	NEJ	26.8	B	NJ	432	B	E	42.0	U	N	0.30	B		1060	NJ		10.0	U	EJ	236	B		10.00	U	
6336F-59C	S-24	08-May-91	17-Dec-90	SALT	N/A	UG/L	20.0	U	N	840	B	NEJ	71.3	B	NJ	432	B	E	116	B	NJ	0.20	U		1170	NJ		10.0	U	EJ	222	B		10.00	U	
6336F-60C	S-27	08-May-91	18-Dec-90	SALT	N/A	UG/L	20.0	U	N	852	B	NEJ	285	B	NJ	269	B	E	348	B	NJ	0.41	B		803	N		10.0	U	WJ	230	B		10.00	U	
6336F-61C	S-28	08-May-91	30-Dec-90	SALT	N/A	UG/L	20.0	U	N	427	B	NEJ	110	B	NJ	74.6	B	E	197	B	NJ	0.20	U		426	NJ		10.0	U	WJ	220	B		10.00	U	
6336F-62C	S-29	08-May-91	31-Dec-90	SALT	N/A	UG/L	20.0	U	N	751	B	NEJ	113	B	NJ	424	B	E	200	B	NJ	0.20	U		892	NJ		10.0	U	EJ	235	B		10.00	U	
6336F-63C	S-30	08-May-91	03-Jan-91	SALT	N/A	UG/L	20.0	U	N	714	B	NEJ	42.0	B	NJ	824	B	E	42.0	U	N	0.20	U		896	NJ		10.0	U	EJ	263	B		10.00	U	
6336F-64C	S-31	08-May-91	04-Jan-91	SALT	N/A	UG/L	20.0	U	N	567	B	NEJ	39.6	B	NJ	4350	B	E	42.0	U	N	0.20	U		1130	NJ		10.0	U	WJ	233	B		10.00	U	
6336F-65C	S-32	09-May-91	07-Jan-91	SALT	N/A	UG/L	20.0	U	N	704	B	NEJ	187	B	NJ	745	B	E	48.6	B	NJ	0.20	U		2270	NJ		10.0	U	EJ	246	B		10.00	U	
6336F-66C	S-33	09-May-91	08-Jan-91	SALT	N/A	UG/L	20.0	U	N	680	B	NEJ	181	B	NJ	1680	B	E	42.0	U	N	0.20	U		2680	NJ		10.0	U	EJ	256	B		10.00	U	
6336F-67C	S-34	09-May-91	16-Jan-91	SALT	N/A	UG/L	40.0	B	NWJ	638	B	NEJ	156	B	NJ	613	B	E	42.0	U	N	0.20	U		1320	NJ		20.0	U	EJ	208	B		10.00	U	
6336F-68C	S-35	09-May-91	29-Jan-91	SALT	N/A	UG/L	20.0	U	N	906	B	NEJ	312	B	NJ	620	B	E	317	B	NJ	0.20	U		1070	NJ		20.0	U	WJ	252	B		10.00	U	
6336F-69C	S-36	09-May-91	01-Feb-91	SALT	N/A	UG/L	20.0	U	NWJ	567	B	NEJ	5.0	U	N	9.8	B	E	42.0	U	N	0.20	U		50.0	NJ		20.0	U	WJ	17.5	B		10.00	U	
6336F-70C	S-37	09-May-91	06-Feb-91	SALT	N/A	UG/L	20.0	U	NWJ	773	B	NEJ	111	B	NJ	956	B	E	42.0	U	N	0.20	U		541	NJ		20.0	U	EJ	209	B		10.00	U	
6336F-71C	S-38	09-May-91	07-Feb-91	SALT	N/A	UG/L	20.0	U	N	981	B	NEJ	113	B	NJ	1140	B	E	42.0	U	N	0.20	U		595	NJ		20.0	U	EJ	302	B		10.00	U	
6336F-72C	S-39	09-May-91	08-Feb-91	SALT	N/A	UG/L	20.0	U	N	826	B	NEJ	157	B	NJ	1200	B	E	42.0	U	N	0.20	U		1380	NJ		20.0	U	WJ	231	B		10.00	U	
6336F-73C	S-40	09-May-91	11-Feb-91	SALT	N/A	UG/L	20.0	U	N	1060	B	NEJ	5.0	U	N	431	B	E	187	B	NJ	0.20	U		53.9	NJ		20.0	U	WJ	243	B		10.00	U	
6336F-74C	S-41	09-May-91	15-Feb-91	SALT	N/A	UG/L	20.0	U	N	1720	B	NEJ	17.4	B	NJ	314	B	E	315	B	NJ	0.20	U		86.2	NJ		20.0	U	WJ	326	B		10.00	U	
6336F-75C	S-42	09-May-91	16-Feb-91	SALT	N/A	UG/L	20.0	U	N	1320	B	NEJ	6.8	B	NJ	323	B	E	42.0	U	N	0.20	U		180	NJ		20.0	U	WJ	235	B		10.00	U	
6336F-76C	S-43	09-May-91	17-Feb-91	SALT	N/A	UG/L	20.0	U	NJ	657	NEJ	18.8	B	EJ	79.5	B	E	52.4	EJ	0.20	U				127	EJ		20.0	U	NWJ	232	EJ		10.00	U	
6336F-77C	S-44	09-May-91	18-Feb-91	SALT	N/A	UG/L	20.0	U	NJ	673	NEJ	15.5	B	EJ	91.2	B	E	1350	EJ	0.20	U				36.7	B	EJ	20.0	U	NWJ	303	EJ		10.00	U	
6336F-78C	S-45	09-May-91	19-Feb-91	SALT	N/A	UG/L	20.0	U	NJ	788	NEJ	140	B	EJ	749	B	E	112	EJ	0.34					1010	EJ		20.0	U	NWJ	220	EJ		10.00	U	
6336F-79C	S-46	09-May-91	24-Feb-91	SALT	N/A	UG/L	20.0	U	NJ	1080	NEJ	17.9	B	EJ	198	B	E	58.0	EJ	0.20	U				212	EJ		20.0	U	NWJ	255	EJ		10.00	U	
6336F-80C	S-47	09-May-91	06-Mar-91	SALT	N/A	UG/L	20.0	U	NJ	940	NEJ	664	B	EJ	1300	B	E	145	EJ	0.20	U				1200	EJ		20.0	U	NWJ	205	EJ		10.00	U	
6336F-81C	S-48	10-May-91	07-Mar-91	SALT	N/A	UG/L	20.0	U	NJ	1650	NEJ	152	B	EJ	846	B	E	1400	EJ	0.22					298	EJ		20.0	U	NWJ	274	EJ		10.00	U	
6336F-82C	S-49	10-May-91	08-Mar-91	SALT	N/A	UG/L	20.0	U	NJ	1730	NEJ	3030	B	EJ	222	B	E	2180	EJ	0.46					1250	EJ		20.0	U	NWJ	294	EJ		10.00	U	
6336F-83C	S-50	10-May-91	09-Mar-91	SALT	N/A	UG/L	20.0	U	NJ	1350	NEJ	1320	B	EJ	902	B	E	328	EJ	0.47					1720	EJ		20.0	U	NWJ	307	EJ		10.00	U	
6336F-84C	S-51	10-May-91	10-Mar-91	SALT	N/A	UG/L	20.0	U	NJ	1540	NEJ	6700	B	EJ	234	B	E	3540	EJ	0.70					1560	EJ		20.0	U	NWJ	281	EJ		10.00	U	
6336F-85C	S-52	10-May-91	11-Mar-91	SALT	N/A	UG/L	32.8	B	NWJ	1890	NEJ	7590	B	EJ	246	B	E	22900	EJ	9.7					1400	EJ		20.0	U	NWJ	389	EJ		10.00	U	
6336F-86C	S-53	10-May-91	12-Mar-91	SALT	N/A	UG/L																														

INORGANIC ANALYSIS DATA SHEET																																									
MATRIX: ASH/SALT																																									
METALS																																									
DELISTING LEVELS (UG/L)																																									
320 6,300 60 320 320 10 4,400 60 320 4,400																																									
EPA ID	SAMPLE ID	SAMPLING DATE	INCINERATOR DATE	MATRIX	DILUTION	UNITS	ARSENIC	C	Q	BARIUM	C	Q	CADMIUM	C	Q	CHROMIUM	C	Q	LEAD	C	Q	MERCURY	C	Q	NICKEL	C	Q	SELENIUM	C	Q	SILVER	C	Q	CYANIDE	C	Q					
6336F-91C	8-58	10-May-91	18-Mar-91	SALT	N/A	UG/L	20.0	U	NJ	1120	NEJ	1480	EJ	1370		1170	EJ	5.0		1040	EJ	20.0	U	NWJ	290	EJ	10.00	U													
6336F-92C	8-59	10-May-91	18-Mar-91	SALT	N/A	UG/L	20.0	U	NJ	1080	NEJ	848	EJ	1230		164	EJ	1.3		363	EJ	20.0	U	NWJ	281	EJ	10.00	U													
6336F-93C	8-60	10-May-91	20-Mar-91	SALT	N/A	UG/L	20.0	U	NWJ	1370	NEJ	405	EJ	865		686	EJ	0.36		655	EJ	20.0	U	NWJ	311	EJ	10.00	U													
6336F-94C	8-61	10-May-91	21-Mar-91	SALT	N/A	UG/L	25.4	B	NJ	1240	NEJ	809	EJ	1010		2340	EJ	0.77		558	EJ	20.0	U	NWJ	278	EJ	10.00	U													
6336F-95C	8-62	10-May-91	22-Mar-91	SALT	N/A	UG/L	20.0	U	NEJ	1260	NEJ	949	EJ	372		3300	EJ	0.89		707	EJ	20.0	U	NWJ	307	EJ	10.00	U													
6336F-96C	8-63	10-May-91	24-Mar-91	SALT	N/A	UG/L	67.3	B	NWJ	1300	NEJ	1740	EJ	734		8630	NEJ	3.1		974	NEJ	20.0	U	NW	268	EJ	10.00	U													
6336F-97C	8-64	10-May-91	26-Mar-91	SALT	N/A	UG/L	20.0	U	N	910	NEJ	556	EJ	492		4250	NEJ	0.39		265	NEJ	20.0	U	N	165	EJ	10.00	U													
6336F-98C	8-65	10-May-91	28-Mar-91	SALT	N/A	UG/L	20.0	U	N	1200	NEJ	1610	EJ	225		3350	NEJ	1.1		596	NEJ	20.0	U	NW	255	EJ	10.00	U													
6336F-99C	8-66	10-May-91	31-Mar-91	SALT	N/A	UG/L	20.0	U	N	811	NEJ	33.2	EJ	540		83.6	NEJ	0.20	U	246	NEJ	20.0	U	NW	255	EJ	10.00	U													
6336F-100C	8-67	10-May-91	06-Apr-91	SALT	N/A	UG/L	20.0	U	N	1110	NEJ	1460	EJ	266		2940	NEJ	0.94		815	NEJ	20.0	U	NW	247	EJ	10.00	U													
6336F-101C	8-68	10-May-91	09-Apr-91	SALT	N/A	UG/L	20.0	U	N	881	NEJ	132	EJ	347		491	NEJ	0.20	U	176	NEJ	20.0	U	N	228	EJ	10.00	U													
6336F-102C	8-69	10-May-91	11-Apr-91	SALT	N/A	UG/L	37.3	B	NJ	1030	NEJ	1080	EJ	379		2100	NEJ	1.3		367	NEJ	20.0	U	NW	232	EJ	10.00	U													
6336F-103C	8-70	10-May-91	13-Apr-91	SALT	N/A	UG/L	20.0	U	N	664	NEJ	96.6	EJ	339		229	NEJ	0.20	U	119	NEJ	20.0	U	NW	141	EJ	10.00	U													
6336F-104C	8-71	10-May-91	14-Apr-91	SALT	N/A	UG/L	58.7	B	NJ	882	NEJ	197	EJ	1110		324	NEJ	0.20	U	202	NEJ	20.0	U	NW	243	EJ	10.00	U													
6336F-105C	8-72	10-May-91	15-Apr-91	SALT	N/A	UG/L	64.4	B	NJ	876	NEJ	987	EJ	2730		804	NEJ	2.2		524	NEJ	20.0	U	NW	217	EJ	10.00	U													
6336F-106C	8-73	10-May-91	16-Apr-91	SALT	N/A	UG/L	20.0	U	NWJ	1120	NEJ	2500	EJ	37.5		6840	NEJ	1.1		503	NEJ	20.0	U	NW	274	EJ	10.00	U													
6336F-107C	8-74	11-May-91	18-Apr-91	SALT	N/A	UG/L	101		NJ	771	NEJ	1180	EJ	474		3030	NEJ	0.36		531	NEJ	21.2	B	NWJ	218	EJ	10.00	U													
6336F-108C	8-75	11-May-91	19-Apr-91	SALT	N/A	UG/L	83.0	B	NJ	896	NEJ	330	EJ	750		814	NEJ	0.20	U	246	NEJ	20.0	U	NW	240	EJ	10.00	U													
6336F-109C	8-76	11-May-91	20-Apr-91	SALT	N/A	UG/L	323		NSJ	976	NEJ	630	EJ	1040		1030	NEJ	0.20	U	469	NEJ	20.0	U	NW	260	EJ	10.00	U													
6336F-110C	8-77	11-May-91	23-Apr-91	SALT	N/A	UG/L	37.0	B	NJ	939	NEJ	568	EJ	742		5750	NEJ	0.40		728	NEJ	20.0	U	NW	249	EJ	10.00	U													
6336F-111C	8-78	11-May-91	24-Apr-91	SALT	N/A	UG/L	83.2	B	NJ	843	NEJ	292	EJ	881		1510	NEJ	3.5		1060	NEJ	20.0	U	NW	233	EJ	10.00	U													
6336F-112C	8-79	11-May-91	25-Apr-91	SALT	N/A	UG/L	272		NJ	1320	NEJ	1710	E	1070		5790	NEJ	1.1		1250	NEJ	20.0	U	NW	237	E	10.00	U													
6336F-113C	8-80	11-May-91	26-Apr-91	SALT	N/A	UG/L	20.0	U	N	1170	NEJ	384	E	1560		430	NEJ	0.44		665	NEJ	20.0	U	NW	268	E	10.00	U													
6336F-114C	8-81	11-May-91	28-Apr-91	SALT	N/A	UG/L	33.9	B	NJ	1470	NEJ	1510	E	3790		216	NEJ	2.0		1180	NEJ	20.0	U	NW	231	E	10.00	U													
6336F-115C	8-82	11-May-91	30-Apr-91	SALT	N/A	UG/L	20.0	U	NJ	1120	NEJ	1980	E	79.7		20100	NEJ	0.72		858	NEJ	20.0	U	NW	274	E	10.00	U													
6336F-116C	8-83	11-May-91	01-May-91	SALT	N/A	UG/L	20.0	U	NJ	810	NEJ	378	NEJ	287		982	NEJ	0.20	U	767		84.4	B	NWJ	238	EJ	10.00	U													
6336F-117C	8-84	11-May-91	02-May-91	SALT	N/A	UG/L	20.0	U	NJ	539	NEJ	239	NEJ	34.9		3580	NEJ	0.49		835		20.0	U	NWJ	246	EJ	10.00	U													
6336F-118C	8-85	11-May-91	03-May-91	SALT	N/A	UG/L	20.0	U	NJ	849	NEJ	1400	NEJ	376		1640	NEJ	1.3		1230		20.0	U	NJ	264	EJ	10.00	U													
6336F-119C	8-86	11-May-91	05-May-91	SALT	N/A	UG/L	20.0	U	NJ	875	NEJ	755	NEJ	271		2170	NEJ	0.60		911		20.0	U	NWJ	241	EJ	10.00	U													
6336F-120C	8-87	11-Jul-91	11-May-91	SALT	N/A	UG/L	20.0	U	NJ	882	NEJ	1030	NEJ	384		1340	NEJ	0.59		718		23.2	B	NWJ	223	EJ	10.00	U													
6336F-121C	8-88	11-Jul-91	14-May-91	SALT	N/A	UG/L	20.0	U	NJ	815	NEJ	78.4	NEJ	634		187	NEJ	0.57		449		20.0	U	NWJ	240	EJ	10.00	U													
6336F-122C	8-89	11-Jul-91	17-May-91	SALT	N/A	UG/L	20.0	U	NJ	941	NEJ	540		140		11400	NEJ	0.20	U	152		20.0	U	NWJ	249	EJ	10.00	U													
6336F-123C	8-90	11-Jul-91	19-May-91	SALT	N/A	UG/L	20.0	U	NJ	804	NEJ	972		3480		158	NEJ	0.85		788		20.0	U	NWJ	216	EJ	10.00	U													
6336F-124C	8-91	11-Jul-91	31-May-91	SALT	N/A	UG/L	49.2	B	NEJ	1000	NEJ	2140	NEJ	247		6270	NEJ	1.7		675		20.0	U	NWJ	301	EJ	10.00	U													
6336F-125C	8-92	11-Jul-91	01-Jun-91	SALT	N/A	UG/L	20.0	U	NEJ	861	NEJ	199	NEJ	339		194	NEJ	0.20	U	132		20.0	U	NWJ	245	EJ	10.00	U													

R1 Arsenic, Selenium and Nickel results are qualified as unusable (R) due to pre-digestion Matrix Spike Recoveries of less than 30%.

R2 Selenium sample results are qualified as unusable (R) due to two pre-digestion Matrix Spike Recoveries of 0%. False negatives are possible. Matrix interference is suspected.

ANALYSIS: EPA SW-846, METHOD 1311 (TCLP)

004319

URS Consultants, Inc.
ARCS, EPA Regions VI, VII and VIII
Contract No. 68-W9-0053

Vertac Chemical Corp. Superfund Site
Ash & Salt Concentrations
Revision: 0
Date: 02/02/93

04320

4.0 SEMIVOLATILES DATA TABLES

ORGANIC ANALYSIS DATA SHEET			SEMIVOLATILES				COMPOUNDS ABOVE DELISTING LIMITS														
MATRIX: ASH/SALT			DELISTING LEVELS (UG/KG)				44,000	265,000	43,000	56,000	350	21,000,000	260								
EPA ID	SAMPLE ID	SAMPLING DATE	INCINERATOR DATE	MATRIX	DILUTION	UNITS	2-Chloro-phenol	Q	1,4-Dichloro-benzene	Q	2,4-Dichloro-phenol	Q	1,2,4,5-Tetra-chlorobenzene	Q	2,4,6-Tri-chlorophenol	Q	2,4,5-Tri-chlorophenol	Q	Hexachloro-benzene	Q	
6336F-1B	S-1	08-Feb-91	04-Nov-90	SALT	3.0	UG/KG															
6336F-1B RE	S-1	08-Feb-91	04-Nov-90	SALT	3.0	UG/KG															
6336F-2B	S-2	08-Feb-91	07-Nov-90	SALT	3.0	UG/KG									1689						
6336F-3B	S-3	08-Feb-91	08-Nov-90	SALT	3.0	UG/KG									1420						
6336F-4B	S-4	08-Feb-91	09-Nov-90	SALT	3.0	UG/KG															
6336F-5B	S-5	08-Feb-91	11-Nov-90	SALT	3.0	UG/KG															
6336F-5B RE	S-5	08-Feb-91	11-Nov-90	SALT	3.0	UG/KG															
6336F-6B	S-6	08-Feb-91	13-Nov-90	SALT	3.0	UG/KG					49232	E			12793						
6336F-6B DL	S-6	08-Feb-91	13-Nov-90	SALT	15.0	UG/KG									7760						
6336F-7B	S-7	08-Feb-91	14-Nov-90	SALT	3.0	UG/KG															
6336F-8B	S-8	08-Feb-91	16-Nov-90	SALT	3.0	UG/KG															
6336F-9B	S-9	08-Feb-91	21-Nov-90	SALT	3.0	UG/KG									14708						
6336F-10B	S-10	08-Feb-91	25-Nov-90	SALT	3.0	UG/KG									1141						
6336F-11B	S-11	08-Feb-91	26-Nov-90	SALT	3.0	UG/KG									590						
6336F-12B	S-12	08-Feb-91	27-Nov-90	SALT	3.0	UG/KG															
6336F-13B	S-13	08-Feb-91	28-Nov-90	SALT	3.0	UG/KG															
6336F-14B	S-14	08-Feb-91	29-Nov-90	SALT	3.0	UG/KG															
6336F-15B	S-15	08-Feb-91	30-Nov-90	SALT	3.0	UG/KG															
6336F-16B	S-16	08-Feb-91	01-Dec-90	SALT	3.0	UG/KG															
6336F-17B	S-17	08-Feb-91	02-Dec-90	SALT	3.0	UG/KG															
6336F-18B	S-18	09-Feb-91	03-Dec-90	SALT	3.0	UG/KG															
6336F-19B	S-19	09-Feb-91	04-Dec-90	WATER	10.0	UG/L															
6336F-19B DL	S-19	09-Feb-91	04-Dec-90	WATER	5.0	UG/L															
6336F-20B	S-20	09-Feb-91	05-Dec-90	SALT	3.0	UG/KG															
6336F-21B	S-21	09-Feb-91	06-Dec-90	SALT	3.0	UG/KG															
6336F-22B	S-22	09-Feb-91	07-Dec-90	SALT	3.0	UG/KG															
6336F-23B	S-23	08-May-91	08-Dec-90	SALT	3.0	UG/KG															
6336F-24B	S-26	08-May-91	17-Dec-90	SALT	3.0	UG/KG															
6336F-25B	S-27	08-May-91	18-Dec-90	SALT	3.0	UG/KG															
6336F-26B	S-28	08-May-91	30-Dec-90	SALT	3.0	UG/KG															
6336F-27B	S-29	08-May-91	31-Dec-90	SALT	3.0	UG/KG															
6336F-28B	S-30	08-May-91	03-Jan-91	SALT	3.0	UG/KG															
6336F-29B	S-31	08-May-91	04-Jan-91	SALT	3.0	UG/KG									1507						
6336F-30B	S-32	08-May-91	07-Jan-91	SALT	3.0	UG/KG									686						
6336F-30B RE	S-32	09-May-91	07-Jan-91	SALT	3.0	UG/KG															
6336F-31B	S-33	09-May-91	08-Jan-91	SALT	3.0	UG/KG															
6336F-32B	S-34	09-May-91	16-Jan-91	SALT	3.0	UG/KG									1403						
6336F-33B	S-35	09-May-91	29-Jan-91	SALT	3.0	UG/KG															
6336F-34B	S-36	09-May-91	01-Feb-91	SALT	3.0	UG/KG															
6336F-35B	S-37	09-May-91	06-Feb-91	SALT	3.0	UG/KG															
6336F-36B	S-38	09-May-91	07-Feb-91	SALT	3.0	UG/KG															
6336F-37B	S-39	09-May-91	08-Feb-91	SALT	3.0	UG/KG															
6336F-38B	S-40	09-May-91	11-Feb-91	SALT	3.0	UG/KG									1020						
6336F-39B	S-41	09-May-91	15-Feb-91	SALT	3.0	UG/KG															
6336F-40B	S-42	09-May-91	16-Feb-91	SALT	3.0	UG/KG															

* Data for this compound are reported as UG/KG. The dilution factor is 1.5

Analysis: EPA SW-846, Method 8270 (6336H-1B through 6336H-45B; 6336H-91B through 6336H-125B)
 EPA Statement of work for Organics Analysis (6336H-46B through 6336H-90B)
 EPA SW-846, Method 8080 (Hexachlorobenzene only, 6336H-1B through 6336H-45B; 6336H-91B through 6336H-125B)

04321

ORGANIC ANALYSIS DATA SHEET			SEMIVOLATILES				COMPOUNDS ABOVE DELISTING LIMITS														
MATRIX: ASH/SALT			DELISTING LEVELS (UG/KG)				44,000	265,000	43,000	56,000	350	21,000,000	260								
EPA ID	SAMPLE ID	SAMPLING DATE	INCINERATOR DATE	MATRIX	DILUTION	UNITS	2-Chloro-phenol	Q	1,4-Dichloro-benzene	Q	2,4-Dichloro-phenol	Q	1,2,4,5-Tetra-chlorobenzene	Q	2,4,6-Tri-chlorophenol	Q	2,4,5-Tri-chlorophenol	Q	Hexachloro-benzene	Q	
6336F-41B	S-43	09-May-91	17-Feb-91	SALT	3.0	UG/KG															
6336F-41B RE	S-43	09-May-91	17-Feb-91	SALT	3.0	UG/KG															
6336F-42B	S-44	09-May-91	18-Feb-91	SALT	3.0	UG/KG															
6336F-43B	S-45	09-May-91	19-Feb-91	WATER	10.0	UG/L															
6336F-43B DL	S-45	09-May-91	19-Feb-91	WATER	5.0	UG/L															
6336F-43B DL	S-45	09-May-91	19-Feb-91	WATER	50.0	UG/L															
6336F-43B DL	S-45	09-May-91	19-Feb-91	WATER	25.0	UG/L															
6336F-44B	S-46	09-May-91	24-Feb-91	WATER	10.0	UG/L										3634					
6336F-44B DL	S-46	09-May-91	24-Feb-91	SALT	30.0	UG/KG				45092											
6636F-45B	S-47	09-May-91	06-Mar-91	WATER	10.0	UG/L														323.0*	
6636F-45B DL	S-47	09-May-91	06-Mar-91	WATER	5.0	UG/L															
6336F-46B	S-48	10-May-91	07-Mar-91	SALT	0.5	UG/KG										480	E				
6336F-46B DL	S-48	10-May-91	07-Mar-91	SALT	12.5	UG/KG										1400	D				
6336F-46B DL2	S-48	10-May-91	07-Mar-91	SALT	150.0	UG/KG										1300	D				
6336F-47B	S-49	10-May-91	08-Mar-91	SALT	0.5	UG/KG															
6336F-47B DL	S-49	10-May-91	08-Mar-91	SALT	5.0	UG/KG															
6336F-48B	S-50	10-May-91	09-Mar-91	SALT	0.5	UG/KG															
6336F-49B	S-51	10-May-91	10-Mar-91	SALT	0.5	UG/KG															
6336F-50B	S-52	10-May-91	11-Mar-91	SALT	0.5	UG/KG															
6336F-50B RE	S-52	10-May-91	11-Mar-91	SALT	0.5	UG/KG															
6336F-51B	S-53	10-May-91	12-Mar-91	SALT	0.5	UG/KG															
6336F-52B	S-54	10-May-91	13-Mar-91	SALT	0.5	UG/KG															
6336F-52B RE	S-54	10-May-91	13-Mar-91	SALT	0.5	UG/KG															
6336F-53B	S-55	10-May-91	14-Mar-91	SALT	0.5	UG/KG															
6336F-53B RE	S-55	10-May-91	14-Mar-91	SALT	0.5	UG/KG															
6336F-53B RE2	S-55	10-May-91	14-Mar-91	SALT	0.5	UG/KG															
6336F-54B	S-56	10-May-91	15-Mar-91	SALT	0.5	UG/KG															
6336F-54B RE	S-56	10-May-91	15-Mar-91	SALT	0.5	UG/KG															
6336F-55B	S-57	10-May-91	17-Mar-91	SALT	0.5	UG/KG															
6336F-55B RE	S-57	10-May-91	17-Mar-91	SALT	0.5	UG/KG															
6336F-56B	S-58	10-May-91	18-Mar-91	SALT	0.5	UG/KG															
6336F-57B	S-59	10-May-91	19-Mar-91	SALT	0.5	UG/KG															
6336F-58B	S-60	10-May-91	20-Mar-91	SALT	0.5	UG/KG															
6336F-58B RE	S-60	10-May-91	20-Mar-91	SALT	0.5	UG/KG															
6336F-58B RE2	S-60	10-May-91	20-Mar-91	SALT	0.5	UG/KG															
6336F-59B	S-61	10-May-91	21-Mar-91	SALT	0.5	UG/KG															
6336F-59B DL	S-61	10-May-91	21-Mar-91	SALT	10.0	UG/KG															
6336F-60B	S-62	10-May-91	22-Mar-91	SALT	0.5	UG/KG										690	E				
6336F-60B DL	S-62	10-May-91	22-Mar-91	SALT	12.5	UG/KG										1500	D				
6336F-60B DL2	S-62	10-May-91	22-Mar-91	SALT	25.0	UG/KG										1100	D				
6336F-61B	S-63	10-May-91	24-Mar-91	SALT	0.5	UG/KG										530	E				
6336F-61B DL	S-63	10-May-91	24-Mar-91	SALT	12.5	UG/KG										800	D				
6336F-61B DL2	S-63	10-May-91	24-Mar-91	SALT	50.0	UG/KG										610	D				
6336F-62B	S-64	10-May-91	26-Mar-91	SALT	0.5	UG/KG										1700	E				
6336F-62B DL	S-64	10-May-91	26-Mar-91	SALT	200.0	UG/KG										19000	D				

* Data for this compound are reported as UG/KG. The dilution factor is 1.5

Analysis: EPA SW-846, Method 8270 (6336H-1B through 6336H-45B; 6336H-91B through 6336H-125B)
 EPA Statement of work for Organics Analysis (6336H-46B through 6336H-90B)
 EPA SW-846, Method 8080 (Hexachlorobenzene only, 6336H-1B through 6336H-45B; 6336H-91B through 6336H-125B)

04322

ORGANIC ANALYSIS DATA SHEET			SEMIVOLATILES				COMPOUNDS ABOVE DELISTING LIMITS														
MATRIX: ASH/SALT			DELISTING LEVELS (UG/KG)				44,000	265,000	43,000	56,000	350	21,000,000	260								
EPA ID	SAMPLE ID	SAMPLING DATE	INCINERATOR DATE	MATRIX	DILUTION	UNITS	2-Chloro-phenol	Q	1,4-Dichloro-benzene	Q	2,4-Dichloro-phenol	Q	1,2,4,5-Tetra-chlorobenzene	Q	2,4,6-Tri-chlorophenol	Q	2,4,5-Tri-chlorophenol	Q	Heptachloro-benzene	Q	
6336F-63B	S-63	10-May-91	28-Mar-91	SALT	0.5	UG/KG															
6336F-63B DL	S-63	10-May-91	28-Mar-91	SALT	2.5	UG/KG															
6336F-64B	S-64	10-May-91	31-Mar-91	SALT	0.5	UG/KG									370	E					
6336F-64B DL	S-64	10-May-91	31-Mar-91	SALT	25.0	UG/KG									360	D					
6336F-65B	S-67	10-May-91	08-Apr-91	SALT	0.5	UG/KG									1100	E					
6336F-65B DL	S-67	10-May-91	08-Apr-91	SALT	25.0	UG/KG									2200	D					
6336F-66B	S-68	10-May-91	09-Apr-91	SALT	0.5	UG/KG									390	E					
6336F-66B RE	S-68	10-May-91	09-Apr-91	SALT	0.5	UG/KG									2000	E					
6336F-66B DL	S-68	10-May-91	09-Apr-91	SALT	5.0	UG/KG									4600	ED					
6336F-66B DL2	S-68	10-May-91	09-Apr-91	SALT	125.0	UG/KG									6600	D					
6336F-67B	S-69	10-May-91	11-Apr-91	SALT	0.5	UG/KG									1200	E					
6336F-67B DL	S-69	10-May-91	11-Apr-91	SALT	10.0	UG/KG									1800	D					
6336F-68B	S-70	10-May-91	13-Apr-91	SALT	0.5	UG/KG									390	E					
6336F-68B DL	S-70	10-May-91	13-Apr-91	SALT	50.0	UG/KG									1400	D					
6336F-68B DL2	S-70	10-May-91	13-Apr-91	SALT	250.0	UG/KG									1100	JD					
6336F-69B	S-71	10-May-91	14-Apr-91	SALT	0.5	UG/KG															
6336F-69B DL	S-71	10-May-91	14-Apr-91	SALT	25.0	UG/KG									350	D					
6336F-70B	S-72	10-May-91	15-Apr-91	SALT	0.5	UG/KG															
6336F-70B DL	S-72	10-May-91	15-Apr-91	SALT	5.0	UG/KG															
6336F-71B	S-73	10-May-91	16-Apr-91	SALT	0.5	UG/KG															
6336F-71B DL	S-73	10-May-91	16-Apr-91	SALT	20.0	UG/KG															
6336F-72B	S-74	11-May-91	18-Apr-91	SALT	0.5	UG/KG															
6336F-72B DL	S-74	11-May-91	18-Apr-91	SALT	5.0	UG/KG															
6336F-73B	S-75	11-May-91	19-Apr-91	SALT	0.5	UG/KG									1200	E					
6336F-73B DL	S-75	11-May-91	19-Apr-91	SALT	10.0	UG/KG									1600	D					
6336F-74B	S-76	11-May-91	20-Apr-91	SALT	0.5	UG/KG									1100	E					
6336F-74B DL	S-76	11-May-91	20-Apr-91	SALT	25.0	UG/KG									1600	D					
6336F-74B DL2	S-76	11-May-91	20-Apr-91	SALT	50.0	UG/KG									1800	D					
6336F-75B	S-77	11-May-91	23-Apr-91	SALT	0.5	UG/KG															
6336F-75B DL	S-77	11-May-91	23-Apr-91	SALT	2.0	UG/KG															
6336F-76B	S-78	11-May-91	24-Apr-91	SALT	0.5	UG/KG															
6336F-76B DL	S-78	11-May-91	24-Apr-91	SALT	2.0	UG/KG															
6336F-76B DLRE	S-78	11-May-91	24-Apr-91	SALT	2.0	UG/KG															
6336F-77B	S-79	11-May-91	25-Apr-91	SALT	0.5	UG/KG															
6336F-77B RE	S-79	11-May-91	25-Apr-91	SALT	0.5	UG/KG															
6336F-78B	S-80	11-May-91	26-Apr-91	SALT	0.5	UG/KG									600	E					
6336F-78B DL	S-80	11-May-91	26-Apr-91	SALT	12.5	UG/KG									1300	D					
6336F-79B	S-81	11-May-91	28-Apr-91	SALT	0.5	UG/KG									490	E					
6336F-79B DL	S-81	11-May-91	28-Apr-91	SALT	150.0	UG/KG									930	JD					
6336F-80B	S-82	11-May-91	30-Apr-91	SALT	0.5	UG/KG															
6336F-80B RE	S-82	11-May-91	30-Apr-91	SALT	0.5	UG/KG															
6336F-81B	S-83	11-May-91	01-May-91	SALT	0.5	UG/KG															
6336F-81B DL	S-83	11-May-91	01-May-91	SALT	2.0	UG/KG															
6336F-82B	S-84	11-May-91	02-May-91	SALT	0.5	UG/KG															
6336F-82B RE	S-84	11-May-91	02-May-91	SALT	0.5	UG/KG															

* Data for this compound are reported as UG/KG. The dilution factor is 1.5

Analysis: EPA SW-846, Method 8270 (6336H-1B through 6336H-45B; 6336H-91B through 6336H-125B)
 EPA Statement of work for Organics Analysis (6336H-46B through 6336H-90B)
 EPA SW-846, Method 8080 (Heptachlorobenzene only, 6336H-1B through 6336H-45B; 6336H-91B through 6336H-125B)

04323

ORGANIC ANALYSIS DATA SHEET			SEMIVOLATILES				COMPOUNDS ABOVE DELISTING LIMITS													
MATRIX: ASH/SALT			DELISTING LEVELS (UG/KG)				44,000		265,000		43,000		56,000		350		21,000,000		260	
EPA ID	SAMPLE ID	SAMPLING DATE	INCINERATOR DATE	MATRIX	DILUTION	UNITS	2-Chloro-phenol	Q	1,4-Dichloro-benzene	Q	2,4-Dichloro-phenol	Q	1,2,4,5-Tetra-chlorobenzene	Q	2,4,6-Tri-chlorophenol	Q	2,4,5-Tri-chlorophenol	Q	Hexachloro-benzene	Q
6336F-83B	S-83	11-May-91	03-May-91	SALT	0.3	UG/KG														
6336F-83B RE	S-83	11-May-91	03-May-91	SALT	0.3	UG/KG														
6336F-84B	S-84	11-May-91	05-May-91	SALT	0.3	UG/KG														
6336F-84B DL	S-84	11-May-91	05-May-91	SALT	3.0	UG/KG														
6336F-85B	S-87	11-Jul-91	11-May-91	SALT	0.3	UG/KG									700	E				
6336F-85B DL	S-87	11-Jul-91	11-May-91	SALT	25.0	UG/KG									1800	D				
6336F-86B	S-88	11-Jul-91	14-May-91	SALT	0.3	UG/KG									760	E				
6336F-86B DL	S-88	11-Jul-91	14-May-91	SALT	250.0	UG/KG									2000	JD				
6336F-87B	S-89	11-Jul-91	17-May-91	SALT	0.3	UG/KG									580	E				
6336F-87B DL	S-89	11-Jul-91	17-May-91	SALT	12.3	UG/KG									778	D				
6336F-88B	S-90	11-Jul-91	19-May-91	SALT	0.3	UG/KG									540	E				
6336F-88B DL	S-90	11-Jul-91	19-May-91	SALT	30.0	UG/KG									1700	D				
6336F-88B DL2	S-90	11-Jul-91	19-May-91	SALT	150.0	UG/KG									1500	D				
6336F-88B DL3	S-90	11-Jul-91	19-May-91	SALT	500.0	UG/KG					52000	DB			2400	JD				
6336F-89B	S-91	11-Jul-91	31-May-91	SALT	0.3	UG/KG									720	E				
6336F-89B DL	S-91	11-Jul-91	31-May-91	SALT	25.0	UG/KG									2300	D				
6336F-90B	S-92	11-Jul-91	01-Jun-91	SALT	0.3	UG/KG									1300	E				
6336F-90B DL	S-92	11-Jul-91	01-Jun-91	SALT	125.0	UG/KG									4400	D				
6336F-91B	A-1	07-Feb-91	03-Nov-90	ASH	1.0	UG/KG														
6336F-92B	A-2	07-Feb-91	09-Nov-90	ASH	1.0	UG/KG														
6336F-93B	A-3	07-Feb-91	04-Dec-90	ASH	1.0	UG/KG									4300					
6336F-93B DL	A-3	07-Feb-91	04-Dec-90	ASH	4.0	UG/KG									5200					
6336F-94B	A-4	07-Feb-91	07-Dec-90	ASH	1.0	UG/KG									390	J				
6336F-95B	A-5	11-May-91	10-Dec-90	ASH	1.0	UG/KG														
6336F-96B	A-6	11-May-91	12-Dec-90	ASH	1.0	UG/KG														
6336F-97B	A-7	11-May-91	14-Dec-90	ASH	1.0	UG/KG														
6336F-98B	A-8	11-May-91	16-Dec-90	ASH	1.0	UG/KG													640	
6336F-99B	A-9	11-May-91	03-Feb-91	ASH	1.0	UG/KG														
6336F-100B	A-10	11-May-91	08-Mar-91	ASH	1.0	UG/KG									2300					
6336F-100B DL	A-10	11-May-91	08-Mar-91	ASH	5.0	UG/KG									2000					
6336F-101B	A-11	11-May-91	09-Mar-91	ASH	1.0	UG/KG														
6336F-102B	A-12	11-May-91	11-Mar-91	ASH	1.0	UG/KG														
6336F-103B	A-13	11-May-91	13-Mar-91	ASH	1.0	UG/KG														
6336F-104B	A-14	11-May-91	15-Mar-91	ASH	1.0	UG/KG														
6336F-105B	A-15	11-May-91	16-Mar-91	ASH	1.0	UG/KG														
6336F-106B	A-16	11-May-91	20-Mar-91	ASH	1.0	UG/KG														
6336F-107B	A-17	11-May-91	21-Mar-91	ASH	1.0	UG/KG														
6336F-108B	A-18	11-May-91	22-Mar-91	ASH	1.0	UG/KG														
6336F-109B	A-19	11-May-91	23-Mar-91	ASH	1.0	UG/KG														
6336F-110B	A-20	11-May-91	24-Mar-91	ASH	1.0	UG/KG														
6336F-111B	A-21	12-May-91	14-Apr-91	ASH	1.0	UG/KG														
6336F-112B	A-22	12-May-91	16-Apr-91	ASH	1.0	UG/KG														
6336F-113B	A-23	12-May-91	17-Apr-91	ASH	1.0	UG/KG														
6336F-114B	A-24	12-May-91	18-Apr-91	ASH	1.0	UG/KG														
6336F-115B	A-25	12-May-91	20-Apr-91	ASH	1.0	UG/KG														

* Data for this compound are reported as UG/KG. The dilution factor is 1.5

Analysis: EPA SW-846, Method 8270 (6336H-1B through 6336H-45B; 6336H-91B through 6336H-125B)
 EPA Statement of work for Organics Analysis (6336H-46B through 6336H-90B)
 EPA SW-846, Method 8080 (Hexachlorobenzene only, 6336H-1B through 6336H-45B; 6336H-91B through 6336H-125B)

04324

ORGANIC ANALYSIS DATA SHEET			SEMIVOLATILES COMPOUNDS ABOVE DELISTING LIMITS																		
MATRIX: ASH/SALT			DELISTING LEVELS (UG/KG)				44,000	265,000	43,000	56,000	350	21,000,000	260								
EPA ID	SAMPLE ID	SAMPLING DATE	INCINERATOR DATE	MATRIX	DILUTION	UNITS	2-Chloro-phenol	Q	1,4-Dichloro-benzene	Q	2,4-Dichloro-phenol	Q	1,2,4,5-Tetra-chlorobenzene	Q	2,4,6-Tri-chlorophenol	Q	2,4,5-Tri-chlorophenol	Q	Hexachloro-benzene	Q	
6336F-116B	A-26	12-May-91	22-Apr-91	ASH	1.0	UG/KG															
6336F-116B DL	A-26	12-May-91	22-Apr-91	ASH	3.0	UG/KG															
6336F-117B	A-27	12-May-91	23-Apr-91	ASH	1.0	UG/KG															
6336F-118B	A-28	12-May-91	26-Apr-91	ASH	1.0	UG/KG															
6336F-118B RE	A-28	12-May-91	26-Apr-91	ASH	1.0	UG/KG															
6336F-119B	A-29	12-May-91	27-Apr-91	ASH	1.0	UG/KG															
6336F-119B RE	A-29	12-May-91	27-Apr-91	ASH	1.0	UG/KG															
6336F-120B	A-30	12-May-91	29-Apr-91	ASH	1.0	UG/KG															
6336F-121B	A-31	12-May-91	30-Apr-91	ASH	1.0	UG/KG															
6336F-121B RE	A-31	12-May-91	30-Apr-91	ASH	1.0	UG/KG															
6336F-122B	A-32	16-Jul-91	01-May-91	ASH	1.0	UG/KG															
6336F-122B RE	A-32	16-Jul-91	01-May-91	ASH	1.0	UG/KG															
6336F-123B DL	A-33	16-Jul-91	02-May-91	ASH	3.0	UG/KG															
6336F-124B	A-34	16-Jul-91	03-May-91	ASH	1.0	UG/KG															
6336F-125B	A-35	16-Jul-91	04-May-91	ASH	1.0	UG/KG															

* Data for this compound are reported as UG/KG. The dilution factor is 1.5

Analysis: EPA SW-846, Method 8270 (6336H-1B through 6336H-45B; 6336H-91B through 6336H-125B)
 EPA Statement of work for Organics Analysis (6336H-46B through 6336H-90B)
 EPA SW-846, Method 8080 (Hexachlorobenzene only, 6336H-1B through 6336H-45B; 6336H-91B through 6336H-125B)

04325

ORGANIC ANALYSIS DATA SHEET			SEMIVOLATILES																	
MATRIX: ASH/SALT			DELISTING LEVELS (UG/KG)				44,000	265,000	43,000	56,000	350	21,000,000	260							
EPA ID	SAMPLE ID	SAMPLING DATE	INCINERATOR DATE	MATRIX	DILUTION	UNITS	2-Chloro-phenol	Q	1,4-Dichloro-benzene	Q	2,4-Dichloro-phenol	Q	1,2,4,5-Tetra-chlorobenzene	Q	2,4,6-Tri-chlorophenol	Q	2,4,5-Tri-chlorophenol	Q	Hexachloro-benzene	Q
6336F-1B	S-1	08-Feb-91	04-Nov-90	SALT	3.0	UG/KG	1000	U	1000	U	1000	U	1000	U	350	U	1000	U	17	
6336F-1B RE	S-1	08-Feb-91	04-Nov-90	SALT	3.0	UG/KG	1000	U	1000	U	1000	U	1000	U	350	U	1000	U	NO DATA	
6336F-2B	S-2	08-Feb-91	07-Nov-90	SALT	3.0	UG/KG	1000	U	1000	U	4138	U	1000	U	1689	U	1000	U	22	
6336F-3B	S-3	08-Feb-91	08-Nov-90	SALT	3.0	UG/KG	1000	U	1000	U	3685	U	1000	U	1420	U	1000	U	18	
6336F-4B	S-4	08-Feb-91	09-Nov-90	SALT	3.0	UG/KG	1000	U	1000	U	1000	U	1000	U	274	J	1000	U	5.0	
6336F-5B	S-5	08-Feb-91	11-Nov-90	SALT	3.0	UG/KG	1000	U	1000	U	1000	U	1000	U	350	U	1000	U	6.0	
6336F-5B RE	S-5	08-Feb-91	11-Nov-90	SALT	3.0	UG/KG	1000	U	1000	U	1000	U	1000	U	350	U	1000	U	NO DATA	
6336F-6B	S-6	08-Feb-91	13-Nov-90	SALT	3.0	UG/KG	1000	U	1000	U	49232	E	1000	U	12793	U	1000	U	43	
6336F-6B DL	S-6	08-Feb-91	13-Nov-90	SALT	15.0	UG/KG	5000	U	5000	U	31534	U	5000	U	7760	U	5000	U	NO DATA	
6336F-7B	S-7	08-Feb-91	14-Nov-90	SALT	3.0	UG/KG	1000	U	1000	U	2478	U	1000	U	350	U	1000	U	20	
6336F-8B	S-8	08-Feb-91	16-Nov-90	SALT	3.0	UG/KG	1000	U	1000	U	19592	E	1000	U	14708	U	1000	U	57	
6336F-9B	S-9	08-Feb-91	21-Nov-90	SALT	3.0	UG/KG	1000	U	1000	U	1971	U	1000	U	1141	U	1000	U	47	
6336F-10B	S-10	08-Feb-91	25-Nov-90	SALT	3.0	UG/KG	1000	U	1000	U	1000	U	1000	U	590	U	1000	U	9.0	
6336F-11B	S-11	08-Feb-91	26-Nov-90	SALT	3.0	UG/KG	1000	U	1000	U	1000	U	1000	U	350	U	1000	U	13	
6336F-12B	S-12	08-Feb-91	27-Nov-90	SALT	3.0	UG/KG	1000	U	1000	U	1000	U	1000	U	350	U	1000	U	5.0	U
6336F-13B	S-13	08-Feb-91	28-Nov-90	SALT	3.0	UG/KG	1000	U	1000	U	1000	U	1000	U	350	U	1000	U	7.0	
6336F-14B	S-14	08-Feb-91	29-Nov-90	SALT	3.0	UG/KG	1000	U	1000	U	2350	U	1000	U	350	U	1000	U	15	
6336F-15B	S-15	08-Feb-91	30-Nov-90	SALT	3.0	UG/KG	1000	U	1000	U	1000	U	1000	U	350	U	1000	U	25	
6336F-16B	S-16	08-Feb-91	01-Dec-90	SALT	3.0	UG/KG	1000	U	1000	U	1000	U	1000	U	350	U	1000	U	5.0	U
6336F-17B	S-17	08-Feb-91	02-Dec-90	SALT	3.0	UG/KG	718	J	1000	U	3409	U	1000	U	350	U	1000	U	5.0	U
6336F-18B	S-18	09-Feb-91	03-Dec-90	SALT	3.0	UG/KG	1000	U	1000	U	3255	U	1000	U	350	U	1000	U	5.0	U
6336F-19B	S-19	09-Feb-91	04-Dec-90	WATER	10.0	UG/L	100	U	100	U	212	U	100	U	35	U	100	U	35.0*	
6336F-19B DL	S-19	09-Feb-91	04-Dec-90	WATER	5.0	UG/L	50	U	50	U	299	U	50	U	33	U	50	U	NO DATA	
6336F-20B	S-20	09-Feb-91	05-Dec-90	SALT	3.0	UG/KG	1000	U	1000	U	1588	U	1000	U	350	U	1000	U	5.0	U
6336F-21B	S-21	09-Feb-91	06-Dec-90	SALT	3.0	UG/KG	1000	U	1000	U	1000	U	1000	U	350	U	1000	U	8.0	
6336F-22B	S-22	09-Feb-91	07-Dec-90	SALT	3.0	UG/KG	1000	U	1000	U	1000	U	1000	U	350	U	1000	U	8.0	
6336F-23B	S-23	08-May-91	08-Dec-90	SALT	3.0	UG/KG	1000	U	1000	U	1000	U	1000	U	350	U	1000	U	14	
6336F-24B	S-26	08-May-91	17-Dec-90	SALT	3.0	UG/KG	1000	U	1000	U	1000	U	1000	U	350	U	1000	U	41	
6336F-25B	S-27	08-May-91	18-Dec-90	SALT	3.0	UG/KG	1000	U	1000	U	1000	U	1000	U	350	U	1000	U	11	
6336F-26B	S-28	08-May-91	30-Dec-90	SALT	3.0	UG/KG	1000	U	1000	U	645	J	1000	U	320	J	1000	U	5.0	U
6336F-27B	S-29	08-May-91	31-Dec-90	SALT	3.0	UG/KG	1000	U	1000	U	1000	U	1000	U	350	U	1000	U	12	
6336F-28B	S-30	08-May-91	03-Jan-91	SALT	3.0	UG/KG	1000	U	1000	U	1000	U	1000	U	1507	U	1000	U	10	
6336F-29B	S-31	08-May-91	04-Jan-91	SALT	3.0	UG/KG	1000	U	1000	U	1045	U	1000	U	686	U	1000	U	5.0	U
6336F-30B	S-32	08-May-91	07-Jan-91	SALT	3.0	UG/KG	1000	U	1000	U	1262	U	1000	U	350	U	1000	U	16	
6336F-30B RE	S-32	09-May-91	07-Jan-91	SALT	3.0	UG/KG	1000	U	1000	U	1887	U	1000	U	350	U	1000	U	NO DATA	
6336F-31B	S-33	09-May-91	08-Jan-91	SALT	3.0	UG/KG	1000	U	1000	U	8798	U	1000	U	1403	U	1000	U	29	
6336F-32B	S-34	09-May-91	16-Jan-91	SALT	3.0	UG/KG	1000	U	1000	U	1000	U	1000	U	350	U	1000	U	63	
6336F-33B	S-35	09-May-91	29-Jan-91	SALT	3.0	UG/KG	1000	U	1000	U	1000	U	1000	U	350	U	1000	U	22	
6336F-34B	S-36	09-May-91	01-Feb-91	SALT	3.0	UG/KG	1000	U	1000	U	1000	U	1000	U	350	U	1000	U	5.0	U
6336F-35B	S-37	09-May-91	06-Feb-91	SALT	3.0	UG/KG	1000	U	1000	U	1000	U	1000	U	350	U	1000	U	14	
6336F-36B	S-38	09-May-91	07-Feb-91	SALT	3.0	UG/KG	1000	U	1000	U	1000	U	1000	U	350	U	1000	U	26	
6336F-37B	S-39	09-May-91	08-Feb-91	SALT	3.0	UG/KG	1000	U	1000	U	5742	U	1000	U	1020	U	1000	U	22	
6336F-38B	S-40	09-May-91	11-Feb-91	SALT	3.0	UG/KG	1000	U	1000	U	1000	U	1000	U	350	U	1000	U	5.0	U
6336F-39B	S-41	09-May-91	15-Feb-91	SALT	3.0	UG/KG	1000	U	1000	U	1000	U	1000	U	350	U	1000	U	5.0	U
6336F-40B	S-42	09-May-91	16-Feb-91	SALT	3.0	UG/KG	1000	U	1000	U	1000	U	1000	U	350	U	1000	U	5.0	U
6336F-41B	S-43	09-May-91	17-Feb-91	SALT	3.0	UG/KG	1000	U	1000	U	1000	U	1000	U	350	U	1000	U	5.0	U

* Data for this compound are reported as UG/KG. The dilution factor is 1.5

Analysis: EPA SW-846, Method 8270 (6336H-1B through 6336H-45B; 6336H-91B through 6336H-125B)
 EPA Statement of work for Organics Analysis (6336H-46B through 6336H-90B)
 EPA SW-846, Method 8080 (Hexachlorobenzene only, 6336H-1B through 6336H-45B; 6336H-91B through 6336H-125B)

004326

ORGANIC ANALYSIS DATA SHEET

SEMIVOLATILES

MATRIX: ASH/SALT

			DELISTING LEVELS (UG/KG)																					
						44,000			265,000			43,000			56,000			350			21,000,000			260
EPA ID	SAMPLE ID	SAMPLING DATE	INCINERATOR DATE	MATRIX	DILUTION	UNITS	2-Chloro-phenol	Q	1,4-Dichloro-benzene	Q	2,4-Dichloro-phenol	Q	1,2,4,5-Tetra-chlorobenzene	Q	2,4,6-Tri-chlorophenol	Q	2,4,5-Tri-chlorophenol	Q	Hexachloro-benzene	Q			Q	
6336F-41B RE	S-43	09-May-91	17-Feb-91	SALT	3.0	UG/KG	1000	U	1000	U	1000	U	1000	U	1000	U	350	U	1000	U	NO DATA			
6336F-42B	S-44	09-May-91	18-Feb-91	SALT	3.0	UG/KG	1000	U	1000	U	1000	U	1000	U	1000	U	350	U	1000	U	5.0		U	
6336F-43B	S-45	09-May-91	19-Feb-91	WATER	10.0	UG/L	100	U	100	U	2308	E	100	U	98		100	U	51.0*					
6336F-43B DL	S-45	09-May-91	19-Feb-91	WATER	5.0	UG/L	216		50	U	3084	E	50	U	211		35	J	NO DATA					
6336F-43B DL	S-45	09-May-91	19-Feb-91	WATER	50.0	UG/L	500	U	500	U	302	J	500	U	175	U	500	U	NO DATA					
6336F-43B DL	S-45	09-May-91	19-Feb-91	WATER	25.0	UG/L	201	J	250	U	6149	E	250	U	246		37	J	NO DATA					
6336F-44B	S-46	09-May-91	24-Feb-91	WATER	10.0	UG/L	1116		1000	U	3879	E	1000	U	3634		1000	U	5.0*		U			
6336F-44B DL	S-46	09-May-91	24-Feb-91	SALT	30.0	UG/KG	10000	U	10000	U	45092		10000	U	3500	U	10000	U	NO DATA					
6336F-45B	S-47	09-May-91	06-Mar-91	WATER	10.0	UG/L	100	U	100	U	115		100	U	35	U	100	U	323.0*					
6336F-45B DL	S-47	09-May-91	06-Mar-91	WATER	5.0	UG/L	50	U	50	U	443	E	50	U	114		50	U	NO DATA					
6336F-46B	S-48	10-May-91	07-Mar-91	SALT	0.5	UG/KG	300	E	3.6	U	720	EB	0.91	J	480	E	3.6	U	3.6		U			
6336F-46B DL	S-48	10-May-91	07-Mar-91	SALT	12.5	UG/KG	700	D	90	U	6500	EDB	90	U	1400	D	90	U	90		U			
6336F-46B DL2	S-48	10-May-91	07-Mar-91	SALT	150.0	UG/KG	650	JD	1100	U	15000	DB	1100	U	1300	D	1100	U	1100		U			
6336F-47B	S-49	10-May-91	08-Mar-91	SALT	0.5	UG/KG	2.8	J	7.1	U	610	E	2.0	J	82		7.1	U	1.4		J			
6336F-47B DL	S-49	10-May-91	08-Mar-91	SALT	5.0	UG/KG	71	U	71	U	1100	D	71	U	61	JD	71	U	71		U			
6336F-48B	S-50	10-May-91	09-Mar-91	SALT	0.5	UG/KG	1.0	J	2.3	J	10	B	7.4		31		4.3	U	4.2		J			
6336F-49B	S-51	10-May-91	10-Mar-91	SALT	0.5	UG/KG	3.9	U	1.3	J	6.3	B	5.6		19		3.9	U	4.5					
6336F-50B	S-52	10-May-91	11-Mar-91	SALT	0.5	UG/KG	5.5	U	1.6	J	1.3	JX	4.5	J	3.9	J	5.5	U	2.4		J			
6336F-50B RE	S-52	10-May-91	11-Mar-91	SALT	0.5	UG/KG	5.5	U	1.5	J	2.2	J	5.8		4.9	J	5.5	U	2.2		J			
6336F-51B	S-53	10-May-91	12-Mar-91	SALT	0.5	UG/KG	4.8		0.88	J	7.1	B	1.8	J	13		0.93	JX	0.88		J			
6336F-52B	S-54	10-May-91	13-Mar-91	SALT	0.5	UG/KG	0.66	J	1.1	J	21	B	5.4		27		3.2	U	3.8					
6336F-52B RE	S-54	10-May-91	13-Mar-91	SALT	0.5	UG/KG	3.2	U	1.2	J	4.5	B	6.4		2.4	J	2.3	J	3.8					
6336F-53B	S-55	10-May-91	14-Mar-91	SALT	0.5	UG/KG	3.2	U	1.1	J	6.7	B	7.0		14		3.2	U	6.6					
6336F-53B RE	S-55	10-May-91	14-Mar-91	SALT	0.5	UG/KG	3.2	U	1.2	J	1.8	JB	10		1.8	J	1.6	JX	9.0					
6336F-53B RE2	S-55	10-May-91	14-Mar-91	SALT	0.5	UG/KG	3.2	U	1.3	J	11	B	8.3		7.6		6.2		6.8					
6336F-54B	S-56	10-May-91	15-Mar-91	SALT	0.5	UG/KG	2.9	U	1.1	J	6.0	B	3.3		31		2.9	U	3.9					
6336F-54B RE	S-56	10-May-91	15-Mar-91	SALT	0.5	UG/KG	2.9	U	1.0	J	7.9	B	3.6		34		2.9	U	3.7					
6336F-55B	S-57	10-May-91	17-Mar-91	SALT	0.5	UG/KG	2.5	J	1.7	J	11		6.1		24		2.1	J	10					
6336F-55B RE	S-57	10-May-91	17-Mar-91	SALT	0.5	UG/KG	2.5	J	1.7	J	45		9.2		32		6.1	U	8.3					
6336F-56B	S-58	10-May-91	18-Mar-91	SALT	0.5	UG/KG	4.3	U	1.4	J	11	B	12		46		4.3	U	22					
6336F-57B	S-59	10-May-91	19-Mar-91	SALT	0.5	UG/KG	7.2	U	7.2	U	15		2.7	J	33		7.2	U	8.4					
6336F-58B	S-60	10-May-91	20-Mar-91	SALT	0.5	UG/KG	5.1	U	5.1	U	2.0	J	2.3	J	16		5.1	U	6.5					
6336F-58B RE	S-60	10-May-91	20-Mar-91	SALT	0.5	UG/KG	5.1	U	5.1	U	16		2.5	J	24		5.1	U	8.4					
6336F-58B RE2	S-60	10-May-91	20-Mar-91	SALT	0.5	UG/KG	5.1	U	5.1	U	2.3	J	3.1	J	22		5.1	U	8.4					
6336F-59B	S-61	10-May-91	21-Mar-91	SALT	0.5	UG/KG	240	E	5.5	U	1000	E	5.8		150		5.5	U	0.66		J			
6336F-59B DL	S-61	10-May-91	21-Mar-91	SALT	10.0	UG/KG	360	D	110	U	2600	DE	21	JD	120	D	110	U	110		U			
6336F-60B	S-62	10-May-91	22-Mar-91	SALT	0.5	UG/KG	130	J	5.6	U	1400	E	14		690	E	5.6	U	3.6		J			
6336F-60B DL	S-62	10-May-91	22-Mar-91	SALT	12.5	UG/KG	200	D	140	U	5000	DE	20	JD	1500	D	140	U	140		U			
6336F-60B DL2	S-62	10-May-91	22-Mar-91	SALT	25.0	UG/KG	200	JD	280	U	7000	DE	280	U	1100	D	280	U	280		U			
6336F-61B	S-63	10-May-91	24-Mar-91	SALT	0.5	UG/KG	430	E	5.5	U	1300	E	19		530	E	5.5	U	10					
6336F-61B DL	S-63	10-May-91	24-Mar-91	SALT	12.5	UG/KG	1100	DI	140	U	6000	DE	140	U	800	D	140	U	140		U			
6336F-61B DL2	S-63	10-May-91	24-Mar-91	SALT	50.0	UG/KG	880	D	550	U	6600	D	550	U	610	D	550	U	550		U			
6336F-62B	S-64	10-May-91	26-Mar-91	SALT	0.5	UG/KG	260	E	0.45	J	1500	EB	5.2		1700	E	3.3	U	2.2		J			
6336F-62B DL	S-64	10-May-91	26-Mar-91	SALT	200.0	UG/KG	990	JD	1300	U	28000	DEB	1300	U	19000	D	1300	U	1300		U			
6336F-63B	S-65	10-May-91	28-Mar-91	SALT	0.5	UG/KG	7.5	J	5.3	U	200	E	6.6		220	E	5.3	U	8.8					
6336F-63B DL	S-65	10-May-91	28-Mar-91	SALT	2.5	UG/KG	12	JD	27	U	450	D	7.6	JD	230	D	27	U	11		JD			

* Data for this compound are reported as UG/KG. The dilution factor is 1.5

Analysis: EPA SW-846, Method 8270 (6336H-1B through 6336H-45B; 6336H-91B through 6336H-125B)
 EPA Statement of work for Organics Analysis (6336H-46B through 6336H-90B)
 EPA SW-846, Method 8080 (Hexachlorobenzene only, 6336H-1B through 6336H-45B; 6336H-91B through 6336H-125B)

04327

ORGANIC ANALYSIS DATA SHEET			SEMIVOLATILES																	
MATRIX: ASH/SALT			DELISTING LEVELS (UG/KG)				44,000	265,000	43,000	56,000	350	21,000,000	260							
EPA ID	SAMPLE ID	SAMPLING DATE	INCINERATOR DATE	MATRIX	DILUTION	UNITS	2-Chloro-phenol	Q	1,4-Dichloro-benzene	Q	2,4-Dichloro-phenol	Q	1,2,4,5-Tetra-chlorobenzene	Q	2,4,6-Tri-chlorophenol	Q	2,4,5-Tri-chlorophenol	Q	Hexachloro-benzene	Q
6336F-64B	S-66	10-May-91	31-Mar-91	SALT	0.5	UG/KG	32		4.1	U	670	E	1.5	J	370	E	4.1	U	4.1	U
6336F-64B DL	S-66	10-May-91	31-Mar-91	SALT	25.0	UG/KG	210	U	210	U	1500	D	210	U	560	D	210	U	210	U
6336F-65B	S-67	10-May-91	08-Apr-91	SALT	0.5	UG/KG	370	E	1.4	J	1700	E	12		1100	E	5.1	U	14	
6336F-65B DL	S-67	10-May-91	08-Apr-91	SALT	25.0	UG/KG	480	D	250	U	5800	ED	250	U	2200	D	250	U	250	U
6336F-66B	S-68	10-May-91	09-Apr-91	SALT	0.5	UG/KG	14		5.3	U	620	E	5.9		390	E	5.3	U	5.3	U
6336F-66B RE	S-68	10-May-91	09-Apr-91	SALT	0.5	UG/KG	240	E	5.5	U	2500	E	130	E	2000	E	5.5	U	2.3	J
6336F-66B DL	S-68	10-May-91	09-Apr-91	SALT	5.0	UG/KG	310	DJ	5.5	U	5100	ED	170	D	4600	ED	5.5	U	5.5	U
6336F-66B DL2	S-68	10-May-91	09-Apr-91	SALT	125.0	UG/KG	1400	UJ	1400	U	24000	D	1400	U	6600	D	1400	U	1400	U
6336F-67B	S-69	10-May-91	11-Apr-91	SALT	0.5	UG/KG	21		1.3	J	770	E	4.7	J	1200	E	5.4	U	1.5	J
6336F-67B DL	S-69	10-May-91	11-Apr-91	SALT	10.0	UG/KG	27	JD	110	U	1600	D	110	U	1800	D	110	U	110	U
6336F-68B	S-70	10-May-91	13-Apr-91	SALT	0.5	UG/KG	310	E	3.7	U	1400	EB	3.7	U	390	E	36		3.7	U
6336F-68B DL	S-70	10-May-91	13-Apr-91	SALT	30.0	UG/KG	1300	D	370	U	17000	EDB	370	U	1400	D	370	U	370	U
6336F-68B DL2	S-70	10-May-91	13-Apr-91	SALT	250.0	UG/KG	1100	JD	1900	U	21000	DB	1900	U	1100	JD	1900	U	1900	U
6336F-69B	S-71	10-May-91	14-Apr-91	SALT	0.5	UG/KG	320	E	4.9	U	1900	E	17		310	E	4.9	U	3.5	J
6336F-69B DL	S-71	10-May-91	14-Apr-91	SALT	25.0	UG/KG	320	D	250	U	5800	DE	250	U	350	D	250	U	250	U
6336F-70B	S-72	10-May-91	15-Apr-91	SALT	0.5	UG/KG	12		2.3	J	390	E	14		310	E	4.8	U	2.0	J
6336F-70B DL	S-72	10-May-91	15-Apr-91	SALT	5.0	UG/KG	14	JD	48	U	520	D	13	JD	300	D	48	U	48	U
6336F-71B	S-73	10-May-91	16-Apr-91	SALT	0.5	UG/KG	26		3.5	J	620	E	42		240	E	4.7	U	8.9	
6336F-71B DL	S-73	10-May-91	16-Apr-91	SALT	20.0	UG/KG	190	U	190	U	640	D	66	JD	180	JD	190	U	190	U
6336F-72B	S-74	11-May-91	18-Apr-91	SALT	0.5	UG/KG	12		2.3	J	380	E	110	E	280	E	4.5	U	7.1	
6336F-72B DL	S-74	11-May-91	18-Apr-91	SALT	5.0	UG/KG	45	U	45	U	190	D	130	D	200	D	45	U	45	U
6336F-73B	S-75	11-May-91	19-Apr-91	SALT	0.5	UG/KG	34		1.6	J	1100	E	13		1200	E	4.9	U	5.6	
6336F-73B DL	S-75	11-May-91	19-Apr-91	SALT	10.0	UG/KG	26	JD	97	U	1800	D	97	U	1600	D	97	U	97	U
6336F-74B	S-76	11-May-91	20-Apr-91	SALT	0.5	UG/KG	450	E	1.2	J	2200	E	13		1100	E	4.9	U	9.3	
6336F-74B DL	S-76	11-May-91	20-Apr-91	SALT	25.0	UG/KG	560	D	250	U	7800	ED	250	U	1600	D	250	U	250	U
6336F-74B DL2	S-76	11-May-91	20-Apr-91	SALT	30.0	UG/KG	320	D	490	U	10000	D	490	U	1800	D	490	U	490	U
6336F-75B	S-77	11-May-91	23-Apr-91	SALT	0.5	UG/KG	6.6		1.8	J	170	E	56		130	E	26		23	
6336F-75B DL	S-77	11-May-91	23-Apr-91	SALT	2.0	UG/KG	12	JD	18	U	360	D	82	D	190	D	18	U	33	D
6336F-76B	S-78	11-May-91	24-Apr-91	SALT	0.5	UG/KG	5.0		1.7	J	150	E	13		120	E	4.3	U	5.3	
6336F-76B DL	S-78	11-May-91	24-Apr-91	SALT	2.0	UG/KG	3.5	JD	17	U	160	D	14	JD	120	D	17	U	5.2	JD
6336F-76B DLRE	S-78	11-May-91	24-Apr-91	SALT	2.0	UG/KG	17	U	17	U	98	D	18	D	140	D	17	U	6.2	JD
6336F-77B	S-79	11-May-91	25-Apr-91	SALT	0.5	UG/KG	1.3	JX	5.1		29		17		69		5	U	11	
6336F-77B RE	S-79	11-May-91	25-Apr-91	SALT	0.5	UG/KG	1	J	5.2		21		20		98		5	U	9.4	
6336F-78B	S-80	11-May-91	26-Apr-91	SALT	0.5	UG/KG	24		2.4	J	440	E	27		600	E	130	E	8.9	
6336F-78B DL	S-80	11-May-91	26-Apr-91	SALT	12.5	UG/KG	120	U	120	U	660	D	46	JD	1300	D	120	U	120	U
6336F-79B	S-81	11-May-91	28-Apr-91	SALT	0.5	UG/KG	67		7.1		1900	E	80		490	E	4.7	U	14	
6336F-79B DL	S-81	11-May-91	28-Apr-91	SALT	150.0	UG/KG	1400	U	1400	U	12000	D	1400	U	930	JD	1400	U	1400	U
6336F-80B	S-82	11-May-91	30-Apr-91	SALT	0.5	UG/KG	2.4	J	4.8		90		16		70		4.3	U	24	
6336F-80B RE	S-82	11-May-91	30-Apr-91	SALT	0.5	UG/KG	0.85	J	5.0		27		26		91	E	4.3	U	27	
6336F-81B	S-83	11-May-91	01-May-91	SALT	0.5	UG/KG	5.6		2.5	J	110	E	13		160	E	4.4	U	11	
6336F-81B DL	S-83	11-May-91	01-May-91	SALT	2.0	UG/KG	5.3	JD	17	U	150	D	14	JD	74	D	17	U	11	JD
6336F-82B	S-84	11-May-91	02-May-91	SALT	0.5	UG/KG	1.0	J	4.6	J	41		25		64		4.6	U	17	
6336F-82B RE	S-84	11-May-91	02-May-91	SALT	0.5	UG/KG	1.0	J	4.6		33		30		110	E	4.6	U	19	
6336F-83B	S-85	11-May-91	03-May-91	SALT	0.5	UG/KG	1.8	J	3.4	J	88	E	11		96	E	4.2	U	17	
6336F-83B RE	S-85	11-May-91	03-May-91	SALT	0.5	UG/KG	1.1	J	3.4	J	34		17		88	E	4.2	U	16	
6336F-84B	S-86	11-May-91	05-May-91	SALT	0.5	UG/KG	4.5		5.3		170	E	28		210	E	4.4	U	54	

* Data for this compound are reported as UG/KG. The dilution factor is 1.5

Analysis: EPA SW-846, Method #270 (6336H-1B through 6336H-45B); 6336H-91B through 6336H-125B)
 EPA Statement of work for Organics Analysis (6336H-46B through 6336H-90B)
 EPA SW-846, Method #080 (Hexachlorobenzene only, 6336H-1B through 6336H-45B; 6336H-91B through 6336H-125B)

004328

ORGANIC ANALYSIS DATA SHEET			SEMIVOLATILES																	
MATRIX: ASH/SALT			DELISTING LEVELS (UG/KG)																	
EPA ID	SAMPLE ID	SAMPLING DATE	INCINERATOR DATE	MATRIX	DILUTION	UNITS	44,000		265,000		43,000		56,000		350		21,000,000		260	
							2-Chloro-phenol	Q	1,4-Dichloro-benzene	Q	2,4-Dichloro-phenol	Q	1,2,4,5-Tetra-chlorobenzene	Q	2,4,6-Tri-chlorophenol	Q	2,4,5-Tri-chlorophenol	Q	Hexachloro-benzene	Q
6336F-84B DL	S-86	11-May-91	05-May-91	SALT	5.0	UG/KG	44	U	44	U	78	D	39	JD	210	D	44	U	64	D
6336F-85B	S-87	11-Jul-91	11-May-91	SALT	0.5	UG/KG	19		1.0	J	820	E	43		700	E	4.3	U	140	
6336F-85B DL	S-87	11-Jul-91	11-May-91	SALT	25.0	UG/KG	210	U	210	U	2800	D	47	JD	1800	D	210	U	230	D
6336F-86B	S-88	11-Jul-91	14-May-91	SALT	0.5	UG/KG	610	E	1.3	J	3000	E	5.4		760	E	3.0	U	5.4	
6336F-86B DL	S-88	11-Jul-91	14-May-91	SALT	250.0	UG/KG	1400	JD	2500	U	28000	D	2500	U	2000	JD	2500	U	2500	U
6336F-87B	S-89	11-Jul-91	17-May-91	SALT	0.5	UG/KG	48		3.2	U	310	E	3.2	U	300	E	3.2	U	3.2	U
6336F-87B DL	S-89	11-Jul-91	17-May-91	SALT	12.5	UG/KG	85	D	81	U	1400	DB	81	U	770	D	81	U	81	U
6336F-88B	S-90	11-Jul-91	19-May-91	SALT	0.5	UG/KG	300	E	1.9	J	1000	EB	6.3		540	E	3.0	U	3.5	X
6336F-88B DL	S-90	11-Jul-91	19-May-91	SALT	50.0	UG/KG	2800	D	200	U	20000	EDB	300	U	1700	D	300	U	300	U
6336F-88B DL2	S-90	11-Jul-91	19-May-91	SALT	150.0	UG/KG	1700	DI	910	U	35000	EDB	910	U	1500	D	910	U	910	U
6336F-88B DL3	S-90	11-Jul-91	19-May-91	SALT	500.0	UG/KG	2300	JD	3000	U	52000	DR	3000	U	2400	JD	3000	U	3000	U
6336F-89B	S-91	11-Jul-91	31-May-91	SALT	0.5	UG/KG	58	E	1.7	J	410	EB	6.3		720	E	2.7	U	7.1	
6336F-89B DL	S-91	11-Jul-91	31-May-91	SALT	25.0	UG/KG	98	JD	130	U	2500	DB	130	U	2300	D	130	U	130	U
6336F-90B	S-92	11-Jul-91	01-Jun-91	SALT	0.5	UG/KG	280	E	3.4	U	2400	E	3.4	J	1300	E	5.4	U	5.4	U
6336F-90B DL	S-92	11-Jul-91	01-Jun-91	SALT	125.0	UG/KG	340	JD	1300	U	19000	D	1300	U	4400	D	1300	U	1300	U
6336F-91B	A-1	07-Feb-91	03-Nov-90	ASH	1.0	UG/KG	360	U	360	U	360	U	360	U	360	U	870	U	1.7	U
6336F-92B	A-2	07-Feb-91	09-Nov-90	ASH	1.0	UG/KG	330	U	330	U	3200		330	U	270	J	810	U	1.7	U
6336F-93B	A-3	07-Feb-91	04-Dec-90	ASH	1.0	UG/KG	670		130	J	17000	E	300	U	4500		940	U	48	
6336F-93B DL	A-3	07-Feb-91	04-Dec-90	ASH	4.0	UG/KG	750	J	1600	U	19000		1600	U	3200		3000	U	NO DATA	
6336F-94B	A-4	07-Feb-91	07-Dec-90	ASH	1.0	UG/KG	280	J	400	U	2300		480	U	500	J	960	U	22	
6336F-95B	A-5	11-May-91	10-Dec-90	ASH	1.0	UG/KG	330	U	330	U	200	J	330	U	130	J	810	U	5.5	
6336F-96B	A-6	11-May-91	12-Dec-90	ASH	1.0	UG/KG	350	U	330	U	110	J	330	U	330	U	660	U	1.7	U
6336F-97B	A-7	11-May-91	14-Dec-90	ASH	1.0	UG/KG	340	U	340	U	290	J	340	U	160	J	820	U	11	
6336F-98B	A-8	11-May-91	16-Dec-90	ASH	1.0	UG/KG	400	U	400	U	1100		400	U	230	J	900	U	640	
6336F-99B	A-9	11-May-91	05-Feb-91	ASH	1.0	UG/KG	380	U	380	U	920		380	U	280	J	910	U	110	
6336F-100B	A-10	11-May-91	08-Mar-91	ASH	1.0	UG/KG	2800		330	U	19000	E	330	U	2500		840	U	3.0	
6336F-100B DL	A-10	11-May-91	08-Mar-91	ASH	5.0	UG/KG	2600		1800	U	20000		1800	U	2000		4200	U	NO DATA	
6336F-101B	A-11	11-May-91	09-Mar-91	ASH	1.0	UG/KG	690	U	690	U	480	J	690	U	690	U	1780	U	6.4	U
6336F-102B	A-12	11-May-91	11-Mar-91	ASH	1.0	UG/KG	490	U	490	U	490	U	490	U	490	U	1200	U	1.9	J
6336F-103B	A-13	11-May-91	13-Mar-91	ASH	1.0	UG/KG	460	U	460	U	370	J	460	U	130	J	1100	U	11	
6336F-104B	A-14	11-May-91	15-Mar-91	ASH	1.0	UG/KG	380	U	380	U	380	U	380	U	380	U	930	U	3.5	
6336F-105B	A-15	11-May-91	16-Mar-91	ASH	1.0	UG/KG	350	U	350	U	350	U	350	U	350	U	850	U	59	
6336F-106B	A-16	11-May-91	20-Mar-91	ASH	1.0	UG/KG	340	U	340	U	340	U	340	U	340	U	860	U	1.5	
6336F-107B	A-17	11-May-91	21-Mar-91	ASH	1.0	UG/KG	350	U	350	U	350	U	350	U	350	U	840	U	5.2	
6336F-108B	A-18	11-May-91	22-Mar-91	ASH	1.0	UG/KG	380	U	380	U	380	U	380	U	380	U	930	U	2.5	
6336F-109B	A-19	11-May-91	23-Mar-91	ASH	1.0	UG/KG	370	U	370	U	370	U	370	U	370	U	900	U	6.0	
6336F-110B	A-20	11-May-91	24-Mar-91	ASH	1.0	UG/KG	370	U	370	U	370	U	370	U	370	U	890	U	3.2	
6336F-111B	A-21	12-May-91	14-Apr-91	ASH	1.0	UG/KG	440	U	440	U	230	J	440	U	440	U	1100	U	11	
6336F-112B	A-22	12-May-91	16-Apr-91	ASH	1.0	UG/KG	410	U	410	U	150	J	410	U	410	U	990	U	44	
6336F-113B	A-23	12-May-91	17-Apr-91	ASH	1.0	UG/KG	400	U	400	U	400	U	400	U	400	U	900	U	0.74	J
6336F-114B	A-24	12-May-91	18-Apr-91	ASH	1.0	UG/KG	360	U	360	U	360	U	360	U	360	U	860	U	0.63	J
6336F-115B	A-25	12-May-91	20-Apr-91	ASH	1.0	UG/KG	400	U	400	U	400	U	400	U	400	U	960	U	1.8	U
6336F-116B	A-26	12-May-91	22-Apr-91	ASH	1.0	UG/KG	560	U	560	U	560	U	560	U	560	U	1400	U	1.9	U
6336F-116B DL	A-26	12-May-91	22-Apr-91	ASH	5.0	UG/KG	2800	U	2800	U	2800	U	2800	U	2800	U	7000	U	NO DATA	
6336F-117B	A-27	12-May-91	23-Apr-91	ASH	1.0	UG/KG	430	U	430	U	430	U	430	U	430	U	1000	U	1.9	U
6336F-118B	A-28	12-May-91	26-Apr-91	ASH	1.0	UG/KG	460	U	460	U	460	U	460	U	460	U	1100	U	1.8	U

* Data for this compound are reported as UG/KG. The dilution factor is 1.5

Analysis: EPA SW-846, Method 8270 (6336H-1B through 6336H-45B; 6336H-91B through 6336H-125B)
 EPA Statement of work for Organic Analysis (6336H-46B through 6336H-90B)
 EPA SW-846, Method 8080 (Hexachlorobenzene only, 6336H-1B through 6336H-45B; 6336H-91B through 6336H-125B)

ORGANIC ANALYSIS DATA SHEET				SEMIVOLATILES																			
MATRIX: ASH/SALT				DELISTING LEVELS (UG/KG)						44,000		265,000		43,000		56,000		350		21,000,000		260	
EPA ID	SAMPLE ID	SAMPLING DATE	INCINERATOR DATE	MATRIX	DILUTION	UNITS	2-Chloro-phenol	Q	1,4-Dichloro-benzene	Q	2,4-Dichloro-phenol	Q	1,2,4,5-Tetra-chlorobenzene	Q	2,4,6-Tri-chlorophenol	Q	2,4,5-Tri-chlorophenol	Q	Hexachloro-benzene	Q			
6336F-118B RE	A-28	12-May-91	26-Apr-91	ASH	1.0	UG/KG	930	U	930	U	930	U	930	U	930	U	2300	U	NO DATA				
6336F-119B	A-29	12-May-91	27-Apr-91	ASH	1.0	UG/KG	460	U	460	U	460	U	460	U	460	U	1100	U	2.9				
6336F-119B RE	A-29	12-May-91	27-Apr-91	ASH	1.0	UG/KG	930	U	930	U	930	U	930	U	930	U	2300	U	NO DATA				
6336F-120B	A-30	12-May-91	29-Apr-91	ASH	1.0	UG/KG	390	U	390	U	390	U	390	U	390	U	940	U	1.7	U			
6336F-121B	A-31	12-May-91	30-Apr-91	ASH	1.0	UG/KG	500	U	500	U	500	U	500	U	500	U	1200	U	1.8	U			
6336F-121B RE	A-31	12-May-91	30-Apr-91	ASH	1.0	UG/KG	1000	U	1000	U	1000	U	1000	U	1000	U	2500	U	NO DATA				
6336F-122B	A-32	16-Jul-91	01-May-91	ASH	1.0	UG/KG	510	U	510	U	510	U	510	U	510	U	1230	U	1.8	U			
6336F-122B RE	A-32	16-Jul-91	01-May-91	ASH	1.0	UG/KG	1000	U	1000	U	1000	U	1000	U	1000	U	2500	U	NO DATA				
6336F-123B DL	A-33	16-Jul-91	02-May-91	ASH	5.0	UG/KG	2000	U	2000	U	2000	U	2000	U	2000	U	4800	U	1.7	U			
6336F-124B	A-34	16-Jul-91	03-May-91	ASH	1.0	UG/KG	390	U	390	U	390	U	390	U	390	U	950	U	1.4	U			
6336F-125B	A-35	16-Jul-91	04-May-91	ASH	1.0	UG/KG	410	U	410	U	410	U	410	U	410	U	990	U	1.8	U			

* Data for this compound are reported as UG/KG. The dilution factor is 1.5

Analysis: EPA SW-846, Method 8270 (6336H-1B through 6336H-45B; 6336H-91B through 6336H-125B)
 EPA Statement of work for Organics Analysis (6336H-46B through 6336H-90B)
 EPA SW-846, Method 8080 (Hexachlorobenzene only, 6336H-1B through 6336H-45B; 6336H-91B through 6336H-125B)

004330

URS Consultants, Inc.
ARCS, EPA Regions VI, VII and VIII
Contract No. 68-W9-0053

Vertac Chemical Corp. Superfund Site
Ash & Salt Concentrations
Revision: 0
Date: 02/02/93

104891

5.0 SEMIVOLATILES (PAH) DATA TABLES

ORGANIC ANALYSIS DATA SHEET			SEMIVOLATILE (PAH)															
MATRIX: ASH/SALT			DELISTING LEVELS (UG/KG)				100		40		160		15,000		7		30,000	
EPA ID	SAMPLE ID	SAMPLE DATE	INCINERATOR DATE	MATRIX	DILUTION	UNITS	Benzo(a) anthracene	Q	Benzo(a) pyrene	Q	Benzo(b) fluoranthene	Q	Chrysenes	Q	Dibenz(a,h) anthracene	Q	Indeno(1,2,3-cd) pyrene	Q
6336F-1B	S-1	08-Feb-91	04-Nov-90	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-2B	S-2	08-Feb-91	07-Nov-90	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-3B	S-3	08-Feb-91	08-Nov-90	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-4B	S-4	08-Feb-91	09-Nov-90	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-5B	S-5	08-Feb-91	11-Nov-90	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-6B	S-6	08-Feb-91	13-Nov-90	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-7B	S-7	08-Feb-91	14-Nov-90	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-8B	S-8	08-Feb-91	16-Nov-90	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-9B	S-9	08-Feb-91	21-Nov-90	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-10B	S-10	08-Feb-91	25-Nov-90	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-11B	S-11	08-Feb-91	26-Nov-90	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-12B	S-12	08-Feb-91	27-Nov-90	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-13B	S-13	08-Feb-91	28-Nov-90	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-14B	S-14	08-Feb-91	29-Nov-90	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-15B	S-15	08-Feb-91	30-Nov-90	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-16B	S-16	08-Feb-91	01-Dec-90	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-17B	S-17	08-Feb-91	02-Dec-90	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-18B	S-18	09-Feb-91	03-Dec-90	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-19B	S-19	09-Feb-91	04-Dec-90	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-20B	S-20	09-Feb-91	05-Dec-90	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-21B	S-21	09-Feb-91	06-Dec-90	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-22B	S-22	09-Feb-91	07-Dec-90	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-23B	S-23	08-May-91	08-Dec-90	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-24B	S-26	08-May-91	17-Dec-90	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-25B	S-27	08-May-91	18-Dec-90	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-26B	S-28	08-May-91	30-Dec-90	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-27B	S-29	08-May-91	31-Dec-90	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-28B	S-30	08-May-91	03-Jan-91	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-29B	S-31	08-May-91	04-Jan-91	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-30B	S-32	09-May-91	07-Jan-91	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-31B	S-33	09-May-91	08-Jan-91	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-32B	S-34	09-May-91	16-Jan-91	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-33B	S-35	09-May-91	29-Jan-91	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-34B	S-36	09-May-91	01-Feb-91	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-35B	S-37	09-May-91	06-Feb-91	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-36B	S-38	09-May-91	07-Feb-91	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-37B	S-39	09-May-91	08-Feb-91	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-38B	S-40	09-May-91	11-Feb-91	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-39B	S-41	09-May-91	15-Feb-91	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-40B	S-42	09-May-91	16-Feb-91	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-41B	S-43	09-May-91	17-Feb-91	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-42B	S-44	09-May-91	18-Feb-91	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-43B	S-45	09-May-91	19-Feb-91	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-44B	S-46	09-May-91	24-Feb-91	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6636F-45B	S-47	09-May-91	06-Mar-91	SALT	1	UG/KG	5	U	5	U	5	U	5	U	5	U	5	U
6336F-46B	S-48	10-May-91	07-Mar-91	SALT	0.5	UG/KG	3.6	U	3.6	U	3.6	U	3.6	U	3.6	U	3.6	U
6336F-46B DL	S-48	10-May-91	07-Mar-91	SALT	12.5	UG/KG	90	U	90	U	90	U	90	U	90	U	90	U

ANALYSIS : EPA SW-846, METHOD 8100 (6336F-1B THROUGH 6336F-45B; 6336F-91B THROUGH 6336F-125B)

EPA SOW FOR ORGANICS ANALYSIS (6336F-46B THROUGH 6336F-90B)

04332

ORGANIC ANALYSIS DATA SHEET			SEMIVOLATILE (PAH)															
MATRIX: ASH/SALT			DELISTING LEVELS (UG/KG)				100	40	160	15,000	7	30,000						
EPA ID	SAMPLE ID	SAMPLE DATE	INCINERATOR DATE	MATRIX	DILUTION	UNITS	Benzo(a) anthracene	Q	Benzo(a) pyrene	Q	Benzo(b) fluoranthene	Q	Chrysene	Q	Dibenz(a,b) anthracene	Q	Indeno(1,2,3-cd) pyrene	Q
6336F-46B DL2	S-48	10-May-91	07-Mar-91	SALT	150	UG/KG	1100	U	1100	U	1100	U	1100	U	1100	U	1100	U
6336F-47B	S-49	10-May-91	08-Mar-91	SALT	0.5	UG/KG	7.1	U	7.1	U	7.1	U	7.1	U	7.1	U	7.1	U
6336F-47B DL	S-49	10-May-91	08-Mar-91	SALT	5.0	UG/KG	71	U	71	U	71	U	71	U	71	U	71	U
6336F-48B	S-50	10-May-91	09-Mar-91	SALT	0.5	UG/KG	4.3	U	4.3	U	4.3	U	4.3	U	4.3	U	4.3	U
6336F-49B	S-51	10-May-91	10-Mar-91	SALT	0.5	UG/KG	3.9	U	3.9	U	3.9	U	3.9	U	3.9	U	3.9	U
6336F-50B	S-52	10-May-91	11-Mar-91	SALT	0.5	UG/KG	5.5	U	14	U	14	U	5.5	U	14	U	14	U
6336F-50B RE	S-52	10-May-91	11-Mar-91	SALT	0.5	UG/KG	5.5	U	14	U	14	U	5.5	U	14	U	14	U
6336F-51B	S-53	10-May-91	12-Mar-91	SALT	0.5	UG/KG	2.4	U	2.4	U	2.4	U	2.4	U	2.4	U	2.4	U
6336F-52B	S-54	10-May-91	13-Mar-91	SALT	0.5	UG/KG	3.2	U	8.0	U	8.0	U	3.2	U	8.0	U	8.0	U
6336F-52B RE	S-54	10-May-91	13-Mar-91	SALT	0.5	UG/KG	3.2	U	16	U	16	U	3.2	U	16	U	16	U
6336F-53B	S-55	10-May-91	14-Mar-91	SALT	0.5	UG/KG	3.2	U	3.2	U	3.2	U	0.64	J	3.2	U	3.2	U
6336F-53B RE	S-55	10-May-91	14-Mar-91	SALT	0.5	UG/KG	3.2	U	NQ		NQ		0.98	JX	NQ		NQ	
6336F-53B RE2	S-55	10-May-91	14-Mar-91	SALT	0.5	UG/KG	3.2	U	NQ		NQ		0.63	JX	NQ		NQ	
6336F-54B	S-56	10-May-91	15-Mar-91	SALT	0.5	UG/KG	2.9	U	7.2	U	7.2	U	2.9	U	7.2	U	7.2	U
6336F-54B RE	S-56	10-May-91	15-Mar-91	SALT	0.5	UG/KG	2.9	U	14	U	14	U	2.9	U	14	U	14	U
6336F-55B	S-57	10-May-91	15-Mar-91	SALT	0.5	UG/KG	6.1	U	30	U	8.0		0.64	J	3.5	J	30	U
6336F-55B RE	S-57	10-May-91	17-Mar-91	SALT	0.5	UG/KG	6.1	U	31	U	31	U	6.1	U	31	U	31	U
6336F-56B	S-58	10-May-91	18-Mar-91	SALT	0.5	UG/KG	4.3	U	4.3	U	4.3	U	4.3	U	4.3	U	4.3	U
6336F-57B	S-59	10-May-91	19-Mar-91	SALT	0.5	UG/KG	7.2	U	7.2	U	7.2	U	7.2	U	7.2	U	7.2	U
6336F-58B	S-60	10-May-91	20-Mar-91	SALT	0.5	UG/KG	5.1	U	13	U	13	U	5.1	U	13	U	13	U
6336F-58B RE	S-60	10-May-91	20-Mar-91	SALT	0.5	UG/KG	5.1	U	13	U	13	U	5.1	U	13	U	13	U
6336F-58B RE2	S-60	10-May-91	20-Mar-91	SALT	0.5	UG/KG	5.1	U	13	U	13	U	5.1	U	13	U	13	U
6336F-59B	S-61	10-May-91	21-Mar-91	SALT	0.5	UG/KG	5.5	U	5.5	U	5.5	U	5.5	U	5.5	U	5.5	U
6336F-59B DL	S-61	10-May-91	21-Mar-91	SALT	10	UG/KG	110	U	280	U	280	U	110	U	280	U	280	U
6336F-60B	S-62	10-May-91	22-Mar-91	SALT	0.5	UG/KG	5.6	U	5.6	U	5.6	U	2.0	JX	5.6	U	5.6	U
6336F-60B DL	S-62	10-May-91	22-Mar-91	SALT	12.5	UG/KG	140	U	140	U	140	U	140	U	140	U	140	U
6336F-60B DL2	S-62	10-May-91	22-Mar-91	SALT	25.0	UG/KG	280	U	280	U	280	U	280	U	280	U	280	U
6336F-61B	S-63	10-May-91	24-Mar-91	SALT	0.5	UG/KG	5.5	U	5.5	U	5.5	U	5.5	U	5.5	U	5.5	U
6336F-61B DL	S-63	10-May-91	24-Mar-91	SALT	12.5	UG/KG	140	U	140	U	140	U	140	U	140	U	140	U
6336F-61B DL2	S-63	10-May-91	24-Mar-91	SALT	50.0	UG/KG	550	U	550	U	550	U	550	U	550	U	550	U
6336F-62B	S-64	10-May-91	26-Mar-91	SALT	0.5	UG/KG	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
6336F-62B DL	S-64	10-May-91	26-Mar-91	SALT	200.0	UG/KG	1300	U	1300	U	1300	U	1300	U	1300	U	1300	U
6336F-63B	S-65	10-May-91	28-Mar-91	SALT	0.5	UG/KG	5.3	U	5.3	U	5.3	U	5.3	U	5.3	U	5.3	U
6336F-63B DL	S-65	10-May-91	28-Mar-91	SALT	2.5	UG/KG	27	U	27	U	27	U	27	U	27	U	27	U
6336F-64B	S-66	10-May-91	31-Mar-91	SALT	0.5	UG/KG	4.1	U	4.1	U	4.1	U	4.1	U	4.1	U	4.1	U
6336F-64B DL	S-66	10-May-91	31-Mar-91	SALT	25.0	UG/KG	210	U	210	U	210	U	210	U	210	U	210	U
6336F-65B	S-67	10-May-91	08-Apr-91	SALT	0.5	UG/KG	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
6336F-65B DL	S-67	10-May-91	08-Apr-91	SALT	25.0	UG/KG	250	U	250	U	250	U	250	U	250	U	250	U
6336F-66B	S-68	10-May-91	09-Apr-91	SALT	0.5	UG/KG	5.3	U	5.3	U	5.3	U	5.3	U	5.3	U	5.3	U
6336F-66B RE	S-68	10-May-91	09-Apr-91	SALT	0.5	UG/KG	5.5	U	5.5	U	5.5	U	5.5	U	5.5	U	5.5	U
6336F-66B DL	S-68	10-May-91	09-Apr-91	SALT	5.0	UG/KG	55	U	55	U	55	U	55	U	55	U	55	U
6336F-66B DL2	S-68	10-May-91	09-Apr-91	SALT	125.0	UG/KG	1400	U	1400	U	1400	U	1400	U	1400	U	1400	U
6336F-67B	S-69	10-May-91	11-Apr-91	SALT	0.5	UG/KG	5.4	U	5.4	U	5.4	U	5.4	U	5.4	U	5.4	U
6336F-67B DL	S-69	10-May-91	11-Apr-91	SALT	10.0	UG/KG	110	U	110	U	110	U	110	U	110	U	110	U
6336F-68B	S-70	10-May-91	13-Apr-91	SALT	0.5	UG/KG	3.7	U	3.7	U	3.7	U	3.7	U	3.7	U	3.7	U
6336F-68B DL	S-70	10-May-91	13-Apr-91	SALT	50.0	UG/KG	370	U	370	U	370	U	370	U	370	U	370	U
6336F-68B DL2	S-70	10-May-91	13-Apr-91	SALT	250.0	UG/KG	1900	U	1900	U	1900	U	1900	U	1900	U	1900	U

ANALYSIS : EPA SW-846, METHOD 8100 (6336F-1B THROUGH 6336F-45B; 6336F-91B THROUGH 6336F-125B)

EPA SOW FOR ORGANICS ANALYSIS (6336F-46B THROUGH 6336F-90B)

004333

ORGANIC ANALYSIS DATA SHEET			SEMIVOLATILE (PAH)															
MATRIX: ASH/SALT			DELISTING LEVELS (UG/KG)						100	40	160	15,000	7	30,000				
EPA ID	SAMPLE ID	SAMPLE DATE	INCINERATOR DATE	MATRIX	DILUTION	UNITS	Benzo(a) anthracene	Q	Benzo(a) pyrene	Q	Benzo(b) fluoranthene	Q	Chrysenes	Q	Dibenz(a,h) anthracene	Q	Indeno(1,2,3-cd) pyrene	Q
6336F-69B	S-71	10-May-91	14-Apr-91	SALT	0.5	UG/KG	4.9	U	4.9	U	4.9	U	4.9	U	4.9	U	4.9	U
6336F-69B DL	S-71	10-May-91	14-Apr-91	SALT	25.0	UG/KG	250	U	250	U	250	U	250	U	250	U	250	U
6336F-70B	S-72	10-May-91	15-Apr-91	SALT	0.5	UG/KG	4.8	U	4.8	U	4.8	U	4.8	U	4.8	U	4.8	U
6336F-70B DL	S-72	10-May-91	15-Apr-91	SALT	5.0	UG/KG	48	U	240	U	240	U	48	U	240	U	240	U
6336F-71B	S-73	10-May-91	16-Apr-91	SALT	0.5	UG/KG	4.7	U	12	U	12	U	4.7	U	12	U	12	U
6336F-71B DL	S-73	10-May-91	16-Apr-91	SALT	20.0	UG/KG	190	U	470	U	470	U	190	U	470	U	470	U
6336F-72B	S-74	11-May-91	18-Apr-91	SALT	0.5	UG/KG	4.5	U	4.5	U	4.5	U	4.5	U	4.5	U	4.5	U
6336F-72B DL	S-74	11-May-91	18-Apr-91	SALT	5.0	UG/KG	45	U	45	U	45	U	45	U	45	U	45	U
6336F-73B	S-75	11-May-91	19-Apr-91	SALT	0.5	UG/KG	4.9	U	4.9	U	4.9	U	4.9	U	4.9	U	4.9	U
6336F-73B DL	S-75	11-May-91	19-Apr-91	SALT	10.0	UG/KG	97	U	97	U	97	U	97	U	97	U	97	U
6336F-74B	S-76	11-May-91	20-Apr-91	SALT	0.5	UG/KG	4.9	U	4.9	U	4.9	U	4.9	U	4.9	U	4.9	U
6336F-74B DL	S-76	11-May-91	20-Apr-91	SALT	25.0	UG/KG	250	U	630	U	630	U	250	U	630	U	630	U
6336F-74B DL2	S-76	11-May-91	20-Apr-91	SALT	50.0	UG/KG	490	U	490	U	490	U	490	U	490	U	490	U
6336F-75B	S-77	11-May-91	23-Apr-91	SALT	0.5	UG/KG	4.5	U	4.5	U	4.5	U	4.5	U	4.5	U	4.5	U
6336F-75B DL	S-77	11-May-91	23-Apr-91	SALT	2.0	UG/KG	18	U	18	U	18	U	18	U	18	U	18	U
6336F-76B	S-78	11-May-91	24-Apr-91	SALT	0.5	UG/KG	4.3	U	4.3	U	4.3	U	4.3	U	4.3	U	4.3	U
6336F-76B DL	S-78	11-May-91	24-Apr-91	SALT	2.0	UG/KG	17	U	17	U	17	U	17	U	17	U	17	U
6336F-76B DLR	S-78	11-May-91	24-Apr-91	SALT	2.0	UG/KG	17	U	17	U	17	U	17	U	17	U	17	U
6336F-77B	S-79	11-May-91	25-Apr-91	SALT	0.5	UG/KG	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
6336F-77B RE	S-79	11-May-91	25-Apr-91	SALT	0.5	UG/KG	5	U	13	U	13	U	5	U	13	U	13	U
6336F-78B	S-80	11-May-91	26-Apr-91	SALT	0.5	UG/KG	1.0	JX	4.7	U	4.7	U	0.40	J	4.7	U	4.7	U
6336F-78B DL	S-80	11-May-91	26-Apr-91	SALT	12.5	UG/KG	120	U	120	U	120	U	120	U	120	U	120	U
6336F-79B	S-81	11-May-91	28-Apr-91	SALT	0.5	UG/KG	4.7	U	4.7	U	4.7	U	4.7	U	4.7	U	4.7	U
6336F-79B DL	S-81	11-May-91	28-Apr-91	SALT	150.0	UG/KG	1400	U	1400	U	1400	U	1400	U	1400	U	1400	U
6336F-80B	S-82	11-May-91	30-Apr-91	SALT	0.5	UG/KG	4.3	U	NQ		NQ		4.3	U	NQ		NQ	
6336F-80B RE	S-82	11-May-91	30-Apr-91	SALT	0.5	UG/KG	4.3	U	NQ		NQ		4.3	U	NQ		NQ	
6336F-81B	S-83	11-May-91	01-May-91	SALT	0.5	UG/KG	4.4	U	4.4	U	4.4	U	4.4	U	4.4	U	4.4	U
6336F-81B DL	S-83	11-May-91	01-May-91	SALT	2.0	UG/KG	17	U	17	U	17	U	17	U	17	U	17	U
6336F-82B	S-84	11-May-91	02-May-91	SALT	0.5	UG/KG	4.6	U	23	U	23	U	4.6	U	23	U	23	U
6336F-82B RE	S-84	11-May-91	02-May-91	SALT	0.5	UG/KG	4.6	U	12	U	12	U	4.6	U	12	U	12	U
6336F-83B	S-85	11-May-91	03-May-91	SALT	0.5	UG/KG	4.2	U	10	U	10	U	4.2	U	10	U	10	U
6336F-83B RE	S-85	11-May-91	03-May-91	SALT	0.5	UG/KG	4.2	U	10	U	5.1	X	4.2	U	10	U	10	U
6336F-84B	S-86	11-May-91	05-May-91	SALT	0.5	UG/KG	4.4	U	4.4	U	4.4	U	4.4	U	4.4	U	4.4	U
6336F-84B DL	S-86	11-May-91	05-May-91	SALT	5.0	UG/KG	44	U	44	U	44	U	44	U	44	U	44	U
6336F-85B	S-87	11-Jul-91	11-May-91	SALT	0.5	UG/KG	4.3	U	4.3	U	4.3	U	4.3	U	4.3	U	4.3	U
6336F-85B DL	S-87	11-Jul-91	11-May-91	SALT	25.0	UG/KG	210	U	210	U	210	U	210	U	210	U	210	U
6336F-86B	S-88	11-Jul-91	14-May-91	SALT	0.5	UG/KG	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
6336F-86B DL	S-88	11-Jul-91	14-May-91	SALT	250	UG/KG	2500	U	2500	U	2500	U	2500	U	2500	U	2500	U
6336F-87B	S-89	11-Jul-91	17-May-91	SALT	0.5	UG/KG	3.2	U	50	U	50	U	3.2	U	50	U	50	U
6336F-87B DL	S-89	11-Jul-91	17-May-91	SALT	12.5	UG/KG	81	U	400	U	400	U	81	U	400	U	400	U
6336F-88B	S-90	11-Jul-91	19-May-91	SALT	0.5	UG/KG	3.0	U	3.0	U	3.0	U	3.0	U	3	U	3.0	U
6336F-88B DL	S-90	11-Jul-91	19-May-91	SALT	50.0	UG/KG	300	U	300	U	300	U	300	U	300	U	300	U
6336F-88B DL2	S-90	11-Jul-91	19-May-91	SALT	150.0	UG/KG	910	U	910	U	910	U	910	U	910	U	910	U
6336F-88B DL3	S-90	11-Jul-91	19-May-91	SALT	500.0	UG/KG	3000	U	3000	U	3000	U	3000	U	3000	U	3000	U
6336F-89B	S-91	11-Jul-91	31-May-91	SALT	0.5	UG/KG	2.7	U	2.7	U	0.60	JX	2.7	U	2.7	U	2.7	U
6336F-89B DL	S-91	11-Jul-91	31-May-91	SALT	25.0	UG/KG	130	U	130	U	130	U	130	U	130	U	130	U
6336F-90B	S-92	11-Jul-91	01-Jun-91	SALT	0.5	UG/KG	5.4	U	2.0	J	1.9	J	5.4	U	5.4	U	5.4	U

ANALYSIS : EPA SW-846, METHOD 8100 (6336F-1B THROUGH 6336F-45B; 6336F-91B THROUGH 6336F-125B)

EPA SOW FOR ORGANICS ANALYSIS (6336F-46B THROUGH 6336F-90B)

ORGANIC ANALYSIS DATA SHEET										SEMIVOLATILE (PAH)											
MATRIX: ASH/SALT																					
										DELISTING LEVELS (UG/KG)											
										100		40		100		15,000		7		30,000	
EPA ID	SAMPLE ID	SAMPLE DATE	INCINERATOR DATE	MATRIX	DILUTION	UNITS	Benzo(a) anthracene		Benzo(a) pyrene		Benzo(b) fluoranthene		Chrysenes		Dibenz(a,h) anthracene		Indeno(1,2,3-cd) pyrene				
							anthracene	Q	pyrene	Q	fluoranthene	Q	Q	Q	anthracene	Q	pyrene	Q			
6336F-90B DL	S-92	11-Jul-91	01-Jan-91	SALT	125.0	UG/KG	1300	U	1300	U	1300	U	1300	U	1300	U	1300	U			
6336F-91B	A-1	07-Feb-91	03-Nov-90	ASH	1.0	UG/KG	9.46	J	43.3	U	174	U	16300	U	7.61	U	32600	U			
6336F-92B	A-2	07-Feb-91	09-Nov-90	ASH	1.0	UG/KG	4.82	J	40.4	U	162	U	15200	U	7.07	U	30300	U			
6336F-93B	A-3	07-Feb-91	04-Dec-90	ASH	1.0	UG/KG	118	U	47.1	U	188	U	17600	U	8.24	U	33300	U			
6336F-94B	A-4	07-Feb-91	07-Dec-90	ASH	1.0	UG/KG	29.4	J	48.2	U	193	U	18100	U	8.43	U	36100	U			
6336F-95B	A-5	11-May-91	10-Dec-90	ASH	1.0	UG/KG	7.25	J	40.4	U	162	U	15200	U	7.07	U	30300	U			
6336F-96B	A-6	11-May-91	12-Dec-90	ASH	1.0	UG/KG	7.79	J	43.0	U	172	U	16100	U	7.53	U	32300	U			
6336F-97B	A-7	11-May-91	14-Dec-90	ASH	1.0	UG/KG	10.3	J	41.2	U	165	U	15500	U	7.22	U	30900	U			
6336F-98B	A-8	11-May-91	16-Dec-90	ASH	1.0	UG/KG	120	U	48.2	U	193	U	18100	U	8.43	U	36100	U			
6336F-99B	A-9	11-May-91	05-Feb-91	ASH	1.0	UG/KG	38.2	J	45.5	U	182	U	17000	U	7.96	U	34100	U			
6336F-100B	A-10	11-May-91	08-Mar-91	ASH	1.0	UG/KG	9.15	J	42.1	U	168	U	15800	U	7.37	U	31600	U			
6336F-101B	A-11	11-May-91	09-Mar-91	ASH	1.0	UG/KG	12.2	J	83.3	U	333	U	31200	U	14.6	U	62500	U			
6336F-102B	A-12	11-May-91	11-Mar-91	ASH	1.0	UG/KG	10.2	J	58.8	U	235	U	22100	U	10.3	U	44100	U			
6336F-103B	A-13	11-May-91	13-Mar-91	ASH	1.0	UG/KG	9.42	J	40.4	U	162	U	15200	U	7.07	U	30300	U			
6336F-104B	A-14	11-May-91	15-Mar-91	ASH	1.0	UG/KG	6.51	J	46.5	U	186	U	17400	U	8.14	U	34900	U			
6336F-105B	A-15	11-May-91	16-Mar-91	ASH	1.0	UG/KG	12.50	J	42.6	U	170	U	16000	U	7.45	U	31900	U			
6336F-106B	A-16	11-May-91	20-Mar-91	ASH	1.0	UG/KG	10.3	J	43.0	U	172	U	16100	U	7.53	U	32300	U			
6336F-107B	A-17	11-May-91	21-Mar-91	ASH	1.0	UG/KG	11.2	J	43.0	U	172	U	16100	U	7.53	U	32300	U			
6336F-108B	A-18	11-May-91	22-Mar-91	ASH	1.0	UG/KG	7.3	J	46.5	U	186	U	17400	U	8.14	U	34900	U			
6336F-109B	A-19	11-May-91	23-Mar-91	ASH	1.0	UG/KG	8.66	J	44.9	U	180	U	16900	U	7.86	U	33700	U			
6336F-110B	A-20	11-May-91	24-Mar-91	ASH	1.0	UG/KG	7.34	J	44.4	U	178	U	16700	U	7.78	U	33300	U			
6336F-111B	A-21	12-May-91	14-Apr-91	ASH	1.0	UG/KG	13.6	J	53.3	U	213	U	20000	U	9.33	U	40000	U			
6336F-112B	A-22	12-May-91	16-Apr-91	ASH	1.0	UG/KG	9.61	J	49.4	U	198	U	18500	U	8.64	U	37000	U			
6336F-113B	A-23	12-May-91	17-Apr-91	ASH	1.0	UG/KG	8.26	J	47.8	U	195	U	18300	U	8.54	U	36600	U			
6336F-114B	A-24	12-May-91	18-Apr-91	ASH	1.0	UG/KG	6.52	J	43.0	U	172	U	16100	U	7.53	U	32300	U			
6336F-115B	A-25	12-May-91	20-Apr-91	ASH	1.0	UG/KG	6.15	J	48.2	U	193	U	18100	U	8.43	U	36100	U			
6336F-116B	A-26	12-May-91	22-Apr-91	ASH	1.0	UG/KG	16.8	J	67.8	U	271	U	25400	U	11.9	U	50800	U			
6336F-117B	A-27	12-May-91	23-Apr-91	ASH	1.0	UG/KG	11.6	J	51.9	U	208	U	19500	U	9.09	U	39000	U			
6336F-118B	A-28	12-May-91	26-Apr-91	ASH	1.0	UG/KG	12.3	J	56.3	U	225	U	21100	U	9.86	U	42300	U			
6336F-119B	A-29	12-May-91	27-Apr-91	ASH	1.0	UG/KG	11.6	J	56.3	U	225	U	21100	U	9.86	U	42300	U			
6336F-120B	A-30	12-May-91	29-Apr-91	ASH	1.0	UG/KG	10.9	J	47.1	U	188	U	17600	U	8.24	U	33300	U			
6336F-121B	A-31	12-May-91	30-Apr-91	ASH	1.0	UG/KG	13.9	J	60.6	U	30.0	J	22700	U	9.47	J	45300	U			
6336F-122B	A-32	16-Jul-91	01-May-91	ASH	1.0	UG/KG	4.87	J	61.5	U	59.7	J	23100	U	10.8	U	46200	U			
6336F-123B	A-33	16-Jul-91	02-May-91	ASH	5.0	UG/KG	4.58	J	48.2	U	193	U	18100	U	8.43	U	36100	U			
6336F-124B	A-34	16-Jul-91	03-May-91	ASH	1.0	UG/KG	119	U	47.6	U	23.2	J	17900	U	8.33	U	35700	U			
6336F-125B	A-35	16-Jul-91	04-May-91	ASH	1.0	UG/KG	5.54	J	49.4	U	21.1	J	18500	U	8.49	U	37000	U			

ANALYSIS : EPA SW-846, METHOD 8100 (6336F-1B THROUGH 6336F-45B; 6336F-91B THROUGH 6336F-125B)

EPA SOW FOR ORGANICS ANALYSIS (6336F-46B THROUGH 6336F-90B)

URS Consultants, Inc.
ARCS, EPA Regions VI, VII and VIII
Contract No. 68-W9-0053

Vertac Chemical Corp. Superfund Site
Ash & Salt Concentrations
Revision: 0
Date: 02/02/93

04336

6.0 VOLATILES DATA TABLES

ORGANIC ANALYSIS DATA SHEET

VOLATILES

MATRIX: ASH/SALT

			DELISTING LEVELS (UG/KG)				230	1,300			37,000			1,100			870			3,400			152,000		
EPA ID	SAMPLE ID	SAMPLING DATE	INCINERATOR DATE	MATRIX	DILUTION	UNITS	Methylene Chloride	Q	1,1-Dichloroethylene	Q	1,2-Dichloroethylene*	Q	Trichloroethylene	Q	Benzene	Q	Tetrachloroethylene	Q	Chlorobenzene	Q		Q		Q	
6336F-1B	S-1	08-Feb-91	04-Nov-90	SALT	10	UG/KG	27	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	23	JD	100	UD			
6336F-2B	S-2	08-Feb-91	07-Nov-90	SALT	10	UG/KG	34	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	72	JD	100	UD			
6336F-3B	S-3	08-Feb-91	08-Nov-90	SALT	10	UG/KG	38	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-4B	S-4	08-Feb-91	09-Nov-90	SALT	10	UG/KG	79	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-5B	S-5	08-Feb-91	11-Nov-90	SALT	10	UG/KG	39	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-6B	S-6	08-Feb-91	13-Nov-90	SALT	10	UG/KG	40	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-7B	S-7	08-Feb-91	14-Nov-90	SALT	10	UG/KG	20	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-8B	S-8	08-Feb-91	16-Nov-90	SALT	10	UG/KG	36	JDB	100	UD	100	UD	100	UD	14	JD	100	UD	89	JD	100	UD			
6336F-9B	S-9	08-Feb-91	21-Nov-90	SALT	10	UG/KG	30	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-10B	S-10	08-Feb-91	25-Nov-90	SALT	10	UG/KG	34	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-11B	S-11	08-Feb-91	26-Nov-90	SALT	10	UG/KG	34	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-12B	S-12	08-Feb-91	27-Nov-90	SALT	10	UG/KG	30	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-13B	S-13	08-Feb-91	28-Nov-90	SALT	10	UG/KG	36	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-14B	S-14	08-Feb-91	29-Nov-90	SALT	10	UG/KG	29	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-15B	S-15	08-Feb-91	30-Nov-90	SALT	10	UG/KG	26	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-16B	S-16	08-Feb-91	01-Dec-90	SALT	10	UG/KG	26	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-17B	S-17	09-Feb-91	02-Dec-90	SALT	10	UG/KG	29	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-18B	S-18	09-Feb-91	03-Dec-90	SALT	10	UG/KG	25	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-19B	S-19	09-Feb-91	04-Dec-90	SALT	10	UG/KG	77	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-20B	S-20	09-Feb-91	05-Dec-90	SALT	10	UG/KG	52	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-21B	S-21	09-Feb-91	06-Dec-90	SALT	10	UG/KG	70	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-22B	S-22	09-Feb-91	07-Dec-90	SALT	10	UG/KG	44	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-23B	S-23	08-May-91	08-Dec-90	SALT	10	UG/KG	41	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-24B	S-26	08-May-91	17-Dec-90	SALT	10	UG/KG	38	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-25B	S-27	08-May-91	18-Dec-90	SALT	10	UG/KG	37	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-26B	S-28	08-May-91	30-Dec-90	SALT	10	UG/KG	38	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-27B	S-29	08-May-91	31-Dec-90	SALT	10	UG/KG	27	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-28B	S-30	08-May-91	03-Jan-91	SALT	10	UG/KG	28	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-29B	S-31	08-May-91	04-Jan-91	SALT	10	UG/KG	48	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-30B	S-32	09-May-91	07-Jan-91	SALT	10	UG/KG	43	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-31B	S-33	09-May-91	08-Jan-91	SALT	10	UG/KG	37	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-32B	S-34	09-May-91	16-Jan-91	SALT	10	UG/KG	31	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-33B	S-35	09-May-91	29-Jan-91	SALT	10	UG/KG	32	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-34B	S-36	09-May-91	01-Feb-91	SALT	10	UG/KG	30	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-35B	S-37	09-May-91	06-Feb-91	SALT	10	UG/KG	28	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-36B	S-38	09-May-91	07-Feb-91	SALT	10	UG/KG	26	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-37B	S-39	09-May-91	08-Feb-91	SALT	10	UG/KG	23	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-38B	S-40	09-May-91	11-Feb-91	SALT	10	UG/KG	25	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-39B	S-41	09-May-91	15-Feb-91	SALT	10	UG/KG	21	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-40B	S-42	09-May-91	16-Feb-91	SALT	10	UG/KG	21	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-41B	S-43	09-May-91	17-Feb-91	SALT	10	UG/KG	21	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-42B	S-44	09-May-91	18-Feb-91	SALT	10	UG/KG	11	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-43B	S-45	09-May-91	19-Feb-91	SALT	10	UG/KG	23	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-44B	S-46	09-May-91	24-Feb-91	SALT	10	UG/KG	110	DB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-45B	S-47	09-May-91	06-Mar-91	SALT	10	UG/KG	22	JDB	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD	100	UD			
6336F-46B	S-48	10-May-91	07-Mar-91	SALT	1	UG/KG	5.7	JB	65	U	65	U	65	U	65	U	65	U	65	U	65	U			

* SAMPLES 6336F-1B THROUGH 6336F-45B WERE ANALYZED FOR TRANS-1,2-DICHLOROETHYLENE; SAMPLES 6336F-46B THROUGH 6336F-125B WERE ANALYZED FOR TOTAL 1,2-DICHLOROETHYLENE

ANALYSIS : SW-846 METHOD 8260 (6336F-1B THROUGH 6336F-45B; 6336F-91B THROUGH 6336F-125B)
 SW-846 METHOD 8240 (6336F-46B THROUGH 6336F-90B)

004337

ORGANIC ANALYSIS DATA SHEET
 MATRX: ASH/SALT

VOLATILES

			DELISTING LEVELS (UG/KG)				230	1,300	37,000	1,100	870	3,400	152,000
EPA ID	SAMPLE ID	SAMPLING DATE	INCINERATOR DATE	MATRIX	DILUTION	UNITS	Methylene Chloride Q	1,1-Dichloroethylene Q	1,2-Dichloroethylene* Q	Trichloroethylene Q	Benzene Q	Tetrachloroethylene Q	Chlorobenzene Q
6336F-47B	S-49	10-May-91	08-Mar-91	SALT	1	UG/KG	4.3 JB	60 U	60 U	11 JB	5.4 J	21 J	3.7 JX
6336F-48B	S-50	10-May-91	09-Mar-91	SALT	1	UG/KG	14 JB	120 U	120 U	120 U	120 U	120 U	120 U
6336F-49B	S-51	10-May-91	10-Mar-91	SALT	1	UG/KG	9.6 JB	74 U	74 U	8.1 JB	74 U	31 J	74 U
6336F-50B	S-52	10-May-91	11-Mar-91	SALT	1	UG/KG	22 JB	55 U	55 U	39 JB	11 J	86	5.2 JX
6336F-51B	S-53	10-May-91	12-Mar-91	SALT	1	UG/KG	5.3 J	36 U	36 U	2.7 JX	36 U	10 J	36 U
6336F-52B	S-54	10-May-91	13-Mar-91	SALT	1	UG/KG	10 J	63 U	63 U	5.6 JX	5.1 JX	20 J	63 U
6336F-53B	S-55	10-May-91	14-Mar-91	SALT	1	UG/KG	16 J	63 U	63 U	12 J	3.2 JX	37 J	63 U
6336F-54B	S-56	10-May-91	15-Mar-91	SALT	1	UG/KG	23 J	52 U	52 U	40 J	3 JX	68	52 U
6336F-55B	S-57	10-May-91	17-Mar-91	SALT	1	UG/KG	5.0 JX	52 U	52 U	3.2 JX	32	12 J	3.8 JX
6336F-56B	S-58	10-May-91	18-Mar-91	SALT	1	UG/KG	11 J	89 U	89 U	10 J	13 J	22 J	89 U
6336F-57B	S-59	10-May-91	19-Mar-91	SALT	1	UG/KG	56 U	56 U	56 U	56 U	56 U	56 U	56 U
6336F-58B	S-60	10-May-91	20-Mar-91	SALT	1	UG/KG	34 J	47 U	5.1 J	21 J	13 J	27 J	4.8 J
6336F-59B	S-61	10-May-91	21-Mar-91	SALT	1	UG/KG	46 U	46 U	46 U	46 U	5.1 J	2.9 JX	46 U
6336F-60B	S-62	10-May-91	22-Mar-91	SALT	1	UG/KG	51 U	51 U	51 U	2.9 JX	7.3 J	12 J	5.2 J
6336F-61B	S-63	10-May-91	24-Mar-91	SALT	1	UG/KG	5.2 JX	56 U	56 U	13 X	36 U	19 J	56 U
6336F-62B	S-64	10-May-91	26-Mar-91	SALT	1	UG/KG	62 U	62 U	62 U	4.7 JX	12 J	25 J	62 U
6336F-63B	S-65	10-May-91	28-Mar-91	SALT	1	UG/KG	57 U	57 U	57 U	57 U	3.2 JX	11 J	57 U
6336F-64B	S-66	10-May-91	31-Mar-91	SALT	1	UG/KG	48 U	48 U	48 U	48 U	6.2 J	4.7 J	48 U
6336F-65B	S-67	10-May-91	08-Apr-91	SALT	1	UG/KG	56 U	56 U	56 U	56 U	56 U	7.5 J	56 U
6336F-66B	S-68	10-May-91	09-Apr-91	SALT	1	UG/KG	50 U	50 U	50 U	50 U	47 J	50 U	50 U
6336F-67B	S-69	10-May-91	11-Apr-91	SALT	1	UG/KG	32 J	50 U	4.1 J	14 J	150	23 J	17 J
6336F-68B	S-70	10-May-91	13-Apr-91	SALT	1	UG/KG	91 U	91 U	91 U	91 U	91 U	91 U	91 U
6336F-69B	S-71	10-May-91	14-Apr-91	SALT	1	UG/KG	44 U	44 U	44 U	44 U	17 J	44 U	12 J
6336F-70B	S-72	10-May-91	14-Apr-91	SALT	1	UG/KG	14 J	54 U	54 U	7.9 J	32 J	11 J	7.2 JX
6336F-71B	S-73	10-May-91	15-Apr-91	SALT	1	UG/KG	6.8 J	49 U	49 U	36 J	18 J	100	15 J
6336F-71B RE	S-73	10-May-91	15-Apr-91	SALT	1	UG/KG	6.6 J	45 U	45 U	36 J	18 J	110	15 J
6336F-72B	S-74	11-May-91	16-Apr-91	SALT	1	UG/KG	150	9.8 J	18 J	120	47	170	19 J
6336F-72B RE	S-74	11-May-91	18-Apr-91	SALT	1	UG/KG	97	9 J	18 J	110	47	170	14 J
6336F-73B	S-75	11-May-91	16-Apr-91	SALT	1	UG/KG	5.7 J	55 U	55 U	18 J	67	60	14 J
6336F-74B	S-76	11-May-91	18-Apr-91	SALT	1	UG/KG	6.4 J	58 U	58 U	30 J	8.6 J	52 J	58 U
6336F-75B	S-77	11-May-91	23-Apr-91	SALT	1	UG/KG	16 J	52 U	52 U	120	7.5 J	310	4.9 JX
6336F-76B	S-78	11-May-91	24-Apr-91	SALT	1	UG/KG	48 J	52 U	8.2 J	200	22 J	310	16 X
6336F-76B RE	S-78	11-May-91	24-Apr-91	SALT	1	UG/KG	47 J	4.7 J	6.2 J	170	13 J	260	4.4 JX
6336F-77B	S-79	11-May-91	25-Apr-91	SALT	1	UG/KG	70	15 J	18 J	340	40 J	380	15 J
6336F-77B RE	S-79	11-May-91	25-Apr-91	SALT	1	UG/KG	99	22 J	24 J	340	42 J	350	11 J
6336F-78B	S-80	11-May-91	26-Apr-91	SALT	1	UG/KG	95	2.7 JX	20 J	140	53	190	52 U
6336F-78B RE	S-83	11-May-91	24-Apr-91	SALT	1	UG/KG	130	8.1 JX	26 J	150	46 J	160	9.9 JX
6336F-79B	S-81	11-May-91	28-Apr-91	SALT	1	UG/KG	21 J	46 U	3.1 JX	23 J	42 J	79	46 U
6336F-79B RE	S-81	11-May-91	28-Apr-91	SALT	1	UG/KG	24 J	55 U	55 U	19 J	38 J	57	21 J
6336F-80B	S-82	11-May-91	30-Apr-91	SALT	1	UG/KG	20 J	39 U	4.4 JX	110	14 J	360	10 JX
6336F-81B	S-83	11-May-91	01-May-91	SALT	1	UG/KG	51	4.8 JX	7.3 J	150	15 J	280	5.1 JX
6336F-82B	S-84	11-May-91	02-May-91	SALT	1	UG/KG	30 J	54 U	5.0 JX	140	54 U	350	4.9 JX
6336F-83B	S-85	11-May-91	03-May-91	SALT	1	UG/KG	44 J	51 U	22 J	200	17 J	340	5.7 JX
6336F-84B	S-86	11-May-91	05-May-91	SALT	1	UG/KG	100	47 U	18 J	140	38 J	340	12 J
6336F-84B RE	S-86	11-May-91	05-May-91	SALT	1	UG/KG	98	47 U	19 J	130	33 J	330	11 J
6336F-85B	S-87	11-Jul-91	11-May-91	SALT	1	UG/KG	37 U	37 U	37 U	2.2 JX	2.1 JX	16 J	37 U

* SAMPLES 6336F-1B THROUGH 6336F-45B WERE ANALYZED FOR TRANS-1,2-DICHLOROETHYLENE; SAMPLES 6336F-46B THROUGH 6336F-125B WERE ANALYZED FOR TOTAL 1,2-DICHLOROETHYLENE

ANALYSIS : SW-846 METHOD 8260 (6336F-1B THROUGH 6336F-45B; 6336F-91B THROUGH 6336F-125B)
 SW-846 METHOD 8240 (6336F-46B THROUGH 6336F-90B)

04338

ORGANIC ANALYSIS DATA SHEET
MATRIX: ASH/SALT

VOLATILES

EPA ID	SAMPLE ID	SAMPLING DATE	INCINERATOR DATE	MATRIX	DILUTION	UNITS	DELISTING LEVELS (UG/KG)															
							230		1,300		37,000		1,100		870		3,400		152,000			
							Methylene Chloride	Q	1,1-Dichloroethylene	Q	1,2-Dichloroethylene*	Q	Trichloroethylene	Q	Benzene	Q	Tetrachloroethylene	Q	Chlorobenzene	Q		
6336F-86B	S-88	11-Jul-91	14-May-91	SALT	1	UG/KG	48	U	48	U	48	U	48	U	12	J	3.5	JX	48	U		
6336F-86B RE	S-88	11-Jul-91	14-May-91	SALT	1	UG/KG	53	U	53	U	53	U	53	U	12	J	53	U	53	U		
6336F-87B	S-89	11-Jul-91	17-May-91	SALT	1	UG/KG	58	U	58	U	58	U	58	U	38	U	58	U	58	U		
6336F-88B	S-90	11-Jul-91	19-May-91	SALT	1	UG/KG	8	J	7.9	J	64	U	69	U	31	J	130	U	64	U		
6336F-89B	S-91	11-Jul-91	31-May-91	SALT	1	UG/KG	2.5	JX	37	U	37	U	4.1	JX	1.7	JX	13	J	37	U		
6336F-90B	S-92	11-Jul-91	01-Jun-91	SALT	1	UG/KG	62	U	62	U	62	U	62	U	4.5	J	62	U	62	U		
6336F-91B	A-1	07-Feb-91	03-Nov-90	ASH	1	UG/KG	27	U	27	U	27	U	27	U	27	U	27	U	27	U		
6336F-92B	A-2	07-Feb-91	09-Nov-90	ASH	1	UG/KG	25	U	25	U	25	U	25	U	25	U	25	U	25	U		
6336F-93B	A-3	07-Feb-91	04-Dec-90	ASH	1	UG/KG	170	U	23	U	23	U	23	U	23	U	23	U	23	U		
6336F-93B RE	A-3	07-Feb-91	04-Dec-90	ASH	1	UG/KG	160	U	24	U	24	U	24	U	24	U	24	U	24	U		
6336F-94B	A-4	07-Feb-91	07-Dec-90	ASH	1	UG/KG	24	U	24	U	24	U	24	U	24	U	24	U	24	U		
6336F-95B	A-5	11-May-91	10-Dec-90	ASH	1	UG/KG	12	J	20	U	20	U	20	U	20	U	20	U	20	U		
6336F-95B RE	A-5	11-May-91	10-Dec-90	ASH	1	UG/KG	20	U	20	U	20	U	20	U	20	U	20	U	20	U		
6336F-96B	A-6	11-May-91	12-Dec-90	ASH	1	UG/KG	22	U	22	U	22	U	22	U	22	U	22	U	22	U		
6336F-97B	A-7	11-May-91	14-Dec-90	ASH	1	UG/KG	13	J	21	U	21	U	21	U	21	U	21	U	21	U		
6336F-97B RE	A-7	11-May-91	14-Dec-90	ASH	1	UG/KG	21	U	21	U	21	U	21	U	21	U	21	U	21	U		
6336F-98B	A-8	11-May-91	16-Dec-90	ASH	1	UG/KG	24	U	24	U	24	U	24	U	24	U	24	U	24	U		
6336F-99B	A-9	11-May-91	05-Feb-91	ASH	1	UG/KG	23	U	23	U	23	U	23	U	23	U	23	U	23	U		
6336F-100B	A-10	11-May-91	08-Mar-91	ASH	1	UG/KG	21	U	21	U	21	U	21	U	21	U	21	U	21	U		
6336F-101B	A-11	11-May-91	09-Mar-91	ASH	1	UG/KG	42	U	42	U	42	U	42	U	42	U	42	U	42	U		
6336F-102B	A-12	11-May-91	11-Mar-91	ASH	1	UG/KG	29	U	29	U	29	U	29	U	29	U	29	U	29	U		
6336F-102B RE	A-12	11-May-91	11-Mar-91	ASH	1	UG/KG	29	U	29	U	29	U	29	U	29	U	29	U	29	U		
6336F-103B	A-13	11-May-91	13-Mar-91	ASH	1	UG/KG	28	U	28	U	28	U	28	U	28	U	28	U	28	U		
6336F-104B	A-14	11-May-91	15-Mar-91	ASH	1	UG/KG	23	U	23	U	23	U	23	U	23	U	23	U	23	U		
6336F-105B	A-15	11-May-91	16-Mar-91	ASH	1	UG/KG	21	U	21	U	21	U	21	U	21	U	21	U	21	U		
6336F-106B	A-16	11-May-91	20-Mar-91	ASH	1	UG/KG	22	U	22	U	22	U	22	U	22	U	22	U	22	U		
6336F-107B	A-17	12-May-91	21-Mar-91	ASH	1	UG/KG	22	U	22	U	22	U	22	U	22	U	22	U	22	U		
6336F-108B	A-18	12-May-91	22-Mar-91	ASH	1	UG/KG	23	U	23	U	23	U	23	U	23	U	23	U	23	U		
6336F-109B	A-19	12-May-91	23-Mar-91	ASH	1	UG/KG	22	U	22	U	22	U	22	U	22	U	22	U	22	U		
6336F-110B	A-20	12-May-91	24-Mar-91	ASH	1	UG/KG	22	U	22	U	22	U	22	U	22	U	22	U	22	U		
6336F-111B	A-21	12-May-91	14-Apr-91	ASH	1	UG/KG	27	U	27	U	27	U	27	U	27	U	27	U	27	U		
6336F-112B	A-22	12-May-91	16-Apr-91	ASH	1	UG/KG	25	U	25	U	25	U	25	U	25	U	25	U	25	U		
6336F-113B	A-23	12-May-91	17-Apr-91	ASH	1	UG/KG	24	U	24	U	24	U	24	U	24	U	24	U	24	U		
6336F-113B RE	A-23	12-May-91	17-Apr-91	ASH	1	UG/KG	24	U	24	U	24	U	24	U	24	U	24	U	24	U		
6336F-114B	A-24	12-May-91	18-Apr-91	ASH	1	UG/KG	22	U	22	U	22	U	22	U	22	U	22	U	22	U		
6336F-114B RE	A-24	12-May-91	18-Apr-91	ASH	1	UG/KG	22	U	22	U	22	U	22	U	22	U	22	U	22	U		
6336F-115B	A-25	12-May-91	20-Apr-91	ASH	1	UG/KG	20	U	20	U	20	U	20	U	20	U	20	U	20	U		
6336F-115B RE	A-25	12-May-91	20-Apr-91	ASH	1	UG/KG	24	U	24	U	24	U	24	U	24	U	24	U	24	U		
6336F-116B	A-26	12-May-91	22-Apr-91	ASH	1	UG/KG	59	U	34	U	34	U	34	U	34	U	34	U	34	U		
6336F-116B RE	A-26	12-May-91	22-Apr-91	ASH	1	UG/KG	68	U	34	U	34	U	34	U	34	U	34	U	34	U		
6336F-117B	A-27	12-May-91	23-Apr-91	ASH	1	UG/KG	26	U	26	U	26	U	26	U	26	U	26	U	26	U		
6336F-117B RE	A-27	12-May-91	23-Apr-91	ASH	1	UG/KG	18	J	26	U	26	U	26	U	26	U	26	U	26	U		
6336F-118B	A-28	12-May-91	26-Apr-91	ASH	1	UG/KG	26	J	28	U	28	U	28	U	28	U	28	U	28	U		
6336F-118B RE	A-28	12-May-91	26-Apr-91	ASH	1	UG/KG	39	U	28	U	28	U	28	U	28	U	28	U	28	U		
6336F-119B	A-29	12-May-91	27-Apr-91	ASH	1	UG/KG	54	U	28	U	28	U	28	U	28	U	28	U	28	U		
6336F-119B RE	A-29	12-May-91	27-Apr-91	ASH	1	UG/KG	64	U	28	U	28	U	28	U	28	U	28	U	28	U		

* SAMPLES 6336F-1B THROUGH 6336F-45B WERE ANALYZED FOR TRANS-1,2-DICHLOROETHYLENE; SAMPLES 6336F-46B THROUGH 6336F-125B WERE ANALYZED FOR TOTAL 1,2-DICHLOROETHYLENE

ANALYSIS : SW-846 METHOD 8260 (6336F-1B THROUGH 6336F-45B; 6336F-91B THROUGH 6336F-125B)

SW-846 METHOD 8240 (6336F-46B THROUGH 6336F-90B)

004339

ORGANIC ANALYSIS DATA SHEET		VOLATILES																		
MATRIX: ASH/SALT		DELISTING LEVELS (UG/KG)						230		1,300		37,000		1,100		870		3,400		152,000
EPA ID	SAMPLE ID	SAMPLING DATE	INCINERATOR DATE	MATRIX	DILUTION	UNITS	Methylene Chloride	Q	1,1-Dichloroethylene	Q	1,2-Dichloroethylene*	Q	Trichloroethylene	Q	Benzene	Q	Tetrachloroethylene	Q	Chlorobenzene	Q
6336F-120B	A-30	12-May-91	29-Apr-91	ASH	1	UG/KG	24	U	24	U	24	U	24	U	24	U	24	U	24	U
6336F-121B	A-31	12-May-91	30-Apr-91	ASH	1	UG/KG	30	U	30	U	30	U	30	U	30	U	30	U	30	U
6336F-121B RE	A-31	12-May-91	30-Apr-91	ASH	1	UG/KG	42		30	U	30	U	30	U	30	U	30	U	30	U
6336F-122B	A-32	01-Jul-91	01-May-91	ASH	1	UG/KG	31	U	31	U	31	U	31	U	31	U	31	U	31	U
6336F-122B RE	A-32	01-Jul-91	01-May-91	ASH	1	UG/KG	31	U	31	U	31	U	31	U	31	U	31	U	31	U
6336F-123B	A-33	02-Jul-91	02-May-91	ASH	1	UG/KG	22	J	24	U	24	U	24	U	24	U	24	U	24	U
6336F-123B RE	A-33	02-Jul-91	02-May-91	ASH	1	UG/KG	35		24	U	24	U	24	U	24	U	24	U	24	U
6336F-124B	A-34	03-Jul-91	03-May-91	ASH	1	UG/KG	24	U	24	U	24	U	24	U	24	U	24	U	24	U
6336F-124B RE	A-34	03-Jul-91	03-May-91	ASH	1	UG/KG	12	J	24	U	24	U	24	U	24	U	24	U	24	U
6336F-125B	A-35	04-Jul-91	04-May-91	ASH	1	UG/KG	25	U	25	U	25	U	25	U	25	U	25	U	25	U
6336F-125B RE	A-35	04-Jul-91	04-May-91	ASH	1	UG/KG	25	J	25	U	25	U	25	U	25	U	25	U	25	U

* SAMPLES 6336F-1B THROUGH 6336F-45B WERE ANALYZED FOR TRANS-1,2-DICHLOROETHYLENE; SAMPLES 6336F-46B THROUGH 6336F-125B WERE ANALYZED FOR TOTAL 1,2-DICHLOROETHYLENE

ANALYSIS : SW-846 METHOD 8260 (6336F-1B THROUGH 6336F-45B; 6336F-91B THROUGH 6336F-125B)
 SW-846 METHOD 8240 (6336F-46B THROUGH 6336F-90B)

004340

URS Consultants, Inc.
ARCS, EPA Regions VI, VII and VIII
Contract No. 68-W9-0053

Vertac Chemical Corp. Superfund Site
Ash & Salt Concentrations
Revision: 0
Date: 02/02/93

04341

7.0 HERBICIDES DATA TABLES

ORGANIC ANALYSIS DATA SHEET			HERBICIDES							
MATRIX: ASH/SALT			DELISTING LEVELS (MG/KG)				107		1,000,000	
EPA ID	SAMPLE ID	SAMPLING DATE	INCINERATOR DATE	MATRIX	DILUTION	UNITS	2,4-D Dichlorophenol	Q	2,4,5-T Tetrachlorophenol	Q
6336F-1B	S-1	08-Feb-91	04-Nov-90	SALT	1	MG/KG	1.00	U	0.20	U
6336F-2B	S-2	08-Feb-91	07-Nov-90	SALT	1	MG/KG	1.00	U	0.08	J
6336F-3B	S-3	08-Feb-91	08-Nov-90	SALT	1	MG/KG	1.00	U	0.08	J
6336F-4B	S-4	08-Feb-91	09-Nov-90	SALT	1	MG/KG	1.02	U	0.08	J
6336F-5B	S-5	08-Feb-91	11-Nov-90	SALT	1	MG/KG	1.00	U	0.06	J
6336F-6B	S-6	08-Feb-91	13-Nov-90	SALT	1	MG/KG	1.00	U	0.20	U
6336F-7B	S-7	08-Feb-91	14-Nov-90	SALT	1	MG/KG	1.00	U	0.20	U
6336F-8B	S-8	08-Feb-91	16-Nov-90	SALT	1	MG/KG	1.00	U	0.20	U
6336F-9B	S-9	08-Feb-91	21-Nov-90	SALT	1	MG/KG	0.18	J	0.20	U
6336F-10B	S-10	08-Feb-91	25-Nov-90	SALT	1	MG/KG	1.00	U	0.20	U
6336F-11B	S-11	08-Feb-91	26-Nov-90	SALT	1	MG/KG	1.00	U	0.20	U
6336F-12B	S-12	08-Feb-91	27-Nov-90	SALT	1	MG/KG	1.00	U	0.20	U
6336F-13B	S-13	08-Feb-91	28-Nov-90	SALT	1	MG/KG	1.00	U	0.20	U
6336F-14B	S-14	08-Feb-91	29-Nov-90	SALT	1	MG/KG	1.00	U	0.20	U
6336F-15B	S-15	08-Feb-91	30-Nov-90	SALT	1	MG/KG	1.00	U	0.20	U
6336F-16B	S-16	08-Feb-91	01-Dec-90	SALT	1	MG/KG	1.00	U	0.20	U
6336F-17B	S-17	08-Feb-91	02-Dec-90	SALT	1	MG/KG	0.20	J	0.20	U
6336F-18B	S-18	09-Feb-91	03-Dec-90	SALT	1	MG/KG	1.00	U	0.20	U
6336F-19B	S-19	09-Feb-91	04-Dec-90	WATER	1	MGL	0.10	U	0.02	U
6336F-20B	S-20	09-Feb-91	05-Dec-90	SALT	1	MG/KG	1.00	U	0.20	U
6336F-21B	S-21	09-Feb-91	06-Dec-90	WATER	1	MGL	0.10	U	0.02	U
6336F-22B	S-22	09-Feb-91	07-Dec-90	SALT	1	MG/KG	1.00	U	0.20	U
6336F-23B	S-23	08-May-91	08-Dec-90	SALT	1	MG/KG	1.00	U	0.20	U
6336F-24B	S-26	08-May-91	17-Dec-90	SALT	1	MG/KG	1.00	U	0.20	U
6336F-25B	S-27	08-May-91	18-Dec-90	SALT	1	MG/KG	1.00	U	0.20	U
6336F-26B	S-28	08-May-91	30-Dec-90	SALT	1	MG/KG	1.00	U	0.06	J
6336F-27B	S-29	08-May-91	31-Dec-90	SALT	1	MG/KG	1.00	U	0.20	U
6336F-28B	S-30	08-May-91	03-Jan-91	SALT	1	MG/KG	1.00	U	0.20	U
6336F-29B	S-31	08-May-91	04-Jan-91	SALT	1	MG/KG	1.00	U	0.20	U
6336F-30B	S-32	09-May-91	07-Jan-91	SALT	1	MG/KG	1.00	U	0.20	U
6336F-31B	S-33	09-May-91	08-Jan-91	SALT	1	MG/KG	1.00	U	0.20	U
6336F-32B	S-34	09-May-91	16-Jan-91	SALT	1	MG/KG	1.00	U	0.20	U
6336F-33B	S-35	09-May-91	29-Jan-91	SALT	1	MG/KG	1.00	U	0.20	U
6336F-34B	S-36	09-May-91	01-Feb-91	SALT	1	MG/KG	1.00	U	0.20	U
6336F-35B	S-37	09-May-91	06-Feb-91	SALT	1	MG/KG	1.00	U	0.20	U
6336F-36B	S-38	09-May-91	07-Feb-91	SALT	1	MG/KG	1.00	U	0.20	U
6336F-37B	S-39	09-May-91	08-Feb-91	SALT	1	MG/KG	1.00	U	0.20	U
6336F-38B	S-40	09-May-91	11-Feb-91	SALT	1	MG/KG	1.00	U	0.20	U
6336F-39B	S-41	09-May-91	13-Feb-91	SALT	1	MG/KG	1.00	U	0.20	U
6336F-40B	S-42	09-May-91	16-Feb-91	SALT	1	MG/KG	1.00	U	0.20	U
6336F-41B	S-43	09-May-91	17-Feb-91	SALT	1	MG/KG	1.00	U	0.20	U
6336F-42B	S-44	09-May-91	18-Feb-91	SALT	1	MG/KG	1.00	U	0.20	U
6336F-43B	S-45	09-May-91	19-Feb-91	WATER	1	MGL	0.12	U	0.03	U
6336F-44B	S-46	09-May-91	24-Feb-91	SALT	1	MG/KG	1.00	U	0.20	U
6336F-45B	S-47	09-May-91	06-Mar-91	WATER	1	MGL	0.38	U	0.02	U
6336F-46B	S-48	10-May-91	07-Mar-91	SALT	1	UG/KG	28	U	31	U
6336F-47B	S-49	10-May-91	08-Mar-91	SALT	1	UG/KG	250	U	93	U
6336F-48B	S-50	10-May-91	09-Mar-91	SALT	1	UG/KG	50	U	79	J

ANALYSIS : EPA SW-846, METHOD 8150 (ALL SAMPLES)

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ORGANIC ANALYSIS DATA SHEET			HERBICIDES								
MATRIX: ASH/SALT			DELISTING LEVELS (MG/KG)				107		1,000,000		
EPA ID	SAMPLE ID	SAMPLING DATE	INCINERATOR DATE	MATRIX	DILUTION	UNITS	2,4-D Dichlorophenoxy	Q	2,4,5-T Tetrachlorophenoxy	Q	
6336F-49B	S-51	10-May-91	10-Mar-91	SALT	1	UG/KG	44	U	98	J	
6336F-50B	S-52	10-May-91	11-Mar-91	SALT	1	UG/KG	10	U	5.0	U	
6336F-51B	S-53	10-May-91	12-Mar-91	SALT	1	UG/KG	18	U	66	J	
6336F-52B	S-54	10-May-91	13-Mar-91	SALT	1	UG/KG	41	U	88	J	
6336F-53B	S-55	10-May-91	14-Mar-91	SALT	1	UG/KG	56	U	120	J	
6336F-54B	S-56	10-May-91	15-Mar-91	SALT	1	UG/KG	34		55	U	
6336F-55B	S-57	10-May-91	17-Mar-91	SALT	1	UG/KG	66		5.0	U	
6336F-56B	S-58	10-May-91	18-Mar-91	SALT	1	UG/KG	49		5.0	U	
6336F-57B	S-59	10-May-91	19-Mar-91	SALT	1	UG/KG	100		82	J	
6336F-58B	S-60	10-May-91	20-Mar-91	SALT	1	UG/KG	35		41	J	
6336F-59B	S-61	10-May-91	21-Mar-91	SALT	1	UG/KG	41	U	49	J	
6336F-60B	S-62	10-May-91	22-Mar-91	SALT	1	UG/KG	330		83	J	
6336F-61B	S-63	10-May-91	24-Mar-91	SALT	1	UG/KG	650	U	140	J	
6336F-62B	S-64	10-May-91	26-Mar-91	SALT	1	UG/KG	41		6.5	J	
6336F-63B	S-65	10-May-91	28-Mar-91	SALT	1	UG/KG	22		5.0	U	
6336F-64B	S-66	10-May-91	31-Mar-91	SALT	1	UG/KG	65	U	5.0	U	
6336F-65B	S-67	10-May-91	08-Apr-91	SALT	1	UG/KG	24		5.0	U	
6336F-66B	S-68	10-May-91	09-Apr-91	SALT	1	UG/KG	200		20	U	
6336F-67B	S-69	10-May-91	11-Apr-91	SALT	1	UG/KG	260	J	25	J	
6336F-68B	S-70	10-May-91	13-Apr-91	SALT	1	UG/KG	63		36	J	
6336F-69B	S-71	10-May-91	14-Apr-91	SALT	1	UG/KG	63		34	J	
6336F-70B	S-72	10-May-91	15-Apr-91	SALT	1	UG/KG	33		5.5	J	
6336F-71B	S-73	10-May-91	16-Apr-91	SALT	1	UG/KG	60	Y	95	J	
6336F-72B	S-74	11-May-91	18-Apr-91	SALT	1	UG/KG	23	J	132	J	
6336F-73B	S-75	11-May-91	19-Apr-91	SALT	1	UG/KG	15	U	5.0	U	
6336F-74B	S-76	11-May-91	20-Apr-91	SALT	1	UG/KG	19	U	5.0	U	
6336F-75B	S-77	11-May-91	23-Apr-91	SALT	1	UG/KG	25		18	J	
6336F-76B	S-78	11-May-91	24-Apr-91	SALT	1	UG/KG	22	U	9.1	J	
6336F-77B	S-79	11-May-91	25-Apr-91	SALT	1	UG/KG	15	U	90		
6336F-78B	S-80	11-May-91	26-Apr-91	SALT	1	UG/KG	70	Y	24	J	
6336F-79B	S-81	11-May-91	28-Apr-91	SALT	1	UG/KG	85	Y	180	J	
6336F-80B	S-82	11-May-91	30-Apr-91	SALT	1	UG/KG	65	Y	110	J	
6336F-81B	S-83	11-May-91	01-May-91	SALT	1	UG/KG	15	U	110	J	
6336F-82B	S-84	11-May-91	02-May-91	SALT	1	UG/KG	45	U	59	J	
6336F-83B	S-85	11-May-91	03-May-91	SALT	1	UG/KG	16	U	50		
6336F-84B	S-86	11-May-91	05-May-91	SALT	1	UG/KG	15	U	130		
6336F-85B	S-87	11-Jul-91	11-May-91	SALT	1	UG/KG	70	J	54	J	
6336F-86B	S-88	11-Jul-91	14-May-91	SALT	1	UG/KG	24	Y	40	Y	
6336F-87B	S-89	11-Jul-91	17-May-91	SALT	1	UG/KG	37	Y	250	J	
6336F-88B	S-90	11-Jul-91	19-May-91	SALT	1	UG/KG	83	Y	140	J	
6336F-89B	S-91	11-Jul-91	31-May-91	SALT	1	UG/KG	130	J	15	J	
6336F-90B	S-92	11-Jul-91	01-Jun-91	SALT	1	UG/KG	40		180	J	
6336F-91B	A-1	07-Feb-91	03-Nov-90	ASH	100	UG/KG	2200	U	220	U	
6336F-92B	A-2	07-Feb-91	08-Nov-90	ASH	100	UG/KG	2000	U	200	U	
6336F-93B	A-3	07-Feb-91	04-Dec-90	ASH	100	UG/KG	8100		240	U	
6336F-94B	A-4	07-Feb-91	07-Dec-90	ASH	100	UG/KG	1700	J	240	U	
6336F-95B	A-5	11-May-91	10-Dec-90	ASH	100	UG/KG	510	J	200	U	
6336F-96B	A-6	11-May-91	12-Dec-90	ASH	100	UG/KG	2200	U	220	U	

ANALYSIS : EPA SW-846, METHOD 8150 (ALL SAMPLES)

ORGANIC ANALYSIS DATA SHEET			HERBICIDES							
MATRIX: ASH/SALT			DELISTING LEVELS (MG/KG)				107	1,000,000		
EPA ID	SAMPLE ID	SAMPLING DATE	INCINERATOR DATE	MATRIX	DILUTION	UNITS	2,4-D Dichlorophenoxy	Q	2,4,5-T Trichlorophenoxy	Q
6336F-97B	A-7	11-May-91	14-Dec-90	ASH	100	UG/KG	560	J	210	U
6336F-98B	A-8	11-May-91	16-Dec-90	ASH	100	UG/KG	3300		240	U
6336F-99B	A-9	11-May-91	03-Feb-91	ASH	100	UG/KG	4020		230	U
6336F-100B	A-10	11-May-91	06-Mar-91	ASH	100	UG/KG	1500	J	210	U
6336F-101B	A-11	11-May-91	09-Mar-91	ASH	100	UG/KG	4200	U	420	U
6336F-102B	A-12	11-May-91	11-Mar-91	ASH	100	UG/KG	2900	U	290	U
6336F-103B	A-13	11-May-91	13-Mar-91	ASH	100	UG/KG	160	J	200	U
6336F-104B	A-14	11-May-91	15-Mar-91	ASH	100	UG/KG	2300	U	230	U
6336F-105B	A-15	11-May-91	16-Mar-91	ASH	100	UG/KG	290	J	210	U
6336F-106B	A-16	11-May-91	20-Mar-91	ASH	100	UG/KG	2200	U	220	U
6336F-107B	A-17	11-May-91	21-Mar-91	ASH	100	UG/KG	2200	U	220	U
6336F-108B	A-18	11-May-91	22-Mar-91	ASH	100	UG/KG	2300	U	230	U
6336F-109B	A-19	11-May-91	23-Mar-91	ASH	100	UG/KG	2200	U	220	U
6336F-110B	A-20	11-May-91	24-Mar-91	ASH	100	UG/KG	2200	U	220	U
6336F-111B	A-21	12-May-91	14-Apr-91	ASH	100	UG/KG	510	J	270	U
6336F-112B	A-22	12-May-91	16-Apr-91	ASH	100	UG/KG	840	J	250	U
6336F-113B	A-23	12-May-91	17-Apr-91	ASH	100	UG/KG	2400	U	240	U
6336F-114B	A-24	12-May-91	18-Apr-91	ASH	100	UG/KG	230	J	220	U
6336F-115B	A-25	12-May-91	20-Apr-91	ASH	100	UG/KG	2400	U	240	U
6336F-116B	A-26	12-May-91	22-Apr-91	ASH	100	UG/KG	3400	U	340	U
6336F-117B	A-27	12-May-91	23-Apr-91	ASH	100	UG/KG	2600	U	260	U
6336F-118B	A-28	12-May-91	26-Apr-91	ASH	100	UG/KG	2500	U	250	U
6336F-119B	A-29	12-May-91	27-Apr-91	ASH	100	UG/KG	2500	U	250	U
6336F-120B	A-30	12-May-91	29-Apr-91	ASH	100	UG/KG	2400	U	240	U
6336F-121B	A-31	12-May-91	30-Apr-91	ASH	100	UG/KG	3000	U	300	U
6336F-122B	A-32	16-Jul-91	01-May-91	ASH	100	UG/KG	3100	U	310	U
6336F-123B	A-33	16-Jul-91	02-May-91	ASH	100	UG/KG	2400	U	240	U
6336F-124B	A-34	16-Jul-91	03-May-91	ASH	100	UG/KG	2400	U	240	U
6336F-125B	A-35	16-Jul-91	04-May-91	ASH	100	UG/KG	2500	U	250	U

ANALYSIS : EPA SW-846, METHOD 8150 (ALL SAMPLES)

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URS Consultants, Inc.
ARCS, EPA Regions VI, VII and VIII
Contract No. 68-W9-0053

Vertac Chemical Corp. Superfund Site
Ash & Salt Concentrations
Revision: 0
Date: 02/02/93

04345

8.0 PESTICIDES DATA TABLES

ORGANIC ANALYSIS DATA SHEET			PESTICIDES																			
MATRIX: ASH/SALT			DELISTING LEVELS (UG/KG)						1,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000		
EPA ID	SAMPLE ID	SAMPLING DATE	INCINERATOR DATE	MATRIX	DILUTION	UNITS	4,4'-DDE	Q	AROCLOR 1016	Q	AROCLOR 1221	Q	AROCLOR 1232	Q	AROCLOR 1242	Q	AROCLOR 1248	Q	AROCLOR 1254	Q	AROCLOR 1260	Q
6336F-1B	S-1	08-Feb-91	04-Nov-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-2B	S-2	08-Feb-91	07-Nov-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-3B	S-3	08-Feb-91	08-Nov-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-4B	S-4	08-Feb-91	09-Nov-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-5B	S-5	08-Feb-91	11-Nov-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-6B	S-6	08-Feb-91	13-Nov-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-7B	S-7	08-Feb-91	14-Nov-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-8B	S-8	08-Feb-91	16-Nov-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-9B	S-9	08-Feb-91	21-Nov-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-10B	S-10	08-Feb-91	25-Nov-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-11B	S-11	08-Feb-91	26-Nov-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-12B	S-12	08-Feb-91	27-Nov-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-13B	S-13	08-Feb-91	28-Nov-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-14B	S-14	08-Feb-91	29-Nov-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-15B	S-15	08-Feb-91	30-Nov-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-16B	S-16	08-Feb-91	01-Dec-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-17B	S-17	08-Feb-91	02-Dec-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-18B	S-18	08-Feb-91	03-Dec-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-19B	S-19	09-Feb-91	04-Dec-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-20B	S-20	09-Feb-91	05-Dec-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-21B	S-21	09-Feb-91	06-Dec-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-22B	S-22	09-Feb-91	07-Dec-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-23B	S-23	08-May-91	08-Dec-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-24B	S-26	08-May-91	17-Dec-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-25B	S-27	08-May-91	18-Dec-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-26B	S-28	08-May-91	30-Dec-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-27B	S-29	08-May-91	31-Dec-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-28B	S-30	08-May-91	03-Jan-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-29B	S-31	08-May-91	04-Jan-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-30B	S-32	09-May-91	07-Jan-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-31B	S-33	09-May-91	08-Jan-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-32B	S-34	09-May-91	16-Jan-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-33B	S-35	09-May-91	29-Jan-91	SALT	1.500	UG/KG	12.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-34B	S-36	09-May-91	01-Feb-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-35B	S-37	09-May-91	06-Feb-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-36B	S-38	09-May-91	07-Feb-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-37B	S-39	09-May-91	08-Feb-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-38B	S-40	09-May-91	11-Feb-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-39B	S-41	09-May-91	15-Feb-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-40B	S-42	09-May-91	16-Feb-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-41B	S-43	09-May-91	17-Feb-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-42B	S-44	09-May-91	18-Feb-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-43B	S-45	09-May-91	19-Feb-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-44B	S-46	09-May-91	26-Feb-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-45B	S-47	09-May-91	06-Mar-91	SALT	1.500	UG/KG	24.0	U	120.0	U	120.0	U	120.0	U	120.0	U	120.0	U	240.0	U	240.0	U
6336F-46B	S-48	10-May-91	07-Mar-91	SALT	1.0	UG/KG	3.6	U	36	U	70	U	36	U	36	U	36	U	36	U	36	U
6336F-47B	S-49	10-May-91	08-Mar-91	SALT	1.0	UG/KG	7.0	U	70	U	140	U	70	U	70	U	70	U	70	U	70	U
6336F-48B	S-50	10-May-91	09-Mar-91	SALT	1.0	UG/KG	4.3	U	43	U	90	U	43	U	43	U	43	U	43	U	43	U

ANALYSIS : EPA SW-846, METHOD 8080 (ALL SAMPLES)

ORGANIC ANALYSIS DATA SHEET			PESTICIDES																			
MATRIX: ASH/SALT			DELISTING LEVELS (UG/KG)						1,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000			
EPA ID	SAMPLE ID	SAMPLING DATE	INCINERATOR DATE	MATRIX	DILUTION	UNITS	4,4'-DDE	Q	AROCLOR 1016	Q	AROCLOR 1221	Q	AROCLOR 1232	Q	AROCLOR 1242	Q	AROCLOR 1248	Q	AROCLOR 1254	Q	AROCLOR 1260	Q
6336F-49B	S-51	10-May-91	10-Mar-91	SALT	1.0	UG/KG	3.8	U	38	U	80	U	38	U	38	U	38	U	38	U	38	U
6336F-50B	S-52	10-May-91	11-Mar-91	SALT	1.0	UG/KG	5.5	U	55	U	110	U	55	U	55	U	55	U	55	U	55	U
6336F-51B	S-53	10-May-91	12-Mar-91	SALT	1.0	UG/KG	2.4	U	24	U	50	U	24	U	24	U	24	U	24	U	24	U
6336F-52B	S-54	10-May-91	13-Mar-91	SALT	1.0	UG/KG	3.2	U	32	U	60	U	32	U	32	U	32	U	32	U	32	U
6336F-53B	S-55	10-May-91	14-Mar-91	SALT	1.0	UG/KG	3.2	U	32	U	60	U	32	U	32	U	32	U	32	U	32	U
6336F-54B	S-56	10-May-91	15-Mar-91	SALT	1.0	UG/KG	2.9	U	29	U	60	U	29	U	29	U	29	U	29	U	29	U
6336F-55B	S-57	10-May-91	17-Mar-91	SALT	1.0	UG/KG	6.1	U	61	U	120	U	61	U	61	U	61	U	61	U	61	U
6336F-56B	S-58	10-May-91	18-Mar-91	SALT	1.0	UG/KG	4.3	U	43	U	90	U	43	U	43	U	43	U	43	U	43	U
6336F-57B	S-59	10-May-91	19-Mar-91	SALT	1.0	UG/KG	7.2	U	72	U	140	U	72	U	72	U	72	U	72	U	72	U
6336F-58B	S-60	10-May-91	20-Mar-91	SALT	1.0	UG/KG	5.1	U	51	U	100	U	51	U	51	U	51	U	51	U	51	U
6336F-59B	S-61	10-May-91	21-Mar-91	SALT	1.0	UG/KG	5.5	U	55	U	110	U	55	U	55	U	55	U	55	U	55	U
6336F-60B	S-62	10-May-91	22-Mar-91	SALT	1.0	UG/KG	5.6	U	56	U	110	U	56	U	56	U	56	U	56	U	56	U
6336F-61B	S-63	10-May-91	24-Mar-91	SALT	1.0	UG/KG	5.5	U	55	U	110	U	55	U	55	U	55	U	55	U	55	U
6336F-62B	S-64	10-May-91	26-Mar-91	SALT	1.0	UG/KG	3.3	U	33	U	70	U	33	U	33	U	33	U	33	U	33	U
6336F-63B	S-65	10-May-91	28-Mar-91	SALT	1.0	UG/KG	5.3	U	53	U	110	U	53	U	53	U	53	U	53	U	53	U
6336F-64B	S-66	10-May-91	31-Mar-91	SALT	1.0	UG/KG	4.1	U	41	U	80	U	41	U	41	U	41	U	41	U	41	U
6336F-65B	S-67	10-May-91	08-Apr-91	SALT	1.0	UG/KG	5.1	U	51	U	100	U	51	U	51	U	51	U	51	U	51	U
6336F-66B	S-68	10-May-91	09-Apr-91	SALT	1.0	UG/KG	5.3	U	53	U	110	U	53	U	53	U	53	U	53	U	53	U
6336F-66B RE	S-68	10-May-91	09-Apr-91	SALT	1.0	UG/KG	5.5	U	55	U	110	U	55	U	55	U	55	U	55	U	55	U
6336F-67B	S-69	10-May-91	11-Apr-91	SALT	1.0	UG/KG	5.4	U	54	U	110	U	54	U	54	U	54	U	54	U	54	U
6336F-68B	S-70	10-May-91	13-Apr-91	SALT	1.0	UG/KG	3.7	U	37	U	70	U	37	U	37	U	37	U	37	U	37	U
6336F-69B	S-71	10-May-91	14-Apr-91	SALT	1.0	UG/KG	4.9	U	49	U	100	U	49	U	49	U	49	U	49	U	49	U
6336F-70B	S-72	10-May-91	15-Apr-91	SALT	1.0	UG/KG	4.8	U	48	U	100	U	48	U	48	U	48	U	48	U	48	U
6336F-71B	S-73	10-May-91	16-Apr-91	SALT	1.0	UG/KG	4.7	U	47	U	90	U	47	U	47	U	47	U	47	U	47	U
6336F-72B	S-74	11-May-91	18-Apr-91	SALT	1.0	UG/KG	4.5	U	45	U	90	U	45	U	45	U	45	U	45	U	45	U
6336F-73B	S-75	11-May-91	19-Apr-91	SALT	1.0	UG/KG	4.9	U	49	U	100	U	49	U	49	U	49	U	49	U	49	U
6336F-74B	S-76	11-May-91	20-Apr-91	SALT	1.0	UG/KG	5.0	U	50	U	100	U	50	U	50	U	50	U	50	U	50	U
6336F-75B	S-77	11-May-91	23-Apr-91	SALT	1.0	UG/KG	4.5	U	45	U	90	U	45	U	45	U	45	U	45	U	45	U
6336F-76B	S-78	11-May-91	24-Apr-91	SALT	1.0	UG/KG	4.3	U	43	U	86	U	43	U	43	U	43	U	43	U	43	U
6336F-77B	S-79	11-May-91	25-Apr-91	SALT	1.0	UG/KG	4.9	U	49	U	100	U	49	U	49	U	49	U	49	U	49	U
6336F-78B	S-80	11-May-91	26-Apr-91	SALT	1.0	UG/KG	4.7	U	47	U	94	U	47	U	47	U	47	U	47	U	47	U
6336F-79B	S-81	11-May-91	28-Apr-91	SALT	1.0	UG/KG	4.7	U	47	U	95	U	47	U	47	U	47	U	47	U	47	U
6336F-80B	S-82	11-May-91	30-Apr-91	SALT	1.0	UG/KG	4.3	U	43	U	86	U	43	U	43	U	43	U	43	U	43	U
6336F-81B	S-83	11-May-91	01-May-91	SALT	1.0	UG/KG	4.4	U	44	U	87	U	44	U	44	U	44	U	44	U	44	U
6336F-82B	S-84	11-May-91	02-May-91	SALT	1.0	UG/KG	4.6	U	46	U	92	U	46	U	46	U	46	U	46	U	46	U
6336F-83B	S-85	11-May-91	03-May-91	SALT	1.0	UG/KG	4.2	U	42	U	84	U	42	U	42	U	42	U	42	U	42	U
6336F-84B	S-86	11-May-91	05-May-91	SALT	1.0	UG/KG	4.4	U	44	U	88	U	44	U	44	U	44	U	44	U	44	U
6336F-85B	S-87	11-Jul-91	11-May-91	SALT	1.0	UG/KG	4.3	U	43	U	86	U	43	U	43	U	43	U	43	U	43	U
6336F-86B	S-88	11-Jul-91	14-May-91	SALT	1.0	UG/KG	5.0	U	50	U	100	U	50	U	50	U	50	U	50	U	50	U
6336F-87B	S-89	11-Jul-91	17-May-91	SALT	1.0	UG/KG	3.2	U	32	U	60	U	32	U	32	U	32	U	32	U	32	U
6336F-88B	S-90	11-Jul-91	19-May-91	SALT	1.0	UG/KG	3.1	U	31	U	60	U	31	U	31	U	31	U	31	U	31	U
6336F-89B	S-91	11-Jul-91	31-May-91	SALT	1.0	UG/KG	2.7	U	27	U	50	U	27	U	27	U	27	U	27	U	27	U
6336F-90B	S-92	11-Jul-91	01-Jun-91	SALT	1.0	UG/KG	5.4	U	54	U	110	U	54	U	54	U	54	U	54	U	54	U
6336F-91B	A-1	07-Feb-91	03-Nov-90	ASH	1.0	UG/KG	3.6	U	36	U	73	U	36	U	36	U	36	U	36	U	180	U
6336F-92B	A-2	07-Feb-91	09-Nov-90	ASH	1.0	UG/KG	3.3	U	33	U	67	U	33	U	33	U	33	U	33	U	170	U
6336F-93B	A-3	07-Feb-91	04-Dec-90	ASH	1.0	UG/KG	3.9	U	39	U	79	U	39	U	39	U	39	U	39	U	200	U
6336F-94B	A-4	07-Feb-91	07-Dec-90	ASH	1.0	UG/KG	3.9	U	39	U	81	U	39	U	39	U	39	U	39	U	200	U
6336F-95B	A-5	11-May-91	10-Dec-90	ASH	1.0	UG/KG	3.3	U	33	U	67	U	33	U	33	U	33	U	33	U	170	U

ANALYSIS : EPA SW-846, METHOD 8080 (ALL SAMPLES)

04347

ORGANIC ANALYSIS DATA SHEET
 MATRX: ASH/SALT

PESTICIDES

EPA ID	SAMPLE ID	SAMPLING DATE	DELISTING LEVELS (UG/KG)			1,000		12,000		12,000		12,000		12,000		12,000		12,000		
			INCINERATOR DATE	MATRX	DILUTION	UNITS	4,4'-DDE	Q	AROCLOR 1016	Q	AROCLOR 1221	Q	AROCLOR 1232	Q	AROCLOR 1242	Q	AROCLOR 1248	Q	AROCLOR 1254	Q
6336F-96B	A-6	11-May-91	12-Dec-90	ASH	1.0	UG/KG	3.3	U	35	U	72	U	35	U	35	U	180	U	35	U
6336F-97B	A-7	11-May-91	14-Dec-90	ASH	1.0	UG/KG	3.4	U	34	U	69	U	34	U	34	U	180	U	34	U
6336F-98B	A-8	11-May-91	16-Dec-90	ASH	1.0	UG/KG	4.0	U	40	U	81	U	40	U	40	U	200	U	40	U
6336F-99B	A-9	11-May-91	05-Feb-91	ASH	1.0	UG/KG	3.8	U	38	U	78	U	38	U	38	U	190	U	38	U
6336F-100B	A-10	11-May-91	08-Mar-91	ASH	1.0	UG/KG	3.4	U	33	U	71	U	35	U	35	U	180	U	35	U
6336F-101B	A-11	11-May-91	09-Mar-91	ASH	1.0	UG/KG	6.9	U	69	U	140	U	69	U	69	U	350	U	69	U
6336F-102B	A-12	11-May-91	11-Mar-91	ASH	1.0	UG/KG	4.9	U	49	U	99	U	49	U	49	U	250	U	49	U
6336F-103B	A-13	11-May-91	13-Mar-91	ASH	1.0	UG/KG	3.3	U	33	U	67	U	33	U	33	U	170	U	33	U
6336F-104B	A-14	11-May-91	15-Mar-91	ASH	1.0	UG/KG	3.8	U	38	U	78	U	38	U	38	U	200	U	38	U
6336F-105B	A-15	11-May-91	16-Mar-91	ASH	1.0	UG/KG	3.3	U	33	U	71	U	35	U	35	U	180	U	35	U
6336F-106B	A-16	11-May-91	20-Mar-91	ASH	1.0	UG/KG	3.5	U	35	U	72	U	35	U	35	U	180	U	35	U
6336F-107B	A-17	11-May-91	21-Mar-91	ASH	1.0	UG/KG	3.3	U	33	U	72	U	35	U	35	U	180	U	35	U
6336F-108B	A-18	11-May-91	22-Mar-91	ASH	1.0	UG/KG	3.8	U	38	U	38	U	38	U	38	U	200	U	38	U
6336F-109B	A-19	11-May-91	23-Mar-91	ASH	1.0	UG/KG	3.7	U	37	U	75	U	37	U	37	U	190	U	37	U
6336F-110B	A-20	11-May-91	24-Mar-91	ASH	1.0	UG/KG	3.7	U	37	U	74	U	37	U	37	U	190	U	37	U
6336F-111B	A-21	12-May-91	14-Apr-91	ASH	1.0	UG/KG	4.4	U	44	U	89	U	44	U	44	U	230	U	44	U
6336F-112B	A-22	12-May-91	16-Apr-91	ASH	1.0	UG/KG	4.0	U	40	U	83	U	40	U	40	U	210	U	40	U
6336F-113B	A-23	12-May-91	17-Apr-91	ASH	1.0	UG/KG	4.0	U	40	U	82	U	40	U	40	U	210	U	40	U
6336F-114B	A-24	12-May-91	18-Apr-91	ASH	1.0	UG/KG	3.3	U	33	U	72	U	35	U	35	U	180	U	35	U
6336F-115B	A-25	12-May-91	20-Apr-91	ASH	1.0	UG/KG	3.9	U	40	U	81	U	40	U	40	U	200	U	40	U
6336F-116B	A-26	12-May-91	22-Apr-91	ASH	1.0	UG/KG	3.9	U	40	U	81	U	40	U	40	U	200	U	40	U
6336F-117B	A-27	12-May-91	23-Apr-91	ASH	1.0	UG/KG	3.9	U	40	U	81	U	40	U	40	U	200	U	40	U
6336F-118B	A-28	12-May-91	26-Apr-91	ASH	1.0	UG/KG	4.6	U	46	U	94	U	46	U	46	U	240	U	46	U
6336F-119B	A-29	12-May-91	27-Apr-91	ASH	1.0	UG/KG	4.6	U	46	U	94	U	46	U	46	U	240	U	46	U
6336F-120B	A-30	12-May-91	29-Apr-91	ASH	1.0	UG/KG	3.9	U	39	U	79	U	39	U	39	U	200	U	39	U
6336F-121B	A-31	12-May-91	30-Apr-91	ASH	1.0	UG/KG	5.0	U	50	U	100	U	50	U	50	U	260	U	50	U
6336F-122B	A-32	16-Jul-91	01-May-91	ASH	1.0	UG/KG	5.0	U	50	U	100	U	50	U	50	U	260	U	50	U
6336F-123B	A-33	16-Jul-91	02-May-91	ASH	1.0	UG/KG	4.0	U	40	U	81	U	40	U	40	U	200	U	40	U
6336F-124B	A-34	16-Jul-91	03-May-91	ASH	1.0	UG/KG	3.9	U	39	U	80	U	39	U	39	U	200	U	39	U
6336F-125B	A-35	16-Jul-91	04-May-91	ASH	1.0	UG/KG	4.1	U	41	U	83	U	41	U	41	U	210	U	41	U

ANALYSIS : EPA SW-846, METHOD 8080 (ALL SAMPLES)

04348

URS Consultants, Inc.
ARCS, EPA Regions VI, VII and VIII
Contract No. 68-W9-0053

Vertac Chemical Corp. Superfund Site
Ash & Salt Concentrations
Revision: 0
Date: 02/02/93

04349

9.0 DIOXIN/FURAN TOXICITY EQUIVALENT VALUES

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: T914407
 Client Sample ID: 6336F55A
 Client ID: SAS-6336-F
 Report Generated on November 11, 1991

C04350

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.630 ✓	0.630000
Other TCDD	0.000	327.370	0.000000
12378 PeCDD	0.500	4.400	2.200000
Other PeCDD	0.000	809.600	0.000000
123478 HxCDD	0.100	23.000	2.300000
123678 HxCDD	0.100	43.800	4.380000
123789 HxCDD	0.100	34.900	3.490000
Other HxCDD	0.000	886.300	0.000000
1234678 HpCDD	0.010	709.000	7.090000
Other HpCDD	0.000	1001.000	0.000000
OCDD	0.001	1320.000	1.320000
TOTAL PCDD			21.410000
2378 TCDF	0.100	6.300 ✓	0.630000
Other TCDF	0.000	1623.700	0.000000
12378 PeCDF	0.050	17.700 ✓	0.885000
23478 PeCDF	0.500	26.600	13.300000
Other PeCDF	0.000	258.700	0.000000
123478 HxCDF	0.100	157.000	15.700000
123678 HxCDF	0.100	65.200	6.520000
234678 HxCDF	0.100	83.500	8.350000
123789 HxCDF	0.100	7.700	0.770000
Other HxCDF	0.000	451.600	0.000000
1234678 HpCDF	0.010	394.000	3.940000
1234789 HpCDF	0.010	123.000	1.230000
Other HpCDF	0.000	371.000	0.000000
OCDF	0.001	658.000	0.658000
TOTAL PCDF			51.983000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			73.393000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: T914408
 Client Sample ID: 6336F56A
 Client ID: SAS-6336-F
 Report Generated on November 11, 1991

004351

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.970	0.970000
Other TCDD	0.000	281.030	0.000000
12378 PeCDD	0.500	5.100	2.550000
Other PeCDD	0.000	589.900	0.000000
123478 HxCDD	0.100	20.100	2.010000
123678 HxCDD	0.100	41.500	4.150000
123789 HxCDD	0.100	27.600	2.760000
Other HxCDD	0.000	734.800	0.000000
1234678 HpCDD	0.010	623.000	6.230000
Other HpCDD	0.000	847.000	0.000000
OCDD	0.001	1600.000 ✓	1.600000
TOTAL PCDD		4771.000	20.270000
2378 TCDF	0.100	9.300	0.930000
Other TCDF	0.000	688.700	0.000000
12378 PeCDF	0.050	21.600	1.080000
23478 PeCDF	0.500	31.800	15.900000
Other PeCDF	0.000	311.600	0.000000
123478 HxCDF	0.100	307.000	30.700000 ✓
123678 HxCDF	0.100	129.000	12.900000
234678 HxCDF	0.100	131.000	13.100000
123789 HxCDF	0.100	16.900	1.690000
Other HxCDF	0.000	646.100	0.000000
1234678 HpCDF	0.010	1060.000	10.600000
1234789 HpCDF	0.010	248.000	2.480000
Other HpCDF	0.000	722.000	0.000000
OCDF	0.001	2830.000	2.830000
TOTAL PCDF		7153.000	92.210000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			112.480000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: T914409
 Client Sample ID: 6336F57A
 Client ID: SAS 6336-F
 Report Generated on November 11, 1991

04352

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.660	0.660000
Other TCDD	0.000	97.440	0.000000
12378 PeCDD	0.500	2.700	1.350000
Other PeCDD	0.000	285.300	0.000000
123478 HxCDD	0.100	5.900	0.590000
123678 HxCDD	0.100	17.900	1.790000
123789 HxCDD	0.100	10.500	1.050000 ✓
Other HxCDD	0.000	174.700	0.000000
1234678 HpCDD	0.010	256.000 ✓	2.560000
Other HpCDD	0.000	229.000	0.000000
OCDD	0.001	550.000	0.550000
TOTAL PCDD			8.550000
2378 TCDF	0.100	2.600 ✓	0.260000
Other TCDF	0.000	216.400	0.000000
12378 PeCDF	0.050	7.800 ✓	0.390000
23478 PeCDF	0.500	14.400	7.200000
Other PeCDF	0.000	119.800	0.000000
123478 HxCDF	0.100	64.400	6.440000
123678 HxCDF	0.100	27.900	2.790000
234678 HxCDF	0.100	47.800	4.780000
123789 HxCDF	0.100	4.800	0.480000
Other HxCDF	0.000	173.100	0.000000
1234678 HpCDF	0.010	205.000	2.050000
1234789 HpCDF	0.010	62.000 ✓	0.620000
Other HpCDF	0.000	162.000	0.000000
OCDF	0.001	423.000	0.423000
TOTAL PCDF			25.433000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			33.983000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: T914411
 Client Sample ID: 6336F59A
 Client ID: SAS 6336-F
 Report Generated on November 11, 1991

04353

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.490	0.490000
Other TCDD	0.000	32.310	0.000000
12378 PeCDD	0.500	1.500	0.750000
Other PeCDD	0.000	124.500	0.000000
123478 HxCDD	0.100	2.600	0.260000
123678 HxCDD	0.100	6.100 ✓	0.610000
123789 HxCDD	0.100	5.800	0.580000
Other HxCDD	0.000	74.500	0.000000
1234678 HpCDD	0.010	73.000	0.730000
Other HpCDD	0.000	47.000	0.000000
OCDD	0.001	153.000 ✓	0.153000 ✓
TOTAL PCDD		520.800	3.573000
2378 TCDF	0.100	1.300 ✓	0.130000
Other TCDF	0.000	55.100	0.000000
12378 PeCDF	0.050	2.300	0.115000
23478 PeCDF	0.500	3.400	1.700000
Other PeCDF	0.000	24.400	0.000000
123478 HxCDF	0.100	15.100	1.510000
123678 HxCDF	0.100	6.900	0.690000
234678 HxCDF	0.100	8.800	0.880000
123789 HxCDF	0.100	1.000	0.100000
Other HxCDF	0.000	37.700	0.000000
1234678 HpCDF	0.010	47.200	0.472000
1234789 HpCDF	0.010	13.700 ✓	0.137000
Other HpCDF	0.000	37.200	0.000000
OCDF	0.001	93.600 ✓	0.093600
TOTAL PCDF		347.700	5.827600
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			9.400600

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: T914412
 Client Sample ID: 6336F60A
 Client ID: SAS 6336-F
 Report Generated on November 11, 1991

004354

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.470	0.470000
Other TCDD	0.000	84.330	0.000000
12378 PeCDD	0.500	2.600	1.300000
Other PeCDD	0.000	275.400	0.000000
123478 HxCDD	0.100	3.000	0.300000
123678 HxCDD	0.100	17.100	1.710000
123789 HxCDD	0.100	9.900	0.990000
Other HxCDD	0.000	192.000	0.000000
1234678 HpCDD	0.010	241.000	2.410000
Other HpCDD	0.000	215.000	0.000000
OCDD	0.001	509.000 /	0.509000
TOTAL PCDD		1549.800	7.689000
2378 TCDF	0.100	2.200	0.220000
Other TCDF	0.000	158.800	0.000000
12378 PeCDF	0.050	4.700	0.235000
23478 PeCDF	0.500	8.500	4.250000
Other PeCDF	0.000	72.400	0.000000
123478 HxCDF	0.100	34.200	3.420000
123678 HxCDF	0.100	15.900	1.590000
234678 HxCDF	0.100	23.200	2.320000
123789 HxCDF	0.100	2.700	0.270000
Other HxCDF	0.000	100.000	0.000000
1234678 HpCDF	0.010	103.000	1.030000
1234789 HpCDF	0.010	29.400	0.294000 /
Other HpCDF	0.000	79.600	0.000000
OCDF	0.001	174.000 /	0.174000
TOTAL PCDF		808.600	13.803000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			21.492000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: T914413
 Client Sample ID: 6336F61A
 Client ID: SAS 6336-F
 Report Generated on November 11, 1991

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

004355

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.760	0.760000
Other TCDD	0.000	256.240	0.000000
12378 PeCDD	0.500	6.200	3.100000
Other PeCDD	0.000	978.800	0.000000
123478 HxCDD	0.100	24.200	2.420000
123678 HxCDD	0.100	61.800	6.180000
123789 HxCDD	0.100	45.100	4.510000
Other HxCDD	0.000	1108.900	0.000000
1234678 HpCDD	0.010	797.000	7.970000
Other HpCDD	0.000	843.000	0.000000
OCDD	0.001	1400.000	1.400000
TOTAL PCDD		5522.000	26.340000
2378 TCDF	0.100	11.200	1.120000
Other TCDF	0.000	281.800	0.000000
12378 PeCDF	0.050	24.000	1.200000
23478 PeCDF	0.500	41.400	20.700000
Other PeCDF	0.000	342.600	0.000000
123478 HxCDF	0.100	134.000	13.400000
123678 HxCDF	0.100	51.700	5.170000
234678 HxCDF	0.100	94.900	9.490000
123789 HxCDF	0.100	8.600	0.860000
Other HxCDF	0.000	399.800	0.000000
1234678 HpCDF	0.010	199.000	1.990000
1234789 HpCDF	0.010	63.200	0.632000
Other HpCDF	0.000	189.800	0.000000
OCDF	0.001	210.000	0.210000
TOTAL PCDF		2052.000	54.772000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			81.112000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: T914417
 Client Sample ID: 6336F63A
 Client ID: SAS 6336-F
 Report Generated on November 11, 1991

04356

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	1.200	1.200000
Other TCDD	0.000	440.800	0.000000
12378 PeCDD	0.500	7.700	3.850000
Other PeCDD	0.000	1382.300	0.000000
123478 HxCDD	0.100	13.100	1.310000
123678 HxCDD	0.100	51.100	5.110000
123789 HxCDD	0.100	53.800	5.380000
Other HxCDD	0.000	1482.000	0.000000
1234678 HpCDD	0.010	701.000	7.010000
Other HpCDD	0.000	609.000	0.000000
OCDD	0.001	1450.000 /	1.450000 /
TOTAL PCDD			25.310000
2378 TCDF	0.100	8.700 /	0.870000
Other TCDF	0.000	381.300	0.000000
12378 PeCDF	0.050	24.400	1.220000
23478 PeCDF	0.500	37.900	18.950000
Other PeCDF	0.000	411.700	0.000000
123478 HxCDF	0.100	131.000	13.100000
123678 HxCDF	0.100	51.700	5.170000
234678 HxCDF	0.100	80.500	8.050000
123789 HxCDF	0.100	6.600	0.660000
Other HxCDF	0.000	480.200	0.000000
1234678 HpCDF	0.010	212.000	2.120000
1234789 HpCDF	0.010	59.500 /	0.595000
Other HpCDF	0.000	205.500	0.000000
OCDF	0.001	200.000	0.200000
TOTAL PCDF			50.935000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			76.245000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: T914418
 Client Sample ID: 6336F63A(MS)
 Client ID: SAS 6336-F
 Report Generated on November 11, 1991

04357

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	43.700	43.700000
Other TCDD	0.000	430.300	0.000000
12378 PeCDD	0.500	213.000	106.500000
Other PeCDD	0.000	1387.000	0.000000
123478 HxCDD	0.100	228.000	22.800000
123678 HxCDD	0.100	279.000	27.900000
123789 HxCDD	0.100	239.000	23.900000
Other HxCDD	0.000	1494.000	0.000000
1234678 HpCDD	0.010	927.000	9.270000
Other HpCDD	0.000	703.000	0.000000
OCDD	0.001	2000.000	2.000000
TOTAL PCDD		7944.000	236.070000
2378 TCDF	0.100	118.000	11.800000
Other TCDF	0.000	344.000	0.000000
12378 PeCDF	0.050	233.000	11.650000
23478 PeCDF	0.500	208.000	104.000000
Other PeCDF	0.000	447.000	0.000000
123478 HxCDF	0.100	370.000	37.000000
123678 HxCDF	0.100	265.000	26.500000
234678 HxCDF	0.100	359.000	35.900000
123789 HxCDF	0.100	261.000	26.100000
Other HxCDF	0.000	465.000	0.000000
1234678 HpCDF	0.010	457.000	4.570000
1234789 HpCDF	0.010	251.000	2.510000
Other HpCDF	0.000	234.000	0.000000
OCDF	0.001	720.000	0.720000
TOTAL PCDF		4732.000	260.750000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			496.820000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: T914419
 Client Sample ID: 6336F63A (MSD)
 Client ID: SAS 6336-F
 Report Generated on November 11, 1991

04358

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	46.900	46.900000
Other TCDD	0.000	270.100	0.000000
12378 PeCDD	0.500	197.000	98.500000
Other PeCDD	0.000	656.000	0.000000
123478 HxCDD	0.100	217.000	21.700000
123678 HxCDD	0.100	245.000	24.500000
123789 HxCDD	0.100	214.000	21.400000
Other HxCDD	0.000	754.000	0.000000
1234678 HpCDD	0.010	630.000	6.300000
Other HpCDD	0.000	430.000	0.000000
OCDD	0.001	1230.000	1.230000
TOTAL PCDD		4890.000	220.530000
2378 TCDF	0.100	90.300	9.030000
Other TCDF	0.000	219.700	0.000000
12378 PeCDF	0.050	254.000	12.700000
23478 PeCDF	0.500	210.000	105.000000
Other PeCDF	0.000	233.000	0.000000
123478 HxCDF	0.100	277.000	27.700000
123678 HxCDF	0.100	254.000	25.400000
234678 HxCDF	0.100	279.000	27.900000
123789 HxCDF	0.100	234.000	23.400000
Other HxCDF	0.000	186.000	0.000000
1234678 HpCDF	0.010	315.000	3.150000
1234789 HpCDF	0.010	206.000	2.060000
Other HpCDF	0.000	105.000	0.000000
OCDF	0.001	560.000	0.560000
TOTAL PCDF		3423.000	236.900000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			457.430000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: T914420
 Client Sample ID: 6336F64A
 Client ID: SAS 6336-F
 Report Generated on November 11, 1991

04359

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.260	0.260000
Other TCDD	0.000	81.940	0.000000
12378 PeCDD	0.500	3.100	1.550000
Other PeCDD	0.000	232.900	0.000000
123478 HxCDD	0.100	5.700	0.570000
123678 HxCDD	0.100	9.000	0.900000
123789 HxCDD	0.100	10.900	1.090000
Other HxCDD	0.000	143.400	0.000000
1234678 HpCDD	0.010	88.000	0.880000
Other HpCDD	0.000	82.000	0.000000
OCDD	0.001	111.000 /	0.111000
TOTAL PCDD			5.361000
2378 TCDF	0.100	4.000	0.400000
Other TCDF	0.000	70.800	0.000000
12378 PeCDF	0.050	5.100	0.255000 /
23478 PeCDF	0.500	7.000	3.500000
Other PeCDF	0.000	64.600	0.000000
123478 HxCDF	0.100	21.100	2.110000
123678 HxCDF	0.100	8.600	0.860000
234678 HxCDF	0.100	18.500	1.850000
123789 HxCDF	0.100	1.100	0.110000
Other HxCDF	0.000	62.700	0.000000
1234678 HpCDF	0.010	41.100 /	0.411000
1234789 HpCDF	0.010	6.900	0.069000
Other HpCDF	0.000	26.900	0.000000
OCDF	0.001	25.700	0.025700
TOTAL PCDF			9.590700
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			14.951700

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: T914422
 Client Sample ID: 6336F65A
 Client ID: SAS 6336-F
 Report Generated on November 11, 1991

004360

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.330	0.330000
Other TCDD	0.000	579.670	0.000000
12378 PeCDD	0.500	9.900	4.950000
Other PeCDD	0.000	1390.100	0.000000
123478 HxCDD	0.100	26.700	2.670000
123678 HxCDD	0.100	73.000	7.300000
123789 HxCDD	0.100	0.570	0.057000
Other HxCDD	0.000	1609.730	0.000000
1234678 HpCDD	0.010	985.000 ✓	9.850000
Other HpCDD	0.000	1105.000	0.000000
OCDD	0.001	1710.000	1.710000
TOTAL PCDD			26.867000
2378 TCDF	0.100	11.700 ✓	1.170000
Other TCDF	0.000	534.300	0.000000
12378 PeCDF	0.050	39.500	1.975000
23478 PeCDF	0.500	60.400	30.200000 ✓
Other PeCDF	0.000	781.100	0.000000
123478 HxCDF	0.100	178.000	17.800000
123678 HxCDF	0.100	76.900	7.690000
234678 HxCDF	0.100	114.000	11.400000
123789 HxCDF	0.100	7.900	0.790000
Other HxCDF	0.000	773.200	0.000000
1234678 HpCDF	0.010	334.000 ✓	3.340000
1234789 HpCDF	0.010	85.400	0.854000
Other HpCDF	0.000	320.600	0.000000
OCDF	0.001	309.000	0.309000
TOTAL PCDF			75.528000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			102.395000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: T914423
 Client Sample ID: 6336F66A
 Client ID: SAS 6336-F
 Report Generated on November 11, 1991

04361

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.650	0.650000
Other TCDD	0.000	45.950	0.000000
12378 PeCDD	0.500	3.600	1.800000 ✓
Other PeCDD	0.000	220.400	0.000000
123478 HxCDD	0.100	11.500	1.150000
123678 HxCDD	0.100	16.400	1.640000
123789 HxCDD	0.100	21.300	2.130000
Other HxCDD	0.000	200.800	0.000000
1234678 HpCDD	0.010	198.000 ✓	1.980000
Other HpCDD	0.000	154.000	0.000000
OCDD	0.001	310.000	0.310000
TOTAL PCDD			9.660000
2378 TCDF	0.100	1.700 ✓	0.170000
Other TCDF	0.000	721.300	0.000000
12378 PeCDF	0.050	4.300	0.215000
23478 PeCDF	0.500	5.800	2.900000
Other PeCDF	0.000	57.000	0.000000
123478 HxCDF	0.100	35.200	3.520000
123678 HxCDF	0.100	14.400	1.440000
234678 HxCDF	0.100	33.200	3.320000
123789 HxCDF	0.100	1.900	0.190000
Other HxCDF	0.000	107.300	0.000000
1234678 HpCDF	0.010	97.500	0.975000
1234789 HpCDF	0.010	26.700 ✓	0.267000
Other HpCDF	0.000	76.800	0.000000
OCDF	0.001	141.000	0.141000
TOTAL PCDF			13.138000 ✓
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			22.798000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914248
 Client Sample ID: 6336F 67A
 Client ID: SAS 6336-F
 Report Generated on November 13, 1991

04362

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	1.000 ✓	1.000000 ✓
Other TCDD	0.000	94.500	0.000000
12378 PeCDD	0.500	4.400	2.200000 ✓
Other PeCDD	0.000	132.600	0.000000
123478 HxCDD	0.100	6.500	0.650000 ✓
123678 HxCDD	0.100	14.000	1.400000 ✓
123789 HxCDD	0.100	15.000	1.500000 ✓
Other HxCDD	0.000	222.500	0.000000
1234678 HpCDD	0.010	174.000	1.740000 ✓
Other HpCDD	0.000	176.000	0.000000
OCDD	0.001	245.000	0.245000 ✓
TOTAL PCDD		1085.500	8.735000 ✓
2378 TCDF	0.100	5.600 ✓	0.560000
Other TCDF	0.000	216.400	0.000000
12378 PeCDF	0.050	3.300 ✓	0.165000
23478 PeCDF	0.500	4.200	2.100000
Other PeCDF	0.000	44.000	0.000000
123478 HxCDF	0.100	14.700	1.470000
123678 HxCDF	0.100	7.900	0.790000
234678 HxCDF	0.100	17.000	1.700000
123789 HxCDF	0.100	0.730	0.073000
Other HxCDF	0.000	43.070	0.000000
1234678 HpCDF	0.010	39.100	0.391000
1234789 HpCDF	0.010	6.000	0.060000
Other HpCDF	0.000	26.600	0.000000
OCDF	0.001	50.800 ✓	0.050800
TOTAL PCDF		479.400	7.359800
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			16.094800

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914249
 Client Sample ID: 6336F 68A
 Client ID: SAS 6336-F
 Report Generated on November 13, 1991

69860J

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	1.200 ✓	1.200000
Other TCDD	0.000	73.600	0.000000
12378 PeCDD	0.500	3.800 ✓	1.900000
Other PeCDD	0.000	129.200	0.000000
123478 HxCDD	0.100	4.600 ✓	0.460000
123678 HxCDD	0.100	10.800 ✓	1.080000
123789 HxCDD	0.100	13.700	1.370000
Other HxCDD	0.000	199.900	0.000000
1234678 HpCDD	0.010	92.500	0.925000
Other HpCDD	0.000	86.500	0.000000
OCDD	0.001	152.000	0.152000
TOTAL PCDD			7.087000
2378 TCDF	0.100	1.800 ✓	0.180000
Other TCDF	0.000	129.200	0.000000
12378 PeCDF	0.050	3.800	0.190000
23478 PeCDF	0.500	4.500	2.250000
Other PeCDF	0.000	45.900	0.000000
123478 HxCDF	0.100	15.900	1.590000
123678 HxCDF	0.100	6.600	0.660000
234678 HxCDF	0.100	13.300	1.330000
123789 HxCDF	0.100	0.720	0.072000
Other HxCDF	0.000	41.580	0.000000
1234678 HpCDF	0.010	31.100	0.311000
1234789 HpCDF	0.010	7.700	0.077000
Other HpCDF	0.000	23.700	0.000000
OCDF	0.001	43.900 ✓	0.043900
TOTAL PCDF			6.703900
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			13.790900

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914250
 Client Sample ID: 6336F 69A
 Client ID: SAS 6226-F
 Report Generated on November 13, 1991

04364

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.360 ✓	0.360000
Other TCDD	0.000	44.740	0.000000
12378 PeCDD	0.500	1.300	0.650000
Other PeCDD	0.000	36.700	0.000000
123478 HxCDD	0.100	2.100	0.210000
123678 HxCDD	0.100	5.200	0.520000
123789 HxCDD	0.100	5.500	0.550000
Other HxCDD	0.000	87.200	0.000000
1234678 HpCDD	0.010	62.800	0.628000
Other HpCDD	0.000	58.200	0.000000
OCDD	0.001	121.000	0.121000

TOTAL PCDD		425.100	3.039000
2378 TCDF	0.100	2.400 ✓	0.240000
Other TCDF	0.000	99.600	0.000000
12378 PeCDF	0.050	1.200 ✓	0.060000
23478 PeCDF	0.500	1.600	0.800000
Other PeCDF	0.000	22.100	0.000000
123478 HxCDF	0.100	6.400	0.640000
123678 HxCDF	0.100	3.100	0.310000
234678 HxCDF	0.100	6.500	0.650000
123789 HxCDF	0.100	0.430	0.043000
Other HxCDF	0.000	21.270	0.000000
1234678 HpCDF	0.010	17.600	0.176000
1234789 HpCDF	0.010	4.000	0.040000
Other HpCDF	0.000	15.200	0.000000
OCDF	0.001	31.900	0.031900

TOTAL PCDF		233.300	2.990900

Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			6.029900

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914251
 Client Sample ID: 6336F 70A
 Client ID: SAS 6336-F
 Report Generated on November 13, 1991

C04365

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.540 ✓	0.540000
Other TCDD	0.000	66.660	0.000000
12378 PeCDD	0.500	2.000	1.000000
Other PeCDD	0.000	96.200	0.000000
123478 HxCDD	0.100	3.700	0.370000
123678 HxCDD	0.100	9.400	0.940000
123789 HxCDD	0.100	9.000	0.900000
Other HxCDD	0.000	225.900	0.000000
1234678 HpCDD	0.010	96.700 ✓	0.967000
Other HpCDD	0.000	93.300	0.000000
OCDD	0.001	150.000	0.150000

TOTAL PCDD		753.400	4.867000
2378 TCDF	0.100	0.860 ✓	0.086000
Other TCDF	0.000	120.140	0.000000
12378 PeCDF	0.050	1.900 ✓	0.095000
23478 PeCDF	0.500	2.900	1.450000
Other PeCDF	0.000	33.400	0.000000
123478 HxCDF	0.100	8.800	0.880000
123678 HxCDF	0.100	4.200	0.420000
234678 HxCDF	0.100	9.100	0.910000
123789 HxCDF	0.100	0.410	0.041000
Other HxCDF	0.000	26.690	0.000000
1234678 HpCDF	0.010	19.700	0.197000
1234789 HpCDF	0.010	4.300	0.043000
Other HpCDF	0.000	14.900	0.000000
OCDF	0.001	30.400	0.030400

TOTAL PCDF		277.700	4.152400

Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			9.019400

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: T914580
 Client Sample ID: 6336F 71A
 Client ID: SAS 6336-F
 Report Generated on November 11, 1991

04366

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	1.300 ✓	1.300000
Other TCDD	0.000	210.700	0.000000
12378 PeCDD	0.500	6.300	3.150000
Other PeCDD	0.000	1113.700	0.000000
123478 HxCDD	0.100	15.900	1.590000
123678 HxCDD	0.100	72.500	7.250000
123789 HxCDD	0.100	39.600	3.960000
Other HxCDD	0.000	2922.000	0.000000
1234678 HpCDD	0.010	1240.000	12.400000
Other HpCDD	0.000	820.000	0.000000
OCDD	0.001	4860.000	4.860000
TOTAL PCDD			34.510000
2378 TCDF	0.100	14.700 ✓	1.470000
Other TCDF	0.000	410.300	0.000000
12378 PeCDF	0.050	14.800	0.740000
23478 PeCDF	0.500	29.100	14.550000
Other PeCDF	0.000	221.100	0.000000
123478 HxCDF	0.100	78.700	7.870000
123678 HxCDF	0.100	19.500	1.950000
234678 HxCDF	0.100	42.400	4.240000
123789 HxCDF	0.100	3.500	0.350000
Other HxCDF	0.000	133.900	0.000000
1234678 HpCDF	0.010	99.200	0.992000
1234789 HpCDF	0.010	31.600 ✓	0.316000
Other HpCDF	0.000	88.200	0.000000
OCDF	0.001	121.000	0.121000
TOTAL PCDF			32.599000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			67.109000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914252
 Client Sample ID: 6336F 72A
 Client ID: SAS 6336-F
 Report Generated on November 13, 1991

C04367

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.360 ✓	0.360000
Other TCDD	0.000	127.640	0.000000
12378 PeCDD	0.500	1.500	0.750000
Other PeCDD	0.000	230.500	0.000000
123478 HxCDD	0.100	6.300	0.630000
123678 HxCDD	0.100	22.500	2.250000
123789 HxCDD	0.100	15.500	1.550000
Other HxCDD	0.000	1175.700	0.000000
1234678 HpCDD	0.010	388.000 ✓	3.880000
Other HpCDD	0.000	342.000	0.000000
OCDD	0.001	1170.000	1.170000
TOTAL PCDD			10.590000
2378 TCDF	0.100	2.800 ✓	0.280000
Other TCDF	0.000	116.200	0.000000
12378 PeCDF	0.050	3.800	0.190000
23478 PeCDF	0.500	6.900	3.450000
Other PeCDF	0.000	80.900	0.000000
123478 HxCDF	0.100	17.100	1.710000
123678 HxCDF	0.100	6.900	0.690000
234678 HxCDF	0.100	17.000	1.700000
123789 HxCDF	0.100	0.820	0.082000
Other HxCDF	0.000	69.180	0.000000
1234678 HpCDF	0.010	29.100	0.291000
1234789 HpCDF	0.010	9.600	0.096000
Other HpCDF	0.000	28.000	0.000000
OCDF	0.001	41.700	0.041700
TOTAL PCDF			8.530700
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			19.120700

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914253
 Client Sample ID: 6336F 73A
 Client ID: SAS 6336-F
 Report Generated on November 13, 1991

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

C04368

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	1.600	1.600000
Other TCDD	0.000	104.400	0.000000
12378 PeCDD	0.500	4.900 ✓	2.450000
Other PeCDD	0.000	290.100	0.000000
123478 HxCDD	0.100	9.200	0.920000
123678 HxCDD	0.100	22.100	2.210000
123789 HxCDD	0.100	18.500	1.850000
Other HxCDD	0.000	660.200	0.000000
1234678 HpCDD	0.010	311.000	3.110000
Other HpCDD	0.000	392.000	0.000000
OCDD	0.001	583.000	0.583000

TOTAL PCDD		2397.000	12.723000
2378 TCDF	0.100	2.400 ✓	0.240000
Other TCDF	0.000	246.600	0.000000
12378 PeCDF	0.050	5.100 ✓	0.255000
23478 PeCDF	0.500	8.300 ✓	4.150000
Other PeCDF	0.000	93.600	0.000000
123478 HxCDF	0.100	18.000 ✓	1.800000
123678 HxCDF	0.100	10.700	1.070000
234678 HxCDF	0.100	22.100	2.210000
123789 HxCDF	0.100	0.700	0.070000
Other HxCDF	0.000	72.500	0.000000
1234678 HpCDF	0.010	34.200	0.342000
1234789 HpCDF	0.010	7.300	0.073000
Other HpCDF	0.000	32.400	0.000000
OCDF	0.001	44.200	0.044200

TOTAL PCDF		598.100	10.254200

Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			22.977200

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914255
 Client Sample ID: 6336F 75A
 Client ID: SAS 6336-F
 Report Generated on November 13, 1991

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

004369

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.310	0.310000
Other TCDD	0.000	55.090	0.000000
12378 PeCDD	0.500	2.400	1.200000
Other PeCDD	0.000	219.600	0.000000
123478 HxCDD	0.100	4.700	0.470000
123678 HxCDD	0.100	22.600	2.260000
123789 HxCDD	0.100	10.300	1.030000
Other HxCDD	0.000	456.400	0.000000
1234678 HpCDD	0.010	324.000	3.240000
Other HpCDD	0.000	330.000	0.000000
OCDD	0.001	930.000 /	0.930000
TOTAL PCDD			9.440000
2378 TCDF	0.100	9.700 /	0.970000
Other TCDF	0.000	169.300	0.000000
12378 PeCDF	0.050	25.300	1.265000
23478 PeCDF	0.500	20.100	10.050000
Other PeCDF	0.000	203.600	0.000000
123478 HxCDF	0.100	94.700	9.470000
123678 HxCDF	0.100	32.500	3.250000
234678 HxCDF	0.100	39.800	3.980000
123789 HxCDF	0.100	3.200 /	0.320000
Other HxCDF	0.000	183.800	0.000000
1234678 HpCDF	0.010	103.000	1.030000
1234789 HpCDF	0.010	36.100	0.361000
Other HpCDF	0.000	102.900	0.000000
OCDF	0.001	252.000	0.252000
TOTAL PCDF			30.948000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			40.388000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914256
 Client Sample ID: 6336F 76A
 Client ID: SAS 6336-F
 Report Generated on November 13, 1991

C04370

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.320	0.320000
Other TCDD	0.000	41.180	0.000000
12378 PeCDD	0.500	1.400	0.700000
Other PeCDD	0.000	24.200	0.000000
123478 HxCDD	0.100	3.200	0.320000
123678 HxCDD	0.100	11.400	1.140000
123789 HxCDD	0.100	8.300	0.830000
Other HxCDD	0.000	143.100	0.000000
1234678 HpCDD	0.010	169.000	1.690000
Other HpCDD	0.000	159.000	0.000000
OCDD	0.001	304.000	0.304000
TOTAL PCDD			5.304000
2378 TCDF	0.100	3.900	0.390000
Other TCDF	0.000	269.100	0.000000
12378 PeCDF	0.050	12.700	0.635000
23478 PeCDF	0.500	11.600	5.800000
Other PeCDF	0.000	102.700	0.000000
123478 HxCDF	0.100	50.200	5.020000
123678 HxCDF	0.100	17.900	1.790000
234678 HxCDF	0.100	31.900	3.190000
123789 HxCDF	0.100	3.500	0.350000
Other HxCDF	0.000	94.500	0.000000
1234678 HpCDF	0.010	61.100	0.611000
1234789 HpCDF	0.010	34.200	0.342000
Other HpCDF	0.000	65.700	0.000000
OCDF	0.001	171.000	0.171000
TOTAL PCDF			18.299000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			23.603000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914257
 Client Sample ID: 6336F 77A
 Client ID: SAS 6336-F
 Report Generated on November 13, 1991

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

004371

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.580	0.580000
Other TCDD	0.000	49.720	0.000000
12378 PeCDD	0.500	3.800	1.900000
Other PeCDD	0.000	149.200	0.000000
123478 HxCDD	0.100	11.000 ✓	1.100000
123678 HxCDD	0.100	57.700	5.770000
123789 HxCDD	0.100	49.100	4.910000
Other HxCDD	0.000	770.200	0.000000
1234678 HpCDD	0.010	1040.000	10.400000
Other HpCDD	0.000	1120.000	0.000000
OCDD	0.001	2650.000	2.650000

TOTAL PCDD		5901.300	27.310000
2378 TCDF	0.100	5.500 ✓	0.550000
Other TCDF	0.000	237.500	0.000000
12378 PeCDF	0.050	16.600	0.830000
23478 PeCDF	0.500	24.900	12.450000
Other PeCDF	0.000	237.500	0.000000
123478 HxCDF	0.100	86.600	8.660000
123678 HxCDF	0.100	39.100	3.910000
234678 HxCDF	0.100	111.000	11.100000
123789 HxCDF	0.100	8.500 ✓	0.850000
Other HxCDF	0.000	388.800	0.000000
1234678 HpCDF	0.010	207.000	2.070000
1234789 HpCDF	0.010	130.000	1.300000
Other HpCDF	0.000	556.000	0.000000
OCDF	0.001	1220.000	1.220000

TOTAL PCDF		3269.000	42.940000

Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			70.250000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914260
 Client Sample ID: 6336F 78A
 Client ID: SAS 6336-F
 Report Generated on November 13, 1991

004372

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.540	0.540000
Other TCDD	0.000	49.960	0.000000
12378 PeCDD	0.500	4.000	2.000000
Other PeCDD	0.000	120.000	0.000000
123478 HxCDD	0.100	6.400	0.640000
123678 HxCDD	0.100	26.500	2.650000
123789 HxCDD	0.100	13.600	1.360000
Other HxCDD	0.000	308.500	0.000000
1234678 HpCDD	0.010	366.000	3.660000
Other HpCDD	0.000	412.000	0.000000
OCDD	0.001	830.000 ✓	0.830000
TOTAL PCDD			11.680000
2378 TCDF	0.100	5.600 ✓	0.560000
Other TCDF	0.000	169.400	0.000000
12378 PeCDF	0.050	12.900 ✓	0.645000
23478 PeCDF	0.500	16.100	8.050000
Other PeCDF	0.000	173.000	0.000000
123478 HxCDF	0.100	73.800	7.380000
123678 HxCDF	0.100	32.900	3.290000
234678 HxCDF	0.100	62.300	6.230000
123789 HxCDF	0.100	3.100	0.310000
Other HxCDF	0.000	222.900	0.000000
1234678 HpCDF	0.010	146.000	1.460000
1234789 HpCDF	0.010	40.400	0.404000
Other HpCDF	0.000	160.600	0.000000
OCDF	0.001	301.000	0.301000
TOTAL PCDF			28.630000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			40.310000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914354
 Client Sample ID: 6336F 79A
 Client ID: SAS 6336-F
 Report Generated on November 11, 1991

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

004373

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	1.500 ✓	1.500000
Other TCDD	0.000	1738.500	0.000000
12378 PeCDD	0.500	90.100	45.050000
Other PeCDD	0.000	9139.900	0.000000
123478 HxCDD	0.100	185.000	18.500000
123678 HxCDD	0.100	875.000	87.500000
123789 HxCDD	0.100	957.000 ✓	95.700000
Other HxCDD	0.000	14683.000	0.000000
1234678 HpCDD	0.010	9280.000	92.800000
Other HpCDD	0.000	8300.000	0.000000
OCDD	0.001	8930.000	8.930000
TOTAL PCDD			349.980000
2378 TCDF	0.100 ✓	16.000 ✓	1.600000
Other TCDF	0.000	1294.000	0.000000
12378 PeCDF	0.050 ✓	50.100	2.505000
23478 PeCDF	0.500 ✓	92.400	46.200000 ✓
Other PeCDF	0.000	575.500	0.000000
123478 HxCDF	0.100 ✓	525.000	52.500000
123678 HxCDF	0.100	147.000	14.700000
234678 HxCDF	0.100	519.000	51.900000
123789 HxCDF	0.100	40.400 ✓	4.040000
Other HxCDF	0.000	858.600	0.000000
1234678 HpCDF	0.010 ✓	635.000	6.350000
1234789 HpCDF	0.010	369.000	3.690000
Other HpCDF	0.000	1566.000	0.000000
OCDF	0.001 ✓	1240.000	1.240000
TOTAL PCDF			184.725000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			534.705000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914355
 Client Sample ID: 6336F 80A
 Client ID: SAS 6336-F
 Report Generated on November 11, 1991

004374

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.450	0.450000
Other TCDD	0.000	101.550	0.000000
12378 PeCDD	0.500	13.500 ✓	6.750000 ✓
Other PeCDD	0.000	621.500	0.000000
123478 HxCDD	0.100	35.300	3.530000
123678 HxCDD	0.100	202.000	20.200000
123789 HxCDD	0.100	172.000	17.200000
Other HxCDD	0.000	3920.700	0.000000
1234678 HpCDD	0.010	3530.000	35.300000
Other HpCDD	0.000	3240.000	0.000000
OCDD	0.001	8460.000 ✓	8.460000
TOTAL PCDD		20297.000	91.890000
2378 TCDF	0.100	14.800	1.480000
Other TCDF	0.000	233.200	0.000000
12378 PeCDF	0.050	32.300	1.615000
23478 PeCDF	0.500	48.900	24.450000
Other PeCDF	0.000	240.800	0.000000
123478 HxCDF	0.100	349.000	34.900000
123678 HxCDF	0.100	85.000	8.500000
234678 HxCDF	0.100	662.000	66.200000
123789 HxCDF	0.100	60.800	6.080000
Other HxCDF	0.000	503.200	0.000000
1234678 HpCDF	0.010	448.000	4.480000
1234789 HpCDF	0.010	495.000	4.950000
Other HpCDF	0.000	1277.000	0.000000
OCDF	0.001	1930.000 ✓	1.930000
TOTAL PCDF		6380.000	154.585000 ✓
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			246.475000 ✓

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914356
 Client Sample ID: 6336F 81A
 Client ID: SAS 6336-F
 Report Generated on November 11, 1991

004375

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.610	0.610000
Other TCDD	0.000	52.590	0.000000
12378 PeCDD	0.500	8.200	4.100000
Other PeCDD	0.000	251.800	0.000000
123478 HxCDD	0.100	16.900	1.690000
123678 HxCDD	0.100	82.300	8.230000
123789 HxCDD	0.100	63.500	6.350000
Other HxCDD	0.000	1337.300	0.000000
1234678 HpCDD	0.010	1430.000 ✓	14.300000
Other HpCDD	0.000	1250.000	0.000000
OCDD	0.001	2900.000	2.900000
TOTAL PCDD			38.180000
2378 TCDF	0.100	6.000 ✓	0.600000 ✓
Other TCDF	0.000	150.000	0.000000
12378 PeCDF	0.050	18.100	0.905000
23478 PeCDF	0.500	26.300	13.150000
Other PeCDF	0.000	160.600	0.000000
123478 HxCDF	0.100	175.000	17.500000
123678 HxCDF	0.100	57.700	5.770000
234678 HxCDF	0.100	266.000	26.600000
123789 HxCDF	0.100	23.900	2.390000
Other HxCDF	0.000	214.400	0.000000
1234678 HpCDF	0.010	293.000 ✓	2.930000
1234789 HpCDF	0.010	236.000	2.360000
Other HpCDF	0.000	521.000	0.000000
OCDF	0.001	1000.000	1.000000
TOTAL PCDF			73.205000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			111.385000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914358
 Client Sample ID: 6336F 83A
 Client ID: SAS 6336-F
 Report Generated on November 11, 1991

004376

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.860 ✓	0.860000
Other TCDD	0.000	16.940	0.000000
12378 PeCDD	0.500	6.500	3.250000
Other PeCDD	0.000	81.500	0.000000
123478 HxCDD	0.100	16.700	1.670000
123678 HxCDD	0.100	53.400	5.340000
123789 HxCDD	0.100	42.800	4.280000
Other HxCDD	0.000	505.100	0.000000
1234678 HpCDD	0.010	734.000	7.340000
Other HpCDD	0.000	596.000	0.000000
OCDD	0.001	1580.000	1.580000
TOTAL PCDD			24.320000
2378 TCDF	0.100	8.700 ✓	0.870000
Other TCDF	0.000	416.300	0.000000
12378 PeCDF	0.050	32.000	1.600000
23478 PeCDF	0.500	42.500	21.250000
Other PeCDF	0.000	171.500	0.000000
123478 HxCDF	0.100	317.000 ✓	31.700000
123678 HxCDF	0.100	87.200	8.720000
234678 HxCDF	0.100	812.000	81.200000
123789 HxCDF	0.100	83.400	8.340000 ✓
Other HxCDF	0.000	380.400	0.000000
1234678 HpCDF	0.010	371.000 ✓	3.710000
1234789 HpCDF	0.010	461.000	4.610000
Other HpCDF	0.000	558.000	0.000000
OCDF	0.001	1120.000	1.120000
TOTAL PCDF			163.120000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			187.440000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914359
 Client Sample ID: 6336F 84A
 Client ID: SAS 6336-F
 Report Generated on November 11, 1991

004377

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.690 ✓	0.690000
Other TCDD	0.000	15.310	0.000000
12378 PeCDD	0.500	4.400	2.200000
Other PeCDD	0.000	80.900	0.000000
123478 HxCDD	0.100	14.400	1.440000
123678 HxCDD	0.100	51.400	5.140000
123789 HxCDD	0.100	40.300	4.030000
Other HxCDD	0.000	1063.900	0.000000
1234678 HpCDD	0.010	1270.000 ✓	12.700000
Other HpCDD	0.000	1340.000	0.000000
OCDD	0.001	4090.000	4.090000
TOTAL PCDD		7971.300	30.290000 ✓
2378 TCDF	0.100	6.800	0.680000 ✓
Other TCDF	0.000	161.200	0.000000
12378 PeCDF	0.050	30.700	1.535000
23478 PeCDF	0.500	38.300	19.150000
Other PeCDF	0.000	145.000	0.000000
123478 HxCDF	0.100	738.000	73.800000
123678 HxCDF	0.100	104.000	10.400000
234678 HxCDF	0.100	1760.000 ✓	176.000000
123789 HxCDF	0.100	161.000	16.100000
Other HxCDF	0.000	837.000	0.000000
1234678 HpCDF	0.010	475.000	4.750000
1234789 HpCDF	0.010	474.000	4.740000
Other HpCDF	0.000	901.000	0.000000
OCDF	0.001	1310.000	1.310000
TOTAL PCDF		7142.000	308.465000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			338.755000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914360
 Client Sample ID: 6336F 85A
 Client ID: SAS 6336-F
 Report Generated on November 11, 1991

004378

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	4.600 ✓	4.600000
Other TCDD	0.000	190.400	0.000000
12378 PeCDD	0.500	56.100	28.050000
Other PeCDD	0.000	953.900	0.000000
123478 HxCDD	0.100	146.000	14.600000 ✓
123678 HxCDD	0.100	486.000	48.600000
123789 HxCDD	0.100	411.000 ✓	41.100000
Other HxCDD	0.000	5007.000	0.000000
1234678 HpCDD	0.010	4120.000	41.200000
Other HpCDD	0.000	3790.000	0.000000
OCDD	0.001	8990.000	8.990000

TOTAL PCDD		24155.000	187.140000
2378 TCDF	0.100	60.200	6.020000
Other TCDF	0.000	1279.800	0.000000
12378 PeCDF	0.050	293.000	14.650000
23478 PeCDF	0.500	332.000	166.000000
Other PeCDF	0.000	1245.000	0.000000
123478 HxCDF	0.100	2.400	0.240000
123678 HxCDF	0.100	758.000	75.800000
234678 HxCDF	0.100	10300.000 ✓	1030.000000
123789 HxCDF	0.100	1450.000	145.000000
Other HxCDF	0.000	12719.600	0.000000
1234678 HpCDF	0.010	3100.000	31.000000
1234789 HpCDF	0.010	4020.000	40.200000
Other HpCDF	0.000	6200.000	0.000000
OCDF	0.001	3910.000	3.910000

TOTAL PCDF		45670.000	1512.820000

Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			1699.960000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914361
 Client Sample ID: 6336F 86A
 Client ID: SAS 6336-F
 Report Generated on November 11, 1991

04379

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	1.100	1.100000
Other TCDD	0.000	27.400	0.000000
12378 PeCDD	0.500	6.700	3.350000
Other PeCDD	0.000	88.700	0.000000
123478 HxCDD	0.100	14.700	1.470000
123678 HxCDD	0.100	40.300	4.030000
123789 HxCDD	0.100	47.500 ✓	4.750000
Other HxCDD	0.000	476.500	0.000000
1234678 HpCDD	0.010	416.000	4.160000
Other HpCDD	0.000	387.000	0.000000
OCDD	0.001	637.000	0.637000
TOTAL PCDD			19.497000
2378 TCDF	0.100	6.300 ✓	0.630000
Other TCDF	0.000	1323.700	0.000000
12378 PeCDF	0.050	24.500	1.225000
23478 PeCDF	0.500	27.700	13.850000
Other PeCDF	0.000	83.800	0.000000
123478 HxCDF	0.100	301.000	30.100000
123678 HxCDF	0.100	65.000	6.500000
234678 HxCDF	0.100	706.000 ✓	70.600000
123789 HxCDF	0.100	74.600	7.460000
Other HxCDF	0.000	293.400	0.000000
1234678 HpCDF	0.010	317.000	3.170000
1234789 HpCDF	0.010	255.000	2.550000 ✓
Other HpCDF	0.000	478.000	0.000000
OCDF	0.001	453.000	0.453000
TOTAL PCDF			136.538000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			156.035000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914366
 Client Sample ID: 6336F 87A
 Client ID: SAS.6336-F
 Report Generated on November 11, 1991

004380

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	1.100 ✓	1.100000
Other TCDD	0.000	48.800	0.000000
12378 PeCDD	0.500	13.400 ✓	6.700000
Other PeCDD	0.000	205.600	0.000000
123478 HxCDD	0.100	25.800	2.580000
123678 HxCDD	0.100	85.400	8.540000
123789 HxCDD	0.100	84.900	8.490000
Other HxCDD	0.000	973.900	0.000000
1234678 HpCDD	0.010	709.000	7.090000
Other HpCDD	0.000	621.000	0.000000
OCDD	0.001	1610.000 ✓	1.610000
TOTAL PCDD			36.110000
2378 TCDF	0.100	14.700	1.470000
Other TCDF	0.000	450.300	0.000000
12378 PeCDF	0.050	96.600	4.830000
23478 PeCDF	0.500	78.100	39.050000
Other PeCDF	0.000	266.300	0.000000
123478 HxCDF	0.100	1590.000	159.000000 ✓
123678 HxCDF	0.100	168.000	16.800000
234678 HxCDF	0.100	3460.000	346.000000
123789 HxCDF	0.100	670.000	67.000000
Other HxCDF	0.000	2712.000	0.000000
1234678 HpCDF	0.010	562.000	5.620000
1234789 HpCDF	0.010	1330.000 ✓	13.300000
Other HpCDF	0.000	1558.000	0.000000
OCDF	0.001	803.000	0.803000
TOTAL PCDF			653.873000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			689.983000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914367
 Client Sample ID: 6336F 88A
 Client ID: SAS 6336-F
 Report Generated on November 11, 1991

004381

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	1.900 ✓	1.900000
Other TCDD	0.000	71.700	0.000000
12378 PeCDD	0.500	10.500	5.250000
Other PeCDD	0.000	185.500	0.000000
123478 HxCDD	0.100	30.800	3.080000
123678 HxCDD	0.100	39.000	3.900000
123789 HxCDD	0.100	76.100	7.610000
Other HxCDD	0.000	1224.100	0.000000
1234678 HpCDD	0.010	432.000 ✓	4.320000
Other HpCDD	0.000	420.000	0.000000
OCDD	0.001	886.000	0.886000 ✓
TOTAL PCDD			26.946000
2378 TCDF	0.100	10.000	1.000000
Other TCDF	0.000	465.000	0.000000
12378 PeCDF	0.050	28.600	1.430000
23478 PeCDF	0.500	28.800	14.400000
Other PeCDF	0.000	122.600	0.000000
123478 HxCDF	0.100	234.000 ✓	23.400000
123678 HxCDF	0.100	49.600	4.960000
234678 HxCDF	0.100	203.000	20.300000
123789 HxCDF	0.100	35.000	3.500000
Other HxCDF	0.000	238.400	0.000000
1234678 HpCDF	0.010	193.000	1.930000
1234789 HpCDF	0.010	169.000	1.690000
Other HpCDF	0.000	299.000	0.000000
OCDF	0.001	490.000 ✓	0.490000
TOTAL PCDF			73.100000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			100.046000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914368
 Client Sample ID: 6336F 89A
 Client ID: SAS 6336-F
 Report Generated on November 11, 1991

04382

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.810 ✓	0.810000
Other TCDD	0.000	36.190	0.000000
12378 PeCDD	0.500	5.100	2.550000
Other PeCDD	0.000	184.900	0.000000
123478 HxCDD	0.100	17.200	1.720000
123678 HxCDD	0.100	51.700 ✓	5.170000
123789 HxCDD	0.100	51.600 ✓	5.160000
Other HxCDD	0.000	1399.500	0.000000
1234678 HpCDD	0.010	792.000	7.920000
Other HpCDD	0.000	868.000	0.000000
OCDD	0.001	1960.000	1.960000
TOTAL PCDD			25.290000
2378 TCDF	0.100	4.800 ✓	0.480000
Other TCDF	0.000	157.200	0.000000
12378 PeCDF	0.050	10.900	0.545000
23478 PeCDF	0.500	19.000	9.500000
Other PeCDF	0.000	95.100	0.000000
123478 HxCDF	0.100	130.000 ✓	13.000000
123678 HxCDF	0.100	26.100	2.610000
234678 HxCDF	0.100	224.000	22.400000
123789 HxCDF	0.100	17.100	1.710000
Other HxCDF	0.000	171.800	0.000000
1234678 HpCDF	0.010	109.000	1.090000
1234789 HpCDF	0.010	102.000	1.020000
Other HpCDF	0.000	261.000	0.000000
OCDF	0.001	227.000	0.227000 ✓
TOTAL PCDF			52.582000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			77.872000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914369
 Client Sample ID: 6336F 90A
 Client ID: SAS 6336-F
 Report Generated on November 11, 1991

04383

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.130 ✓	0.130000
Other TCDD	0.000	97.670	0.000000
12378 PeCDD	0.500	3.100	1.550000
Other PeCDD	0.000	80.000	0.000000
123478 HxCDD	0.100	3.200	0.320000
123678 HxCDD	0.100	7.500	0.750000
123789 HxCDD	0.100	9.400	0.940000
Other HxCDD	0.000	188.900	0.000000
1234678 HpCDD	0.010	85.400	0.854000 ✓
Other HpCDD	0.000	83.600	0.000000
OCDD	0.001	157.000	0.157000
TOTAL PCDD			4.701000
2378 TCDF	0.100	2.900	0.290000
Other TCDF	0.000	327.100	0.000000
12378 PeCDF	0.050	4.300	0.215000
23478 PeCDF	0.500	4.600	2.300000
Other PeCDF	0.000	25.200	0.000000
123478 HxCDF	0.100	44.600	4.460000
123678 HxCDF	0.100	8.900	0.890000
234678 HxCDF	0.100	73.800	7.380000
123789 HxCDF	0.100	8.000	0.800000
Other HxCDF	0.000	38.700	0.000000
1234678 HpCDF	0.010	31.200 ✓	0.312000
1234789 HpCDF	0.010	25.600	0.256000
Other HpCDF	0.000	57.200	0.000000
OCDF	0.001	58.600	0.058600
TOTAL PCDF			16.961600
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			21.662600

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914371
 Client Sample ID: 6336F 92A
 Client ID: SAS 6336-F
 Report Generated on November 12, 1991

00499

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	2.800 ✓	2.800000
Other TCDD	0.000	32.100	0.000000
12378 PeCDD	0.500	0.780	0.390000
Other PeCDD	0.000	16.920	0.000000
123478 HxCDD	0.100	0.540	0.054000
123678 HxCDD	0.100	0.610	0.061000
123789 HxCDD	0.100	0.790	0.079000
Other HxCDD	0.000	8.560	0.000000
1234678 HpCDD	0.010	13.000	0.130000
Other HpCDD	0.000	16.600	0.000000
OCDD	0.001	135.000 ✓	0.135000 ✓
TOTAL PCDD			3.649000
2378 TCDF	0.100	5.600 ✓	0.560000 ✓
Other TCDF	0.000	389.400	0.000000
12378 PeCDF	0.050	0.590	0.029500
23478 PeCDF	0.500	0.630	0.315000
Other PeCDF	0.000	16.380	0.000000
123478 HxCDF	0.100	2.000	0.200000
123678 HxCDF	0.100	0.670	0.067000
234678 HxCDF	0.100	1.600	0.160000
123789 HxCDF	0.100	0.130	0.013000
Other HxCDF	0.000	3.600	0.000000
1234678 HpCDF	0.010	4.300	0.043000
1234789 HpCDF	0.010	0.950	0.009500
Other HpCDF	0.000	3.450	0.000000
OCDF	0.001	8.400	0.008400
TOTAL PCDF			1.405400
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			5.054400

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914374
 Client Sample ID: 6336F 94A
 Client ID: SAS 6336-F
 Report Generated on November 12, 1991

004385

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.100	0.100000
Other TCDD	0.000	7959.900	0.000000
12378 PeCDD	0.500	95.500 ✓	47.750000 ✓
Other PeCDD	0.000	6334.500	0.000000
123478 HxCDD	0.100	165.000	16.500000
123678 HxCDD	0.100	152.000	15.200000
123789 HxCDD	0.100	259.000	25.900000
Other HxCDD	0.000	2354.000	0.000000
1234678 HpCDD	0.010	3180.000	31.800000
Other HpCDD	0.000	2080.000	0.000000
OCDD	0.001	11290.000	11.290000

TOTAL PCDD		33870.000	148.540000
2378 TCDF	0.100	411.000 ✓	41.100000
Other TCDF	0.000	5059.000	0.000000
12378 PeCDF	0.050	156.000	7.800000
23478 PeCDF	0.500	113.000	56.500000
Other PeCDF	0.000	1861.000	0.000000
123478 HxCDF	0.100	1960.000	196.000000
123678 HxCDF	0.100	1060.000	106.000000
234678 HxCDF	0.100	719.000	71.900000
123789 HxCDF	0.100	70.900	7.090000
Other HxCDF	0.000	2200.100	0.000000
1234678 HpCDF	0.010	2320.000	23.200000
1234789 HpCDF	0.010	2170.000	21.700000
Other HpCDF	0.000	3640.000	0.000000
OCDF	0.001	11370.000	11.370000

TOTAL PCDF		33110.000	542.660000

Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			691.200000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914384
 Client Sample ID: 6336F 95A
 Client ID: SAS 6336-F
 Report Generated on November 12, 1991

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.090	0.090000
Other TCDD	0.000	5409.910	0.000000
12378 PeCDD	0.500	52.500	26.250000
Other PeCDD	0.000	2847.500	0.000000
123478 HxCDD	0.100	64.300	6.430000
123678 HxCDD	0.100	64.800	6.480000
123789 HxCDD	0.100	109.000	10.900000
Other HxCDD	0.000	1161.900	0.000000
1234678 HpCDD	0.010	1660.000	16.600000
Other HpCDD	0.000	1080.000	0.000000
OCDD	0.001	5330.000	5.330000
TOTAL PCDD			72.080000
2378 TCDF	0.100	14.600	1.460000
Other TCDF	0.000	2065.400	0.000000
12378 PeCDF	0.050	60.600	3.030000
23478 PeCDF	0.500	42.800	21.400000
Other PeCDF	0.000	655.600	0.000000
123478 HxCDF	0.100	1070.000	107.000000
123678 HxCDF	0.100	480.000	48.000000
234678 HxCDF	0.100	285.000	28.500000
123789 HxCDF	0.100	25.200	2.520000
Other HxCDF	0.000	919.800	0.000000
1234678 HpCDF	0.010	1700.000	17.000000
1234789 HpCDF	0.010	1340.000	13.400000
Other HpCDF	0.000	2610.000	0.000000
OCDF	0.001	5290.000	5.290000
TOTAL PCDF			247.600000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			319.680000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914385
 Client Sample ID: 6336F 96A
 Client ID: SAS 6336-F
 Report Generated on November 12, 1991

004387

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.170	0.170000
Other TCDD	0.000	1589.830	0.000000
12378 PeCDD	0.500	5.000	2.500000
Other PeCDD	0.000	352.000	0.000000
123478 HxCDD	0.100	11.300	1.130000
123678 HxCDD	0.100	8.600	0.860000
123789 HxCDD	0.100	10.300	1.030000
Other HxCDD	0.000	434.800	0.000000
1234678 HpCDD	0.010	173.000	1.730000
Other HpCDD	0.000	120.000	0.000000
OCDD	0.001	1130.000	1.130000
TOTAL PCDD			8.550000
2378 TCDF	0.100	3.300	0.330000
Other TCDF	0.000	951.700	0.000000
12378 PeCDF	0.050	8.800	0.440000
23478 PeCDF	0.500	8.700	4.350000
Other PeCDF	0.000	123.500	0.000000
123478 HxCDF	0.100	124.000	12.400000
123678 HxCDF	0.100	52.900	5.290000
234678 HxCDF	0.100	36.600	3.660000
123789 HxCDF	0.100	3.800	0.380000
Other HxCDF	0.000	132.700	0.000000
1234678 HpCDF	0.010	579.000	5.790000
1234789 HpCDF	0.010	119.000	1.190000
Other HpCDF	0.000	372.000	0.000000
OCDF	0.001	2360.000	2.360000
TOTAL PCDF			36.190000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			44.740000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914386
 Client Sample ID: 6336F 97A
 Client ID: SAS 6336-F
 Report Generated on November 12, 1991

004388

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.080	0.080000
Other TCDD	0.000	913.920	0.000000
12378 PeCDD	0.500	5.800	2.900000
Other PeCDD	0.000	329.200	0.000000
123478 HxCDD	0.100	4.800	0.480000
123678 HxCDD	0.100	6.200	0.620000
123789 HxCDD	0.100	9.400	0.940000
Other HxCDD	0.000	214.600	0.000000
1234678 HpCDD	0.010	45.800	0.458000
Other HpCDD	0.000	37.700	0.000000
OCDD	0.001	141.000	0.141000
TOTAL PCDD			5.619000
2378 TCDF	0.100	1.300	0.130000
Other TCDF	0.000	424.700	0.000000
12378 PeCDF	0.050	3.100	0.155000
23478 PeCDF	0.500	5.200	2.600000
Other PeCDF	0.000	61.600	0.000000
123478 HxCDF	0.100	17.900	1.790000
123678 HxCDF	0.100	5.600	0.560000
234678 HxCDF	0.100	8.600	0.860000
123789 HxCDF	0.100	4.500	0.450000
Other HxCDF	0.000	13.400	0.000000
1234678 HpCDF	0.010	28.800	0.288000
1234789 HpCDF	0.010	7.900	0.079000
Other HpCDF	0.000	19.900	0.000000
OCDF	0.001	54.000	0.054000
TOTAL PCDF			6.966000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			12.585000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914387
 Client Sample ID: 6336F 98A
 Client ID: SAS 6336-F
 Report Generated on November 12, 1991

C04389

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.120	0.120000
Other TCDD	0.000	1649.880	0.000000
12378 PeCDD	0.500	6.400	3.200000
Other PeCDD	0.000	389.600	0.000000
123478 HxCDD	0.100	10.200	1.020000
123678 HxCDD	0.100	11.900	1.190000
123789 HxCDD	0.100	19.300	1.930000
Other HxCDD	0.000	303.600	0.000000
1234678 HpCDD	0.010	244.000	2.440000
Other HpCDD	0.000	180.000	0.000000
OCDD	0.001	1450.000	1.450000
TOTAL PCDD			11.350000
2378 TCDF	0.100	4.700	0.470000
Other TCDF	0.000	834.300	0.000000
12378 PeCDF	0.050	14.400	0.720000
23478 PeCDF	0.500	13.500	6.750000
Other PeCDF	0.000	169.100	0.000000
123478 HxCDF	0.100	155.000	15.500000
123678 HxCDF	0.100	63.600	6.360000
234678 HxCDF	0.100	50.300	5.030000
123789 HxCDF	0.100	4.500	0.450000
Other HxCDF	0.000	131.600	0.000000
1234678 HpCDF	0.010	707.000	7.070000
1234789 HpCDF	0.010	132.000	1.320000
Other HpCDF	0.000	441.000	0.000000
OCDF	0.001	2830.000	2.830000
TOTAL PCDF			46.500000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			57.850000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914389
 Client Sample ID: 6336F 100A
 Client ID: SAS 6336-F
 Report Generated on November 12, 1991

04390

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	47.100	47.100000
Other TCDD	0.000	2422.900	0.000000
12378 PeCDD	0.500	193.000	96.500000
Other PeCDD	0.000	1917.000	0.000000
123478 HxCDD	0.100	152.000	15.200000
123678 HxCDD	0.100	268.000	26.800000
123789 HxCDD	0.100	210.000	21.000000
Other HxCDD	0.000	2270.000	0.000000
1234678 HpCDD	0.010	1150.000	11.500000
Other HpCDD	0.000	540.000	0.000000
OCDD	0.001	2930.000	2.930000
TOTAL PCDD		12100.000	221.030000
2378 TCDF	0.100	14.200	1.420000
Other TCDF	0.000	1185.800	0.000000
12378 PeCDF	0.050	42.000	2.100000
23478 PeCDF	0.500	39.900	19.950000
Other PeCDF	0.000	412.100	0.000000
123478 HxCDF	0.100	371.000	37.100000
123678 HxCDF	0.100	134.000	13.400000
234678 HxCDF	0.100	89.500	8.950000
123789 HxCDF	0.100	12.300	1.230000
Other HxCDF	0.000	483.200	0.000000
1234678 HpCDF	0.010	1030.000	10.300000
1234789 HpCDF	0.010	287.000	2.870000
Other HpCDF	0.000	743.000	0.000000
OCDF	0.001	3160.000	3.160000
TOTAL PCDF		8004.000	100.480000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			321.510000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914390
 Client Sample ID: 6336F 101A
 Client ID: SAS 6336-F
 Report Generated on November 12, 1991

C04391

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.090	0.090000
Other TCDD	0.000	1759.910	0.000000
12378 PeCDD	0.500	6.300	3.150000
Other PeCDD	0.000	526.700	0.000000
123478 HxCDD	0.100	9.400	0.940000
123678 HxCDD	0.100	9.700	0.970000
123789 HxCDD	0.100	15.100	1.510000
Other HxCDD	0.000	335.800	0.000000
1234678 HpCDD	0.010	181.000	1.810000
Other HpCDD	0.000	127.000	0.000000
OCDD	0.001	1160.000	1.160000
TOTAL PCDD		4131.000	9.630000
2378 TCDF	0.100	4.100	0.410000
Other TCDF	0.000	866.900	0.000000
12378 PeCDF	0.050	10.900	0.545000
23478 PeCDF	0.500	10.600	5.300000
Other PeCDF	0.000	149.500	0.000000
123478 HxCDF	0.100	129.000	12.900000
123678 HxCDF	0.100	54.400	5.440000
234678 HxCDF	0.100	34.800	3.480000
123789 HxCDF	0.100	3.700	0.370000
Other HxCDF	0.000	94.100	0.000000
1234678 HpCDF	0.010	602.000	6.020000
1234789 HpCDF	0.010	114.000	1.140000
Other HpCDF	0.000	374.000	0.000000
OCDF	0.001	2120.000	2.120000
TOTAL PCDF		4568.000	37.725000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			47.355000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914391
 Client Sample ID: 6336F 102A
 Client ID: SAS 6336-F
 Report Generated on November 12, 1991

004392

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	17.400	17.400000
Other TCDD	0.000	264.600	0.000000
12378 PeCDD	0.500	5.100	2.550000
Other PeCDD	0.000	122.900	0.000000
123478 HxCDD	0.100	5.600	0.560000
123678 HxCDD	0.100	6.400	0.640000
123789 HxCDD	0.100	12.400	1.240000
Other HxCDD	0.000	125.600	0.000000
1234678 HpCDD	0.010	46.900	0.469000
Other HpCDD	0.000	45.600	0.000000
OCDD	0.001	198.000	0.198000
TOTAL PCDD			23.057000
2378 TCDF	0.100	1.800	0.180000
Other TCDF	0.000	230.200	0.000000
12378 PeCDF	0.050	4.300	0.215000
23478 PeCDF	0.500	5.800	2.900000
Other PeCDF	0.000	49.900	0.000000
123478 HxCDF	0.100	24.100	2.410000
123678 HxCDF	0.100	8.600	0.860000
234678 HxCDF	0.100	10.900	1.090000
123789 HxCDF	0.100	0.520	0.052000
Other HxCDF	0.000	24.780	0.000000
1234678 HpCDF	0.010	58.400	0.584000
1234789 HpCDF	0.010	8.200	0.082000
Other HpCDF	0.000	33.400	0.000000
OCDF	0.001	128.000	0.128000
TOTAL PCDF			8.501000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			31.558000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914629
 Client Sample ID: 6336F 104A
 Client ID: SAS 6336-F
 Report Generated on November 12, 1991

004393

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	1.500	1.500000
Other TCDD	0.000	388.500	0.000000
12378 PeCDD	0.500	6.900	3.450000
Other PeCDD	0.000	188.100	0.000000
123478 HxCDD	0.100	4.800	0.480000
123678 HxCDD	0.100	7.600	0.760000
123789 HxCDD	0.100	9.400	0.940000
Other HxCDD	0.000	94.200	0.000000
1234678 HpCDD	0.010	53.500	0.535000
Other HpCDD	0.000	52.500	0.000000
OCDD	0.001	190.000	0.190000
TOTAL PCDD			7.855000
2378 TCDF	0.100	2.400	0.240000
Other TCDF	0.000	572.600	0.000000
12378 PeCDF	0.050	5.800	0.290000
23478 PeCDF	0.500	6.000	3.000000
Other PeCDF	0.000	95.200	0.000000
123478 HxCDF	0.100	23.100	2.310000
123678 HxCDF	0.100	10.600	1.060000
234678 HxCDF	0.100	8.900	0.890000
123789 HxCDF	0.100	3.300	0.330000
Other HxCDF	0.000	49.000	0.000000
1234678 HpCDF	0.010	68.900	0.689000
1234789 HpCDF	0.010	10.500	0.105000
Other HpCDF	0.000	44.600	0.000000
OCDF	0.001	164.000	0.164000
TOTAL PCDF			9.078000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			16.933000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914630
 Client Sample ID: 6336F 105A
 Client ID: SAS 6336-F
 Report Generated on November 12, 1991

C04394

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	1.500	1.500000
Other TCDD	0.000	176.500	0.000000
12378 PeCDD	0.500	3.500	1.750000
Other PeCDD	0.000	54.100	0.000000
123478 HxCDD	0.100	4.300	0.430000
123678 HxCDD	0.100	3.000	0.300000
123789 HxCDD	0.100	5.300	0.530000
Other HxCDD	0.000	48.900	0.000000
1234678 HpCDD	0.010	24.700	0.247000
Other HpCDD	0.000	17.500	0.000000
OCDD	0.001	74.900	0.074900
TOTAL PCDD			4.831900
2378 TCDF	0.100	1.600	0.160000
Other TCDF	0.000	257.400	0.000000
12378 PeCDF	0.050	2.200	0.110000
23478 PeCDF	0.500	2.800	1.400000
Other PeCDF	0.000	25.200	0.000000
123478 HxCDF	0.100	9.500	0.950000
123678 HxCDF	0.100	4.000	0.400000
234678 HxCDF	0.100	3.500	0.350000
123789 HxCDF	0.100	2.500	0.250000
Other HxCDF	0.000	10.100	0.000000
1234678 HpCDF	0.010	23.800	0.238000
1234789 HpCDF	0.010	3.400	0.034000
Other HpCDF	0.000	14.100	0.000000
OCDF	0.001	49.500	0.049500
TOTAL PCDF			3.941500
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			8.773400

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914631
 Client Sample ID: 6336F 106A
 Client ID: SAS 6336-F
 Report Generated on November 12, 1991

04395

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	1.600	1.600000
Other TCDD	0.000	165.400	0.000000
12378 PeCDD	0.500	3.200	1.600000
Other PeCDD	0.000	64.000	0.000000
123478 HxCDD	0.100	2.300	0.230000
123678 HxCDD	0.100	3.700	0.370000
123789 HxCDD	0.100	5.900	0.590000
Other HxCDD	0.000	44.100	0.000000
1234678 HpCDD	0.010	26.000	0.260000
Other HpCDD	0.000	22.700	0.000000
OCDD	0.001	94.900	0.094900
TOTAL PCDD			4.744900
2378 TCDF	0.100	1.700	0.170000
Other TCDF	0.000	353.300	0.000000
12378 PeCDF	0.050	2.300	0.115000
23478 PeCDF	0.500	3.700	1.850000
Other PeCDF	0.000	37.500	0.000000
123478 HxCDF	0.100	9.600	0.960000
123678 HxCDF	0.100	4.300	0.430000
234678 HxCDF	0.100	4.200	0.420000
123789 HxCDF	0.100	1.400	0.140000
Other HxCDF	0.000	11.600	0.000000
1234678 HpCDF	0.010	26.000	0.260000
1234789 HpCDF	0.010	4.100	0.041000
Other HpCDF	0.000	15.900	0.000000
OCDF	0.001	52.300	0.052300
TOTAL PCDF			4.438300
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			9.183200

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914639
 Client Sample ID: 6336F 107A
 Client ID: SAS 6336-F
 Report Generated on November 12, 1991

04396

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.420	0.420000
Other TCDD	0.000	10.680	0.000000
12378 PeCDD	0.500	0.680	0.340000
Other PeCDD	0.000	16.020	0.000000
123478 HxCDD	0.100	0.340	0.034000
123678 HxCDD	0.100	0.660	0.066000
123789 HxCDD	0.100	0.300	0.030000
Other HxCDD	0.000	3.000	0.000000
1234678 HpCDD	0.010	5.900	0.059000
Other HpCDD	0.000	4.600	0.000000
OCDD	0.001	22.400	0.022400
TOTAL PCDD			0.971400
2378 TCDF	0.100	0.530	0.053000
Other TCDF	0.000	24.870	0.000000
12378 PeCDF	0.050	1.000	0.050000
23478 PeCDF	0.500	0.950	0.475000
Other PeCDF	0.000	14.250	0.000000
123478 HxCDF	0.100	3.800	0.380000
123678 HxCDF	0.100	1.800	0.180000
234678 HxCDF	0.100	2.900	0.290000
123789 HxCDF	0.100	0.420	0.042000
Other HxCDF	0.000	6.680	0.000000
1234678 HpCDF	0.010	7.400	0.074000
1234789 HpCDF	0.010	1.700	0.017000
Other HpCDF	0.000	5.800	0.000000
OCDF	0.001	11.200	0.011200
TOTAL PCDF			1.572200
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			2.543600

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914640
 Client Sample ID: 6336F 108A
 Client ID: SAS 6336-F
 Report Generated on November 12, 1991

004397

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	1.100	1.100000
Other TCDD	0.000	126.900	0.000000
12378 PeCDD	0.500	3.600	1.800000
Other PeCDD	0.000	34.300	0.000000
123478 HxCDD	0.100	1.800	0.180000
123678 HxCDD	0.100	3.600	0.360000
123789 HxCDD	0.100	4.300	0.430000
Other HxCDD	0.000	34.700	0.000000
1234678 HpCDD	0.010	24.500	0.245000
Other HpCDD	0.000	19.700	0.000000
OCDD	0.001	141.000	0.141000
TOTAL PCDD			4.256000
2378 TCDF	0.100	3.700	0.370000
Other TCDF	0.000	265.300	0.000000
12378 PeCDF	0.050	6.500	0.325000
23478 PeCDF	0.500	6.400	3.200000
Other PeCDF	0.000	65.500	0.000000
123478 HxCDF	0.100	17.500	1.750000
123678 HxCDF	0.100	7.800	0.780000
234678 HxCDF	0.100	6.700	0.670000
123789 HxCDF	0.100	1.200	0.120000
Other HxCDF	0.000	32.600	0.000000
1234678 HpCDF	0.010	33.000	0.330000
1234789 HpCDF	0.010	7.500	0.075000
Other HpCDF	0.000	22.400	0.000000
OCDF	0.001	61.300	0.061300
TOTAL PCDF			7.681300
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			11.937300

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914641
 Client Sample ID: 6336F 109A
 Client ID: SAS 6336-F
 Report Generated on November 12, 1991

004398

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.630	0.630000
Other TCDD	0.000	106.370	0.000000
12378 PeCDD	0.500	2.500	1.250000
Other PeCDD	0.000	43.100	0.000000
123478 HxCDD	0.100	2.000	0.200000 ✓
123678 HxCDD	0.100	3.100	0.310000
123789 HxCDD	0.100	3.400	0.340000
Other HxCDD	0.000	34.200	0.000000
1234678 HpCDD	0.010	20.000	0.200000
Other HpCDD	0.000	16.100	0.000000
OCDD	0.001	47.600	0.047600
TOTAL PCDD			2.977600
2378 TCDF	0.100	1.700	0.170000
Other TCDF	0.000	192.300	0.000000
12378 PeCDF	0.050	2.000	0.100000 ✓
23478 PeCDF	0.500	3.900	1.950000
Other PeCDF	0.000	29.700	0.000000
123478 HxCDF	0.100	9.700	0.970000
123678 HxCDF	0.100	4.500	0.450000
234678 HxCDF	0.100	4.900	0.490000
123789 HxCDF	0.100	1.300	0.130000
Other HxCDF	0.000	11.500	0.000000
1234678 HpCDF	0.010	20.100 ✓	0.201000
1234789 HpCDF	0.010	4.200	0.042000
Other HpCDF	0.000	12.600	0.000000
OCDF	0.001	40.300	0.040300
TOTAL PCDF			4.543300
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			7.520900

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914642
 Client Sample ID: 6336F 110A
 Client ID: SAS 6336-F
 Report Generated on November 12, 1991

004399

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.600 ✓	0.600000
Other TCDD	0.000	101.400	0.000000
12378 PeCDD	0.500	3.400	1.700000
Other PeCDD	0.000	190.600	0.000000
123478 HxCDD	0.100	2.500	0.250000
123678 HxCDD	0.100	4.100	0.410000
123789 HxCDD	0.100	6.300	0.630000
Other HxCDD	0.000	57.600	0.000000
1234678 HpCDD	0.010	22.800	0.228000
Other HpCDD	0.000	25.900	0.000000
OCDD	0.001	54.900	0.054900 ✓
TOTAL PCDD		470.100	3.872900
2378 TCDF	0.100	1.900	0.190000
Other TCDF	0.000	143.100	0.000000
12378 PeCDF	0.050	2.700	0.135000
23478 PeCDF	0.500	3.400	1.700000
Other PeCDF	0.000	30.100	0.000000
123478 HxCDF	0.100	9.700	0.970000
123678 HxCDF	0.100	4.000	0.400000
234678 HxCDF	0.100	4.100	0.410000
123789 HxCDF	0.100	1.200	0.120000
Other HxCDF	0.000	13.000	0.000000
1234678 HpCDF	0.010	17.700	0.177000 ✓
1234789 HpCDF	0.010	3.000	0.030000
Other HpCDF	0.000	12.500	0.000000
OCDF	0.001	28.800	0.028800
TOTAL PCDF		275.200	4.160800
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			8.033700

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914650
 Client Sample ID: 6336F 111A
 Client ID: SAS 6336-F
 Report Generated on November 12, 1991

004400

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.720	0.720000
Other TCDD	0.000	84.680	0.000000
12378 PeCDD	0.500	2.400 ✓	1.200000
Other PeCDD	0.000	56.200	0.000000
123478 HxCDD	0.100	1.300	0.130000 ✓
123678 HxCDD	0.100	2.400	0.240000
123789 HxCDD	0.100	2.000	0.200000
Other HxCDD	0.000	13.800	0.000000
1234678 HpCDD	0.010	14.600	0.146000
Other HpCDD	0.000	10.600	0.000000
OCDD	0.001	55.100	0.055100
TOTAL PCDD			2.691100
2378 TCDF	0.100	1.400	0.140000
Other TCDF	0.000	130.600	0.000000
12378 PeCDF	0.050	1.900	0.095000
23478 PeCDF	0.500	2.600	1.300000
Other PeCDF	0.000	28.300	0.000000
123478 HxCDF	0.100	7.000	0.700000 ✓
123678 HxCDF	0.100	3.000	0.300000
234678 HxCDF	0.100	3.400	0.340000
123789 HxCDF	0.100	1.400	0.140000
Other HxCDF	0.000	10.100	0.000000
1234678 HpCDF	0.010	13.800	0.138000
1234789 HpCDF	0.010	2.600	0.026000
Other HpCDF	0.000	9.300	0.000000
OCDF	0.001	25.400	0.025400
TOTAL PCDF			3.204400 ✓
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			5.895500

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914643
 Client Sample ID: 6336F 112A
 Client ID: SAS 6336-F
 Report Generated on November 12, 1991

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

004401

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	4.400	4.400000
Other TCDD	0.000	1015.600	0.000000
12378 PeCDD	0.500	17.100 ✓	8.550000 ✓
Other PeCDD	0.000	336.900	0.000000
123478 HxCDD	0.100	12.900	1.290000
123678 HxCDD	0.100	19.200	1.920000
123789 HxCDD	0.100	19.600	1.960000
Other HxCDD	0.000	276.300	0.000000
1234678 HpCDD	0.010	154.000	1.540000
Other HpCDD	0.000	115.000	0.000000
OCDD	0.001	399.000	0.399000

TOTAL PCDD		2370.000	20.059000 ✓
2378 TCDF	0.100	8.300	0.830000
Other TCDF	0.000	3371.700	0.000000
12378 PeCDF	0.050	10.500	0.525000
23478 PeCDF	0.500	18.500	9.250000
Other PeCDF	0.000	218.000	0.000000
123478 HxCDF	0.100	51.200	5.120000 ✓
123678 HxCDF	0.100	20.700	2.070000
234678 HxCDF	0.100	42.400	4.240000
123789 HxCDF	0.100	1.900	0.190000
Other HxCDF	0.000	104.800	0.000000
1234678 HpCDF	0.010	98.300	0.983000
1234789 HpCDF	0.010	20.900	0.209000
Other HpCDF	0.000	65.800	0.000000
OCDF	0.001	170.000	0.170000

TOTAL PCDF		4203.000	23.587000

Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			43.646000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914646
 Client Sample ID: 6336F 113A
 Client ID: SAS 6336-F
 Report Generated on November 12, 1991

004402

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	2.700	2.700000
Other TCDD	0.000	277.300	0.000000
12378 PeCDD	0.500	4.800	2.400000
Other PeCDD	0.000	74.800	0.000000
123478 HxCDD	0.100	1.800	0.180000
123678 HxCDD	0.100	5.200	0.520000
123789 HxCDD	0.100	4.700	0.470000
Other HxCDD	0.000	64.600	0.000000
1234678 HpCDD	0.010	38.600	0.386000
Other HpCDD	0.000	30.600	0.000000
OCDD	0.001	123.000	0.123000
TOTAL PCDD		628.100	6.779000
2378 TCDF	0.100	2.000	0.200000
Other TCDF	0.000	775.000	0.000000
12378 PeCDF	0.050	2.800	0.140000
23478 PeCDF	0.500	4.300	2.150000
Other PeCDF	0.000	61.100	0.000000
123478 HxCDF	0.100	14.200	1.420000
123678 HxCDF	0.100	5.600	0.560000
234678 HxCDF	0.100	9.400	0.940000
123789 HxCDF	0.100	0.720	0.072000
Other HxCDF	0.000	27.380	0.000000
1234678 HpCDF	0.010	32.600	0.326000
1234789 HpCDF	0.010	7.700	0.077000
Other HpCDF	0.000	23.000	0.000000
OCDF	0.001	67.000	0.067000
TOTAL PCDF		1032.800	5.952000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			12.731000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914647
 Client Sample ID: 6336F 114A
 Client ID: SAS 6336-F
 Report Generated on November 12, 1991

004403

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	1.500	1.500000
Other TCDD	0.000	132.500	0.000000
12378 PeCDD	0.500	2.300	1.150000 ✓
Other PeCDD	0.000	42.700	0.000000
123478 HxCDD	0.100	1.900	0.190000
123678 HxCDD	0.100	2.700	0.270000
123789 HxCDD	0.100	2.400	0.240000
Other HxCDD	0.000	41.100	0.000000
1234678 HpCDD	0.010	20.700	0.207000
Other HpCDD	0.000	18.300	0.000000
OCDD	0.001	75.200	0.075200
TOTAL PCDD			3.632200
2378 TCDF	0.100	1.300	0.130000
Other TCDF	0.000	323.700	0.000000
12378 PeCDF	0.050	2.000	0.100000 ✓
23478 PeCDF	0.500	3.000	1.500000
Other PeCDF	0.000	32.900	0.000000
123478 HxCDF	0.100	8.700	0.870000
123678 HxCDF	0.100	3.300	0.330000
234678 HxCDF	0.100	5.900	0.590000
123789 HxCDF	0.100	1.300	0.130000
Other HxCDF	0.000	14.400	0.000000
1234678 HpCDF	0.010	19.800	0.198000
1234789 HpCDF	0.010	5.500	0.055000
Other HpCDF	0.000	15.500	0.000000
OCDF	0.001	47.900 ✓	0.047900
TOTAL PCDF			3.950900
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			7.583100

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: S914648
 Client Sample ID: 6336F 115A
 Client ID: SAS 6336-F
 Report Generated on November 12, 1991

004404

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.600	0.600000
Other TCDD	0.000	48.000	0.000000
12378 PeCDD	0.500	0.960	0.480000
Other PeCDD	0.000	15.140	0.000000
123478 HxCDD	0.100	1.300	0.130000
123678 HxCDD	0.100	1.100	0.110000
123789 HxCDD	0.100	1.000	0.100000
Other HxCDD	0.000	14.300	0.000000
1234678 HpCDD	0.010	10.400	0.104000
Other HpCDD	0.000	8.400	0.000000
OCDD	0.001	40.000	0.040000
TOTAL PCDD			1.564000
2378 TCDF	0.100	0.650	0.065000
Other TCDF	0.000	96.150	0.000000
12378 PeCDF	0.050	0.910	0.045500
23478 PeCDF	0.500	0.870	0.435000
Other PeCDF	0.000	8.520	0.000000
123478 HxCDF	0.100	3.400	0.340000
123678 HxCDF	0.100	1.100	0.110000
234678 HxCDF	0.100	2.200	0.220000
123789 HxCDF	0.100	0.890	0.089000
Other HxCDF	0.000	3.010	0.000000
1234678 HpCDF	0.010	7.400	0.074000
1234789 HpCDF	0.010	1.900	0.019000
Other HpCDF	0.000	6.200	0.000000
OCDF	0.001	19.000	0.019000
TOTAL PCDF			1.416500
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			2.980500

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: T914563
 Client Sample ID: 6336F 116A
 Client ID: SAS 6336-F
 Report Generated on November 11, 1991

04405

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	0.950	0.950000
Other TCDD	0.000	6.150	0.000000
12378 PeCDD	0.500	3.200	1.600000
Other PeCDD	0.000	71.100	0.000000
123478 HxCDD	0.100	3.400	0.340000
123678 HxCDD	0.100	2.300	0.230000
123789 HxCDD	0.100	2.800	0.280000
Other HxCDD	0.000	0.000	0.000000
1234678 HpCDD	0.010	10.300	0.103000
Other HpCDD	0.000	0.000	0.000000
OCDD	0.001	43.400 ✓	0.043400
TOTAL PCDD			3.546400
2378 TCDF	0.100	0.800 ✓	0.080000
Other TCDF	0.000	31.400	0.000000
12378 PeCDF	0.050	1.400	0.070000
23478 PeCDF	0.500	1.300	0.650000
Other PeCDF	0.000	1.600	0.000000
123478 HxCDF	0.100	1.900	0.190000
123678 HxCDF	0.100	1.500	0.150000
234678 HxCDF	0.100	1.900	0.190000
123789 HxCDF	0.100	2.200	0.220000
Other HxCDF	0.000	0.000	0.000000
1234678 HpCDF	0.010	5.200	0.052000
1234789 HpCDF	0.010	4.800	0.048000
Other HpCDF	0.000	0.000	0.000000
OCDF	0.001	38.400	0.038400
TOTAL PCDF			1.688400
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			5.234800

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: T914566
 Client Sample ID: 6336F 117A
 Client ID: SAS 6336-F
 Report Generated on November 11, 1991

004406

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	1.900 ✓	1.900000 ✓
Other TCDD	0.000	121.100	0.000000
12378 PeCDD	0.500	4.500 ✓	2.250000 ✓
Other PeCDD	0.000	110.500	0.000000
123478 HxCDD	0.100	8.600	0.860000 ✓
123678 HxCDD	0.100	7.900	0.790000 ✓
123789 HxCDD	0.100	13.200	1.320000 ✓
Other HxCDD	0.000	61.200	0.000000
1234678 HpCDD	0.010	68.200	0.682000 ✓
Other HpCDD	0.000	54.800	0.000000
OCDD	0.001	137.000	0.137000 ✓
TOTAL PCDD		588.900	7.939000 ✓
2378 TCDF	0.100	5.100 ✓	0.510000
Other TCDF	0.000	413.900	0.000000
12378 PeCDF	0.050	10.700 ✓	0.535000
23478 PeCDF	0.500	20.500	10.250000
Other PeCDF	0.000	165.800	0.000000
123478 HxCDF	0.100	54.400	5.440000
123678 HxCDF	0.100	21.500	2.150000
234678 HxCDF	0.100	40.300	4.030000
123789 HxCDF	0.100	0.970	0.097000
Other HxCDF	0.000	112.830	0.000000
1234678 HpCDF	0.010	93.900	0.939000
1234789 HpCDF	0.010	20.100	0.201000
Other HpCDF	0.000	78.000	0.000000
OCDF	0.001	139.000	0.139000
TOTAL PCDF		1177.000	24.291000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			32.230000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: T914567
 Client Sample ID: 6336F 118A
 Client ID: SAS 6336-F
 Report Generated on November 11, 1991

004407

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	1.100	1.100000
Other TCDD	0.000	78.800	0.000000
12378 PeCDD	0.500	3.000	1.500000
Other PeCDD	0.000	68.800	0.000000
123478 HxCDD	0.100	3.900	0.390000
123678 HxCDD	0.100	4.400	0.440000
123789 HxCDD	0.100	3.000	0.300000
Other HxCDD	0.000	34.500	0.000000
1234678 HpCDD	0.010	29.400	0.294000
Other HpCDD	0.000	26.200	0.000000
OCDD	0.001	109.000	0.109000
TOTAL PCDD			4.133000
2378 TCDF	0.100	2.600	0.260000
Other TCDF	0.000	205.400	0.000000
12378 PeCDF	0.050	4.300	0.215000
23478 PeCDF	0.500	12.400	6.200000
Other PeCDF	0.000	115.300	0.000000
123478 HxCDF	0.100	29.500	2.950000
123678 HxCDF	0.100	10.500	1.050000
234678 HxCDF	0.100	19.800	1.980000
123789 HxCDF	0.100	2.100	0.210000
Other HxCDF	0.000	47.100	0.000000
1234678 HpCDF	0.010	49.200	0.492000
1234789 HpCDF	0.010	8.700	0.087000
Other HpCDF	0.000	48.100	0.000000
OCDF	0.001	93.100	0.093100
TOTAL PCDF			13.537100
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			17.670100

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: T914568
 Client Sample ID: 6336F 119A
 Client ID: SAS 6336-F
 Report Generated on November 11, 1991

004408

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	1.600	1.600000
Other TCDD	0.000	97.500	0.000000
12378 PeCDD	0.500	4.500	2.250000
Other PeCDD	0.000	76.800	0.000000
123478 HxCDD	0.100	6.700	0.670000
123678 HxCDD	0.100	5.200	0.520000
123789 HxCDD	0.100	8.400	0.840000
Other HxCDD	0.000	51.500	0.000000
1234678 HpCDD	0.010	61.200	0.612000
Other HpCDD	0.000	52.800	0.000000
OCDD	0.001	137.000	0.137000
TOTAL PCDD			6.629000
2378 TCDF	0.100	4.300	0.430000
Other TCDF	0.000	348.700	0.000000
12378 PeCDF	0.050	7.900	0.395000
23478 PeCDF	0.500	17.300	8.650000
Other PeCDF	0.000	196.800	0.000000
123478 HxCDF	0.100	46.400	4.640000
123678 HxCDF	0.100	18.300	1.830000
234678 HxCDF	0.100	36.100	3.610000
123789 HxCDF	0.100	0.950	0.095000
Other HxCDF	0.000	112.250	0.000000
1234678 HpCDF	0.010	95.500	0.955000
1234789 HpCDF	0.010	17.300	0.173000
Other HpCDF	0.000	71.200	0.000000
OCDF	0.001	164.000	0.164000
TOTAL PCDF			20.942000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			27.571000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: T914569
 Client Sample ID: 6336F 120A
 Client ID: SAS 6336-F
 Report Generated on November 11, 1991

004409

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	1.600	1.600000
Other TCDD	0.000	98.000	0.000000
12378 PeCDD	0.500	2.600	1.300000
Other PeCDD	0.000	273.400	0.000000
123478 HxCDD	0.100	4.700	0.470000
123678 HxCDD	0.100	4.200	0.420000
123789 HxCDD	0.100	4.700	0.470000
Other HxCDD	0.000	46.800	0.000000
1234678 HpCDD	0.010	33.600	0.336000
Other HpCDD	0.000	35.000	0.000000
OCDD	0.001	91.100	0.091100
TOTAL PCDD			4.687100
2378 TCDF	0.100	3.100	0.310000
Other TCDF	0.000	360.900	0.000000
12378 PeCDF	0.050	5.200	0.260000
23478 PeCDF	0.500	12.100	6.050000
Other PeCDF	0.000	146.700	0.000000
123478 HxCDF	0.100	34.700	3.470000
123678 HxCDF	0.100	13.000	1.300000
234678 HxCDF	0.100	20.400	2.040000
123789 HxCDF	0.100	0.900	0.090000
Other HxCDF	0.000	86.000	0.000000
1234678 HpCDF	0.010	60.300	0.603000
1234789 HpCDF	0.010	6.500	0.065000
Other HpCDF	0.000	46.200	0.000000
OCDF	0.001	115.000	0.115000
TOTAL PCDF			14.303000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			18.990100

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: T914570
 Client Sample ID: 6336F 121A
 Client ID: SAS 6336-F
 Report Generated on November 11, 1991

004410

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	1.000	1.000000
Other TCDD	0.000	57.000	0.000000
12378 PeCDD	0.500	2.900	1.450000
Other PeCDD	0.000	73.300	0.000000
123478 HxCDD	0.100	3.800	0.380000
123678 HxCDD	0.100	3.700	0.370000
123789 HxCDD	0.100	6.300	0.630000
Other HxCDD	0.000	35.300	0.000000
1234678 HpCDD	0.010	34.800	0.348000
Other HpCDD	0.000	28.900	0.000000
OCDD	0.001	117.000	0.117000
TOTAL PCDD		364.000	4.295000
2378 TCDF	0.100	4.800	0.480000
Other TCDF	0.000	197.200	0.000000
12378 PeCDF	0.050	8.400	0.420000
23478 PeCDF	0.500	12.300	6.150000
Other PeCDF	0.000	126.300	0.000000
123478 HxCDF	0.100	31.700	3.170000
123678 HxCDF	0.100	12.200	1.220000
234678 HxCDF	0.100	24.600	2.460000
123789 HxCDF	0.100	0.360	0.036000
Other HxCDF	0.000	51.140	0.000000
1234678 HpCDF	0.010	54.400	0.544000
1234789 HpCDF	0.010	9.200	0.092000
Other HpCDF	0.000	45.400	0.000000
OCDF	0.001	93.100	0.093100
TOTAL PCDF		671.100	14.665100
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			18.960100

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: T914584
 Client Sample ID: 6336F 122A
 Client ID: SAS 6336-F
 Report Generated on November 11, 1991

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

04411

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	6.800	6.800000
Other TCDD	0.000	407.200	0.000000
12378 PeCDD	0.500	22.800	11.400000
Other PeCDD	0.000	705.200	0.000000
123478 HxCDD	0.100	27.000	2.700000
123678 HxCDD	0.100	18.400	1.840000
123789 HxCDD	0.100	27.600	2.760000
Other HxCDD	0.000	441.000	0.000000
1234678 HpCDD	0.010	75.900	0.759000
Other HpCDD	0.000	70.100	0.000000
OCDD	0.001	138.000	0.138000
TOTAL PCDD			26.397000
2378 TCDF	0.100	13.200	1.320000
Other TCDF	0.000	331.800	0.000000
12378 PeCDF	0.050	18.700	0.935000
23478 PeCDF	0.500	21.100	10.550000
Other PeCDF	0.000	176.200	0.000000
123478 HxCDF	0.100	28.300	2.830000
123678 HxCDF	0.100	29.500	2.950000
234678 HxCDF	0.100	28.500	2.850000
123789 HxCDF	0.100	0.230	0.023000
Other HxCDF	0.000	135.470	0.000000
1234678 HpCDF	0.010	100.000	1.000000
1234789 HpCDF	0.010	14.600	0.146000
Other HpCDF	0.000	68.400	0.000000
OCDF	0.001	134.000	0.134000
TOTAL PCDF			22.738000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			49.135000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: T914582
 Client Sample ID: 6336F 123A
 Client ID: SAS 6336-F
 Report Generated on November 11, 1991

004412

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	6.100 ✓	6.100000
Other TCDD	0.000	267.900	0.000000
12378 PeCDD	0.500	17.100 ✓	8.550000
Other PeCDD	0.000	466.900	0.000000
123478 HxCDD	0.100	20.200	2.020000
123678 HxCDD	0.100	16.300	1.630000
123789 HxCDD	0.100	31.000	3.100000
Other HxCDD	0.000	138.500	0.000000
1234678 HpCDD	0.010	107.000	1.070000
Other HpCDD	0.000	101.000	0.000000
OCDD	0.001	239.000	0.239000
TOTAL PCDD			22.709000
2378 TCDF	0.100	27.700 ✓	2.770000
Other TCDF	0.000	893.300	0.000000
12378 PeCDF	0.050	43.300	2.165000
23478 PeCDF	0.500	69.200	34.600000
Other PeCDF	0.000	733.500	0.000000
123478 HxCDF	0.100	184.000	18.400000
123678 HxCDF	0.100	63.700	6.370000
234678 HxCDF	0.100	95.900	9.590000
123789 HxCDF	0.100	5.500	0.550000
Other HxCDF	0.000	312.900	0.000000
1234678 HpCDF	0.010	246.000	2.460000
1234789 HpCDF	0.010	34.700	0.347000
Other HpCDF	0.000	167.300	0.000000
OCDF	0.001	250.000	0.250000
TOTAL PCDF			77.502000
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			100.211000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: T914574
 Client Sample ID: 6336F 124A
 Client ID: SAS 6336-F
 Report Generated on November 11, 1991

004413

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	3.900 ✓	3.900000
Other TCDD	0.000	112.100	0.000000
12378 PeCDD	0.500	8.400	4.200000
Other PeCDD	0.000	273.600	0.000000
123478 HxCDD	0.100	7.400	0.740000
123678 HxCDD	0.100	6.600	0.660000
123789 HxCDD	0.100	12.900	1.290000
Other HxCDD	0.000	57.100	0.000000
1234678 HpCDD	0.010	33.000	0.330000
Other HpCDD	0.000	33.600	0.000000
OCDD	0.001	86.400	0.086400
TOTAL PCDD			11.206400
2378 TCDF	0.100	12.700 ✓	1.270000
Other TCDF	0.000	434.300	0.000000
12378 PeCDF	0.050	30.900	1.545000
23478 PeCDF	0.500	32.900 ✓	16.450000
Other PeCDF	0.000	429.200	0.000000
123478 HxCDF	0.100	107.000	10.700000
123678 HxCDF	0.100	46.900	4.690000
234678 HxCDF	0.100	46.700	4.670000
123789 HxCDF	0.100	1.800	0.180000
Other HxCDF	0.000	142.600	0.000000
1234678 HpCDF	0.010	108.000	1.080000
1234789 HpCDF	0.010	8.400	0.084000
Other HpCDF	0.000	56.600	0.000000
OCDF	0.001	91.600	0.091600
TOTAL PCDF			40.760600
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			51.967000

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: T914575
 Client Sample ID: 6336F 125A
 Client ID: SAS 6336-F
 Report Generated on November 11, 1991

04414

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	1.500 ✓	1.500000
Other TCDD	0.000	36.900	0.000000
12378 PeCDD	0.500	2.600	1.300000
Other PeCDD	0.000	53.700	0.000000
123478 HxCDD	0.100	2.700	0.270000
123678 HxCDD	0.100	2.200	0.220000
123789 HxCDD	0.100	1.800	0.180000
Other HxCDD	0.000	22.100	0.000000
1234678 HpCDD	0.010	16.500	0.165000
Other HpCDD	0.000	14.700	0.000000
OCDD	0.001	48.100	0.048100
TOTAL PCDD			3.683100
2378 TCDF	0.100	4.300 ✓	0.430000
Other TCDF	0.000	109.700	0.000000
12378 PeCDF	0.050	5.700 ✓	0.285000
23478 PeCDF	0.500	8.300	4.150000
Other PeCDF	0.000	61.200	0.000000
123478 HxCDF	0.100	21.600	2.160000
123678 HxCDF	0.100	8.600	0.860000
234678 HxCDF	0.100	12.600	1.260000
123789 HxCDF	0.100	0.840	0.084000
Other HxCDF	0.000	32.260	0.000000
1234678 HpCDF	0.010	33.700	0.337000
1234789 HpCDF	0.010	5.800	0.058000
Other HpCDF	0.000	25.600	0.000000
OCDF	0.001	59.600	0.059600
TOTAL PCDF			9.683600
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			13.366700

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: T914575
 Client Sample ID: 6336F 125A
 Client ID: SAS 6336-F
 Report Generated on November 11, 1991

004415

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	1.500 ✓	1.500000
Other TCDD	0.000	36.900	0.000000
12378 PeCDD	0.500	2.600	1.300000
Other PeCDD	0.000	53.700	0.000000
123478 HxCDD	0.100	2.700	0.270000
123678 HxCDD	0.100	2.200	0.220000
123789 HxCDD	0.100	1.800	0.180000
Other HxCDD	0.000	22.100	0.000000
1234678 HpCDD	0.010	16.500	0.165000
Other HpCDD	0.000	14.700	0.000000
OCDD	0.001	48.100	0.048100
TOTAL PCDD			3.683100
2378 TCDF	0.100	4.300 ✓	0.430000
Other TCDF	0.000	109.700	0.000000
12378 PeCDF	0.050	5.700 ✓	0.285000
23478 PeCDF	0.500	8.300	4.150000
Other PeCDF	0.000	61.200	0.000000
123478 HxCDF	0.100	21.600	2.160000
123678 HxCDF	0.100	8.600	0.860000
234678 HxCDF	0.100	12.600	1.260000
123789 HxCDF	0.100	0.840	0.084000
Other HxCDF	0.000	32.260	0.000000
1234678 HpCDF	0.010	33.700	0.337000
1234789 HpCDF	0.010	5.800	0.058000
Other HpCDF	0.000	25.600	0.000000
OCDF	0.001	59.600	0.059600
TOTAL PCDF			9.683600
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			13.366700

TRIANGLE LABORATORIES, INC.
 GC/MS File Name: T914578
 Client Sample ID: 6336F 126A
 Client ID: SAS 6336-F
 Report Generated on November 11, 1991

04416

Average Toxic Equivalent Emissions
 EPA TEFs, 1989a (PPT)

COMPOUND	Multiplying Factor	Conc.	Toxic Equivalent
2378 TCDD	1.000	1.800	1.800000
Other TCDD	0.000	76.200	0.000000
12378 PeCDD	0.500	3.900 /	1.950000
Other PeCDD	0.000	104.100	0.000000
123478 HxCDD	0.100	3.200	0.320000
123678 HxCDD	0.100	3.200	0.320000
123789 HxCDD	0.100	2.900	0.290000
Other HxCDD	0.000	39.300	0.000000
1234678 HpCDD	0.010	28.100	0.281000
Other HpCDD	0.000	22.500	0.000000
OCDD	0.001	81.000	0.081000
TOTAL PCDD		366.200	5.042000
2378 TCDF	0.100	7.100 /	0.710000
Other TCDF	0.000	201.900	0.000000
12378 PeCDF	0.050	8.000	0.400000
23478 PeCDF	0.500	12.800 /	6.400000
Other PeCDF	0.000	111.200	0.000000
123478 HxCDF	0.100	33.100	3.310000
123678 HxCDF	0.100	12.500	1.250000
234678 HxCDF	0.100	12.700	1.270000
123789 HxCDF	0.100	0.710	0.071000
Other HxCDF	0.000	50.990	0.000000
1234678 HpCDF	0.010	52.400	0.524000
1234789 HpCDF	0.010	8.600	0.086000
Other HpCDF	0.000	41.000	0.000000
OCDF	0.001	76.800	0.076800
TOTAL PCDF		629.800	14.097800
Total Toxic Equivalent (2, 3, 7, 8-TCDD Eq)			19.139800

URS Consultants, Inc.
ARCS, EPA Regions VI, VII and VIII
Contract No. 68-W9-0053

Vertac Chemical Corp. Superfund Site
Ash & Salt Concentrations
Revision: 0
Date: 02/08/93

00401

10.0 ATTACHMENTS

URS Consultants, Inc.
ARCS, EPA Regions VI, VII and VIII
Contract No. 68-W9-0053

Vertac Chemical Corp. Superfund Site
Ash & Salt Concentrations
Revision: 0
Date: 02/02/93

EPA Contract Laboratory Program Special Analytical Services Request

41111.72.02000-Den
\Vertac\AshSalt\Dividers:jm

Vertac Chemical Corporation Superfund Site
Ash & Salt Concentrations
Incinerator Support

U.S. ENVIRONMENTAL PROTECTION AGENCY
CLP Sample Management Office
300 North Lee St., Suite 200
Alexandria, Va. 22134
Phone: 703/557-2490
To: Blake Henke

Case # _____

SAS Number

004419

SPECIAL ANALYTICAL SERVICES
Client Request

- A. EPA Region/Client: Region VI
- B. RSCC Representative: Myra I. Perez
- C. Telephone # : (713) 983-2130
- D. Date of Request:
- E. Site Name: Vertac - Jacksonville, Ar.

Please provide below description of your request for Special Analytical Services under the Contract Laboratory Program. In order to most efficiently obtain laboratory capability for your request, please address the following consideration if applicable. Incomplete or erroneous information may result in a delay in the processing of your request. Please continue response on additional sheets, or attach supplementary information as needed

1. General description of analytical service requested:

Analysis of ash and salt samples from incineration wastes for total dioxin/furan analysis.

2. Definition and number of work units involved (specify whether whole samples or fractions; whether organics or inorganics; whether aqueous or soil and sediments; and whether low, medium or high concentration.

90 low conc. salt samples and 35 low conc. ash samples for total dioxin/furan analysis.

3. Purpose of analysis (specify whether Superfund (enforcement or remedial action), RCRA, NPDES, ect.), site spill ID number (if Any).

Superfund RI/FS Investigation. Site Spill ID = Y5

4. Estimated date(s) of collection:

Refer to Attachment 1. Samples have already been collected.

5. Estimated date(s) and method of shipment:

As soon as lab is assigned. By second day air.

6. Number of days analysis and data required after laboratory receipt of samples:

35 days after receipt by lab. The lab(s) must notify SMO immediately of any problems encountered during analysis that will delay submission of the data. SMO will contact the TPO to request instructions

To: Blake Henke
Vertac
Page 2

C04420

7. Analytical protocol required (attach copy if other than a protocol currently used in this program): **See Attachment II**
8. Special technical instructions (if outside protocol requirements, specify compound names, CAS numbers, detection limits, ect.):

Total tetra, penta, hexa, hepta, and octachlorinated dibenzo-p-dioxins/dibenzofurans are analyzed to determine the 2,3,7,8-tetrachloro-p-dioxin equivalent concentrations.

Maximum Allowable Concentrations (MAC) must be achieved in the analysis.

Method modification via sample size increase and/or further concentration of the extracts may be done in order to achieve the required detection limits. The lab(s) must document in the narrative all the steps taken to achieve the required detection limits.

9. Analytical results required (if known, specify format for data sheets, QA/QC reports, Chain-of-Custody documentation, ect.) If not completed, format of results will be left to program discretion.

The results may be submitted using the forms detailed in SW-846 Method 8280 and amended as appropriate. Surrogate recoveries are to be tabulated. All purge files must be submitted with the data package.

Include submission of all deliverables, all methods used for prep/digestion through analysis, all calibrations, all raw data (analysis and re-analysis, undiluted and diluted sample data) and reduced data for all analysis of the field and lab QC samples, all instrument detection limits (IDL's & MDL's) and calculated method detection limits for all analyses, all QA/QC data presented in summary form and all data reduction procedures.

Bench records, tabulated order of calibration standards, verification and control standards, samples, blanks, matrix spikes, ect. with resulting peak height, concentration or absorbance readouts will be provided with copies of worksheets used to calculate the results. A photocopy of instrument readouts, i.e. stripcharts, printer tapes, etc., must be included with all results.

All records of analysis and calculations must be legible and sufficient to recalculate all sample concentrations and QA Audit results. EPA QC reference samples, or any other reference sample or initial calibration verification, will be identified as to source, lot number, and sample number. Corresponding "true" or target values and associated 95% confidence limits for analysis results will be provided for all reference samples used.

0421

9. Cont.

A narrative summary of all procedures actually used for sample preparation, cleanup, and analysis, including:

- 1- Specific identification of all instruments used;
- 2- Discussion of all factors affecting the analysis and all corrective actions taken;
- 3- Justification for dilution(s) of all samples or extracts and/or digests;
- 4- A summary of the source and reasons for variance from this request (e.g., method changes) including phone log communications.
- 5- Report any inconsistencies and/or problems with paperwork, shipping and packaging of samples.

10. Other (use additional sheets or attach supplementary information, as needed)

Instrument limit of detection is to be included with all data submissions. Report any problems with paperwork, shipping and packaging of samples immediately to SMO. SMO will report to the RSCC.

Submit copy of SAS Client Request Form and of any Record of Communication, generated during the analysis of these samples, between the lab, SMO and/or the TPO. This is considered a deliverable item. If not included in the data package(s), the data package(s) will be considered incomplete and SMO will be notified. The lab(s) should forward the Regional data package(s) to:

Data Reviewer
USEPA Houston Branch
10625 Fallstone Rd.
Houston, Tx. 77099

11. Name of sampling/shipping contact:

Rick Ehrhart / EPA / (214) 655-6582
Lori Raschke / URS / (303) 796-9700

12. Data requirements

Parameter	Detection limit	Precision desired
Dioxin/Furans	To meet delisting requirements	Attachment II

Target detection limits in all cases must be PQL for the compound.

To: Blake Henke
Vertac
Page 4

04482

13. QC Requirements

Audits required	Frequency of audits	Limits (% or concent)
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As per method requirements and see Attach. V

14. Actions required if limits are exceeded

Call SMO immediately. SMO will contact the TPO and request instructions.

Reviewed by: Ray Flores, Acting TPO

Date: _____

004423

ATTACHMENT I

Shipping Period	Date	No. of Shipments	Samples/ Shipment	TB**	FB**	Rin- sate	Lab MS/MSD ash-salt
1	Upon Issuance of SAS Contract	1	35 ash/ 90 salt	1	1	1	1 1

** VOA only

004424

ATTACHMENT II

Quality Assurance Objectives for Ash and Salt Samples

Analysis	¹ Method	Units	Targeted Det. Limit	Accuracy %	Precision %	Completeness %
Chlorinated dioxin & furans	EPA 8290 See (b)	mg/kg	** PQL	+/- 20	+/- 20	90

1 - Methods for analyses were obtained from SW-846. Modifications to this method are allowed if the detection limits listed in Attachment III and the QC in EPA 8290 are obtained.

** Detection limits listed in Attachment III must be obtained.

004425

ATTACHMENT V

Quality Control Frequency Requirements (Dioxins/Furans)

The following QC frequencies are per matrix, and per twenty samples or per matrix (ash or salt) and per two weeks, whichever is most frequent.

Dioxins and Furans:

reagent blank - 1
matrix spike - 1
matrix spike dup - 1

U.S. ENVIRONMENTAL PROTECTION AGENCY
CLP Sample Management Office
300 North Lee St., Suite 200
Alexandria, Va. 22134
Phone: 703/557-2490
To: Bkake Henke

Case # _____

SAS Number

04426

SPECIAL ANALYTICAL SERVICES
Client Request

- A. EPA Region/Client: Region VI
- B. RSCC Representative: Myra I. Perez
- C. Telephone # : (713) 983-2130
- D. Date of Request:
- E. Site Name: Vertac - Jacksonville, Ar.

Please provide below description of your request for Special Analytical Services under the Contract Laboratory Program. In order to most efficiently obtain laboratory capability for your request, please address the following consideration if applicable. Incomplete or erroneous information may result in a delay in the processing of your request. Please continue response on additional sheets, or attach supplementary information as needed

- 1. General description of analytical service requested:
 - Analysis of ash and salt samples from incineration wastes for VOCs, Semi-Volatiles, PAHs, herbicides, and pesticides/PCBs.
- 2. Definition and number of work units involved (specify whether whole samples or fractions; whether organics or inorganics; whether aqueous or soil and sediments; and whether low, medium or high concentration).
 - 90 low conc. salt samples for VOCs, semi-volatiles, PAHs, herbicides, and pesticides-PCBs.
 - 35 low conc. ash samples for VOCs, semi-volatiles, PAHs, herbicides, and pesticides/PCBs.
- 3. Purpose of analysis (specify whether Superfund (enforcement or remedial action), RCRA, NPDES, ect.), site spill ID number (if Any).
 - Superfund RI/FS Investigation. Site Spill ID = Y5
- 4. Estimated date(s) of collection:
 - Refer to Attachment 1. Samples have already been collected. Samples will be shipped once the lab award is issued.
- 5. Estimated date(s) and method of shipment:
 - As soon as lab is assigned. By second day air.

04497

6. Number of days analysis and data required after laboratory receipt of samples:

35 days after receipt by lab. The lab(s) must notify SMO immediately of any problems encountered during analysis that will delay submission of the data. SMO will contact the TPO to request instructions

7. Analytical protocol required (attach copy if other than a protocol currently used in this program): **See Attachment II.**
8. Special technical instructions (if outside protocol requirements, specify compound names, CAS numbers, detection limits, ect.):

Maximum Allowable Concentrations (MAC) must be achieved in the analyses. The laboratory has the latitude to modify the methods by increasing sample size and/or further concentrating extracts, in order to achieve required detection limits. The lab(s) must document in the narrative the steps taken to achieve the desired detection limits.

9. Analytical results required (if known, specify format for data sheets, QA/QC reports, Chain-of-Custody documentation, ect.) If not completed, format of results will be left to program discretion.

Data format must be equivalent to the Organic SOW (3/90). All purge files must be submitted with the data package.

Include submission of all deliverables, all methods used for prep/digestion through analysis, all calibrations, all raw data (analysis and re-analysis, undiluted and diluted sample data) and reduced data for all analysis of the field and lab QC samples, all instrument detection limits (IDL's & MDL's) and calculated method detection limits for all analyses, all QA/QC data presented in summary form and all data reduction procedures.

Bench records, tabulated order of calibration standards, verification and control standards, samples, blanks, matrix spikes, ect. with resulting peak height, concentration or absorbance readouts will be provided with copies of worksheets used to calculate the results. A photocopy of instrument readouts, i.e. stripcharts, printer tapes, etc., must be included with all results.

All records of analysis and calculations must be legible and sufficient to recalculate all sample concentrations and QA Audit results. EPA QC reference samples, or any other reference sample or initial calibration verification, will be identified as to source, lot number, and sample number. Corresponding "true" or target values and associated 95% confidence limits for analysis results will be provided for all reference samples used.

04428

9. Cont.

A narrative summary of all procedures actually used for sample preparation, cleanup, and analysis, including:

- 1- Specific identification of all instruments used;
- 2- Discussion of all factors affecting the analysis and all corrective actions taken;
- 3- Justification for dilution(s) of all samples or extracts and/or digestates;
- 4- A summary of the source and reasons for variance from this request (e.g., method changes) including phone log communications.
- 5- Report any inconsistencies and/or problems with paperwork, shipping and packaging of samples.

10. Other (use additional sheets or attach supplementary information, as needed)

Instrument limit of detection is to be included with all data submissions. Report any problems with paperwork, shipping and packaging of samples immediately to SMO. SMO will report to the RSCC.

Submit copy of SAS Client Request Form and of any Record of Communication, generated during the analysis of these samples, between the lab, SMO and/or the TPO. This is considered a deliverable item. If not included in the data package(s), the data package(s) will be considered incomplete and SMO will be notified. The lab(s) should forward the Regional data package(s) to:

Data Reviewer
USEPA Houston Branch
10625 Fallstone Rd.
Houston, Tx. 77099

11. Name of sampling/shipping contact:

Rick Ehrhart / EPA / (214) 655-6582
Lori Raschke / URS / (303) 796-9700

12. Data requirements

Parameter	Detection limit	Precision desired
Organics	To meet delisting requirements	Attachment II

Target detection limits in all cases must be PQL for the compound. However in some cases (notably, benzo(a)anthracene, hexachlorobenzene, benzo(a)pyrene, benzo(b)pyrene, benzo(b)fluoranthene, dibenz(a)anthracene, and 2,4,6-trichlorophenol, dichloromethane) the maximum allowable concentration (MAC) is below the PQL. **Sample size and/or final volume of the extract must be modified to meet the MAC requirements.**

For DDE, hexachlorobenzene and PCBs, Method 8270/SW-846 may be substituted for Method 8080 if the MAC requirements can be met.

To: Blake Henke
Vertac
Page 4

004429

13. QC Requirements

Audits required	Frequency of audits	Limits (% or concent)
As per method requirements and see Attach. V		

14. Actions required if limits are exceeded

Call SMO immediately. SMO will contact the TPO and request instructions.

Reviewed by: Ray Flores, Acting TPO

Date: _____

c04430

ATTACHMENT I

Shipping Period	Date	No. of Shipments	Samples/ Shipment	TB**	FB**	Rin- sate	Lab MS/MSD ash-salt
1	Upon Issuance of SAS Contract	1	35 ash/ 90 salt	1	1	1	1 1

** VOA only

004431

ATTACHMENT II

Quality Assurance Objectives for Ash and Salt Samples

Analysis	¹ Method	Units	² Targeted Det. Limit	Accuracy %	Precision %	Completeness %
Pesticides PCBs & Hexachlor- obenzene	EPA 8080 See (a)	mg/kg	PQL	+/- 20	+/- 20	90
Herbicides	EPA 8150	mg/kg	PQL	+/- 20	+/- 20	90
Volatiles	EPA 8260	mg/kg	PQL	+/- 20	+/- 20	90
Semi-Voas	EPA 8270 See (b)	mg/kg	PQL	+/- 20	+/- 20	90
PAHs	EPA 8100 See (b)	mg/kg	PQL	+/- 20	+/- 20	90

1 - Methods for analyses were obtained from SW-846

2 - Attachment III

(a) EPA 3620 & 3660/SW-846, to be used for cleanup, if necessary

(b) EPA 3550 or 3540/SW-846, to be used for extraction

ATTACHMENT V

Quality Control Frequency Requirements (ORGANIC)

The following QC frequencies are per matrix, and per twenty samples or per matrix (ash or salt) and per two weeks, whichever is most frequent.

Semi-Volatiles, PAHs, Herbicides, Pesticides and PCBs:

- reagent blank - 1
- matrix spike - 1
- matrix spike dup - 1

Case # _____

U.S. ENVIRONMENTAL PROTECTION AGENCY
CLP Sample Management Office
300 North Lee St., Suite 200
Alexandria, Va. 22134
Phone: 703/557-2490
To: Bkake Henke

SAS Number

004433

SPECIAL ANALYTICAL SERVICES
Client Request

- A. EPA Region/Client: Region VI
- B. RSCC Representative: Myra I. Perez
- C. Telephone # : (713) 983-2130
- D. Date of Request:
- E. Site Name: Vertac - Jacksonville, Ar.

Please provide below description of your request for Special Analytical Services under the Contract Laboratory Program. In order to most efficiently obtain laboratory capability for your request, please address the following consideration if applicable. Incomplete or erroneous information may result in a delay in the processing of your request. Please continue response on additional sheets, or attach supplementary information as needed

1. General description of analytical service requested:

Analysis of ash and salt samples from incineration wastes for TCLP Extraction followed by RCRA metals analysis plus Ni, and CN.

2. Definition and number of work units involved (specify whether whole samples or fractions; whether organics or inorganics; whether aqueous or soil and sediments; and whether low, medium or high concentration.

90 low conc. salt samples and 35 low conc. ash samples for TCLP Extraction followed by RCRA metals analysis plus Ni, and CN.

3. Purpose of analysis (specify whether Superfund (enforcement or remedial action), RCRA, NPDES, ect.), site spill ID number (if Any).

Superfund RI/FS Investigation. Site Spill ID = Y5

4. Estimated date(s) of collection:

Samples have already been collected. Samples will be shipped once lab award is issued. See Attach. I.

5. Estimated date(s) and method of shipment: As soon as lab(s) are assigned.

6. Number of days analysis and data required after laboratory receipt of samples:

35 days after receipt by lab. The lab(s) must notify SMO immediately of any problems encountered during analysis that will delay submission of the data. SMO will contact the TPO to request instructions

To: Blake Henke
Vertac
Page 2

04434

7. Analytical protocol required (attach copy if other than a protocol currently used in this program):

See Attachment II. Metals concentration must be measured in the waste leachate as per 40 CFR 261.24. CN extractions must be conducted using distilled water.

8. Special technical instructions (if outside protocol requirements, specify compound names, CAS numbers, detection limits, ect.):

Maximum Allowable Concentrations (MAC), listed in Attachment III, IV must be met. The lab(s) has latitude to modify the methods by increasing sample size and/or further concentrating extracts, in order to achieve the required detection limits. The lab(s) must document in the narrative all the steps taken to achieve the required detection limits.

9. Analytical results required (if known, specify format for data sheets, QA/QC reports, Chain-of-Custody documentation, ect.) If not completed, format of results will be left to program discretion.

Data format must be equivalent to the Inorganic SOW (3/90). All purge files must be submitted with the data package.

Include submission of all deliverables, all methods used for prep/digestion through analysis, all calibrations, all raw data (analysis and re-analysis, undiluted and diluted sample data) and reduced data for all analysis of the field and lab QC samples, all instrument detection limits (IDL's & MDL's) and calculated method detection limits for all analyses, all QA/QC data presented in summary form and all data reduction procedures.

Bench records, tabulated order of calibration standards, verification and control standards, samples, blanks, matrix spikes, ect. with resulting peak height, concentration or absorbance readouts will be provided with copies of worksheets used to calculate the results. A photocopy of instrument readouts, i.e. stripcharts, printer tapes, etc., must be included with all results.

All records of analysis and calculations must be legible and sufficient to recalculate all sample concentrations and QA Audit results. EPA QC reference samples, or any other reference sample or initial calibration verification, will be identified as to source, lot number, and sample number. Corresponding "true" or target values and associated 95% confidence limits for analysis results will be provided for all reference samples used.

9. Cont.

A narrative summary of all procedures actually used for sample preparation, cleanup, and analysis, including:

- 1- Specific identification of all instruments used;
 - 2- Discussion of all factors affecting the analysis and all corrective actions taken;
 - 3- Justification for dilution(s) of all samples or extracts and/or digestates;
 - 4- A summary of the source and reasons for variance from this request (e.g., method changes) including phone log communications.
 - 5- Report any inconsistencies and/or problems with paperwork, shipping and packaging of samples.
10. Other (use additional sheets or attach supplementary information, as needed)

Instrument limit of detection is to be included with all data submissions. Report any problems with paperwork, shipping and packaging of samples immediately to SMO. SMO will report to the RSCC.

Submit copy of SAS Client Request Form and of any Record of Communication, generated during the analysis of these samples, between the lab, SMO and/or the TPO. This is considered a deliverable item. If not included in the data package(s), the data package(s) will be considered incomplete and SMO will be notified. The lab(s) should forward the Regional data package(s) to:

Data Reviewer
USEPA Houston Branch
10625 Fallstone Rd.
Houston, Tx. 77099

11. Name of sampling/shipping contact:

Rick Ehrhart / EPA / (214) 655-6582

Lori Raschke / URS / (303) 796-9700

12. Data requirements

Parameter	Detection limit	Precision desired
Inorganics	To meet delisting reqmts.	Attachment II

Target detection limits in all cases must be PQL for the compound.

To: Blake Henke
Vertac
Page 4

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13. QC Requirements

Audits required	Frequency of audits	Limits (% or concent)
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As per method requirements and see Attach IV.

14. Actions required if limits are exceeded

Call SMO immediately. SMO will contact the TPO and request instructions.

Reviewed by: Ray Flores, Acting TPO

Date: _____

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ATTACHMENT I

Shipping Period	Date	No. of Shipments	Samples/ Shipment	TB**	FB**	Rin- sate	Lab MS/MSD ash-salt
1	Upon Issuance of SAS Contract	1	35 ash/ 90 salt	1	1	1	1 1

** VOA only

ATTACHMENT II
Quality Assurance Objectives for Ash and Salt Samples

Analysis	Method	Units	Targeted Det. Limit	Accuracy %	Precision %	Completeness %
In- organics	EPA 1311 (TCLP) See (a)	mg/kg	* PQL	+/- 20	+/- 20	90

* MACs on Attachment III must be attained.

(a) Hg --> EPA 7470
CN --> EPA 9010

As --> EPA 7060
Se --> EPA 7741
Cr --> EPA 7191

Pb --> EPA 7421
Cd --> EPA 7131
Ba --> EPA 7080

Ag --> EPA 7760/7761
Ni --> EPA 7520

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ATTACHMENT V

Quality Control Frequency Requirements (INORGANIC)

The following QC frequencies are per matrix (ash or salt) and per twenty samples or per matrix (ash or salt) and per two weeks, whichever is most frequent.

TCLP

extraction blank - 1 per fluid type
rinseattes - 1 per batch of filter paper
only, with report.

RCRA Metals, Ni, CN

prep blank - 1 per fluid type
aq. lab check sx(spiked blk) - 1 per fluid type
matrix spike - 1 per fluid type
matrix spike dup - 1 per fluid type

URS Consultants, Inc.
ARCS, EPA Regions VI, VII and VIII
Contract No. 68-W9-0053

Vertac Chemical Corp. Superfund Site
Ash & Salt Concentrations
Revision: 4
Date: 02/02/93

004110

Case Narratives

18 October 1991



**ANALYTICAL
RESOURCES
INCORPORATED**

Analytical
Chemists &
Consultants

333 Ninth Ave. North
Seattle, Wa 98109-518
(206)621-6490

Data Reviewer
USEPA Houston Branch
10625 Fallstone Rd.
Houston, TX 77099

RE: SAS 6336F - SDG's 6336F 46B, 6336F 66B, and 6336F 86B - ARI Jobs. 05030,0531,0532.

Dear Sir or Madam,

Please find enclosed the results for the above referenced samples received under SAS Contract 68-D9-0135 for analyses as specified in the Statement of Work for SAS 6336F. This SOW was modified per the notes that accompanied our bid for this work.

This Case Narrative has been written for all three SDGs, as these samples were received in one shipment on 09/12/91. The three groups have been analyzed together and all statements in this narrative apply to all SDGs submitted.

Samples expected were dry silt for analysis. Upon receipt of the samples, we found that many of them were not dry, but contained appreciable liquids. SMO was contacted, as was the Region, concerning reporting of results on the basis of dry weight and the additional volume that was to be extracted to reach required limits. Per the contacts we had (copies of logs enclosed), these results have been reported on the basis of dry weight.

Included here are benchsheets, notes, copies of logbook pages, and all information that would be included in a purge file. Also included here are packages labeled "Additional Data". This includes such information as additional standards that were run during a semivolatiles sequence to check calibrations (within a 4 hour period), GC/MS systems blanks, analytical data that was not considered valid to submit in the data package, and analyst notes that do not fit in the 'Sample Preparation' package.

Volatiles:

Volatile samples were run following EPA Method 8240, using the guidance of the CLP SOW 6/90 for QC limits. Although these are 'silt' samples and we have no inhouse or other established QC limits for the matrix, all attempts were made to meet CLP requirements for soils.

10/18/91
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As we have recently begun changing our in-house performance criteria to meet the recently released IFB, we ran the samples so that QC limits under either SOW would be met by these samples. These samples were run on all three volatile instruments presently in our laboratory, designated Finn 1, Finn 3 and Finn 5.

The target compounds for the SOW included the trans-isomer of the 1,2-Dichloroethene. Following CLP protocol, and because Finn 1 is packed column, the Volatile Form 1 contains a report for "Total-1,2-Dichloroethene". In all instances, the total found fell below the criteria limits listed for this project. For Finn 3 and 5, the isomers were also reported as total, but are separated and relative amounts are indicated in the raw data. For samples where appreciable amounts of the isomers were found but not separated by Finn 1, the samples were rerun on one of the capillary instruments to find relative amounts.

Data has been presented following the format for SOW 3/90.

Semivolatiles:

Semivolatiles samples were all extracted and analyzed within required holding times for soils. Sample preparation was followed for CLP semivolatiles, using less sample and lower surrogate standard concentrations to meet the requirements for SIM analysis.

Samples were analyzed on Finn 4 using Selected Ion Monitoring for the target analytes listed in the SOW. Instrument detection limits have been included here, as we have performed SIM analysis previously and required such a study. The values reported here are PQL's which were calculated using 4-5 times the instrument detection limit as a reporting value.

Because of matrix interferences with these samples, most of the semivolatile samples required at least two analyses, one at dilution. These dilutions were to bring analytes into the calibrated range of the instrument for some samples. Other samples gave an extreme matrix effect in which the last internal standard was lost. These dilutions were to reduce the matrix effect and to get valid results for analytes referenced to the last internal standard.

When the last internal standard was lost, analytes have been flagged with "NQ" which indicates the compounds were "not quantifiable". When the last internal standard showed a significant loss of response, the quantitation limit for the associated PNAs was raised.

Data has been presented following the format for SOW 3/90. Forms have been modified to include only those analytes of interest.

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Pesticides/PCBs

The pesticides/PCBs analyte list was limited to 4,4'-DDE and the Aroclors. Samples were prepared following Method 8080, using the surrogates as listed in the 6/91 CLP-SOW.

Pesticide/PCB extracts were analyzed on ECD1 using dual column GC/ECD, equipped with DB-5 and DB-608 columns. One μ l of sample is injected. Quantitation of the analytes was performed using peak heights. Only those analytes of interest have been reported here. The Form 1's follow the new protocol, i.e. injection volume has been reported as 0.5 μ l as the autosampler makes a 1 μ l injection that is split between two columns.

One sample, 6336F 66B, was found to have no surrogates. This sample was reextracted and both sets of data have been submitted for your information.

As our GC laboratory is set up to run under the new SOW, the Forms in this package and the analytical sequence follow the 6/91 SOW. Only PESTB was run at times, as this contains the 4,4'-DDE which was the only pesticide of concern. Forms have been completed for all compounds included in each of the required mixtures.

Following the 6/91 SOW, instrument blanks have also been included here.

Herbicides

Herbicides were extracted following SW-846 Method 8150. Several of the sample extracts had to be repeated as shown on the enclosed benchsheets.

These samples were first run on ECD2 using dual DB-5 and DB608 15 meter columns. These samples were found to have many peaks and interferences, causing bad chromatography and problems with quantitation of the surrogates. Samples were rerun on ECD1 using dual DB-5 and DB608 30 meter columns. Interferences were reduced and surrogate recoveries quantitated were better than those found on ECD2. The original runs were not reported, but the raw data has been included in 'Additional Data' for your information.

Not all of the runs on ECD2 gave what was considered valid data. Several of the samples were rederivatized and reanalyzed on 10/14/91. Samples 6336F 61B (ARI 5130P) had interferences with surrogate recoveries in all analyses.

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QC limits for recovery of the Dichlorprop listed are in-house limits for soils, and have been used as advisory limits only. These samples showed an appreciable matrix effect, as can be seen in the chromatograms.

The QC package for the herbicides has been modified from the Pesticide Forms, and we have included forms to check linearity, continuing standards, and retention time shift of the surrogate. Also included in this package are the results of spike blanks that were run with each extraction batch. The results have been summarized and included on modified Form IIs, while the raw data has been included at the end of the raw QC data package.

The analytes reported for these herbicides are questionable in the expert opinion of the GC supervisor. The peaks found meet the requirements of quantitation by GC/ECD, but the matrix contains many contamination peaks. The analyst feels that there is a good probability that the reported values are false positives. As the amounts found for the herbicides are below your criteria limit, no action should be called for.

If you have any questions or require additional information, please feel free to give me a call. Technical questions regarding GC/MS data (volatiles and semivolatiles) may be directed to Brian Bebee. Questions concerning GC data (pesticides and herbicides) may be directed to Peter Kepler.

Sincerely,

ANALYTICAL RESOURCES, INC.



Susan D. Rosa Dunnihoo
EPA Project Manager

Enclosures

cc: USEPA-SMO

10/18/91
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The attached bid for SAS 6336F Part A is contingent upon analyzing the individual organic compound under the methods listed below.

<u>Semi-volatile Organic GC-MS SIM</u>	<u>Volatile Organic Method 8240</u>	<u>Pesticide PCB Method 8080</u>	<u>Herbicide Method 8150</u>
Benzo (a) anthracene	Benzene	DDE	2,4-D
Benzo (a) pyrene	Chlorobenzene	PCB	2,4,5-T
Benzo (b) fluoranthene	1,1-Dichloroethylene		
o-Chlorophenol	trans-1,2 Dichloroethylene		
Chrysene	Dichloromethane		
Dibenz (a,h) anthracene	Tetrachloroethylene		
	Trichloroethylene		
1,4-Dichlorobenzene			
2,4-Dichlorophenol			
Hexachlorobenzene			
Indeno(1,2,3-cd)pyrene			
1,2,4,5-Tetrachlorobenzene			
2,4,5-Trichlorophenol			
2,4,6-Trichlorophenol			

The semivolatiles and PAH will be analyzed as one group using GC-MS Selected Ion Monitoring. This will allow us to obtain the required detection limit for dibenz (a,h) anthracene of 7 ppb. Two major ions will be scanned for each target analyte. The GC-MS-SIM method will allow lower detection limits and more reliable compound identification than method 8100 for the PAH as requested in the SAS solicitation.

Analysis of Volatile Organics, Pesticide/PCB's, and Herbicides will be accomplished using standard methods from the SW 846 document.

004445

SUMMARY PACKAGE

C04446

PACIFIC ANALYTICAL, INC.
6349 PASEO DEL LAGO
CARLSBAD, CALIFORNIA 92009

11 October 1991

SAS 6336F

Method 8100

Targets:	Benzo(a)anthracene	SAS Quant. Limit:	0.10	ppm
	Benzo(a)pyrene		0.04	ppm
	Benzo(b)fluoranthene		0.16	ppm
	Chrysene		15	ppm
	Dibenz(a,h)anthracene		0.007	ppm
	Indeno(1,2,3-cd)pyrene		30	ppm

Surrogates: 2-fluorobiphenyl at 20 uG/mL
1-fluoronaphthalene at 20 uG/mL
9-bromoanthracene at 20 uG/mL.

Add 0.1 mL to each sample.

Matrix Spike: Solution containing 20 uG/mL of each target.

Add 0.1 mL to each MS and MSD.

Use 10 gram samples. Use method 3610 alumina cleanup.

One lab blank and MS and MSD per 20 samples. Final volume of extract is 0.1 mL.

Comments:

1. All samples and blanks showed a trace of hydrocarbon. The high resolution of the RTX-5 capillary with hydrogen carrier gas resulted in no interferences from the hydrocarbon.
2. The results listed on Form I's list the amount detected or the detection limit of the measurement. Also, the SAS required detection limit is listed in the far right column. In most cases the actual detection limit is several orders of magnitude better than that requested. No targets were identified in any of the non-spiked samples.
3. All analysis were performed initially on a RTX-5 capillary using hydrogen as a carrier with an Flame Ionization Detector. Some of the samples were analyzed on a second column for confirmation of hits. The confirmation column was a RTX-200 capillary using hydrogen as a carrier with a Flame Ionization Detector. As a result of no positive identifications of targets in the samples, the matrix and duplicate matrix spiked samples were only analyzed on the primary column.
4. Three samples were initially prepared as spiked sample sets. Due to some of the RPD's of the results exceeding 20, an additional matrix spiked set was performed on one of the samples at a later date.
5. Re-extractions were performed on 5 samples due to unusual chromatogram traces. The analysis of the re-extracted samples resulted in no change in the data.

Submitted by: C. S. Parsons Date: 11 Oct 91 000000
C. S. Parsons