HEARTLAND ENVIRONMENTAL SERVICES, INC.
P.O. BOX 163 ST. PETERS MO 63376
(314) 278-8232

N60478.AR.000234
NWS EARLE
5090.3a

DATA VALIDATION

REPORT

ORIGINAL

Client Name:	Roy F. Weston, Inc.
Site Name:	NWS - Earle, ColtsNeck, NJ
RFW Lot No.:	9206L708
QA/QC Level:	NEESA Level D - EPA Region II
Fractions:	VOA, SVOA, Pesticide/Aroclors, Metals, Nitro/PICA, Wet Chem.
Volume Number:	1 of 1

HEARTLAND ENVIRONMENTAL SERVICES, INC.
P.O. BOX 163 ST. PETERS MO 63376
(314) 278-8232

Data Validation Report

August 25, 1992

Prepared for

R. F. Weston
Weston Way
West Chester, PA. 19380

This Data Validation Report is a review of the analytical results of sampling conducted in support of the Navy CLEAN program June 18, 1992 at the **NWS Earle- Coltsneck Naval Weapons Station** site. There were seven (7) soil samples with one (1) MS/MSD and thirteen (13) water samples with one (1) MS/MSD which were received and analyzed by Roy F. Weston Laboratories - Lionville in this analytical batch, **R. F. Weston Number 9206L708.**

The data validation personnel have reviewed the data presented for the Samples listed below for the Analytical Fractions indicated. The VOA CLP fraction has been validated utilizing method specific requirements, Region II SOP NO. HW-6, January, 1992, Revision 8, requirements and good professional judgement.

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatogram, etc., for each sample have been carefully reviewed. The end-user is urged to review the **Specific Findings** and associated **Data Qualifications** presented in this report. Annotated Form Is for all samples reviewed are included after the **Narratives**. Form Is for MS/MSD samples are not annotated.

SAMPLES AND FRACTIONS REVIEWED

Sample Identifications		Analytical Fraction	
CLIENT ID	**RF WESTON ID**	**Matrix**	**VOA**
06-001-D001	9206L708-001	SOIL	X
06-001-D001MS	9206L708-001	SOIL	X
06-001-D001MSD	9206L708-001	SOIL	X
06-003-D001	9206L708-002	SOIL	X
06-003-D001RE	9206L708-002	SOIL	X
06-004-D001	9206L708-003	SOIL	X
06-004-D001RE	9206L708-003	SOIL	X
06-004-D101	9206L708-004	SOIL	X
06-004-D101RE	9206L708-004	SOIL	X
17-001-D001	9206L708-007	SOIL	X
17-001-D001RE	9206L708-007	SOIL	X
17-002-D001	9206L708-008	SOIL	X
17-002-D001RE	9206L708-008	SOIL	X
17-004-D001	9206L708-009	SOIL	X
17-004-D001DL	9206L708-009	SOIL	X
06-001-M001	9206L708-010	WATER	X
06-001-M201	9206L708-011	WATER	X
06-002-M001	9206L708-012	WATER	X
06-002-M001MS	9206L708-012	WATER	X
06-002-M001MSD	9206L708-012	WATER	X
06-004-M001	9206L708-013	WATER	X
17-001-M001	9206L708-014	WATER	X
17-002-M001	9206L708-015	WATER	X
17-003-M001	9206L708-016	WATER	X
17-003-M101	9206L708-017	WATER	X
17-004-M001	9206L708-018	WATER	X
TRIP BLANK	9206L708-019	WATER	X
01-001-M001	9206L708-020	WATER	X
01-003-M001	9206L708-021	WATER	X
01-003-M101	9206L708-022	WATER	X

Individual fractions were reviewed as follows:

		Primary	Secondary
VOA -	Volatile Analysis	Dan Heil	Gene Watson

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP, 3/90 SOW; the National Functional Guidelines for Organic Data Review, and NEESA Level D. All comments made within this report should be considered when examining the analytical results (Form I's).

Case# 9206L708

Holding Times

The holding times for all of the samples were met per the Organic Functional Guidelines and the CLP SOW. No qualifications are required.

Tuning

All of the BFB tunes in the initial and continuing calibrations met the percent relative abundance criteria of the SOW and the Organic Functional Guidelines. No qualifications are required.

Initial Calibrations

The initial calibrations that were analyzed by the laboratory for these samples were not acceptable for all compound %RSDs. The average RRFs for all of the compounds did not meet the initial calibration criteria minimum of RRFs.

Specific Findings:

1. The initial calibration analyzed on, 06/22/92, had the following compounds with %RSDs greater than 30% RSD. Qualifications are not required because samples were not analyzed following the calibration.

acetone

Initial Calibrations (continued)

Specific Findings:

2. The initial calibration analyzed on, 06/18/92, had the calibration criteria compound 1,1,2,2-tetrachloroethane with an average RRF less than the required minimum 0.500 but the RRF was greater than 0.05. Qualifications are not required.

3. The initial calibration analyzed on, 06/24/92, had the following compounds with %RSDs greater than 30% RSD. Qualifications are not required because samples were not analyzed following the calibration.

acetone

D

Continuing calibrations

Two (2) of the five (5) continuing calibrations that were analyzed with this data package required qualifications for non compliant %Ds and low RRFs.

Specific Findings

4. For the samples listed below, the continuing calibration Y062603, contained compounds with %Ds greater than 25% but less than 50%. Qualify all positive results for these compounds as estimated (J).

VBLKLVY204	chloromethane
06-003-D001	chloroethane
06-004-D001	
06-004-D101	
17-001-D001	
17-004-D001	
06-001-D001	
17-002-D001	
06-001-D001MS	
06-001-D001MSD	

Continuing Calibrations (continued)

Specific Findings:

5. For the samples listed below, the continuing calibration Y062402, contained compounds with %Ds greater than 25% but less than 50%. Qualify all positive results for these compounds as estimated (J).

VBLKLVY205	4-methyl-2-pentanone
06-003-D001RE	2-hexanone
06-004-D001RE	
06-004-D101RE	
17-001-D001RE	
17-002-D001RE	

6. All of the continuing calibrations had the calibration criteria compound 1,1,2,2-tetrachloroethane with an average RRF less than the required minimum 0.500 but the RRF was greater than 0.05. Qualifications are not required.

Internal Standards

All internal standard EICP areas did not meet the EICP internal standard area QA/QC criteria.

Specific Findings:

7. The samples listed below exhibited one (1) or more internal standard less than -50% of its associated internal standard. Qualify all positive results for the compounds associated with the non compliant internal standards as estimated (J) and qualify all non detects as estimated (UJ).

06-001-D001	1,4-difluorobenzene
	chlorobenzene-d_5
06-001-D001MS	chlorobenzene-d_5
06-001-D001MS	chlorobenzene-d_5
06-003-D001	1,4-difluorobenzene
	chlorobenzene-d_5
06-004-D001	bromochloromethane
	1,4-difluorobenzene
	chlorobenzene-d_5

Internal Standards (continued)

Specific Findings:

7. The samples listed below exhibited one (1) or more internal standard less than -50% of its associated internal standard. Qualify all positive results for the compounds associated with the non compliant internal standards as estimated (J) and qualify all non detects as estimated (UJ).

06-004-D101	bromochloromethane 1,4-difluorobenzene chlorobenzene-d_5
17-001-D001	bromochloromethane 1,4-difluorobenzene chlorobenzene-d_5
17-002-D001	1,4-difluorobenzene chlorobenzene-d_5
17-004-D001	chlorobenzene-d_5
17-004-D001DL	chlorobenzene-d_5
06-003-D001RE	bromochloromethane 1,4-difluorobenzene chlorobenzene-d_5
06-004-D001RE	bromochloromethane 1,4-difluorobenzene chlorobenzene-d_5
06-004-D101RE	bromochloromethane 1,4-difluorobenzene chlorobenzene-d_5
17-001-D001RE	bromochloromethane 1,4-difluorobenzene chlorobenzene-d_5
17-002-D001RE	bromochloromethane 1,4-difluorobenzene chlorobenzene-d_5

Method Blanks

The method blanks that were analyzed exhibited contamination for acetone and/or methylene chloride. The method blank results will be compared to their associated samples. Refer to the glossary of data qualifiers for a list and definition of the method blank qualifiers: CRQL, U and No Action.

Specific Findings:

8. The following samples have been qualified for blank contamination. The qualifications are for all the blanks.

   methylene chloride - U
   06-003-D001
   06-004-D001
   06-004-D101
   06-001-D001
   06-001-D001MS
   06-001-D001MSD
   17-001-D001
   17-002-D001
   17-004-D001
   06-004-D001RE
   06-004-D101RE
   17-001-D001RE
   01-003-M001
   01-003-M101

   methylene chloride - CRQL
   06-003-D001RE
   17-002-D001RE
   06-002-M001MS
   06-002-M001MSD
   TRIP BLANK
   06-004-M001
   17-001-M001
   17-002-M001
   17-003-M001
   17-003-M101
   17-004-M001
   01-001-M001

Method Blanks (continued)

Specific Findings:

8. The following samples have been qualified for blank contamination. The qualifications are for all the blanks.

   acetone - U
   06-004-D001
   06-001-D001
   17-002-D001
   06-001-D001MS
   17-002-D001RE
   06-001-M001
   06-002-M001

   acetone - CRQL
   06-001-M201

   acetone - NA
   17-004-D001DL

Trip Blanks

The trip blanks that were analyzed exhibited contamination for methylene chloride. The trip blank contamination was attributed to the method blank contamination. No qualifications are required.

Surrogates

All of the surrogate recoveries for the samples were not within QA/QC limits.

Specific Findings:

9. The following samples exhibited surrogate recoveries above the QA/QC limits. Qualify all positive results as estimated (J).

06-001-D001	bromofluorobenzene
06-004-D001	toluene-d_8
	bromofluorobenzene
	1,2-dichloroethane-d_4
06-004-D101	toluene-d_8
	bromofluorobenzene
	1,2-dichloroethane-d_4
17-001-D001	bromofluorobenzene
17-002-D001	bromofluorobenzene
17-004-D001DL	1,2-dichloroethane-d_4

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

The MS/MSD analyzed for volatiles exhibited percent recoveries and RPDs that were within advisory limits. No qualifications are required.

Blank Spike/Blank Spike Duplicate (BS/BSD)

The blank spike that was analyzed all recoveries were within the advisory limits. No qualifications are required.

Compound Identification/Quantitation

Specific Findings:

10. For sample 17-004-D001, reject results for acetone and report the results for acetone from sample 17-004-D001DL. Reject all other results for sample 17-004-D001DL except acetone.

11. For the samples listed below, reject (R) the original analysis in favor of the results from the re-extracted sample analysis.

    06-004-D001
    06-004-D101
    17-001-D001

12. For the samples listed below, reject (R) the re-extracted analysis and report the results from the original sample analysis.

    17-002-D001RE
    06-003-D001RE

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

NJ = Presumptive evidence for the presence of the material at an estimated value

K = Result is biased high

L = Result is biased low

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL	SPECIFIC FINDINGS
VBLKLVY204 06-003-D001 06-004-D001 06-004-D101 17-001-D001 17-004-D001 06-001-D001 17-002-D001 06-001-D001MS 06-001-D001MSD	chloromethane chloroethane	+	J	4
VBLKLVY205 06-003-D001RE 06-004-D001RE 06-004-D101RE 17-001-D001RE 17-002-D001RE	4-methyl-2-pentanone 2-hexanone	+	J	5
	All analytes for the associated internal standard	+/-	J/UJ	7
06-001-D001	1,4-difluorobenzene chlorobenzene-d_5			
06-001-D001MS	chlorobenzene-d_5			
06-001-D001MS	chlorobenzene-d_5			
06-003-D001	1,4-difluorobenzene chlorobenzene-d_5			
06-004-D001	bromochloromethane 1,4-difluorobenzene chlorobenzene-d_5			
06-004-D101	bromochloromethane 1,4-difluorobenzene chlorobenzene-d_5			

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL	SPECIFIC FINDINGS
	All analytes for the associated internal standard	+/-	J/UJ	7
17-001-D001	bromochloromethane 1,4-difluorobenzene chlorobenzene-d_5			
17-002-D001	1,4-difluorobenzene chlorobenzene-d_5			
17-004-D001	chlorobenzene-d_5			
17-004-D001DL	chlorobenzene-d_5			
06-003-D001RE	bromochloromethane 1,4-difluorobenzene chlorobenzene-d_5			
06-004-D001RE	bromochloromethane 1,4-difluorobenzene chlorobenzene-d_5			
06-004-D101RE	bromochloromethane 1,4-difluorobenzene chlorobenzene-d_5			
17-001-D001RE	bromochloromethane 1,4-difluorobenzene chlorobenzene-d_5			
17-002-D001RE	bromochloromethane 1,4-difluorobenzene chlorobenzene-d_5			
06-004-D001 06-001-D001 17-002-D001 06-001-D001MS 17-002-D001RE 06-001-M001 06-002-M001	acetone	+	U	8

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL	SPECIFIC FINDINGS
06-001-M201	acetone	+	CRQL	8
17-004-D001DL	acetone	+	NA	8
06-003-D001	methylene chloride	+	U	8
06-004-D001				
06-004-D101				
06-001-D001				
06-001-D001MS				
06-001-D001MSD				
17-001-D001				
17-002-D001				
17-004-D001				
06-004-D001RE				
06-004-D101RE				
17-001-D001RE				
01-003-M001				
01-003-M101				
06-003-D001RE	methylene chloride	+	CRQL	8
17-002-D001RE				
06-002-M001MS				
06-002-M001MSD				
TRIP BLANK				
06-004-M001				
17-001-M001				
17-002-M001				
17-003-M001				
17-003-M101				
17-004-M001				
01-001-M001				

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL	SPECIFIC FINDINGS
	All analytes for surrogates	+	J	9
06-001-D001	bromofluorobenzene			
06-004-D001	toluene-d_8			
	bromofluorobenzene			
	1,2-dichloroethane-d_4			
06-004-D101	toluene-d_8			
	bromofluorobenzene			
	1,2-dichloroethane-d_4			
17-001-D001	bromofluorobenzene			
17-002-D001	bromofluorobenzene			
17-004-D001DL	1,2-dichloroethane-d_4			
17-004-D001	acetone	+	R	10
17-004-D001DL	all analytes except acetone	+/-	R	10
06-004-D001	all analytes	+/-	R	11
06-004-D101				
17-001-D001				
17-002-D001RE	all analytes	+/-	R	12
06-003-D001RE				

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
\+ in the DL column denotes a positive result
\- in the DL column denotes a non detect result

STANDARD OPERATING PROCEDURE

Date: January 1992
Revision: 8

	YES	NO	N/A

PACKAGE COMPLETENESS AND DELIVERABLES
CASE NUMBER: 92061708 LAB: RFW - Lionville

SITE: Cottsneck

1.0 Data Completeness and Deliverables

1.1 Have any missing deliverables been received and added to the data package?	[✓]	___	___

ACTION: Call lab for explanation/resubmittal of any missing deliverables. If lab cannot provide them, note the effect on review of the package under the "Contract Problems/Non-Compliance" section of reviewer narrative.

1.2 Was SMO CCS checklist included with package?	[✓]	___	___

2.0 Cover Letter SDG Narrative

2.1 Is the Narrative or Cover Letter Present?	[✓]	___	___
2.2 Are Case Number and/or SAS number contained in the Narrative or Cover letter?	[✓]	___	___

3.0 Data Validation Checklist

The following checklist is divided into three parts. Part A is filled out if the data package contains any VOA analyses, Part B for any BNA analyses and Part C for Pesticide/PCBs.

Does this package contain:

VOA Data?	✓	___
BNA Data?	___	✓
Pesticide/PCB data?	___	✓

Action: Complete corresponding parts of checklist.

	YES	NO	N/A

PART A: VOA ANALYSES

1.0 Traffic Reports and Laboratory Narrative

1.1 Are the Traffic Report Forms present for all samples?	[✓]	___	___
1.2 Do the Traffic Reports or Lab Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data?	___	[✓]	___

ACTION: If no, contact lab for replacement of missing or illegible copies.

ACTION: If any sample analyzed as a soil, other than TCLP, contains 50%-90% water, all data should be flagged as estimated (J). If a soil sample other than TCLP contains more than 90% water, all data should be qualified as unusable (R).

ACTION: If samples were not iced upon receipt at the laboratory, flag all positive results "J" and all Non-Detects "UJ".

ACTION: If both VOA vials for a sample have air bubbles or the VOA vial analyzed had air bubbles, flag all positive results "J" and all non-detects "R".

YES NO N/A

2.0 Holding Times

2.1 Have any VOA technical holding times, determined from date of collection to date of analysis, been exceeded? ___ [✓] ___

If unpreserved, aqueous samples maintained at 4°C which are to be analyzed for aromatic hydrocarbons must be analyzed within 7 days of collection. If preserved with HCl (pH<2) and stored at 4°C, then aqueous samples must be analyzed within 14 days of collection. If uncertain about preservation, contact sampler to determine whether or not samples were preserved.

The holding time for soils is 10 days.

Table of Holding Time Violations

Sample ID	Sample Matrix	Preserved?	Date Sampled	(See Traffic Report) Date Lab Received	Date Analyzed

DJH 08-21-92

ACTION: If technical holding times are exceeded, flag all positive results as estimated ("J") and sample quantitation limits as estimated ("UJ"), and document in the narrative that holding times were exceeded. If analyses were done more than 14 days beyond holding time, either on the first analysis or upon re-analysis, the reviewer must use professional judgement to determine the reliability of the data and the effects of additional storage on the sample results. At a minimum, all results must be qualified "J", but the reviewer may determine that non-detect data are unusable (R). If holding times are exceeded by more than 28 days, all non detect data are unusable (R).

	YES	NO	N/A
3.0 System Monitoring Compound (SMC) Recovery (Form II)			
3.1 Are the VOA SMC Recovery Summaries (Form II) present for each of the following matrices:			
a. Low Water	[✓]	___	___
b. Low Soil	[✓]	___	___
c. Med Soil	[ ]	___	✓
3.2 Are all the VOA samples listed on the appropriate System Monitoring Compound Recovery Summary for each of the following matrices:			
a. Low Water	[✓]	___	___
b. Low Soil	[✓]	___	___
c. Med Soil	[ ]	___	✓
ACTION: Call lab for explanation/ resubmittals. If missing deliverables are unavailable, document effect in data assessments.			
3.3 Were outliers marked correctly with an asterisk?	[✓]	___	___
ACTION: Circle all outliers in red.			
3.4 Was one or more VOA system monitoring compound recovery outside of contract specifications for any sample or method blank?	✓	[ ]	___
If yes, were samples re-analyzed?	[✓]	___	___
Were method blanks re-analyzed?	[✓]	___	___

YES NO N/A

ACTION: If recoveries are > 10% but 1 or more compounds fail to meet SOW specifications:

1. All positive results are qualified as estimated (J).
2. Flag all non-detects as estimated detection limits ("UJ") where recovery is less than the lower acceptance limit.
3. If SMC recoveries are above allowable levels, do not qualify non-detects.

If any system monitoring compound recovery is <10% :

1. Flag all positive results as estimated ("J").
2. Flag all non-detects as unusable ("R").

Professional judgement should be used to qualify data that only have method blank SMC recoveries out of specification in both original and re-analyses. Check the internal standard areas.

3.5 Are there any transcription/calculation errors between raw data and Form II? ___ [✓] ___

ACTION: If large errors exist, call lab for explanation/resubmittal, make any necessary corrections and note errors in the data assessment.

4.0 Matrix Spikes (Form III)

4.1 Is the Matrix Spike/Matrix Spike Duplicate Recovery Form (Form III) present? [✓] ___ ___

	YES	NO	N/A
4.2 Were matrix spikes analyzed at the required frequency for each of the following matrices:			
a. Low Water	[✓]	___	___
b. Low Soil	[✓]	___	___
c. Med Soil	[ ]	___	✓

ACTION: If any matrix spike data are missing, take the action specified in 3.2 above.

4.3 How many VOA spike recoveries are outside QC limits?

Water	Soils
0 out of 10	1 out of 10

4.4 How many RPD's for matrix spike and matrix spike duplicate recoveries are outside QC limits?

Water	Soils
0 out of 5	0 out of 5

ACTION: No action is taken based on MS/MSD data alone. However, using informed professional judgement, the MS/MSD results may be used in conjunction with other QC criteria to determine the need for qualification of the data.

5.0 Blanks (Form IV)

	YES	NO	N/A
5.1 Is the Method Blank Summary (Form IV) present?	[✓]	___	___
5.2 Frequency of Analysis: for the analysis of VOA TCL compounds, has a reagent/method blank been analyzed for each SDG or every 20 samples of similar matrix (low water, low soil, medium soil), whichever is more frequent?	[✓]	___	___

	YES	NO	N/A
5.3 Has a VOA method/instrument blank been analyzed at least once every twelve hours for each concentration level and GC/MS system used?	[ ]	___	___

ACTION: If any method blank data are missing, call lab for explanation/ resubmittal. If method blank data are not available, reject (R) all associated positive data. However, using professional judgement, the data reviewer may substitute field blank or trip blank data for missing method blank data.

5.4 Chromatography: review the blank raw data - chromatograms (RICs), quant reports or data system printouts and spectra.

	YES	NO	N/A
Is the chromatographic performance (baseline stability) for each instrument acceptable for VOAs?	[✓]	___	___

ACTION: Use professional judgement to determine the effect on the data.

6.0 Contamination

NOTE: "Water blanks", "drill blanks", and distilled water blanks" are validated like any other sample, and are not used to qualify data. Do not confuse them with the other QC blanks discussed below.

	YES	NO	N/A
6.1 Do any method/instrument/reagent blanks have positive results (TCL and/or TIC) for VOAs? When applied as described below, the contaminant concentration in these blanks are multiplied by the sample dilution factor and corrected for % moisture when necessary.	✓	[ ]	___
6.2 Do any field/trip/rinse blanks have positive VOA results (TCL and/or TIC)?	✓	[ ]	___

ACTION: Prepare a list of the samples associated with each of the contaminated blanks. (Attach a separate sheet.)

YES NO N/A

NOTE: All field blank results associated to a particular group of samples (may exceed one per case) must be used to qualify data. Trip blanks are used to qualify only those samples with which they were shipped and are not required for non-aqueous matrices. Blanks may not be qualified because of contamination in another blank. Field Blanks & Trip Blanks must be qualified for system monitoring compound, instrument performance criteria, spectral or calibration QC problems.

ACTION: Follow the directions in the table below to qualify TCL results due to contamination. Use the largest value from all the associated blanks. If any blanks are grossly contaminated, all associated data should be qualified as unusable (R).

	Sample conc > CRQL but < 10x blank value	Sample conc < CRQL & <10x blank value	Sample conc > CRQL & >10x blank value
Methylene Chloride Acetone Toluene 2-Butanone	Flag sample result with a "U;	Report CRQL & qualify "U"	No qualification is needed

	Sample conc > CRQL but < 5x blank	Sample conc < CRQL & is < 5x blank value	Sample conc > CRQL value & > 5x blank value
Other Contam-inants	Flag sample result with a "U"	Report CRQL & qualify "U"	No qualification is needed

NOTE: Analytes qualified "U" for blank contamination are still considered as "hits" when qualifying for calibration criteria.

	YES	NO	N/A
ACTION: For TIC compounds, if the concentration in the sample is less than five times the concentration in the most contaminated associated blank, flag the sample data "R" (unusable).			
6.3 Are there field/rinse/equipment blanks associated with every sample?	[ ]	✓	
ACTION: For low level samples, note in data assessment that there is no associated field/rinse/equipment blank. Exception: samples taken from a drinking water tap do not have associated field blanks.			
7.0 GC/MS Instrument Performance Check (Form V)			
7.1 Are the GC/MS Instrument Performance Check Forms (Form V) present for Bromofluorobenzene (BFB)?	[✓]		
7.2 Are the enhanced bar graph spectrum and mass/charge (m/z) listing for the BFB provided for each twelve hour shift?	[✓]		
7.3 Has an instrument performance compound been analyzed for every twelve hours of sample analysis per instrument?	[✓]		

YES NO N/A

ACTION: List date, time, instrument ID, and sample analysis for which no associated GC/MS tuning data are available.

DATE	TIME	INSTRUMENT	SAMPLE NUMBERS

DJB 08-21-92

ACTION: If lab cannot provide missing data, reject ("R") all data generated outside an acceptable twelve hour calibration interval.

7.4 Have the ion abundances been normalized to m/z 95? [✓] ___ ___

ACTION: If mass assignment is in error, qualify all associated data as unusable (R).

7.5 Have the ion abundance criteria been met for each instrument used? [✓] ___ ___

ACTION: List all data which do not meet ion abundance criteria (attach a separate sheet).

ACTION: If ion abundance criteria are not met, the Region II TPO must be notified.

7.6 Are there any transcription/calculation errors between mass lists and Form Vs? (Check at least two values but if errors are found, check more.) ___ [✓] ___

	YES	NO	N/A
7.7 Have the appropriate number of significant figures (two) been reported?	[✓]	___	___
ACTION: If large errors exist, call lab for explanation/resubmittal, make necessary corrections and document effect in data assessments.			
7.8 Are the spectra of the mass calibration compound acceptable?	[✓]	___	___
ACTION: Use professional judgement to determine whether associated data should be accepted, qualified, or rejected.			

8.0 Target Compound List (TCL) Analytes

	YES	NO	N/A
8.1 Are the Organic Analysis Data Sheets (Form I VOA) present with required header information on each page, for each of the following:			
a. Samples and/or fractions as appropriate	[✓]	___	___
b. Matrix spikes and matrix spike duplicates	[✓]	___	___
c. Blanks	[✓]	___	___
8.2 Are the VOA Reconstructed Ion Chromatograms, the mass spectra for the identified compounds, and the data system printouts (Quant Reports) included in the sample package for each of the following?			
a. Samples and/or fractions as appropriate	[✓]	___	___
b. Matrix spikes and matrix spike duplicates (Mass spectra not required)	[✓]	___	___
c. Blanks	[✓]	___	___

ACTION: If any data are missing, take action specified in 3.2 above.

		YES	NO	N/A
8.3	Are the response factors shown in the Quant Report?	[✓]		✓
8.4	Is chromatographic performance acceptable with respect to:			
	Baseline stability?	[✓]		
	Resolution?	[✓]		
	Peak shape?	[✓]		
	Full-scale graph (attenuation)?	[✓]		
	Other: _____	[ ]		

ACTION: Use professional judgement to determine the acceptability of the data.

8.5	Are the lab-generated standard mass spectra of the identified VOA compounds present for each sample?	[✓]		

ACTION: If any mass spectra are missing, take action specified in 3.2 above. If lab does not generate their own standard spectra, make note in "Contract Problems/Non-compliance".

8.6	Is the RRT of each reported compound within 0.06 RRT units of the standard RRT in the continuing calibration?	[✓]		
8.7	Are all ions present in the standard mass spectrum at a relative intensity greater than 10% also present in the sample mass spectrum?	[✓]		

	YES	NO	N/A
8.8 Do sample and standard relative ion intensities agree within 20%?	[✓]	___	___

ACTION: Use professional judgement to determine acceptability of data. If it is determined that incorrect identifications were made, all such data should be rejected (R), flagged "N" (presumptive evidence of the presence of the compound) or changed to not detected (U) at the calculated detection limit. In order to be positively identified, the data must comply with the criteria listed in 8.6, 8.7, and 8.8.

ACTION: When sample carry-over is a possibility, professional judgement should be used to determine if instrument cross-contamination has affected any positive compound identification.

9.0 Tentatively Identified Compounds (TIC)

	YES	NO	N/A
9.1 Are all Tentatively Identified Compound Forms (Form I Part B) present; and do listed TICs include scan number or retention time, estimated concentration and "JN" qualifier?	[✓]	___	___
9.2 Are the mass spectra for the tentatively identified compounds and associated "best match" spectra included in the sample package for each of the following:			
a. Samples and/or fractions as appropriate	[✓]	___	___
b. Blanks	[✓]	___	___

ACTION: If any TIC data are missing, take action specified in 3.2 above.

ACTION: Add "JN" qualifier if missing.

	YES	NO	N/A
9.3 Are any TCL compounds (from any fraction) listed as TIC compounds (example: 1,2-dimethylbenzene is xylene- a VOA TCL analyte - and should not be reported as a TIC)?	___	[✓]	___
ACTION: Flag with "R" any TCL compound listed as a TIC.			
9.4 Are all ions present in the reference mass spectrum with a relative intensity greater than 10% also present in the sample mass spectrum?	[✓]	___	___
9.5 Do TIC and "best match" standard relative ion intensities agree within 20%?	[✓]	___	___

ACTION: Use professional judgement to determine acceptability of TIC identifications. If it is determined that an incorrect identification was made, change identification to "unknown" or to some less specific identification (example: "C3 substituted benzene") as appropriate.

Also, when a compound is not found in any blank, but is detected in a sample and is a suspected artifact of a common laboratory contaminant, the result should be qualified as unusable (R). (i.e. Common Lab Contaminants: CO_2 (M/E 44), Siloxanes (M/E 73) Hexane, Aldol Condensation Products, Solvent Preservatives, and related by products - see Functional Guidelines for more guidance).

	YES	NO	N/A
10.0 Compound Quantitation and Reported Detection Limits			
10.1 Are there any transcription/calculation errors in Form I results? Check at least two positive values. Verify that the correct internal standard, quantitation ion, and RRF were used to calculate Form I result. Were any errors found?	___	[✓]	___
10.2 Are the CRQLs adjusted to reflect sample dilutions and, for soils, sample moisture?	[✓]	___	___

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and note errors under "Conclusions".

ACTION: When a sample is analyzed at more than one dilution, the lowest CRQLs are used (unless a QC exceedance dictates the use of the higher CRQL data from the diluted sample analysis). Replace concentrations that exceed the calibration range in the original analysis by crossing out the "E" and its associated value on the original Form I and substituting the data from the analysis of the diluted sample. Specify which Form I is to be used, then draw a red "X" across the entire page of all Form I's that should not be used, including any in the summary package.

11.0 Standards Data (GC/MS)			
11.1 Are the Reconstructed Ion Chromatograms, and data system printouts (Quant. Reports) present for initial and continuing calibration?	[✓]	___	___

ACTION: If any calibration standard data are missing, take action specified in 3.2 above.

	YES	NO	N/A
12.0 GC/MS Initial Calibration (Form VI)			
12.1 Are the Initial Calibration Forms (Form VI) present and complete for the volatile fraction at concentrations of 10, 20, 50, 100, 200 ug/l? Are there separate calibrations for low water/med soils and low soil samples?	[✓]	___	___
ACTION: If any calibration standard forms are missing, take action specified in 3.2 above.			
12.2 Were all low level soil standards, blanks and samples analyzed by heated purge?	[✓]	___	___
ACTION: If low level soil samples were not heated during purge, qualify positive hits "J" and non-detects "R".			
12.3 Are response factors stable for VOA's over the concentration range of the calibration (%Relative Standard Deviation (%RSD) <30.0%)?	[ ]	✓	___

ACTION: Circle all outliers in red.

NOTE: Although 11 VOA compounds have a minimum RRF and no maximum %RSD, the technical criteria are the same for all analytes.

ACTION: If %RSD > 30.0%, qualify associated positive results for that analyte "J" and non-detects using professional judgement. When RSD > 90%, flag all non-detects for that analyte R (unusable).

NOTE: Analytes previously qualified "U" for blank contamination are still considered as "hits" when qualifying for initial calibration criteria.

	YES	NO	N/A
12.4 Are the RRFs above 0.05?	[✓]	___	___

Action: Circle all outliers in red.
Action: If any RRF are < 0.05, qualify associated non-detects (R) and flag associated positive data as estimated (J).

	YES	NO	N/A
12.5 Are there any transcription/calculation errors in the reporting of average response factors (RRF) or %RSD? (Check at least 2 values, but if errors are found, check more.)	___	[✓]	___
13.0 GC/MS Continuing Calibration (Form VII)			
13.1 Are the Continuing Calibration Forms (Form VII) present and complete for the volatile fraction?	[✓]	___	___
13.2 Has a continuing calibration standard been analyzed for every twelve hours of sample analysis per instrument?	[✓]	___	___

ACTION: List below all sample analyses that were not within twelve hours of the previous continuing calibration analysis.

_____

_____

_____

ACTION: If any forms are missing or no continuing calibration standard has been analyzed within twelve hours of every sample analysis, call lab for explanation/resubmittal. If continuing calibration data are not available, flag all associated sample data as unusable ("R").

	YES	NO	N/A
13.3 Do any volatile compounds have a % Difference (% D) between the initial and continuing RRF which exceeds the ± 25% criteria?	✓	[ ]	___

ACTION: Circle all outliers in red.

ACTION: Qualify both positive results and non-detects for the outlier compound(s) as estimated. When % D is above 90%, reject all non-detects for that analyte (R) unusable.

	YES	NO	N/A
13.4 Do any volatile compounds have a RRF <0.05?	[ ]	✓	

ACTION: Circle all outliers in red.

ACTION: If the RRF <0.05, qualify associated non-detects as unusable (R) and "J" associated positive values.

	YES	NO	N/A
13.5 Are there any transcription/calculation errors in the reporting of average response factors (RRF) or %difference (%D) between initial and continuing RRFs? (Check at least two values but if errors are found, check more.)		[✓]	

ACTION: Circle errors in red.

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and note errors under "Conclusions".

14.0 Internal Standard (Form VIII)

	YES	NO	N/A
14.1 Are the internal standard areas (Form VIII) of every sample and blank within the upper and lower limits (-50% to + 100%) for each continuing calibration?	[ ]	✓	

ACTION: List all the outliers below.

Sample #	Internal Std	Area	Lower Limit	Upper Limit
06-001-D001	DFB	85256	86900	347600
	CBZ	55767	87863	351452
06-001-D001MS	CBZ	71869	87863	351452
06-001D001MSD	CBZ	71177	87863	351452

(Attach additional sheets if necessary.)

14. Interna Standard (Form VIII) (continued)

Sample	Internal STD	AREA	Lower limit	Upper limit
6-003-D001	DFB	86624	86900	347600
	CBZ	69364	87863	351452
6-004-D001	BCM	11259	16314	65256
	DFB	51014	86900	347600
	CBZ	38270	87863	351452
26-004-D101	BCM	12529	16314	65256
	DFB	52511	86900	347600
	CBZ	38913	87863	351452
17-001-D001	BCM	13779	16314	65256
	DFB	62527	86900	347600
	CBZ	52853	87863	351452
17-002-D001	DFB	82703	86900	347600
	CBZ	74356	87863	351452
17-004-D001	CBZ	82071	87863	351452
26-003-D001RE	BCM	26755	27811	111244
	DFB	126256	138296	553182
	CBZ	111177	136365	545460
26-004-D001RE	BCM	21474	27811	111244
	DFB	90098	138296	553182
	CBZ	68685	136365	545460
26-004-D101RE	BCM	19969	27811	111244
	DFB	80320	138296	553182
	CBZ	56199	136365	545460
17-001-D001RE	BCM	20220	27811	111244
	DFB	95061	138296	553182
	CBZ	85134	136365	545460
17-002-D001RE	DFB	125890	138296	553182
	CBZ	117563	136365	545460
17-004-D001DL	CBZ	84900	95544	382174

YES NO N/A

ACTION: 1. If the internal standard area count is outside the upper or lower limit, flag with "J" all positive results quantitated with this internal standard.

2. Non-detects associated with IS area counts > 100% should not be qualified.

3. If IS area is below the lower limit (< 50%), qualify all associated non-detects (U values) "J". If extremely low area counts are reported, (< 25%) or if performance exhibits a major abrupt drop off, flag all associated non-detects as unusable ("R").

14.2 Are the retention times of the internal standards within 30 seconds of the associated calibration standard? [✓] ___ ___

ACTION: Professional judgement should be used to qualify data if the retention times differ by more than 30 seconds.

15.0 Field Duplicates

15.1 Were any field duplicates submitted for VOA analysis? [ ] ___ ✓

ACTION: Compare the reported results for field duplicates and calculate the relative percent difference.

ACTION: Any gross variation between duplicate results must be addressed in the reviewer narrative. However, if large differences exist, identification of field duplicates should be confirmed by contacting the sampler.

CLP DATA ASSESSMENT

Functional Guidelines for Evaluating Organic Analysis

Case No. 92062708 SDG No._____ LABORATORY RFW SITE Coltsneck

DATA ASSESSMENT:

The current Functional Guidelines for evaluating organic data have been applied.

All data are valid and acceptable except those analytes which have been qualified with a "J" (estimated), "N" (presumptive evidence for the presence of the material), "U" (non-detects), "R" (unusable),or "JN" (presumptive evidence for the presence of the material at an estimated value). All action is detailed on the attached sheets.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant QC problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Reviewer's Signature: Daniel J Heil Date: 08/21/1992

Verified By:_____ Date:___/_____/199__

DATA ASSESSMENT

1. HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detects (sample quantitation limits) will be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

The following analytes in the samples shown were qualified because of holding time:

NONE

DATA ASSESSMENT

2. BLANK CONTAMINATION:

Quality assurance (QA) blanks, i.e., method, trip, field, or rinse blanks are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and rinse blanks measure cross- contamination of samples during field operations. If the concentration of the analyte is less than 5 times the blank contaminant level (10 times for the common contaminants), the analytes are qualified as non- detects, "U". The following analytes in the samples shown were qualified with "U" for these reasons:

A) Method blank contamination

B) Field or rinse blank contamination ("water blanks" or "distilled water blanks" are validated like any other sample)

C) Trip blank contamination

TRIP BLANK B062407

methylene chloride ~~EA~~

9 10 NA

2. Blank Contamination: (Continued)

VBLKLVY204

				methylene chloride	Acetone
methylene chloride	7	10	06-003-D001	U	
			06-004-D001	U	
Acetone	16	10	06-004-D101	U	U
			17-001-D001	U	
			17-004-D001	U	
			06-001-D001	U	U
			17-002-D001	U	U
			06-001-D001MS	U	U
			06-001-D001MSD	U	

VBLKLVY205

				methylene Chloride	Acetone
methylene chloride	5	10	06-003-D001RE	CRQL	
			06-004-D001RE	U	
Acetone	3	10	06-004-D101RE	U	
			17-001-D001RE	U	
			17-002-D001RE	CRQL	U

VBLKLVK117

				methylene chloride	Acetone
			17-004-D001DL		NA
methylene chloride	2	10	~~06~~ VBLKLVK117-BS		
Acetone	14	10			

VBLKLVB104

				methylene chloride	Acetone
methylene chloride	6	10	06-001-M001	CRQL	U
			06-001-M201	CRQL	CRQL
Acetone	11	10	06-002-M001	CRQL	U

VBLKLVB105

				methylene chloride
methylene chloride	6	10	06-002-M001MS	CRQL
			06-002-M001MSD	CRQL
			TRIP BLANK	CRQL
			06-004-M001	CRQL
			07-001-M001	CRQL
			17-002-M001	CRQL
			17-003-M001	CRQL
			17-003-M101	CRQL
			17-004-M001	CRQL
			01-001-M001	CRQL
			06-003-M001	U
			01-003-M101	U

DATA ASSESSMENT

3. MASS SPECTROMETER TUNING:

Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds, and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The tuning standard for volatile organics is bromofluorobenzene (BFB) and for semi-volatiles is decafluorotriphenyl- phosphine (DFTPP).

If the mass calibration is in error, or missing, all associated data will be classified as unusable, "R". The following samples shown were qualified with "R" because of tuning:

NONE

DATA ASSESSMENT

4. CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance.

A) RESPONSE FACTOR

The response factor measures the instrument's response to specific chemical compounds. The response factor for the VOA/BNA Target Compound List (TCL) must be ≥ 0.05 in both the initial and continuing calibrations. A value < 0.05 indicates a serious detection and quantitation problem (poor sensitivity). If the mean RRF of the initial calibration or the continuing calibration has a response factor <0.05 for any analyte, those analytes detected in environmental samples will be qualified as estimated, "J". All non-detects for those compounds will be rejected ("R"). The following analytes in the samples shown were qualified because of response factor:

Initial Cal 06/22/92 OK

Continuing Cal Y062603

1,1,2,2-Tetrachloroethane 0.427

Continuing Cal Y062702

1,1,2,2-Tetrachloroethane

Continuing Cal AK6T02 OK

Initial Cal 06/24/92 OK

Initial Cal 06/18/92

1,1,2,2-Tetrachloroethane 0.439

Continuing Cal B062403

1,1,2,2-Tetrachloroethane 0.444

Continuing Cal B062304

1,1,2,2-Tetrachloroethane 0.394

DATA ASSESSMENT

5. CALIBRATION:

A) PERCENT RELATIVE STANDARD DEVIATION (%RSD) AND PERCENT DIFFERENCE (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be <30% and %D must be <25%. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J"; and non-detects are flagged "UJ". If %RSD and %D grossly exceed QC criteria, non-detect data may be qualified "R".

For the PCB/PESTICIDE fraction, if %RSD exceeds 20% for all analytes except for the 2 surrogates (which must not exceed 30% RSD), qualify all associated positive results "J" and non-detects "UJ".

The following analytes in the samples shown were qualified for %RSD and %D:

Initial Cal 06/22/92

No samples Acetone 43.3

Continuing Cal Y062603

VB1KLVY204 Chloromethane -34.4
06-003-D001 ~~Acetone~~ -50.1
06-004-D001 Chloroethane
06-004-D101
17-001-D001
17-004-D001
06-001-D001
17-002-D001
06-001-D001MS
06-001-D001MSD

Continuing Cal Y062702

VB1KLVY205 4-methyl-2-pentanone -42.8
06-003-D001RE 2-Hexanone -50.5
06-004-D001RE
06-004-D101RE
17-001-D001RE
17-002-D001

Initial Cal. 06/24/92

No samples Acetone 47.2

Continuing Cal AK6T02 OK

Initial Cal 06/18/92 OK

Continuing Cal B062403 OK

Continuing Cal B062304 OK

DATA ASSESSMENT

6. SURROGATES/ SYSTEM MONITORING COMPOUNDS (SMC):

All samples are spiked with surrogate/ SMC compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured surrogate/ SMC concentrations were outside contract specifications, qualifications were applied to the samples and analytes as shown below. The following analytes for the samples shown were qualified because of surrogate/ SMC recovery:

06-001-D001	BFB	134	J
06-004-D001	TOL	174	J
	BFB	140	J
	DCE	144	J
06-004-D101	TOL	172	J
	BFB	136	J
	DCE	136	J
17-001-D001	BFB	135	J
17-002-D001	BFB	127	J
17-004-D001DL	DCE	145	J

DATA ASSESSMENT

7. INTERNAL STANDARDS PERFORMANCE:

Internal Standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every experimental run. The internal standard area count must not vary by more than a factor of 2 (-50% to +100%) from the associated continuing calibration standard. The retention time of the internal standard must not vary more than ±30 seconds from the associated continuing calibration standard. If the area count is outside the (-50% to +100%) range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified as estimated, "J", and all non-detects as "UJ" only if IS area is < 50%. Non detects are qualified as "R" if there is a severe loss of sensitivity (< 25% of associated IS area counts).

If an internal standard retention time varies by more than 30 seconds, the reviewer will use professional judgment to determine either partial or total rejection of the data for that sample fraction. The following analytes in the samples shown were qualified because of internal standards performance:

06-001-D001	DFB
	CBZ
06-001-D001MS	CBZ
06-001-D001MSD	CBZ
06-003-D001.	DFB
	CBZ
06-004-D001	BCM
	DFB
	CBZ
06-004-D101	BCM
	DFB
	CBZ
17-001-D001	BCM
	DFB
	CBZ
17-002-D001	DFB
	CBZ
17-004-D001	CBZ
06-003-D001RE	BCM
	DFB
	CBZ
06-004-D001RE.	BCM
	DFB
	CBZ
06-004-D101RE.	BCM
	DFB
	CBZ
17-001-D001RE.	BCM
	DFB
	CBZ
17-002-D001RE.	BCM
	DFB
	CBZ
17-004-D001DL	CBZ

DATA ASSESSMENT

8. COMPOUND IDENTIFICATION:

A) VOLATILE AND SEMI-VOLATILE FRACTIONS

TCL compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and ion spectra. For the results to be a positive hit, the sample peak must be within ± 0.06 RRT units of the standard compound, and have an ion spectra which has a ratio of the primary and secondary m/e intensities within 20% of that in the standard compound. For tentatively identified compounds (TIC), the ion spectra must match accurately. In the cases where there is not an adequate ion spectrum match, the laboratory may have provided false positive identifications. The following analytes in the samples shown were qualified for compound identification:

NONE

B) PESTICIDE FRACTION:

The retention times of reported compounds must fall within the calculated retention time windows for the two chromatographic columns. The percent difference (%D) of the positive results obtained on the two GC columns should be ≤25% The following analytes in the samples shown were qualified because of compound identification:

NA

DATA ASSESSMENT

9. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD may be used in conjunction with other QC criteria for some additional qualification of data. The following analytes, for the samples shown, were qualified because of MS/MSD:

06-001-0001MS Toluene 141

DATA ASSESSMENT

10. OTHER QC DATA OUT OF SPECIFICATION:

NONE

11. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT (continued on next page if necessary):

Fair

12. CONTRACTUAL NON-COMPLIANCE:

NONE

13. This package contains re-extraction, re-analysis or dilution. Upon reviewing the QA results, the following form I(s) are identified to be used:

06-003-D001RE
06-004-D001RE
06-004-D101 RE
17-001-D001 RE
17-002-D001RE
17-004-D001DL

DATA ASSESSMENT

11. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT (continued):

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

000047

CLIENT SAMPLE NO.

06-001-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT

Lab Sample ID: 9206L708-001

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

Lab File ID: Y062610

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec. 19

Date Analyzed: 06/26/92

GC Column: SP1000 ID: 2.00(mm)

Dilution Factor: 0.980

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	18	~~B~~ U
67-64-1	Acetone	36	~~B~~ U
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

FORM 1 VOA 3/90

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

06-001-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT

Lab Sample ID: 9206L708-001

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

Lab File ID: Y062610

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec. 19

Date Analyzed: 06/26/92

GC Column: SP1000 ID: 2.00(mm)

Dilution Factor: 0.980

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06-003-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT Lab Sample ID: 9206L708-002

Sample wt/vol: 4.90 (g/mL) G Lab File ID: Y062605

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: not dec. 9 Date Analyzed: 06/26/92

GC Column: SP1000 ID: 2.00(mm) Dilution Factor: 1.02

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

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

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

06-003-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT

Lab Sample ID: 9206L708-002

Sample wt/vol: 4.90 (g/mL) G

Lab File ID: Y062605

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec. 9

Date Analyzed: 06/26/92

GC Column: SP1000 ID: 2.00(mm)

Dilution Factor: 1.02

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06-003-D001RE

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT — Lab Sample ID: 9206L708-002

Sample wt/vol: 4.90 (g/mL) G — Lab File ID: Y062704

Level: (low/med) LOW — Date Received: 06/19/92

% Moisture: not dec. 9 — Date Analyzed: 06/27/92

GC Column: SP1000 ID: 2.00(mm) — Dilution Factor: 1.02

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

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

4 12

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06-004-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT Lab Sample ID: 9206L708-003

Sample wt/vol: 4.90 (g/mL) G Lab File ID: Y062606

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: not dec. 12 Date Analyzed: 06/26/92

GC Column: SP1000 ID: 2.00(mm) Dilution Factor: 1.02

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	29	B
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

FORM 1 VOA 3/90

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

0000070

CLIENT SAMPLE NO.

06-004-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: SEDIMENT

Lab Sample ID: 9206L708-003

Sample wt/vol: 4.90 (g/mL) G

Lab File ID: Y062606

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec. 12

Date Analyzed: 06/26/92

Column: (pack/cap) PACK

Dilution Factor: 1.02

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	HEXENOL ACETATE	30.67	50	J

FORM 1 VOA-TIC 12/88 Rev.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06-004-D001RE

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT

Lab Sample ID: 9206L708-003

Sample wt/vol: 4.90 (g/mL) G

Lab File ID: Y062705

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec. 12

Date Analyzed: 06/27/92

GC Column: SP1000 ID: 2.00(mm)

Dilution Factor: 1.02

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U UJ 7
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	13	~~B~~ UJ 8, 7
67-64-1	Acetone	12	U UJ 7
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06-004-D101

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT Lab Sample ID: 9206L708-004

Sample wt/vol: 4.90 (g/mL) G Lab File ID: Y062607

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: not dec. 13 Date Analyzed: 06/26/92

GC Column: SP1000 ID: 2.00(mm) Dilution Factor: 1.02

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	28	B
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

FORM 1 VOA 3/90

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

06-004-D101

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: SEDIMENT

Lab Sample ID: 9206L708-004

Sample wt/vol: 4.90 (g/mL) G

Lab File ID: Y062607

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec. 13

Date Analyzed: 06/26/92

Column: (pack/cap) PACK

Dilution Factor: 1.02

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	HEXENAL	22.20	60	J
2.	HEXENOL ACETATE	30.63	30	J

FORM 1 VOA-TIC 12/88 Rev.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06-004-D101RE

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT

Lab Sample ID: 9206L708-004

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

Lab File ID: Y062706

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec. 13

Date Analyzed: 06/27/92

GC Column: SP1000 ID: 2.00(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	13	~~B~~ UJ 8,7
67-64-1	Acetone	12	UJ 7
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

17-001-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT

Lab Sample ID: 9206L708-007

Sample wt/vol: 4.90 (g/mL) G

Lab File ID: Y062608

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec. 3

Date Analyzed: 06/26/92

GC Column: SP1000 ID: 2.00(mm)

Dilution Factor: 1.02

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	26	B
67-64-1	Acetone	46	B
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

FORM 1 VOA 3/90

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY-IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

17-001-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT

Lab Sample ID: 9206L708-007

Sample wt/vol: 4.90 (g/mL) G

Lab File ID: Y062608

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec. 3

Date Analyzed: 06/26/92

GC Column: SP1000 ID: 2.00(mm)

Dilution Factor: 1.02

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

17-001-D001RE

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT

Lab Sample ID: 9206L708-007

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

Lab File ID: Y062707

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec. 3

Date Analyzed: 06/27/92

GC Column: SP1000 ID: 2.00(mm)

Dilution Factor: 0.980

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

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

UJ 7
UJ 8, 7
UJ 7

1A 000115

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

17-002-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT Lab Sample ID: 9206L708-008

Sample wt/vol: 5.00 (g/mL) G Lab File ID: Y062611

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: not dec. 1 Date Analyzed: 06/26/92

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	20	~~B~~ U
67-64-1	Acetone	44	~~B~~ U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

FORM 1 VOA 3/90

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

17-002-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT

Lab Sample ID: 9206L708-008

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

Lab File ID: Y062611

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec. 1

Date Analyzed: 06/26/92

GC Column: SP1000 ID: 2.00(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

17-002-D001RE

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT

Lab Sample ID: 9206L708-008

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

Lab File ID: Y062709

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec. 1

Date Analyzed: 06/27/92

GC Column: SP1000 ID: 2.00(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

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

12

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

17-004-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT Lab Sample ID: 9206L708-009

Sample wt/vol: 5.10 (g/mL) G Lab File ID: Y062609

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: not dec. 69 Date Analyzed: 06/26/92

GC Column: SP1000 ID: 2.00(mm) Dilution Factor: 0.980

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	32	U
74-83-9	Bromomethane	32	U
75-01-4	Vinyl Chloride	32	U
75-00-3	Chloroethane	32	U
75-09-2	Methylene Chloride	46	~~B~~ U 8
67-64-1	Acetone		~~E~~ R 10
75-15-0	Carbon Disulfide	11	J
75-35-4	1,1-Dichloroethene	32	U
75-34-3	1,1-Dichloroethane	32	U
540-59-0	1,2-Dichloroethene (total)	32	U
67-66-3	Chloroform	32	U
107-06-2	1,2-Dichloroethane	32	U
78-93-3	2-Butanone	190	
71-55-6	1,1,1-Trichloroethane	32	U
56-23-5	Carbon Tetrachloride	32	U
75-27-4	Bromodichloromethane	32	U
78-87-5	1,2-Dichloropropane	32	U
10061-01-5	cis-1,3-Dichloropropene	32	U
79-01-6	Trichloroethene	32	U
124-48-1	Dibromochloromethane	32	U
79-00-5	1,1,2-Trichloroethane	32	U
71-43-2	Benzene	32	U
10061-02-6	trans-1,3-Dichloropropene	32	U
75-25-2	Bromoform	32	~~U~~ UJ 7
108-10-1	4-Methyl-2-pentanone	32	~~U~~
591-78-6	2-Hexanone	32	~~U~~
127-18-4	Tetrachloroethene	32	~~U~~
79-34-5	1,1,2,2-Tetrachloroethane	32	~~U~~
108-88-3	Toluene	3	J 3
108-90-7	Chlorobenzene	32	~~U~~ UJ
100-41-4	Ethylbenzene	32	~~U~~
100-42-5	Styrene	32	~~U~~
1330-20-7	Xylene (total)	32	~~U~~

FORM 1 VOA 3/90

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

17-004-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT

Lab Sample ID: 9206L708-009

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

Lab File ID: Y062609

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec. 69

Date Analyzed: 06/26/92

GC Column: SP1000 ID: 2.00(mm)

Dilution Factor: 0.980

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

0200147

CLIENT SAMPLE NO.

17-004-D001DL

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT — Lab Sample ID: 9206L708-009 DL

Sample wt/vol: 1.00 (g/mL) G — Lab File ID: AK6T21

Level: (low/med) LOW — Date Received: 06/19/92

% Moisture: not dec. 69 — Date Analyzed: 06/29/92

GC Column: DB624 ID: .53(mm) — Dilution Factor: 5.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
74-87-3	Chloromethane	NA	R	10
74-83-9	Bromomethane	NA		
75-01-4	Vinyl Chloride	NA		
75-00-3	Chloroethane	NA		
75-09-2	Methylene Chloride	NA		
67-64-1	Acetone	5500	B	8
75-15-0	Carbon Disulfide	NA	R	10
75-35-4	1,1-Dichloroethene	NA		
75-34-3	1,1-Dichloroethane	NA		
540-59-0	1,2-Dichloroethene (total)	NA		
67-66-3	Chloroform	NA		
107-06-2	1,2-Dichloroethane	NA		
78-93-3	2-Butanone	NA		
71-55-6	1,1,1-Trichloroethane	NA		
56-23-5	Carbon Tetrachloride	NA		
75-27-4	Bromodichloromethane	NA		
78-87-5	1,2-Dichloropropane	NA		
10061-01-5	cis-1,3-Dichloropropene	NA		
79-01-6	Trichloroethene	NA		
124-48-1	Dibromochloromethane	NA		
79-00-5	1,1,2-Trichloroethane	NA		
71-43-2	Benzene	NA		
10061-02-6	trans-1,3-Dichloropropene	NA		
75-25-2	Bromoform	NA		
108-10-1	4-Methyl-2-pentanone	NA		
591-78-6	2-Hexanone	NA		
127-18-4	Tetrachloroethene	NA		
79-34-5	1,1,2,2-Tetrachloroethane	NA		
108-88-3	Toluene	NA		
108-90-7	Chlorobenzene	NA		
100-41-4	Ethylbenzene	NA		
100-42-5	Styrene	NA		
1330-20-7	Xylene (total)	NA		

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06-001-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-010

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

Lab File ID: B062316

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec.

Date Analyzed: 06/23/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10 ~~8~~	~~JB~~ U B
67-64-1	Acetone	82	~~B~~ U B
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	27	
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

06-001-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-010

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

Lab File ID: B062316

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec.

Date Analyzed: 06/23/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06-001-M201

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-011

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

Lab File ID: B062317

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec.

Date Analyzed: 06/23/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

06-001-M201

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-011

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

Lab File ID: B062317

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec.

Date Analyzed: 06/23/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

0000172

CLIENT SAMPLE NO.

06-002-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-012

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

Lab File ID: B062318

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec.

Date Analyzed: 06/23/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	~~108~~	~~JB~~ U
67-64-1	Acetone	33	~~B~~ U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

06-002-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-012

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

Lab File ID: B062318

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec.

Date Analyzed: 06/23/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06-004-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-013

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

Lab File ID: B062409

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec.

Date Analyzed: 06/24/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	~~10~~	~~JB~~ U 8
67-64-1	Acetone	55	~~J~~ ~~B~~ DLH 08-24-92
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

FORM 1 VOA 3/90

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

06-004-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-013

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

Lab File ID: B062409

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec.

Date Analyzed: 06/24/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	C4-BENZENE	24.75	6	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

17-001-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER — Lab Sample ID: 9206L708-014

Sample wt/vol: 5.00 (g/mL) ML — Lab File ID: B062410

Level: (low/med) LOW — Date Received: 06/19/92

% Moisture: not dec. — Date Analyzed: 06/24/92

GC Column: DB624 ID: .53(mm) — Dilution Factor: 1.00

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

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

1E

0000199

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

17-001-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-014

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

Lab File ID: B062410

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec.

Date Analyzed: 06/24/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

0000207

CLIENT SAMPLE NO.

17-002-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-015

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

Lab File ID: B062411

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec.

Date Analyzed: 06/24/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	16.2	~~JB~~ U B
67-64-1	Acetone	35	
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

000202

CLIENT SAMPLE NO.

17-002-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-015

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

Lab File ID: B062411

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec.

Date Analyzed: 06/24/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

17-003-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER — Lab Sample ID: 9206L708-016

Sample wt/vol: 5.00 (g/mL) ML — Lab File ID: B062414

Level: (low/med) LOW — Date Received: 06/19/92

% Moisture: not dec. — Date Analyzed: 06/24/92

GC Column: DB624 ID: .53(mm) — Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10 ~~8~~	~~JB~~ U8
67-64-1	Acetone	44	
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E

000211

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

17-003-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-016

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

Lab File ID: B062414

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec.

Date Analyzed: 06/24/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

1A 0000219

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

17-003-M101

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-017

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

Lab File ID: B062413

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec.

Date Analyzed: 06/24/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

17-003-M101

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-017

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

Lab File ID: B062413

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec.

Date Analyzed: 06/24/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

17-004-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-018

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

Lab File ID: B062412

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec.

Date Analyzed: 06/24/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	~~10.6~~	~~JB~~ U B
67-64-1	Acetone	51	
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E 000025

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

17-004-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-018

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

Lab File ID: B062412

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec.

Date Analyzed: 06/24/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

1A 0000237

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TRIP BLANK

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER Lab Sample ID: 9206L708-019

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B062407

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: not dec. Date Analyzed: 06/24/92

GC Column: DB624 ID: .53(mm) Dilution Factor: 1.00

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

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

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

1E 0100235

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

TRIP BLANK

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-019

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

Lab File ID: B062407

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec.

Date Analyzed: 06/24/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

FORM 1 VOA-TIC 3/90

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

01-001-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-020

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

Lab File ID: B062415

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec.

Date Analyzed: 06/24/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

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

000245

CLIENT SAMPLE NO.

01-001-M001

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-020

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

Lab File ID: B062415

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec.

Date Analyzed: 06/24/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

01-003-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-021

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

Lab File ID: B062416

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec.

Date Analyzed: 06/24/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

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

1E

0000254

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

01-003-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-021

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

Lab File ID: B062416

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec.

Date Analyzed: 06/24/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

01-003-M101

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-022

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

Lab File ID: B062418

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec.

Date Analyzed: 06/24/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

01-003-M101

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-022

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

Lab File ID: B062418

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec.

Date Analyzed: 06/24/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06-001-D001MS

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT

Lab Sample ID: 9206L708-001 MS

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

Lab File ID: Y062612

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec. 19

Date Analyzed: 06/26/92

GC Column: SP1000 ID: 2.00(mm)

Dilution Factor: 0.980

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	22	~~B~~ U 8
67-64-1	Acetone	46	~~B~~ U 8
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene		SP
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene		SP
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene		SP
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene		SP
108-90-7	Chlorobenzene		SP
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

SP: SPIKE COMPOUND

FORM 1 VOA

3/90

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06-001-D001MSD

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT

Lab Sample ID: 9206L708-001 MSD

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

Lab File ID: Y062613

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec. 19

Date Analyzed: 06/26/92

GC Column: SP1000 ID: 2.00(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	21	~~B~~ U 8
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene		SP
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene		SP
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene		SP
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene		SP
108-90-7	Chlorobenzene		SP
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

SP: SPIKE COMPOUND

FORM 1 VOA

3/90

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

0000432

CLIENT SAMPLE NO.

06-002-M001MS

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-012 MS

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

Lab File ID: B062406

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec.

Date Analyzed: 06/24/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

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

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

SP: SPIKE COMPOUND

FORM 1 VOA

3/90

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06-002-M001MSD

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-012 MSD

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

Lab File ID: B062408

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: not dec.

Date Analyzed: 06/24/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	~~10.4~~	~~JB~~ U B
67-64-1	Acetone	9	J
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene		SP
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene		SP
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene		SP
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene		SP
108-90-7	Chlorobenzene		SP
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

SP: SPIKE COMPOUND

FORM 1 VOA

3/90

HEARTLAND ENVIRONMENTAL SERVICES, INC.
P.O. BOX 163 ST. PETERS MO 63376
(314) 278-8232

Data Validation Report

August 25, 1992

Prepared for

R. F. Weston
Weston Way
West Chester, PA. 19380

This Data Validation Report is a review of the analytical results of sampling conducted in support of the Navy CLEAN program June 18, 1992 at the **NWS Earle- Coltsneck Naval Weapons Station** site. There were seven (7) soil samples with one (1) MS/MSD and twelve (12) water samples with one (1) MS/MSD which were received and analyzed by Roy F. Weston Laboratories - Lionville in this analytical batch, **R. F. Weston Number 9206L708**.

The data validation personnel have reviewed the data presented for the Samples listed below for the Analytical Fractions indicated. The SVOA CLP fraction has been validated utilizing method specific requirements, Region II SOP NO. HW-6, January, 1992, Revision 8, requirements and good professional judgement.

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatogram, etc., for each sample have been carefully reviewed. The end-user is urged to review the **Specific Findings** and associated **Data Qualifications** presented in this report. Annotated Form Is for all samples reviewed are included after the **Narratives**. Form Is for MS/MSD samples are not annotated.

SAMPLES AND FRACTIONS REVIEWED

Sample Identifications		Analytical Fraction	
CLIENT ID	**RF WESTON ID**	**Matrix**	**SVOA**
06-001-D001	9206L708-001	SOIL	X
06-001-D001MS	9206L708-001	SOIL	X
06-001-D001MSD	9206L708-001	SOIL	X
06-003-D001	9206L708-002	SOIL	X
06-004-D001	9206L708-003	SOIL	X
06-004-D101	9206L708-004	SOIL	X
17-001-D001	9206L708-007	SOIL	X
17-002-D001	9206L708-008	SOIL	X
17-004-D001	9206L708-009	SOIL	X
06-001-M001	9206L708-010	WATER	X
06-001-M201	9206L708-011	WATER	X
06-002-M001	9206L708-012	WATER	X
06-002-M001MS	9206L708-012	WATER	X
06-002-M001MSD	9206L708-012	WATER	X
06-004-M001	9206L708-013	WATER	X
17-001-M001	9206L708-014	WATER	X
17-002-M001	9206L708-015	WATER	X
17-003-M001	9206L708-016	WATER	X
17-003-M101	9206L708-017	WATER	X
17-004-M001	9206L708-018	WATER	X
01-001-M001	9206L708-020	WATER	X
01-003-M001	9206L708-021	WATER	X
01-003-M101	9206L708-022	WATER	X

Individual fractions were reviewed as follows:

			Primary	Secondary
SVOA	-	Semivolatile Analysis	Dan Heil	Gene Watson

DATA ASSESSMENT NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP, 3/90 SOW; the National Functional Guidelines for Organic Data Review, and NEESA Level C and D. All comments made within this report should be considered when examining the analytical results (Form I's).

Case# 9206L708

Holding Times

All of the holding time were met for all samples per the SOW and National Functional Guidelines. No qualifications are required.

Tuning

All of the DFTPP tunes in the initial and continuing calibrations met the percent relative abundance criteria of the SOW and the Organic Functional Guidelines. No qualifications are required.

Initial Calibrations

The initial calibrations that were analyzed by the laboratory for these samples were not acceptable for all compound %RSDs. The average RRFs for all of the criteria compounds met the initial calibration criteria.

Specific Findings:

1. The initial calibration on, 07/13/91, contained compounds with %RSDs greater than 30% RSD. No qualifications are required because samples were not analyzed following the calibration.

4-nitroaniline

Initial Calibration (continued)

Specific Findings:

2. The initial calibration on, 07/22/91, contained compounds with %RSDs greater than 30% RSD. No qualifications are required because samples were not analyzed following the calibration.

4-chloroaniline
3-nitroaniline
n-nitroso-di-phenylamine
carbazole

Continuing Calibrations

The continuing calibrations that were analyzed with this data package required qualifications for non compliant %Ds. All of the criteria and non criteria compounds met RRF requirements.

Specific Findings:

3. For the samples listed below ,the continuing calibration A071402, contained compounds with %Ds greater than 25% D but less than 50% D. Qualify all positive results for these compounds as estimated (J).

06-001-M001	4-chloroaniline
06-001-M201	3-nitroaniline
17-001-M001	
17-004-M001	
01-001-M001	

Continuing Calibrations (continued)

Specific Findings:

4. For the samples listed below, the continuing calibration, A071602, contained compounds with %Ds greater than 25% D but less than 50% D. Qualify all positive results for these compounds as estimated (J).

SBLKLE0909	3-nitroaniline
SBLKLE0909-BS	2,4-dinitrophenol
SBLKLE0909-BSD	3,3'-dichlorobenzidine
SBLKLE0945	2,4,6-tribromophenol
SBLKLE0945-BS	
17-002-M001	
17-003-M001	
17-003-M101	

5. For the samples listed below, the continuing calibration A070910, contained compounds with %Ds greater than 50% D but less than 90% D. Qualify all positive results for these compounds as estimated (J) and qualify all non detects as estimated (UJ).

SBLKLE0909	n-nitroso-di-phenylamine
SBLKLE0909-BS	
SBLKLE0909-BSD	
SBLKLE0945	
SBLKLE0945-BS	
17-002-M001	
17-003-M001	
17-003-M101	

Continuing Calibrations (continued)

Specific Findings:

6. For the samples listed below, the continuing calibration A071602, contained compounds with %Ds greater than 90% D. Qualify all positive results for these compounds as estimated (J) and reject all non detects (R).

SBLKLE0909	4-nitroaniline
SBLKLE0909-BS	carbazole
SBLKLE0909-BSD	
SBLKLE0945	
SBLKLE0945-BS	
17-002-M001	
17-003-M001	
17-003-M101	

7. For the samples listed below, the continuing calibration A071702, contained compounds with %Ds greater than 25% D but less than 50% D. Qualify all positive results for these compounds as estimated (J).

06-001-D001	hexachlorocyclopentadiene
06-001-D001MS	n-nitroso-di-phenylamine
06-001-D001MSD	benzo(g,h,i)perylene
06-003-D001	2,4,6-tribromophenol
06-004-D001	
06-004-D101	
17-001-D001	
17-002-D001	

Continuing Calibrations (continued)

Specific Findings:

8. For the samples listed below, the continuing calibration A071702, contained compounds with %Ds greater than 90% D. Qualify all positive results for these compounds as estimated (J) and reject all non detects (R).

06-001-D001	4-nitroaniline
06-001-D001MS	carbazole
06-001-D001MSD	
06-003-D001	
06-004-D001	
06-004-D101	
17-001-D001	
17-002-D001	

9. For the samples listed below, the continuing calibration A072302, contained compounds with %Ds greater than 50% D but less than 90% D. Qualify all positive results for these compounds as estimated (J) and qualify all non detects as estimated (UJ).

06-002-M001MS	4-chloroaniline
06-002-M001MSD	3-nitroaniline
01-003-M101	
17-004-D001	

10. For the samples listed below, the continuing calibration A072302, contained compounds with RRFs less than 0.05. Qualify all positive results for these compounds as estimated (J) and reject all non detects (R).

06-002-M001MS	3-nitroaniline
06-002-M001MSD	
01-003-M101	
17-004-D001	

Internal Standards

All of the blank and sample internal standard EICP areas met the EICP internal standard area QA/QC criteria. No qualifications are required.

Method Blanks

The method blanks that were analyzed exhibited contamination for di-n-butylphthalate, bis(2-ethylhexyl)phthalate, phenol and TICs. The method blank results will be compared to their associated samples. Refer to the glossary of data qualifiers for a list and definition of the method blank qualifiers: CRQL, U and No Action.

Specific findings:

11. The following samples have been qualified for blank contamination. Qualifications are for all method blanks

    <u>bis(2-ethylhexyl)phthalate - U</u>
    06-004-D001
    17-001-D001
    06-001-M001
    06-001-M201
    06-002-M001
    06-004-M001
    17-001-M001
    17-004-M001
    17-002-M001
    17-003-M101
    01-003-M001
    06-002-M001MSD
    01-003-M101

Method Blanks (continued)

Specific findings:

11. The following samples have been qualified for blank contamination. Qualifications are for all method blanks

<u>bis(2-ethylhexyl)phthalate - CRQL</u>
06-001-D001
06-001-D001MS
06-001-D001MSD
06-003-D001
06-004-D101
17-002-D001
17-004-D001
01-001-M001
17-003-M001

<u>di-n-butylphthalate - CRQL</u>
06-001-D001
06-001-D001MS
06-001-D001MSD
06-003-D001
06-004-D001
06-004-D101
17-001-D001
17-002-D001
17-004-D001
06-001-M001
06-001-M201
06-002-M001
06-004-M001
17-001-M001
17-004-M001
17-002-M001
17-003-M001
17-003-M101
01-001-M001

Method Blanks (continued)

Specific findings:

11. The following samples have been qualified for blank contamination. Qualifications are for all method blanks

    di-n-butylphthalate - CRQL
    01-003-M001
    06-002-M001MS
    06-002-M001MSD
    01-003-M101

    phenol - CRQL
    06-001-D001
    06-003-D001
    06-004-D001
    06-004-D101
    17-001-D001

    phenol - NA
    17-004-D001

12. The followings samples have been qualified for TIC contamination.

samples	rejected TICs
06-001-D001	1,2,3,4,5,18,21,23
06-003-D001	1,2,3,4,5,14,20
06-004-D001	1,2,3,4,5,6,13,17,19,23
06-004-D101	1,2,3,4,6,7,10,13,14
17-001-D001	2,3,4,5,7,8,9,10,12,14
17-002-D001	2,3,8,9,11,12,14,17,18,19
17-004-D001	2,3,4,5,11,25
06-001-M001	8,9,13,20
06-001-M201	1,2,3,5,6,7,8
06-002-M001	1,2,4,6,8,9,12,14,15,16,21
06-004-M001	1,6,7,11,14,17,18,19,20,23
17-001-M001	13,18,20

Method Blanks (continued)

Specific findings:

12. The followings samples have been qualified for TIC contamination.

samples	rejected TICs
17-004-M001	4,6,7,13,14,17,23
17-002-M001	1,2,5,20,21,22
17-003-M001	1,2,3,7,8,12,16,17,18,23
17-003-M101	3,7,8,10,11,12,18
01-001-M001	5,6,11,12,16,17,18,23
01-003-M001	4,5,8,11,12,13,14

Surrogates

All of the surrogate recoveries did not meet the QA/QC criteria. One surrogate from each fraction is allowed to fall outside the criteria window per the SOW and functional guidelines as long as the recovery is greater than 10%. No qualifications are required.

Matrix Spike/Matrix Spike Duplicate

All spike recoveries for the associated MS/MSD were not within the advisory limits. No qualifications are required.

Blank Spike/Blank Spike Duplicate

The BS/BSD spike recoveries were not within the advisory limits. No qualifications are required.

Compound Identification/Quantitation

Specific Findings:

13. For samples with results less than 1.0 ug/Kg or ug/L, reject the results and report the CRQL per the SOW.

17-002-M001	phenol
17-003-M001	phenol

System Performance and Overall Assessment

Overall performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates less than 5% of data required qualification

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

NJ = Presumptive evidence for the presence of the material at an estimated value

K = Result is biased high

L = Result is biased low

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL	SPECIFIC FINDINGS
06-001-M001 06-001-M201 17-001-M001 17-004-M001 01-001-M001	4-chloroaniline 3-nitroaniline	+	J	3
SBLKLE0909 SBLKLE0909-BS SBLKLE0909-BSD SBLKLE0945 SBLKLE0945-BS 17-002-M001 17-003-M001 17-003-M101	3-nitroaniline 2,4-dinitrophenol 3,3'-dichlorobenzidine 2,4,6-tribromophenol	+	J	4
SBLKLE0909 SBLKLE0909-BS SBLKLE0909-BSD SBLKLE0945 SBLKLE0945-BS 17-002-M001 17-003-M001 17-003-M101	n-nitroso-di-phenylamine	+/-	J/UJ	5

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL	SPECIFIC FINDINGS
SBLKLE0909 SBLKLE0909-BS SBLKLE0909-BSD SBLKLE0945 SBLKLE0945-BS 17-002-M001 17-003-M001 17-003-M101	4-nitroaniline carbazole	+/-	J/R	6
06-001-D001 06-001-D001MS 06-001-D001MSD 06-003-D001 06-004-D001 06-004-D101 17-001-D001 17-002-D001	hexachlorocyclo-pentadiene n-nitroso-di-phenylamine benzo(g,h,i)perylene 2,4,6-tribromophenol	+	J	7
06-001-D001 06-001-D001MS 06-001-D001MSD 06-003-D001 06-004-D001 06-004-D101 17-001-D001 17-002-D001	4-nitroaniline carbazole	+/-	J/R	8
06-002-M001MS 06-002-M001MSD 01-003-M101 17-004-D001	4-chloroaniline 3-nitroaniline	+	J/UJ	9

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL	SPECIFIC FINDINGS
06-002-M001MS 06-002-M001MSD 01-003-M101 17-004-D001	3-nitroaniline	+/-	J/R	10
06-004-D001 17-001-D001 06-001-M001 06-001-M201 06-002-M001 06-004-M001 17-001-M001 17-004-M001 17-002-M001 17-003-M101 01-003-M001 06-002-M001MSD 01-003-M101	bis(2-ethylhexyl) phthalate	+	U	11
06-001-D001 06-001-D001MS 06-001-D001MSD 06-003-D001 06-004-D101 17-002-D001 17-004-D001 01-001-M001 17-003-M001	bis(2-ethylhexyl) phthalate	+	CRQL	11
06-001-D001 06-003-D001 06-004-D001 06-004-D101 17-001-D001	phenol	+	CRQL	11

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL	SPECIFIC FINDINGS
06-001-D001	di-n-butyl-	+	CRQL	11
06-001-D001MS	phthalate			
06-001-D001MSD				
06-003-D001				
06-004-D001				
06-004-D101				
17-001-D001				
17-002-D001				
17-004-D001				
06-001-M001				
06-001-M201				
06-002-M001				
06-004-M001				
17-001-M001				
17-004-M001				
17-002-M001				
17-003-M001				
17-003-M101				
01-001-M001				
01-003-M001				
06-002-M001MS				
06-002-M001MSD				
01-003-M101				
17-004-D001	phenol	+	NA	11

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
\+ in the DL column denotes a positive result
\- in the DL column denotes a non detect result

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL	SPECIFIC FINDINGS
	TICs	+	R	12
06-001-D001	1,2,3,4,5,18,21,23			
06-003-D001	1,2,3,4,5,14,20			
06-004-D001	1,2,3,4,5,6,13,17,19,23			
06-004-D101	1,2,3,4,6,7,10,13,14			
17-001-D001	2,3,4,5,7,8,9,10,12,14			
17-002-D001	2,3,8,9,11,12,14,17,18,19			
17-004-D001	2,3,4,5,11,25			
06-001-M001	8,9,13,20			
06-001-M201	1,2,3,5,6,7,8			
06-002-M001	1,2,4,6,8,9,12,14,15,16,21			
06-004-M001	1,6,7,11,14,17,18,19,20,23			
17-001-M001	13,18,20			
17-004-M001	4,6,7,13,14,17,23			
17-002-M001	1,2,5,20,21,22			
17-003-M001	1,2,3,7,8,12,16,17,18,23			
17-003-M101	3,7,8,10,11,12,18			
01-001-M001	5,6,11,12,16,17,18,23			
01-003-M001	4,5,8,11,12,13,14			
17-002-M001	phenol	+	CRQL	13
17-003-M001	phenol			

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET 000043

CLIENT SAMPLE NO.

06-001-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT Lab Sample ID: 9206L708-001

Sample wt/vol: 30.0 (g/mL) G Lab File ID: A071706

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: 19 decanted: (Y/N)__ Date Extracted: 06/26/92

Concentrated Extract Volume: 500(uL) Date Analyzed: 07/17/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	410 ~~23~~	~~JB~~ U
111-44-4	bis(2-Chloroethyl)ether	410	U
95-57-8	2-Chlorophenol	410	U
541-73-1	1,3-Dichlorobenzene	410	U
106-46-7	1,4-Dichlorobenzene	410	U
95-50-1	1,2-Dichlorobenzene	410	U
95-48-7	2-Methylphenol	410	U
108-60-1	2,2'-oxybis(2-Chloropropane)	410	U
106-44-5	4-Methylphenol	410	U
621-64-7	N-Nitroso-di-n-propylamine	410	U
67-72-1	Hexachloroethane	410	U
98-95-3	Nitrobenzene	410	U
78-59-1	Isophorone	410	U
88-75-5	2-Nitrophenol	410	U
105-67-9	2,4-Dimethylphenol	410	U
111-91-1	bis(2-Chloroethoxy)methane	410	U
120-83-2	2,4-Dichlorophenol	410	U
120-82-1	1,2,4-Trichlorobenzene	410	U
91-20-3	Naphthalene	410	U
106-47-8	4-Chloroaniline	410	U
87-68-3	Hexachlorobutadiene	410	U
59-50-7	4-Chloro-3-methylphenol	410	U
91-57-6	2-Methylnaphthalene	410	U
77-47-4	Hexachlorocyclopentadiene	410	U
88-06-2	2,4,6-Trichlorophenol	410	U
95-95-4	2,4,5-Trichlorophenol	1000	U
91-58-7	2-Chloronaphthalene	410	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethylphthalate	410	U
208-96-8	Acenaphthylene	24	J
606-20-2	2,6-Dinitrotoluene	410	U
99-09-2	3-Nitroaniline	1000	U
83-32-9	Acenaphthene	410	U

1C 000044

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06-001-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT Lab Sample ID: 206L708-001

Sample wt/vol: 30.0 (g/mL) G Lab File ID: A071706

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: 19 decanted: (Y/N)__ Date Extracted: 06/26/92

Concentrated Extract Volume: 500(uL) Date Analyzed: 07/17/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q	
51-28-5	2,4-Dinitrophenol	1000	U	
100-02-7	4-Nitrophenol	1000	U	
132-64-9	Dibenzofuran	410	U	
121-14-2	2,4-Dinitrotoluene	410	U	
84-66-2	Diethylphthalate	410	U	
7005-72-3	4-Chlorophenyl-phenylether	410	U	
86-73-7	Fluorene	410	U	
100-01-6	4-Nitroaniline	~~1000~~	~~U~~ R	8
534-52-1	4,6-Dinitro-2-methylphenol	1000	U	
86-30-6	N-Nitrosodiphenylamine (1)	410	U	
101-55-3	4-Bromophenyl-phenylether	410	U	
118-74-1	Hexachlorobenzene	410	U	
87-86-5	Pentachlorophenol	1000	U	
85-01-8	Phenanthrene	190	J	
120-12-7	Anthracene	62	J	
86-74-8	Carbazole	23	J J	8
84-74-2	Di-n-butylphthalate	410 ~~51~~	~~JB~~ U	11
206-44-0	Fluoranthene	460		
129-00-0	Pyrene	430		
85-68-7	Butylbenzylphthalate	410	U	
91-94-1	3,3'-Dichlorobenzidine	410	U	
56-55-3	Benzo(a)anthracene	220	J	
218-01-9	Chrysene	270	J	
117-81-7	bis(2-Ethylhexyl)phthalate	410 ~~370~~	~~JB~~ U	11
117-84-0	Di-n-octyl phthalate	410	U	
205-99-2	Benzo(b)fluoranthene	230	J	
207-08-9	Benzo(k)fluoranthene	190	J	
50-32-8	Benzo(a)pyrene	190	J	
193-39-5	Indeno(1,2,3-cd)pyrene	150	J	
53-70-3	Dibenz(a,h)anthracene	77	J	
191-24-2	Benzo(g,h,i)perylene	160	J J	7

(1) - Cannot be separated from Diphenylamine

FORM 1 SV-2 3/90

1F 000045

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

06-001-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT Lab Sample ID: 9206L708-001

Sample wt/vol: 30.0 (g/mL) G Lab File ID: A071706

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: 19 decanted: (Y/N)__ Date Extracted: 06/26/92

Concentrated Extract Volume: 500(uL) Date Analyzed: 07/17/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.0

Number TICs found: 28 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	6.50	~~900~~	~~JAB~~ R12
2.	ALDOL CONDENSATE	6.95	~~10000~~	~~JAB~~
3.	ALDOL CONDENSATE	8.28	~~300~~	~~JAB~~
4.	ALDOL CONDENSATE	8.81	~~300~~	~~JAB~~
5.	ALDOL CONDENSATE	9.54	~~200~~	~~JAB~~
6.	ALDOL CONDENSATE	10.46	200	JA
7.	ALKANE	14.33	200	J
8.	ALKANE	15.72	300	J
9.	ALKANE	16.55	400	J
10.	ALKANE	17.03	500	J
11.	ALKANE	18.27	700	J
12.	ALKANE	18.80	400	J
13.	ALKANE	19.31	800	J
14.	ALKANE	19.36	700	J
15.	ALKANE	20.17	500	J
16.	ALKANE	20.25	400	J
17.	ALKANE	20.91	500	J
18.	UNKNOWN	21.36	~~300~~	~~JB~~ R12
19.	ALKANE	22.13	400	J
20.	ALKANE	22.68	200	J
21.	UNKNOWN	24.65	~~200~~	~~JB~~ R12
22.	UNKNOWN	25.09	200	J
23.	UNKNOWN	27.80	~~300~~	~~JB~~ R12
24.	ALKANE	28.83	200	J
25.	PAH	31.25	500	J
26.	ALKANE	32.44	200	J
27.	UNKNOWN	34.74	300	J
28.	UNKNOWN	36.28	300	J

1B 000097

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06-003-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT

Lab Sample ID: 9206L708-002

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

Lab File ID: A071709

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: 9 decanted: (Y/N)__

Date Extracted: 06/26/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 07/17/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	360 ~~23~~	~~JB~~ U 11
111-44-4	bis(2-Chloroethyl)ether	360	U
95-57-8	2-Chlorophenol	360	U
541-73-1	1,3-Dichlorobenzene	360	U
106-46-7	1,4-Dichlorobenzene	360	U
95-50-1	1,2-Dichlorobenzene	360	U
95-48-7	2-Methylphenol	360	U
108-60-1	2,2'-oxybis(2-Chloropropane)	360	U
106-44-5	4-Methylphenol	360	U
621-64-7	N-Nitroso-di-n-propylamine	360	U
67-72-1	Hexachloroethane	360	U
98-95-3	Nitrobenzene	360	U
78-59-1	Isophorone	360	U
88-75-5	2-Nitrophenol	360	U
105-67-9	2,4-Dimethylphenol	360	U
111-91-1	bis(2-Chloroethoxy)methane	360	U
120-83-2	2,4-Dichlorophenol	360	U
120-82-1	1,2,4-Trichlorobenzene	360	U
91-20-3	Naphthalene	360	U
106-47-8	4-Chloroaniline	360	U
87-68-3	Hexachlorobutadiene	360	U
59-50-7	4-Chloro-3-methylphenol	360	U
91-57-6	2-Methylnaphthalene	22	J
77-47-4	Hexachlorocyclopentadiene	360	U
88-06-2	2,4,6-Trichlorophenol	360	U
95-95-4	2,4,5-Trichlorophenol	910	U
91-58-7	2-Chloronaphthalene	360	U
88-74-4	2-Nitroaniline	910	U
131-11-3	Dimethylphthalate	360	U
208-96-8	Acenaphthylene	200	J
606-20-2	2,6-Dinitrotoluene	360	U
99-09-2	3-Nitroaniline	910	U
83-32-9	Acenaphthene	28	J

1C 000098

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06-003-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT

Lab Sample ID: 9206L708-002

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

Lab File ID: A071709

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: 9 decanted: (Y/N)__

Date Extracted: 06/26/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 07/17/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
51-28-5	2,4-Dinitrophenol	910	U
100-02-7	4-Nitrophenol	910	U
132-64-9	Dibenzofuran	360	U
121-14-2	2,4-Dinitrotoluene	360	U
84-66-2	Diethylphthalate	360	U
7005-72-3	4-Chlorophenyl-phenylether	360	U
86-73-7	Fluorene	41	J
100-01-6	4-Nitroaniline	~~910~~	~~U~~ R 8
534-52-1	4,6-Dinitro-2-methylphenol	910	U
86-30-6	N-Nitrosodiphenylamine (1)	360	U
101-55-3	4-Bromophenyl-phenylether	360	U
118-74-1	Hexachlorobenzene	360	U
87-86-5	Pentachlorophenol	910	U
85-01-8	Phenanthrene	590	
120-12-7	Anthracene	360	
86-74-8	Carbazole	110	J J 8
84-74-2	Di-n-butylphthalate	360 ~~55~~	~~JB~~ U 11
206-44-0	Fluoranthene	1600	
129-00-0	Pyrene	1500	
85-68-7	Butylbenzylphthalate	360	U
91-94-1	3,3'-Dichlorobenzidine	360	U
56-55-3	Benzo(a)anthracene	950	
218-01-9	Chrysene	1200	
117-81-7	bis(2-Ethylhexyl)phthalate	360 ~~230~~	~~JB~~ U 11
117-84-0	Di-n-octyl phthalate	360	U
205-99-2	Benzo(b)fluoranthene	1100	
207-08-9	Benzo(k)fluoranthene	890	
50-32-8	Benzo(a)pyrene	900	
193-39-5	Indeno(1,2,3-cd)pyrene	600	
53-70-3	Dibenz(a,h)anthracene	240	J
191-24-2	Benzo(g,h,i)perylene	620	J 7

(1) - Cannot be separated from Diphenylamine

FORM 1 SV-2 3/90

1F 000099

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

06-003-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT Lab Sample ID: 9206L708-.J2

Sample wt/vol: 30.1 (g/mL) G Lab File ID: A071709

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: 9 decanted: (Y/N)__ Date Extracted: 06/26/92

Concentrated Extract Volume: 500(uL) Date Analyzed: 07/17/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.0

Number TICs found: 26 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	6.50	~~900~~	~~JAB~~ R 12
2.	ALDOL CONDENSATE	6.98	~~8000~~	~~JAB~~
3.	ALDOL CONDENSATE	8.29	~~300~~	JAB
4.	ALDOL CONDENSATE	8.82	~~300~~	~~JAB~~
5.	ALDOL CONDENSATE	9.54	~~300~~	~~JAB~~
6.	PAH	21.81	300	J
7.	PAH	22.11	200	J
8.	PAH	22.45	200	J
9.	PAH	22.65	200	J
10.	PAH	23.51	200	J
11.	PAH	23.72	400	J
12.	PAH	24.17	200	J
13.	ALKANE	24.58	300	J
14.	UNKNOWN	24.66	~~200~~	~~JB~~ R 12
15.	PAH	24.87	300	J
16.	PAH	25.39	300	J
17.	ALKANE	26.35	500	J
18.	PAH	26.56	200	J
19.	PAH	27.06	300	J
20.	UNKNOWN	27.82	~~500~~	~~JB~~ R 12
21.	ALKANE	28.86	1000	J
22.	PAH	31.33	1000	J
23.	PAH	32.05	300	J
24.	ALKANE	32.48	2000	J
25.	ALKANE	34.77	300	J
26.	ALKANE	36.64	600	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

000152

CLIENT SAMPLE NO.

06-004-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT

Lab Sample ID: 9206L708-003

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

Lab File ID: A071710

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: 16 decanted: (Y/N)__

Date Extracted: 06/26/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 07/17/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	400 ~~25~~	~~JB~~ U 11
111-44-4	bis(2-Chloroethyl)ether	400	U
95-57-8	2-Chlorophenol	400	U
541-73-1	1,3-Dichlorobenzene	400	U
106-46-7	1,4-Dichlorobenzene	400	U
95-50-1	1,2-Dichlorobenzene	400	U
95-48-7	2-Methylphenol	400	U
108-60-1	2,2'-oxybis(2-Chloropropane)	400	U
106-44-5	4-Methylphenol	400	U
621-64-7	N-Nitroso-di-n-propylamine	400	U
67-72-1	Hexachloroethane	400	U
98-95-3	Nitrobenzene	400	U
78-59-1	Isophorone	400	U
88-75-5	2-Nitrophenol	400	U
105-67-9	2,4-Dimethylphenol	400	U
111-91-1	bis(2-Chloroethoxy)methane	400	U
120-83-2	2,4-Dichlorophenol	400	U
120-82-1	1,2,4-Trichlorobenzene	400	U
91-20-3	Naphthalene	400	U
106-47-8	4-Chloroaniline	400	U
87-68-3	Hexachlorobutadiene	400	U
59-50-7	4-Chloro-3-methylphenol	400	U
91-57-6	2-Methylnaphthalene	400	U
77-47-4	Hexachlorocyclopentadiene	400	U
88-06-2	2,4,6-Trichlorophenol	400	U
95-95-4	2,4,5-Trichlorophenol	990	U
91-58-7	2-Chloronaphthalene	400	U
88-74-4	2-Nitroaniline	990	U
131-11-3	Dimethylphthalate	400	U
208-96-8	Acenaphthylene	89	J
606-20-2	2,6-Dinitrotoluene	400	U
99-09-2	3-Nitroaniline	990	U
83-32-9	Acenaphthene	400	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

000153

CLIENT SAMPLE NO.

06-004-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT

Lab Sample ID: 9206L708-003

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

Lab File ID: A071710

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: 16 decanted: (Y/N)__

Date Extracted: 06/26/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 07/17/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
51-28-5	2,4-Dinitrophenol	990	U
100-02-7	4-Nitrophenol	990	U
132-64-9	Dibenzofuran	400	U
121-14-2	2,4-Dinitrotoluene	400	U
84-66-2	Diethylphthalate	400	U
7005-72-3	4-Chlorophenyl-phenylether	400	U
86-73-7	Fluorene	400	U
100-01-6	4-Nitroaniline	~~990~~	~~U~~ R 8
534-52-1	4,6-Dinitro-2-methylphenol	990	U
86-30-6	N-Nitrosodiphenylamine (1)	400	U
101-55-3	4-Bromophenyl-phenylether	400	U
118-74-1	Hexachlorobenzene	400	U
87-86-5	Pentachlorophenol	990	U
85-01-8	Phenanthrene	270	J
120-12-7	Anthracene	170	J
86-74-8	Carbazole	49	J J 8
84-74-2	Di-n-butylphthalate	400 ~~48~~	~~JB~~ U 11
206-44-0	Fluoranthene	790	
129-00-0	Pyrene	700	
85-68-7	Butylbenzylphthalate	400	U
91-94-1	3,3'-Dichlorobenzidine	400	U
56-55-3	Benzo(a)anthracene	380	J
218-01-9	Chrysene	510	
117-81-7	bis(2-Ethylhexyl)phthalate	480	~~B~~ U 11
117-84-0	Di-n-octyl phthalate	400	U
205-99-2	Benzo(b)fluoranthene	430	
207-08-9	Benzo(k)fluoranthene	390	J
50-32-8	Benzo(a)pyrene	380	J
193-39-5	Indeno(1,2,3-cd)pyrene	230	J
53-70-3	Dibenz(a,h)anthracene	110	J
191-24-2	Benzo(g,h,i)perylene	290	J J 7

(1) - Cannot be separated from Diphenylamine

FORM 1 SV-2 3/90

1F

0000154

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

06-004-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT

Lab Sample ID: 9206L708-0

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

Lab File ID: A071710

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: 16 decanted: (Y/N)__

Date Extracted: 06/26/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 07/17/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

pH: 6.8

Number TICs found: 29

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	6.51	~~1000~~	~~JAB~~ R 12
2.	ALDOL CONDENSATE	6.96	~~9000~~	~~JAB~~
3.	UNKNOWN	7.35	~~200~~	~~JB~~
4.	ALDOL CONDENSATE	8.30	~~300~~	~~JAB~~
5.	ALDOL CONDENSATE	8.82	~~400~~	~~JAB~~
6.	ALDOL CONDENSATE	9.55	~~300~~	~~JAB~~
7.	ALDOL CONDENSATE	10.70	300	JA
8.	ALKANE	18.27	100	J
9.	ALKANE	19.31	200	J
10.	ALKANE	19.36	200	J
11.	ALKANE	20.17	200	J
12.	ALKANE	20.90	200	J
13.	ORGANIC ACID	21.36	~~400~~	~~JB~~ R 12
14.	UNKNOWN	21.81	200	J
15.	ALKANE	22.13	200	J
16.	PAH	23.73	200	J
17.	ADIPATE	23.99	~~300~~	~~JB~~ R 12
18.	ALKANE	24.58	100	J
19.	UNKNOWN	24.65	~~300~~	~~JB~~ R 12
20.	UNKNOWN	25.39	200	J
21.	ALKANE	26.35	400	J
22.	UNKNOWN	26.50	300	J
23.	UNKNOWN	27.82	~~600~~	~~JB~~ R 12
24.	ALKANE	28.86	1000	J
25.	ALKANE	29.11	400	J
26.	PAH	31.31	600	J
27.	ALKANE	32.49	2000	J
28.	ALKANE	34.75	200	J
29.	UNKNOWN	39.63	1000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06-004-D101

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT

Lab Sample ID: 9206L708-004

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

Lab File ID: A071711

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: 11 decanted: (Y/N)__

Date Extracted: 06/26/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 07/17/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 6.7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	37060	~~JB~~ U 11
111-44-4	bis(2-Chloroethyl)ether	370	U
95-57-8	2-Chlorophenol	370	U
541-73-1	1,3-Dichlorobenzene	370	U
106-46-7	1,4-Dichlorobenzene	370	U
95-50-1	1,2-Dichlorobenzene	370	U
95-48-7	2-Methylphenol	370	U
108-60-1	2,2'-oxybis(2-Chloropropane)	370	U
106-44-5	4-Methylphenol	370	U
621-64-7	N-Nitroso-di-n-propylamine	370	U
67-72-1	Hexachloroethane	370	U
98-95-3	Nitrobenzene	370	U
78-59-1	Isophorone	370	U
88-75-5	2-Nitrophenol	370	U
105-67-9	2,4-Dimethylphenol	370	U
111-91-1	bis(2-Chloroethoxy)methane	370	U
120-83-2	2,4-Dichlorophenol	370	U
120-82-1	1,2,4-Trichlorobenzene	370	U
91-20-3	Naphthalene	370	U
106-47-8	4-Chloroaniline	370	U
87-68-3	Hexachlorobutadiene	370	U
59-50-7	4-Chloro-3-methylphenol	370	U
91-57-6	2-Methylnaphthalene	370	U
77-47-4	Hexachlorocyclopentadiene	370	U
88-06-2	2,4,6-Trichlorophenol	370	U
95-95-4	2,4,5-Trichlorophenol	940	U
91-58-7	2-Chloronaphthalene	370	U
88-74-4	2-Nitroaniline	940	U
131-11-3	Dimethylphthalate	370	U
208-96-8	Acenaphthylene	100	J
606-20-2	2,6-Dinitrotoluene	370	U
99-09-2	3-Nitroaniline	940	U
83-32-9	Acenaphthene	370	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06-004-D101

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT Lab Sample I: 9206L708-004

Sample wt/vol: 30.0 (g/mL) G Lab File ID: A071711

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: 11 decanted: (Y/N)__ Date Extracted: 06/26/92

Concentrated Extract Volume: 500(uL) Date Analyzed: 07/17/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 6.7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
51-28-5	2,4-Dinitrophenol	940	U
100-02-7	4-Nitrophenol	940	U
132-64-9	Dibenzofuran	370	U
121-14-2	2,4-Dinitrotoluene	370	U
84-66-2	Diethylphthalate	370	U
7005-72-3	4-Chlorophenyl-phenylether	370	U
86-73-7	Fluorene	22	J
100-01-6	4-Nitroaniline	~~940~~	~~U~~ R 8
534-52-1	4,6-Dinitro-2-methylphenol	940	U
86-30-6	N-Nitrosodiphenylamine (1)	370	U
101-55-3	4-Bromophenyl-phenylether	370	U
118-74-1	Hexachlorobenzene	370	U
87-86-5	Pentachlorophenol	30	J
85-01-8	Phenanthrene	300	J
120-12-7	Anthracene	180	J
86-74-8	Carbazole	52	J 5 8
84-74-2	Di-n-butylphthalate	370 ~~57~~	~~JB~~ U 11
206-44-0	Fluoranthene	710	
129-00-0	Pyrene	690	
85-68-7	Butylbenzylphthalate	370	U
91-94-1	3,3'-Dichlorobenzidine	370	U
56-55-3	Benzo(a)anthracene	380	
218-01-9	Chrysene	510	
117-81-7	bis(2-Ethylhexyl)phthalate	370 ~~360~~	~~JB~~ U 11
117-84-0	Di-n-octyl phthalate	370	U
205-99-2	Benzo(b)fluoranthene	470	
207-08-9	Benzo(k)fluoranthene	400	
50-32-8	Benzo(a)pyrene	360	J
193-39-5	Indeno(1,2,3-cd)pyrene	240	J
53-70-3	Dibenz(a,h)anthracene	130	J
191-24-2	Benzo(g,h,i)perylene	280	J 5 7

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

06-004-D101

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT

Lab Sample ID: 9206L708-004

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

Lab File ID: A071711

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: 11 decanted: (Y/N)__

Date Extracted: 06/26/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 07/17/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

pH: 6.7

Number TICs found: 25

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	6.53	~~1000~~	~~JAB~~ R 12
2.	ALDOL CONDENSATE	6.96	~~9000~~	~~JAB~~
3.	ALDOL CONDENSATE	8.31	~~400~~	~~JAB~~
4.	ALDOL CONDENSATE	8.83	~~500~~	~~JAB~~
5.	UNKNOWN	9.26	200	J
6.	ALDOL CONDENSATE	9.56	~~300~~	~~JAB~~ R 12
7.	ORGANIC ACID	21.37	~~500~~	~~JB~~
8.	PAH	22.32	300	J
9.	UNKNOWN	22.51	300	J
10.	ADIPATE	24.00	~~400~~	~~JB~~ R 12
11.	UNKNOWN	24.21	200	J
12.	ALKANE	24.59	200	J
13.	UNKNOWN	24.66	~~500~~	~~JB~~ R 12
14.	UNKNOWN	27.84	~~500~~	~~JB~~ R 12
15.	ALKANE	28.88	2000	J
16.	ALKANE	29.12	200	J
17.	ALKANE	30.49	500	J
18.	PAH	31.34	500	J
19.	ALKANE	32.51	3000	J
20.	UNKNOWN	34.57	200	J
21.	ALKANE	34.78	400	J
22.	ALKANE	36.68	700	J
23.	UNKNOWN	37.47	300	J
24.	UNKNOWN	38.29	500	J
25.	UNKNOWN	39.68	2000	J

1B 0000259

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

17-001-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT

Lab Sample ID: 9206L708-007

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

Lab File ID: A071712

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: 8 decanted: (Y/N)__

Date Extracted: 06/26/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 07/17/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 6.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	360 ~~43~~	~~JB.~~ U 11
111-44-4	bis(2-Chloroethyl)ether	360	U
95-57-8	2-Chlorophenol	360	U
541-73-1	1,3-Dichlorobenzene	360	U
106-46-7	1,4-Dichlorobenzene	360	U
95-50-1	1,2-Dichlorobenzene	360	U
95-48-7	2-Methylphenol	360	U
108-60-1	2,2'-oxybis(2-Chloropropane)	360	U
106-44-5	4-Methylphenol	360	U
621-64-7	N-Nitroso-di-n-propylamine	360	U
67-72-1	Hexachloroethane	360	U
98-95-3	Nitrobenzene	360	U
78-59-1	Isophorone	360	U
88-75-5	2-Nitrophenol	360	U
105-67-9	2,4-Dimethylphenol	360	U
111-91-1	bis(2-Chloroethoxy)methane	360	U
120-83-2	2,4-Dichlorophenol	360	U
120-82-1	1,2,4-Trichlorobenzene	360	U
91-20-3	Naphthalene	360	U
106-47-8	4-Chloroaniline	360	U
87-68-3	Hexachlorobutadiene	360	U
59-50-7	4-Chloro-3-methylphenol	360	U
91-57-6	2-Methylnaphthalene	360	U
77-47-4	Hexachlorocyclopentadiene	360	U
88-06-2	2,4,6-Trichlorophenol	360	U
95-95-4	2,4,5-Trichlorophenol	900	U
91-58-7	2-Chloronaphthalene	360	U
88-74-4	2-Nitroaniline	900	U
131-11-3	Dimethylphthalate	360	U
208-96-8	Acenaphthylene	360	U
606-20-2	2,6-Dinitrotoluene	360	U
99-09-2	3-Nitroaniline	900	U
83-32-9	Acenaphthene	360	U

1C 0000260

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

17-001-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT Lab Sample ID: 9206L708-007

Sample wt/vol: 30.0 (g/mL) G Lab File ID: A071712

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: 8 decanted: (Y/N)__ Date Extracted: 06/26/92

Concentrated Extract Volume: 500(uL) Date Analyzed: 07/17/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 6.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
51-28-5	2,4-Dinitrophenol	900	U
100-02-7	4-Nitrophenol	900	U
132-64-9	Dibenzofuran	360	U
121-14-2	2,4-Dinitrotoluene	360	U
84-66-2	Diethylphthalate	360	U
7005-72-3	4-Chlorophenyl-phenylether	360	U
86-73-7	Fluorene	360	U
100-01-6	4-Nitroaniline	~~900~~	~~U~~ R 8
534-52-1	4,6-Dinitro-2-methylphenol	900	U
86-30-6	N-Nitrosodiphenylamine (1)	360	U
101-55-3	4-Bromophenyl-phenylether	360	U
118-74-1	Hexachlorobenzene	360	U
87-86-5	Pentachlorophenol	900	U
85-01-8	Phenanthrene	33	J
120-12-7	Anthracene	30	J
86-74-8	Carbazole	~~360~~	~~U~~ R 8
84-74-2	Di-n-butylphthalate	360 ~~93~~	~~JB~~ U 11
206-44-0	Fluoranthene	110	J
129-00-0	Pyrene	96	J
85-68-7	Butylbenzylphthalate	360	U
91-94-1	3,3'-Dichlorobenzidine	360	U
56-55-3	Benzo(a)anthracene	60	J
218-01-9	Chrysene	85	J
117-81-7	bis(2-Ethylhexyl)phthalate	380	~~B~~ U 11
117-84-0	Di-n-octyl phthalate	360	U
205-99-2	Benzo(b)fluoranthene	77	J
207-08-9	Benzo(k)fluoranthene	72	J
50-32-8	Benzo(a)pyrene	120	J
193-39-5	Indeno(1,2,3-cd)pyrene	45	J
53-70-3	Dibenz(a,h)anthracene	360	U
191-24-2	Benzo(g,h,i)perylene	47	J J 7

(1) - Cannot be separated from Diphenylamine

1F 0000261

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

17-001-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT Lab Sample ID: 9206L708-007

Sample wt/vol: 30.0 (g/mL) G Lab File ID: A071712

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: 8 decanted: (Y/N)__ Date Extracted: 06/26/92

Concentrated Extract Volume: 500(uL) Date Analyzed: 07/17/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 6.2

Number TICs found: 18 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.14	100	J
2.	ALDOL CONDENSATE	6.53	~~900~~	~~JAB~~ R
3.	ALDOL CONDENSATE	6.97	~~7000~~	~~JAB~~
4.	UNKNOWN	7.35	~~100~~	~~JB~~
5.	ALDOL CONDENSATE	8.30	~~300~~	~~JAB~~
6.	ALKANE	8.53	100	J
7.	ALDOL CONDENSATE	8.83	~~200~~	~~JAB~~ R
8.	ALDOL CONDENSATE	9.55	~~300~~	~~JAB~~
9.	UNKNOWN	21.36	~~200~~	~~JB~~
10.	ADIPATE	23.99	~~200~~	~~JB~~
11.	ALKANE	24.58	80	J
12.	UNKNOWN	24.66	~~300~~	~~JB~~ R
13.	ALKANE	26.36	100	J
14.	UNKNOWN	27.81	~~400~~	~~JB~~ R
15.	ALKANE	28.85	200	J
16.	ALKANE	32.45	400	J
17.	ALKANE	34.77	100	J
18.	ALKANE	36.63	20	J

1B 0000299

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

17-002-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT Lab Sample ID: 92061 08-008

Sample wt/vol: 30.0 (g/mL) G Lab File ID: A071713

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: 1 decanted: (Y/N)__ Date Extracted: 06/26/92

Concentrated Extract Volume: 500(uL) Date Analyzed: 07/17/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 6.2

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

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

000300

CLIENT SAMPLE NO.

17-002-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT Lab Sample ID: 9206L708-008

Sample wt/vol: 30.0 (g/mL) G Lab File ID: A071713

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: 1 decanted: (Y/N)__ Date Extracted: 06/26/92

Concentrated Extract Volume: 500(uL) Date Analyzed: 07/17/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 6.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
51-28-5	2,4-Dinitrophenol	840	U
100-02-7	4-Nitrophenol	840	U
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	~~840~~	~~U~~ R 8
534-52-1	4,6-Dinitro-2-methylphenol	840	U
86-30-6	N-Nitrosodiphenylamine (1)	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	840	U
85-01-8	Phenanthrene	45	J
120-12-7	Anthracene	26	J
86-74-8	Carbazole	~~340~~	~~U~~ R 8
84-74-2	Di-n-butylphthalate	340 ~~40~~	~~JB~~ U 11
206-44-0	Fluoranthene	91	J
129-00-0	Pyrene	79	J
85-68-7	Butylbenzylphthalate	340	U
91-94-1	3,3'-Dichlorobenzidine	340	U
56-55-3	Benzo(a)anthracene	47	J
218-01-9	Chrysene	110	J
117-81-7	bis(2-Ethylhexyl)phthalate	340 ~~330~~	~~JB~~ U 11
117-84-0	Di-n-octyl phthalate	340	U
205-99-2	Benzo(b)fluoranthene	76	J
207-08-9	Benzo(k)fluoranthene	60	J
50-32-8	Benzo(a)pyrene	46	J
193-39-5	Indeno(1,2,3-cd)pyrene	36	J
53-70-3	Dibenz(a,h)anthracene	340	U
191-24-2	Benzo(g,h,i)perylene	37	J 5 7

(1) - Cannot be separated from Diphenylamine

1F 000301

CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

17-002-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT Lab Sample ID: 9206L708-008

Sample wt/vol: 30.0 (g/mL) G Lab File ID: A071713

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: 1 decanted: (Y/N)__ Date Extracted: 06/26/92

Concentrated Extract Volume: 500(uL) Date Analyzed: 07/17/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 6.2

Number TICs found: 22 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.14	100	J
2.	ALDOL CONDENSATE	6.53	~~1000~~	JAB R 12
3.	ALDOL CONDENSATE	6.97	~~6000~~	JAB R 12
4.	ALDOL CONDENSATE	7.03	2000	JA
5.	UNKNOWN	7.08	70	J
6.	UNKNOWN	7.15	80	J
7.	ALKANE	7.20	100	J
8.	UNKNOWN	7.36	~~200~~	~~JB~~ R 12
9.	ALDOL CONDENSATE	8.31	~~400~~	~~JAB~~ 1
10.	UNKNOWN	8.75	70	J
11.	ALDOL CONDENSATE	8.84	~~500~~	~~JAB~~ R 12
12.	ALDOL CONDENSATE	9.56	~~300~~	~~JAB~~
13.	ALDOL CONDENSATE	10.70	~~100~~	~~JA~~
14.	UNKNOWN	21.36	~~200~~	~~JB~~
15.	UNKNOWN	21.82	70	J
16.	UNKNOWN	22.02	70	J
17.	ADIPATE	23.99	~~200~~	~~JB~~ R 12
18.	UNKNOWN	24.67	~~100~~	~~JB~~
19.	UNKNOWN	27.83	~~400~~	~~JB~~
20.	PAH	31.32	200	J
21.	UNKNOWN	34.78	200	J
22.	UNKNOWN	36.32	200	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

000342

CLIENT SAMPLE NO.

17-004-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT

Lab Sample ID: 9206L708-009

Sample wt/vol: 30.5 (g/mL) G

Lab File ID: A072308

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: 63 decanted: (Y/N)__

Date Extracted: 06/26/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 07/23/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 3.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q	
108-95-2	Phenol	1900	~~B~~	11
111-44-4	bis(2-Chloroethyl)ether	890	U	
95-57-8	2-Chlorophenol	890	U	
541-73-1	1,3-Dichlorobenzene	890	U	
106-46-7	1,4-Dichlorobenzene	890	U	
95-50-1	1,2-Dichlorobenzene	890	U	
95-48-7	2-Methylphenol	890	U	
108-60-1	2,2'-oxybis(2-Chloropropane)	890	U	
106-44-5	4-Methylphenol	890	U	
621-64-7	N-Nitroso-di-n-propylamine	890	U	
67-72-1	Hexachloroethane	890	U	
98-95-3	Nitrobenzene	890	U	
78-59-1	Isophorone	890	U	
88-75-5	2-Nitrophenol	890	U	
105-67-9	2,4-Dimethylphenol	890	U	
111-91-1	bis(2-Chloroethoxy)methane	890	U	
120-83-2	2,4-Dichlorophenol	890	U	
120-82-1	1,2,4-Trichlorobenzene	890	U	
91-20-3	Naphthalene	890	U	
106-47-8	4-Chloroaniline	890	~~B~~ UJ	9
87-68-3	Hexachlorobutadiene	890	U	
59-50-7	4-Chloro-3-methylphenol	890	U	
91-57-6	2-Methylnaphthalene	890	U	
77-47-4	Hexachlorocyclopentadiene	890	U	
88-06-2	2,4,6-Trichlorophenol	890	U	
95-95-4	2,4,5-Trichlorophenol	2200	U	
91-58-7	2-Chloronaphthalene	890	U	
88-74-4	2-Nitroaniline	2200	U	
131-11-3	Dimethylphthalate	890	U	
208-96-8	Acenaphthylene	54	J	
606-20-2	2,6-Dinitrotoluene	890	U	
99-09-2	3-Nitroaniline	~~2200~~	~~U~~ R	10, 5
83-32-9	Acenaphthene	890	U	

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET 000343

CLIENT SAMPLE NO.

17-004-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT

Lab Sample ID: 9206L708-009

Sample wt/vol: 30.5 (g/mL) G

Lab File ID: A072308

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: 63 decanted: (Y/N)__

Date Extracted: 06/26/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 07/23/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 3.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
51-28-5	2,4-Dinitrophenol	2200	U
100-02-7	4-Nitrophenol	2200	U
132-64-9	Dibenzofuran	890	U
121-14-2	2,4-Dinitrotoluene	890	U
84-66-2	Diethylphthalate	890	U
7005-72-3	4-Chlorophenyl-phenylether	890	U
86-73-7	Fluorene	890	U
100-01-6	4-Nitroaniline	2200	U
534-52-1	4,6-Dinitro-2-methylphenol	2200	U
86-30-6	N-Nitrosodiphenylamine (1)	890	U
101-55-3	4-Bromophenyl-phenylether	890	U
118-74-1	Hexachlorobenzene	890	U
87-86-5	Pentachlorophenol	2200	U
85-01-8	Phenanthrene	230	J
120-12-7	Anthracene	73	J
86-74-8	Carbazole	890	U
84-74-2	Di-n-butylphthalate	890 ~~110~~	~~JB~~ U 11
206-44-0	Fluoranthene	460	J
129-00-0	Pyrene	390	J
85-68-7	Butylbenzylphthalate	890	U
91-94-1	3,3'-Dichlorobenzidine	890	U
56-55-3	Benzo(a)anthracene	890	U
218-01-9	Chrysene	120	J
117-81-7	bis(2-Ethylhexyl)phthalate	890 ~~870~~	~~JB~~ U 11
117-84-0	Di-n-octyl phthalate	890	U
205-99-2	Benzo(b)fluoranthene	230	J
207-08-9	Benzo(k)fluoranthene	240	J
50-32-8	Benzo(a)pyrene	190	J
193-39-5	Indeno(1,2,3-cd)pyrene	180	J
53-70-3	Dibenz(a,h)anthracene	890	U
191-24-2	Benzo(g,h,i)perylene	190	J

(1) - Cannot be separated from Diphenylamine

FORM 1 SV-2 3/90

1F

000044

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

17-004-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT

Lab Sample ID: 9206L708-009

Sample wt/vol: 30.5 (g/mL) G

Lab File ID: A072308

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: 63 decanted: (Y/N)__

Date Extracted: 06/26/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 07/23/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

pH: 3.1

Number TICs found: 19

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	5.60	1000	JA
2.	ALDOL CONDENSATE	6.82	~~3000~~	~~JAB~~ R 12
3.	ALDOL CONDENSATE	7.27	~~30000~~	~~JAB~~
4.	ALDOL CONDENSATE	8.60	~~800~~	~~JAB~~
5.	ALDOL CONDENSATE	9.12	~~900~~	~~JAB~~
6.	ALDOL CONDENSATE	9.30	1000	JA
7.	PHENYLETHANONE	11.41	900	J
8.	UNKNOWN	18.32	90000	J
9.	UNKNOWN	18.46	30000	J
10.	UNKNOWN	20.99	2000	J
11.	UNKNOWN	21.59	~~2000~~	~~JB~~ R 12
12.	ORGANIC ACID	22.76	1000	J
13.	UNKNOWN	25.01	~~1000~~	~~JB~~ R 12
14.	UNKNOWN	26.98	1000	J
15.	ALKANE	29.50	1000	J
16.	UNKNOWN	29.77	2000	J
17.	ALKANE	33.39	2000	J
18.	UNKNOWN	33.83	2000	J
19.	UNKNOWN	40.68	2000	J

1B 0100383 CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

06-001-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER La Sample ID: 9206L708-010

Sample wt/vol: 940 (g/mL) ML Lab File ID: A071405

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/14/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	11	U
111-44-4	bis(2-Chloroethyl)ether	11	U
95-57-8	2-Chlorophenol	11	U
541-73-1	1,3-Dichlorobenzene	11	U
106-46-7	1,4-Dichlorobenzene	11	U
95-50-1	1,2-Dichlorobenzene	11	U
95-48-7	2-Methylphenol	11	U
108-60-1	2,2'-oxybis(2-Chloropropane)	11	U
106-44-5	4-Methylphenol	11	U
621-64-7	N-Nitroso-di-n-propylamine	11	U
67-72-1	Hexachloroethane	11	U
98-95-3	Nitrobenzene	11	U
78-59-1	Isophorone	11	U
88-75-5	2-Nitrophenol	11	U
105-67-9	2,4-Dimethylphenol	11	U
111-91-1	bis(2-Chloroethoxy)methane	11	U
120-83-2	2,4-Dichlorophenol	11	U
120-82-1	1,2,4-Trichlorobenzene	11	U
91-20-3	Naphthalene	11	U
106-47-8	4-Chloroaniline	11	U
87-68-3	Hexachlorobutadiene	11	U
59-50-7	4-Chloro-3-methylphenol	11	U
91-57-6	2-Methylnaphthalene	11	U
77-47-4	Hexachlorocyclopentadiene	11	U
88-06-2	2,4,6-Trichlorophenol	11	U
95-95-4	2,4,5-Trichlorophenol	26	U
91-58-7	2-Chloronaphthalene	11	U
88-74-4	2-Nitroaniline	26	U
131-11-3	Dimethylphthalate	11	U
208-96-8	Acenaphthylene	11	U
606-20-2	2,6-Dinitrotoluene	11	U
99-09-2	3-Nitroaniline	26	U
83-32-9	Acenaphthene	11	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06-001-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER Lab Sample ID: 9206L[illegible]8-010

Sample wt/vol: 940 (g/mL) ML Lab File ID: A071405

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/14/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
51-28-5	2,4-Dinitrophenol	26	U
100-02-7	4-Nitrophenol	26	U
132-64-9	Dibenzofuran	11	U
121-14-2	2,4-Dinitrotoluene	11	U
84-66-2	Diethylphthalate	11	U
7005-72-3	4-Chlorophenyl-phenylether	11	U
86-73-7	Fluorene	11	U
100-01-6	4-Nitroaniline	26	U
534-52-1	4,6-Dinitro-2-methylphenol	26	U
86-30-6	N-Nitrosodiphenylamine (1)	11	U
101-55-3	4-Bromophenyl-phenylether	11	U
118-74-1	Hexachlorobenzene	11	U
87-86-5	Pentachlorophenol	26	U
85-01-8	Phenanthrene	11	U
120-12-7	Anthracene	11	U
86-74-8	Carbazole	11	U
84-74-2	Di-n-butylphthalate	11 ~~9~~	~~JB~~ J 11
206-44-0	Fluoranthene	11	U
129-00-0	Pyrene	11	U
85-68-7	Butylbenzylphthalate	11	U
91-94-1	3,3'-Dichlorobenzidine	11	U
56-55-3	Benzo(a)anthracene	11	U
218-01-9	Chrysene	11	U
117-81-7	bis(2-Ethylhexyl)phthalate	15	~~B~~ J 11
117-84-0	Di-n-octyl phthalate	11	U
205-99-2	Benzo(b)fluoranthene	11	U
207-08-9	Benzo(k)fluoranthene	11	U
50-32-8	Benzo(a)pyrene	11	U
193-39-5	Indeno(1,2,3-cd)pyrene	11	U
53-70-3	Dibenz(a,h)anthracene	11	U
191-24-2	Benzo(g,h,i)perylene	11	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

06-001-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER Lab Sample ID: 9206L708-010

Sample wt/vol: 940 (g/mL) ML Lab File ID: A071405

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/14/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

Number TICs found: 22 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	8.01	40	J
2.	UNKNOWN	8.59	4	J
3.	UNKNOWN	10.88	6	J
4.	BUTOXYETHOXYETHANOL	12.82	50	J
5.	UNKNOWN	15.42	5	J
6.	UNKNOWN	17.38	5	J
7.	UNKNOWN	22.03	4	J
8.	UNKNOWN	22.55	~~7~~	~~JB~~ R 12
9.	UNKNOWN	22.63	~~8~~	~~JB~~ R 12
10.	UNKNOWN	23.61	20	J
11.	UNKNOWN	23.82	10	J
12.	ALKANE	23.86	10	J
13.	ADIPATE	23.97	8	JB R 12
14.	UNKNOWN	24.23	5	J
15.	ALKANE	24.57	10	J
16.	ALKANE	25.38	9	J
17.	UNKNOWN	25.66	20	J
18.	ALKANE	26.33	7	J
19.	ALKANE	27.45	5	J
20.	UNKNOWN	27.76	10	JB R 12
21.	ALKANE	28.80	20	J
22.	ALKANE	30.43	4	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

000015

CLIENT SAMPLE NO.

06-001-M201

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/ ıter) WATER

Lab Sample ID: 9206L708-011

Sample wt/vol: 960 (g/mL) ML

Lab File ID: A071406

Level: (low/med) LOW

Date Received: 06/19/92

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

Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 07/14/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(2-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	26	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	26	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	26	U
83-32-9	Acenaphthene	10	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06-001-M201

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER Lab Sample ID: 9206L708-011

Sample wt/vol: 960 (g/mL) ML Lab File ID: A071406

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/14/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
51-28-5	2,4-Dinitrophenol	26	U
100-02-7	4-Nitrophenol	26	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	26	U
534-52-1	4,6-Dinitro-2-methylphenol	26	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	26	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10 ~~2~~	~~JB~~ J 11
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	19	~~B~~ U 11
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F 000417

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

06-001-M201

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER Lab Sample ID: 9206L708-011

Sample wt/vol: 960 (g/mL) ML Lab File ID: A071406

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/14/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

Number TICs found: 8 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.73	~~40~~	~~JB~~ R 12
2.	UNKNOWN	7.90	~~6~~	~~JB~~
3.	UNKNOWN	9.00	~~3~~	~~JB~~
4.	UNKNOWN	10.88	4	J
5.	UNKNOWN	17.39	~~2~~	~~JB~~ R 12
6.	UNKNOWN	22.54	~~3~~	~~JB~~
7.	ADIPATE	23.98	~~10~~	~~JB~~
8.	UNKNOWN	27.77	~~30~~	~~JB~~

1B 000433 CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

06-002-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER Lab Sample ID: 9206L708-12

Sample wt/vol: 990 (g/mL) ML Lab File ID: A071407

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/14/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(2-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	26	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	26	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	26	U
83-32-9	Acenaphthene	10	U

1C 0000434

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06-002-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER Lab Sample ID: 9206L708-012

Sample wt/vol: 990 (g/mL) ML Lab File ID: A071407

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 06/23/92

Conc ntrated Extract Volume: 1000(uL) Date Analyzed: 07/14/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
51-28-5	2,4-Dinitrophenol	26	U
100-02-7	4-Nitrophenol	26	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	26	U
534-52-1	4,6-Dinitro-2-methylphenol	26	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	26	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10 ~~2~~	~~JB~~ U 11
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	22	~~B~~ U 11
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

06-002-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-012

Sample wt/vol: 990 (g/mL) ML

Lab File ID: A071407

Level: (low/med) LOW

Date Received: 06/19/92

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

Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 07/14/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: 7.0

Number TICs found: 23

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.73	~~4~~	~~JB~~ R 12
2.	UNKNOWN	7.91	~~5~~	~~JB~~ R 12
3.	UNKNOWN	10.89	3	J
4.	UNKNOWN	17.39	~~8~~	~~JB~~ R 12
5.	ALKANE	20.90	~~6~~	J
6.	UNKNOWN	22.23	~~3~~	~~JB~~ R 12
7.	ALKANE	22.34	3	J
8.	UNKNOWN	22.56	~~20~~	~~JB~~ R 12
9.	UNKNOWN	22.64	~~9~~	~~JB~~ R 12
10.	ALKANE	22.75	5	J
11.	ALKANE	22.89	4	J
12.	UNKNOWN	23.84	~~10~~	~~JB~~ R 12
13.	ALKANE	23.87	5	J
14.	ADIPATE	23.98	~~10~~	~~JB~~ R 12
15.	UNKNOWN	24.19	~~6~~	~~JB~~ R ↓
16.	UNKNOWN	24.24	~~7~~	~~JB~~ R
17.	ALKANE	24.58	4	J
18.	ALKANE	25.39	5	J
19.	ALKANE	26.35	4	J
20.	ALKANE	27.48	3	J
21.	UNKNOWN	27.78	~~20~~	~~JB~~ R 12
22.	ALKANE	28.83	4	J
23.	ALKANE	30.47	3	J

1B 0000466 CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

06-004-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER Lab Sample ID: 9206L708-013

Sample wt/vol: 970 (g/mL) ML Lab File ID: A071408

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/14/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(2-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	26	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	26	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	26	U
83-32-9	Acenaphthene	10	U

1C 0000467 CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

06-004-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER Lab Sample ID: 9206L708-013

Sample wt/vol: 970 (g/mL) ML Lab File ID: A071408

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/14/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
51-28-5	2,4-Dinitrophenol	26	U
100-02-7	4-Nitrophenol	26	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	26	U
534-52-1	4,6-Dinitro-2-methylphenol	26	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	26	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10 ~~9~~	~~JB~~ U 11
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	14	~~B~~ U 11
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F 0000468

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

06-004-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER Lab Sample ID: 9206L708-013

Sample wt/vol: 970 (g/mL) ML Lab File ID: A071408

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/14/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

Number TICs found: 24 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	9.03	~~4~~	~~JB~~ R 12
2.	UNKNOWN	10.90	6	J
3.	BUTOXYETHOXYETHANOL	12.82	7	J
4.	UNKNOWN	13.48	4	J
5.	UNKNOWN	15.44	4	J
6.	UNKNOWN	17.40	~~8~~	~~JB~~ R 12
7.	UNKNOWN	20.51	~~9~~	~~JB~~ R 12
8.	UNKNOWN	20.62	4	J
9.	UNKNOWN	20.90	20	J
10.	ORGANIC ACID	21.34	5	J
11.	UNKNOWN	22.25	~~20~~	~~JB~~ R 12
12.	UNKNOWN	22.28	10	J
13.	UNKNOWN	22.43	7	J
14.	ALCOHOL	22.56	~~100~~	~~JB~~ R 12
15.	UNKNOWN	23.79	10	J
16.	UNKNOWN	23.85	40	J
17.	ADIPATE	23.99	~~8~~	~~JB~~ R 12
18.	UNKNOWN	24.04	~~4~~	~~JB~~
19.	UNKNOWN	24.20	~~30~~	~~JB~~
20.	UNKNOWN	24.25	~~40~~	~~JB~~
21.	UNKNOWN	25.70	6	J
22.	UNKNOWN	25.92	4	J
23.	UNKNOWN	27.81	~~40~~	~~JB~~ R 12
24.	UNKNOWN	28.87	5	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

0000501

CLIENT SAMPLE NO.

17-001-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER Lab Sample ID: 9206L708-014

Sample wt/vol: 990 (g/mL) ML Lab File ID: A071409

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/14/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(2-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	26	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	26	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	26	U
83-32-9	Acenaphthene	10	U

1C

0000502

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

17-001-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER Lab Sample ID: 9206L708-014

Sample wt/vol: 990 (g/mL) ML Lab File ID: A071409

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/14/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
51-28-5	2,4-Dinitrophenol	26	U
100-02-7	4-Nitrophenol	26	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	26	U
534-52-1	4,6-Dinitro-2-methylphenol	26	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	26	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10 ~~2~~	~~JB~~ J 11
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	18	~~B~~ J 11
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F 0000509

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

17-001-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER Lab Sample ID: 9206L708-014

Sample wt/vol: 990 (g/mL) ML Lab File ID: A071409

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/14/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

Number TICs found: 22 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	BUTOXYETHOXYETHANOL	12.83	10	J
2.	ALKANE	20.17	8	J
3.	ALKANE	21.18	6	J
4.	ALKANE	21.46	5	J
5.	ALKANE	21.80	10	J
6.	ALKANE	21.93	7	J
7.	ALKANE	22.00	10	J
8.	CYCLOALKANE	22.07	5	J
9.	CYCLOHEXANE	22.14	10	J
10.	ALKANE	22.35	20	J
11.	UNKNOWN	22.48	7	J
12.	UNKNOWN	22.54	20	J
13.	UNKNOWN	22.65	~~5~~	~~JB~~ R 12
14.	ALKANE	22.89	20	J
15.	CYCLOALKANE	23.32	5	J
16.	ALKANE	23.48	9	J
17.	UNKNOWN	23.54	6	J
18.	UNKNOWN	23.84	~~7~~	~~JB~~ R 12
19.	ALKANE	23.88	6	J
20.	ADIPATE	23.99	~~8~~	~~JB~~ R 12
21.	ALKANE	24.11	5	J
22.	UNKNOWN	27.80	10	J

1B 0000534

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

17-002-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER Lab Sample ID: 9206L708-015

Sample wt/vol: 970 (g/mL) ML Lab File ID: A071612

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/16/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	10 ~~0.6~~	~~J~~ U 13
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(2-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	26	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	26	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	26	U
83-32-9	Acenaphthene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET 0100535

CLIENT SAMPLE NO.

17-002-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER Lab Sample ID: 9206L708-015

Sample wt/vol: 970 (g/mL) ML Lab File ID: A071612

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/16/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
51-28-5	2,4-Dinitrophenol	26	U
100-02-7	4-Nitrophenol	26	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	~~26~~	~~U~~ R 6
534-52-1	4,6-Dinitro-2-methylphenol	26	U
86-30-6	N-Nitrosodiphenylamine (1)	10	~~U~~ UJ 5
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	26	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	~~10~~	~~U~~ R 6
84-74-2	Di-n-butylphthalate	10 ~~9~~	~~JB~~ U 11
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	13	~~B~~ U 11
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F 0000538

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

17-002-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-015

Sample wt/vol: 970 (g/mL) ML

Lab File ID: A071612

Level: (low/med) LOW

Date Received: 06/19/92

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

Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 07/16/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

Number TICs found: 22

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CYCLOPENTANOL	7.76	~~30~~	~~JB~~ R 12
2.	UNKNOWN	7.93	~~4~~	~~JB~~ R 12
3.	BUTOXYETHOXYETHANOL	12.85	20	J
4.	UNKNOWN	15.47	5	J
5.	UNKNOWN	17.42	~~5~~	~~JB~~ R 12
6.	ALKANE	20.18	4	J
7.	UNKNOWN	20.51	3	J
8.	ALKANE	20.87	3	J
9.	ALKANE	20.92	7	J
10.	ALKANE	21.80	5	J
11.	ALKANE	21.94	3	J
12.	ALKANE	22.01	4	J
13.	UNKNOWN	22.15	5	J
14.	UNKNOWN	22.24	3	J
15.	ALKANE	22.36	8	J
16.	ALKANE	22.49	5	J
17.	UNKNOWN	22.55	20	J
18.	UNKNOWN	22.65	5	J
19.	ALKANE	22.90	10	J
20.	UNKNOWN	23.85	~~4~~	~~JB~~ R 12
21.	ADIPATE	24.00	~~5~~	~~JB~~ ↓
22.	UNKNOWN	27.81	~~10~~	~~JB~~ ↓

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET 0000568

CLIENT SAMPLE NO.

17-003-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-016

Sample wt/vol: 990 (g/mL) ML

Lab File ID: A071613

Level: (low/med) LOW

Date Received: 06/19/92

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

Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 07/16/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	10 ~~0.8~~	~~J~~ U 13
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(2-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	26	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	26	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	26	U
83-32-9	Acenaphthene	10	U

1C

0700569

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

17-003-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-016

Sample wt/vol: 990 (g/mL) ML

Lab File ID: A071613

Level: (low/med) LOW

Date Received: 06/19/92

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

Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 07/16/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
51-28-5	2,4-Dinitrophenol	26	U
100-02-7	4-Nitrophenol	26	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	~~26~~	~~U~~ R 4
534-52-1	4,6-Dinitro-2-methylphenol	26	U
86-30-6	N-Nitrosodiphenylamine (1)	10	~~U~~ UJ 5
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	26	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	~~10~~	~~U~~ R 6
84-74-2	Di-n-butylphthalate	10 ~~2~~	~~JB~~ U 11
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10 ~~6~~	~~JB~~ U 11
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET 0000570

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

17-003-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-016

Sample wt/vol: 990 (g/mL) ML

Lab File ID: A071613

Level: (low/med) LOW

Date Received: 06/19/92

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

Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 07/16/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

Number TICs found: 23

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CYCLOPENTANOL	7.74	~~10~~	~~JB~~ R 12
2.	UNKNOWN	7.91	~~4~~	~~JB~~ ↓
3.	UNKNOWN	9.04	~~3~~	~~JB~~ ↓
4.	UNKNOWN	10.91	4	J
5.	UNKNOWN	13.51	3	J
6.	ORGANIC ACID	15.20	4	J
7.	UNKNOWN	17.40	~~4~~	~~JB~~ R 12
8.	UNKNOWN	20.51	~~6~~	~~JB~~ R 12
9.	UNKNOWN	20.90	20	J
10.	UNKNOWN	22.24	9	J
11.	UNKNOWN	22.37	2	J
12.	ALCOHOL	22.55	~~60~~	~~JB~~ R 12
13.	UNKNOWN	22.75	2	J
14.	UNKNOWN	23.78	6	J
15.	UNKNOWN	23.83	20	J
16.	ADIPATE	23.98	~~4~~	~~JB~~ R 12
17.	UNKNOWN	24.03	~~3~~	~~JB~~
18.	UNKNOWN	24.19	~~10~~	~~JB~~ ↓
19.	UNKNOWN	24.24	20	J
20.	UNKNOWN	25.91	7	J
21.	UNKNOWN	25.97	4	J
22.	UNKNOWN	26.33	3	J
23.	UNKNOWN	27.78	~~20~~	~~JB~~ R 12

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

0000603

CLIENT SAMPLE NO.

17-003-M101

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-017

Sample wt/vol: 990 (g/mL) ML

Lab File ID: A071614

Level: (low/med) LOW

Date Received: 06/19/92

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

Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 07/16/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(2-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	26	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	26	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	26	U
83-32-9	Acenaphthene	10	U

1C 0000604 CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

17-003-M101

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER Lab Sample ID: 9206L708-017

Sample wt/vol: 990 (g/mL) ML Lab File ID: A071614

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/16/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q	
51-28-5	2,4-Dinitrophenol	26	U	
100-02-7	4-Nitrophenol	26	U	
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-Dinitrotoluene	10	U	
84-66-2	Diethylphthalate	10	U	
7005-72-3	4-Chlorophenyl-phenylether	10	U	
86-73-7	Fluorene	10	U	
100-01-6	4-Nitroaniline	~~26~~	~~U~~ R	6
534-52-1	4,6-Dinitro-2-methylphenol	26	U	
86-30-6	N-Nitrosodiphenylamine (1)	10	~~U~~ UJ	5
101-55-3	4-Bromophenyl-phenylether	10	U	
118-74-1	Hexachlorobenzene	10	U	
87-86-5	Pentachlorophenol	26	U	
85-01-8	Phenanthrene	10	U	
120-12-7	Anthracene	10	U	
86-74-8	Carbazole	~~10~~	~~U~~ R	6
84-74-2	Di-n-butylphthalate	10 ~~2~~	~~JB~~ U	11
206-44-0	Fluoranthene	10	U	
129-00-0	Pyrene	10	U	
85-68-7	Butylbenzylphthalate	10	U	
91-94-1	3,3'-Dichlorobenzidine	10	U	
56-55-3	Benzo(a)anthracene	10	U	
218-01-9	Chrysene	10	U	
117-81-7	bis(2-Ethylhexyl)phthalate	11	~~B~~ U	11
117-84-0	Di-n-octyl phthalate	10	U	
205-99-2	Benzo(b)fluoranthene	10	U	
207-08-9	Benzo(k)fluoranthene	10	U	
50-32-8	Benzo(a)pyrene	10	U	
193-39-5	Indeno(1,2,3-cd)pyrene	10	U	
53-70-3	Dibenz(a,h)anthracene	10	U	
191-24-2	Benzo(g,h,i)perylene	10	U	

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

000605

CLIENT SAMPLE NO.

17-003-M101

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-017

Sample wt/vol: 990 (g/mL) ML

Lab File ID: A071614

Level: (low/med) LOW

Date Received: 06/19/92

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

Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 07/16/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

Number TICs found: 22

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	10.40	2	J
2.	CYCLOHEXANEDIOL	10.91	4	J
3.	UNKNOWN	20.51	~~4~~	~~JB~~ R 12
4.	UNKNOWN	20.90	10	J
5.	UNKNOWN	22.25	6	J
6.	UNKNOWN	22.27	5	J
7.	ALCOHOL	22.55	~~40~~	~~JB~~ R 12
8.	UNKNOWN	22.63	~~20~~	~~JB~~ R 12
9.	UNKNOWN	22.75	4	J
10.	UNKNOWN	23.83	~~30~~	~~JB~~ R 12
11.	ADIPATE	23.98	~~7~~	~~JB~~ ↓
12.	UNKNOWN	24.19	~~10~~	~~JB~~ ↓ ↓
13.	UNKNOWN	24.23	10	J
14.	ALKANE	24.57	5	J
15.	ALKANE	25.39	5	J
16.	ALKANE	26.34	4	J
17.	ALKANE	27.47	3	J
18.	UNKNOWN	27.78	~~20~~	~~JB~~ R 12
19.	ALKANE	28.81	4	J
20.	ALKANE	30.45	3	J
21.	ALKANE	32.42	2	J
22.	UNKNOWN	34.73	2	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

000635

CLIENT SAMPLE NO.

17-004-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-018

Sample wt/vol: 980 (g/mL) ML

Lab File ID: A071413

Level: (low/med) LOW

Date Received: 06/19/92

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

Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 07/14/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(2-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	26	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	26	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	26	U
83-32-9	Acenaphthene	10	U

1C

0000636

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

17-004-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-018

Sample wt/vol: 980 (g/mL) ML

Lab File ID: A071413

Level: (low/med) LOW

Date Received: 06/19/92

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

Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 07/14/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
51-28-5	2,4-Dinitrophenol	26	U
100-02-7	4-Nitrophenol	26	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	~~26~~	~~U~~ R 6
534-52-1	4,6-Dinitro-2-methylphenol	26	U
86-30-6	N-Nitrosodiphenylamine (1)	10	~~B~~ UJ 5
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	26	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	~~10~~	~~U~~ R 6
84-74-2	Di-n-butylphthalate	10 ~~2~~	~~JB~~ U 11
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	~~B~~ U 11
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM 1 SV-2 3/90

1F 0000637

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

17-004-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-018

Sample wt/vol: 980 (g/mL) ML

Lab File ID: A071413

Level: (low/med) LOW

Date Received: 06/19/92

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

Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 07/14/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

Number TICs found: 23

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.37	7	J
2.	CYCLOHEXANOL	7.85	9	J
3.	CYCLOHEXENONE	8.77	4	J
4.	ALDOL CONDENSATE	10.41	4	~~JA~~ ok
5.	UNKNOWN	10.50	4	J
6.	UNKNOWN	17.43	~~5~~	~~JB~~ R 12
7.	UNKNOWN	20.51	~~10~~	~~JB~~ R 12
8.	UNKNOWN	20.93	20	J
9.	ORGANIC ACID	21.38	5	J
10.	UNKNOWN	21.94	4	J
11.	UNKNOWN	22.28	20	J
12.	UNKNOWN	22.46	3	J
13.	ALCOHOL	22.60	~~70~~	~~JB~~ R 12
14.	UNKNOWN	22.66	~~20~~	~~JB~~ R 12
15.	UNKNOWN	22.78	6	J
16.	UNKNOWN	23.87	40	J
17.	ADIPATE	24.02	~~6~~	~~JB~~ R 12
18.	UNKNOWN	24.30	50	J
19.	ALKANE	24.61	5	J
20.	ALKANE	25.43	6	J
21.	ALKANE	26.39	4	J
22.	ALKANE	27.52	4	J
23.	UNKNOWN	27.87	~~10~~	~~JB~~ R 12

1B 0 0 0 0 6 6 9 CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

01-001-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER Lab Sample ID: 9206L708-020

Sample wt/vol: 980 (g/mL) ML Lab File ID: A071414

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/14/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(2-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	26	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	26	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	26	U
83-32-9	Acenaphthene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET 0100670

CLIENT SAMPLE NO.

01-001-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER Lab Sample ID 9206L708-020

Sample wt/vol: 980 (g/mL) ML Lab File ID: A071414

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/14/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
51-28-5	2,4-Dinitrophenol	26	U
100-02-7	4-Nitrophenol	26	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	26	U
534-52-1	4,6-Dinitro-2-methylphenol	26	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	26	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10 ~~2~~	~~JB~~ U 11
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10 ~~9~~	~~JB~~ U 11
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

01-001-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER Lab Sample ID: 9206L708-020

Sample wt/vol: 980 (g/mL) ML Lab File ID: A071414

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/14/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

Number TICs found: 24 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.36	5	J
2.	CYCLOHEXANOL	7.83	3	J
3.	METHOXYETHOXYETHANOL	8.58	3	J
4.	CYCLOHEXENONE	8.75	4	J
5.	UNKNOWN	9.05	~~2~~	~~JB~~ R 12
6.	UNKNOWN	20.52	~~5~~	~~JB~~ R 12
7.	UNKNOWN	20.90	10	J
8.	UNKNOWN	20.93	6	J
9.	UNKNOWN	22.25	9	J
10.	UNKNOWN	22.29	7	J
11.	ALCOHOL	22.57	~~60~~	~~JB~~ R 12
12.	UNKNOWN	22.65	~~10~~	~~JB~~ R 12
13.	UNKNOWN	22.76	3	J
14.	UNKNOWN	23.80	9	J
15.	UNKNOWN	23.85	~~20~~	~~JB~~ R 12
16.	ADIPATE	24.00	~~5~~	~~JB~~
17.	UNKNOWN	24.21	~~10~~	~~JB~~
18.	UNKNOWN	24.26	~~20~~	~~JB~~
19.	ALKANE	24.59	2	J
20.	ALKANE	25.41	3	J
21.	UNKNOWN	25.93	2	J
22.	ALKANE	26.37	3	J
23.	UNKNOWN	27.81	~~20~~	~~JB~~ R 12
24.	ALKANE	28.86	3	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

0700704

CLIENT SAMPLE NO.

01-003-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-021

Sample wt/vol: 990 (g/mL) ML

Lab File ID: A071615

Level: (low/med) LOW

Date Received: 06/19/92

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

Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 07/16/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(2-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	26	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	26	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	26	U
83-32-9	Acenaphthene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET 0200705

CLIENT SAMPLE NO.

01-003-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER Lab Sample ID: P06L708-021

Sample wt/vol: 990 (g/mL) ML Lab File ID: A071615

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/16/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
51-28-5	2,4-Dinitrophenol	26	U
100-02-7	4-Nitrophenol	26	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	1	J
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	26	U
534-52-1	4,6-Dinitro-2-methylphenol	26	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	26	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10 ~~3~~	~~JB~~ U 11
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	20	~~B~~ U 11
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

0000708

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

01-003-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-021

Sample wt/vol: 990 (g/mL) ML

Lab File ID: A071615

Level: (low/med) LOW

Date Received: 06/19/92

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

Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 07/16/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: 7.0

Number TICs found: 17

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.34	5	J
2.	CYCLOHEXANOL	7.82	3	J
3.	CYCLOHEXENONE	8.74	3	J
4.	UNKNOWN	9.05	~~5~~	~~JB~~ R 12
5.	UNKNOWN	20.51	~~4~~	~~JB~~ R 12
6.	UNKNOWN	20.89	7	J
7.	UNKNOWN	22.24	5	J
8.	ALCOHOL	22.56	~~30~~	~~JB~~ R 12
9.	HYDROCARBON	22.75	2	J
10.	UNKNOWN	23.78	3	J
11.	UNKNOWN	23.83	~~3~~	~~JB~~ R 12
12.	ADIPATE	23.98	~~9~~	~~JB~~
13.	UNKNOWN	24.03	~~2~~	~~JB~~
14.	UNKNOWN	24.18	~~9~~	~~JB~~
15.	UNKNOWN	24.24	20	J
16.	UNKNOWN	26.54	3	J
17.	UNKNOWN	27.80	~~50~~	~~JB~~ R 12

1B 0000733

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

01-003-M101

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER Lab Sample ID: 9206L708-022

Sample wt/vol: 990 (g/mL) ML Lab File ID: A072307

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/23/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(2-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	~~U~~ UJ 9
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	26	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	26	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	~~26~~	~~U~~ K 10, 9
83-32-9	Acenaphthene	10	U

1C 0 0 0 7 3 4

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

01-003-M101

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-022

Sample wt/vol: 990 (g/mL) ML

Lab File ID: A072307

Level: (low/med) LOW

Date Received: 06/19/92

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

Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 07/23/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
51-28-5	2,4-Dinitrophenol	26	U
100-02-7	4-Nitrophenol	26	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	1	J
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	26	U
534-52-1	4,6-Dinitro-2-methylphenol	26	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	26	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10 ~~3~~	~~JB~~ U 11
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	13	~~B~~ U 11
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM 1 SV-2 3/90

1F 0100735

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

01-003-M101

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206[illegible]08-022

Sample wt/vol: 990 (g/mL) ML

Lab File ID: A072307

Level: (low/med) LOW

Date Received: 06/19/92

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

Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 07/23/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: 7.0

Number TICs found: 17

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CYCLOHEXANOL	8.05	5	J
2.	UNKNOWN	8.23	4	J
3.	UNKNOWN	17.72	3	J
4.	UNKNOWN	20.75	5	J
5.	UNKNOWN	21.16	20	J
6.	UNKNOWN	22.47	10	J
7.	UNKNOWN	22.51	7	J
8.	UNKNOWN	22.80	60	J
9.	UNKNOWN	24.09	7	J
10.	UNKNOWN	24.14	10	J
11.	UNKNOWN	24.18	7	J
12.	ADIPATE	24.31	6	J
13.	UNKNOWN	24.52	20	J
14.	UNKNOWN	24.58	20	J
15.	UNKNOWN	26.37	4	J
16.	UNKNOWN	26.42	2	J
17.	UNKNOWN	28.36	10	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06-001-D001MS

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT

Lab Sample ID: 9206L708-001 MS

Sample wt/vol: 30.5 (g/mL) G

Lab File ID: A071707

Level: (low/med) LOW

Date Received: 06/19/92

% Moisture: 19 decanted: (Y/N)__

Date Extracted: 06/26/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 07/17/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol		SP
111-44-4	bis(2-Chloroethyl)ether	400	U
95-57-8	2-Chlorophenol		SP
541-73-1	1,3-Dichlorobenzene	400	U
106-46-7	1,4-Dichlorobenzene		SP
95-50-1	1,2-Dichlorobenzene	400	U
95-48-7	2-Methylphenol	400	U
108-60-1	2,2'-oxybis(2-Chloropropane)	400	U
106-44-5	4-Methylphenol	400	U
621-64-7	N-Nitroso-di-n-propylamine		SP
67-72-1	Hexachloroethane	400	U
98-95-3	Nitrobenzene	400	U
78-59-1	Isophorone	400	U
88-75-5	2-Nitrophenol	400	U
105-67-9	2,4-Dimethylphenol	400	U
111-91-1	bis(2-Chloroethoxy)methane	400	U
120-83-2	2,4-Dichlorophenol	400	U
120-82-1	1,2,4-Trichlorobenzene		SP
91-20-3	Naphthalene	190	J
106-47-8	4-Chloroaniline	400	U
87-68-3	Hexachlorobutadiene	400	U
59-50-7	4-Chloro-3-methylphenol		SP
91-57-6	2-Methylnaphthalene	100	J
77-47-4	Hexachlorocyclopentadiene	400	U
88-06-2	2,4,6-Trichlorophenol	400	U
95-95-4	2,4,5-Trichlorophenol	1000	U
91-58-7	2-Chloronaphthalene	400	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethylphthalate	400	U
208-96-8	Acenaphthylene	100	J
606-20-2	2,6-Dinitrotoluene	400	U
99-09-2	3-Nitroaniline	1000	U
83-32-9	Acenaphthene		SP

SP: SPIKE COMPOUND

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06-001-D001MS

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT Lab Sample ID: 9206L708-0[illegible] MS

Sample wt/vol: 30.5 (g/mL) G Lab File ID: A071707

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: 19 decanted: (Y/N)__ Date Extracted: 06/26/92

Concentrated Extract Volume: 500(uL) Date Analyzed: 07/17/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
51-28-5	2,4-Dinitrophenol	1000	U
100-02-7	4-Nitrophenol		SP
132-64-9	Dibenzofuran	130	J
121-14-2	2,4-Dinitrotoluene		SP
84-66-2	Diethylphthalate	400	U
7005-72-3	4-Chlorophenyl-phenylether	400	U
86-73-7	Fluorene	140	J
100-01-6	4-Nitroaniline	~~1000~~	~~U~~ R 8
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	N-Nitrosodiphenylamine (1)	400	U
101-55-3	4-Bromophenyl-phenylether	400	U
118-74-1	Hexachlorobenzene	400	U
87-86-5	Pentachlorophenol		SP
85-01-8	Phenanthrene	1100	
120-12-7	Anthracene	350	J
86-74-8	Carbazole	67	J J 8
84-74-2	Di-n-butylphthalate	400 ~~40~~	~~JB~~ U 11
206-44-0	Fluoranthene	2100	
129-00-0	Pyrene		SP
85-68-7	Butylbenzylphthalate	400	U
91-94-1	3,3'-Dichlorobenzidine	400	U
56-55-3	Benzo(a)anthracene	1200	
218-01-9	Chrysene	1300	
117-81-7	bis(2-Ethylhexyl)phthalate	400 ~~370~~	~~JB~~ U 11
117-84-0	Di-n-octyl phthalate	400	U
205-99-2	Benzo(b)fluoranthene	910	
207-08-9	Benzo(k)fluoranthene	750	
50-32-8	Benzo(a)pyrene	1000	
193-39-5	Indeno(1,2,3-cd)pyrene	570	
53-70-3	Dibenz(a,h)anthracene	260	J
191-24-2	Benzo(g,h,i)perylene	570	J 7

(1) - Cannot be separated from Diphenylamine

SP: SPIKE COMPOUND

1B 0000928

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06-001-D001MSD

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT Lab Sample ID: 9206L708-00[illegible]MSD

Sample wt/vol: 30.1 (g/mL) G Lab File ID: A071708

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: 19 decanted: (Y/N)__ Date Extracted: 06/26/92

Concentrated Extract Volume: 500(uL) Date Analyzed: 07/17/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol		SP
111-44-4	bis(2-Chloroethyl)ether	410	U
95-57-8	2-Chlorophenol		SP
541-73-1	1,3-Dichlorobenzene	410	U
106-46-7	1,4-Dichlorobenzene		SP
95-50-1	1,2-Dichlorobenzene	410	U
95-48-7	2-Methylphenol	410	U
108-60-1	2,2'-oxybis(2-Chloropropane)	410	U
106-44-5	4-Methylphenol	410	U
621-64-7	N-Nitroso-di-n-propylamine		SP
67-72-1	Hexachloroethane	410	U
98-95-3	Nitrobenzene	410	U
78-59-1	Isophorone	410	U
88-75-5	2-Nitrophenol	410	U
105-67-9	2,4-Dimethylphenol	410	U
111-91-1	bis(2-Chloroethoxy)methane	410	U
120-83-2	2,4-Dichlorophenol	410	U
120-82-1	1,2,4-Trichlorobenzene		SP
91-20-3	Naphthalene	410	U
106-47-8	4-Chloroaniline	410	U
87-68-3	Hexachlorobutadiene	410	U
59-50-7	4-Chloro-3-methylphenol		SP
91-57-6	2-Methylnaphthalene	410	U
77-47-4	Hexachlorocyclopentadiene	410	U
88-06-2	2,4,6-Trichlorophenol	410	U
95-95-4	2,4,5-Trichlorophenol	1000	U
91-58-7	2-Chloronaphthalene	410	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethylphthalate	410	U
208-96-8	Acenaphthylene	33	J
606-20-2	2,6-Dinitrotoluene	410	U
99-09-2	3-Nitroaniline	1000	U
83-32-9	Acenaphthene		SP

SP: SPIKE COMPOUND

1C 0000927

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06-001-D001MSD

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT Lab Sample ID: 9206L708-001 MSD

Sample wt/vol: 30.1 (g/mL) G Lab File ID: A071708

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: 19 decanted: (Y/N)__ Date Extracted: 06/26/92

Concentrated Extract Volume: 500(uL) Date Analyzed: 07/17/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
51-28-5	2,4-Dinitrophenol	1000	U
100-02-7	4-Nitrophenol		SP
132-64-9	Dibenzofuran	410	U
121-14-2	2,4-Dinitrotoluene		SP
84-66-2	Diethylphthalate	410	U
7005-72-3	4-Chlorophenyl-phenylether	410	U
86-73-7	Fluorene	28	J
100-01-6	4-Nitroaniline	~~1000~~	~~U~~ R 8
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	N-Nitrosodiphenylamine (1)	410	U
101-55-3	4-Bromophenyl-phenylether	410	U
118-74-1	Hexachlorobenzene	410	U
87-86-5	Pentachlorophenol		SP
85-01-8	Phenanthrene	290	J
120-12-7	Anthracene	85	J
86-74-8	Carbazole	29	J J 8
84-74-2	Di-n-butylphthalate	410 ~~31~~	~~UB~~ U 11
206-44-0	Fluoranthene	660	
129-00-0	Pyrene		SP
85-68-7	Butylbenzylphthalate	410	U
91-94-1	3,3'-Dichlorobenzidine	410	U
56-55-3	Benzo(a)anthracene	300	J
218-01-9	Chrysene	350	J
117-81-7	bis(2-Ethylhexyl)phthalate	410 ~~340~~	~~JB~~ U 11
117-84-0	Di-n-octyl phthalate	410	U
205-99-2	Benzo(b)fluoranthene	310	J
207-08-9	Benzo(k)fluoranthene	270	J
50-32-8	Benzo(a)pyrene	290	J
193-39-5	Indeno(1,2,3-cd)pyrene	200	J
53-70-3	Dibenz(a,h)anthracene	73	J
191-24-2	Benzo(g,h,i)perylene	230	J J 7

(1) - Cannot be separated from Diphenylamine

SP: SPIKE COMPOUND FORM 1 SV-2 3/90

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

000093

CLIENT SAMPLE NO.

06-002-M001MS

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER Lab Sample ID: 9206L708-012 MS

Sample wt/vol: 980 (g/mL) ML Lab File ID: A072303

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/23/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol		SP
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol		SP
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene		SP
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(2-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine		SP
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene		SP
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	~~U~~ UJ 9
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol		SP
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	26	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	26	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	0.6	J
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	~~26~~	~~U~~ K 10,9
83-32-9	Acenaphthene		SP

SP: SPIKE COMPOUND

1C 000933

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06-002-M001MS

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/wate) WATER Lab Sample ID: 9206L708-012 MS

Sample wt/vol: 980 (g/mL) ML Lab File ID: A072303

Level: (low/med) LOW Date Received: 06/19/92

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/23/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
51-28-5	2,4-Dinitrophenol	26	U
100-02-7	4-Nitrophenol		SP
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene		SP
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	26	U
534-52-1	4,6-Dinitro-2-methylphenol	26	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol		SP
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10 ~~2~~	~~JB~~ J 11
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene		SP
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

SP: SPIKE COMPOUND FORM 1 SV-2 3/90

1B 0000937

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06-002-M001MSD

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-012 MSD

Sample wt/vol: 990 (g/mL) ML

Lab File ID: A072304

Level: (low/med) LOW

Date Received: 06/19/92

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

Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 07/23/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol		SP
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol		SP
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene		SP
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(2-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine		SP
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene		SP
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	~~U~~ 5.9
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol		SP
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	26	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	26	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	~~26~~	~~U~~ R 10.9
83-32-9	Acenaphthene		SP

SP: SPIKE COMPOUND

FORM 1 SV-1

3/90

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06-002-M001MSD

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water WATER

Lab Sample ID: 9206L708-012 MSD

Sample wt/vol: 990 (g/mL) ML

Lab File ID: A072304

Level: (low/med) LOW

Date Received: 06/19/92

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

Date Extracted: 06/23/92

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 07/23/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
51-28-5	2,4-Dinitrophenol	26	U
100-02-7	4-Nitrophenol		SP
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene		SP
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	26	U
534-52-1	4,6-Dinitro-2-methylphenol	26	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol		SP
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10 ~~2~~	~~JB~~ U 11
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene		SP
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	15	~~B~~ U 11
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

SP: SPIKE COMPOUND

STANDARD OPERATING PROCEDURE

Date: January 1992
Revision: 8

	YES	NO	N/A

PACKAGE COMPLETENESS AND DELIVERABLES
CASE NUMBER: 92061708 LAB: RFW - Lionville

SITE: Coltsneck

1.0 Data Completeness and Deliverables

		YES	NO	N/A
1.1	Have any missing deliverables been received and added to the data package?	[✓]		

ACTION: Call lab for explanation/resubmittal of any missing deliverables. If lab cannot provide them, note the effect on review of the package under the "Contract Problems/Non-Compliance" section of reviewer narrative.

		YES	NO	N/A
1.2	Was SMO CCS checklist included with package?	[✓]		

2.0 Cover Letter SDG Narrative

		YES	NO	N/A
2.1	Is the Narrative or Cover Letter Present?	[✓]		
2.2	Are Case Number and/or SAS number contained in the Narrative or Cover letter?	[✓]		

3.0 Data Validation Checklist

The following checklist is divided into three parts. Part A is filled out if the data package contains any VOA analyses, Part B for any BNA analyses and Part C for Pesticide/PCBs.

Does this package contain:

	YES	NO
VOA Data?		✓
BNA Data?	✓	
Pesticide/PCB data?		✓

Action: Complete corresponding parts of checklist.

	YES	NO	N/A

PART B: BNA ANALYSES

1.0 Traffic Reports and Laboratory Narrative

1.1 Are the Traffic Report Forms present for all samples? [✓] ___ ___

ACTION: If no, contact lab for replacement of missing or illegible copies.

1.2 Do the Traffic Reports or Lab Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special notations affecting the quality of the data? ___ [✓] ___

ACTION: If any sample analyzed as a soil, other than TCLP, contains 50%-90% water, all data should be flagged as estimated ("J"). If a soil sample, other than TCLP, contains more than 90% water, all data should be qualified as unusable (R).

ACTION: If samples were not iced upon receipt at the laboratory, flag all positive results "J" and all non-detects "UJ".

2.0 Holding Times

2.1 Have any BNA technical holding times, determined from date of collection to date of extraction, been exceeded? ___ [✓] ___

Continuous extraction of water samples for BNA analysis must be started within seven days of the date of collection. Soil/ sediment samples must be extracted within 7 days of collection. Extracts must be analyzed within 40 days of the date of extraction.

YES NO N/A

Table of Holding Time Violations

(See Traffic Report)

Sample	Sample Matrix	Date Sampled	Date Lab Received	Date Extracted	Date Analyzed

DH 08-20-98

ACTION: If technical holding times are exceeded, flag all positive results as estimated ("J") and sample quantitation limits as estimated ("UJ"), and document in the narrative that holding times were exceeded.

If analyses were done more than 14 days beyond holding time, either on the first analysis or upon reanalysis, the reviewer must use professional judgement to determine the reliability of the data and the effects of additional storage on the sample results. At a minimum, all results should be qualified "J", but the reviewer may determine that non-detect data are unusable ("R"). If holding times are exceeded by more than 28 days, all non detect data are unusable (R).

3.0 Surrogate Recovery (Form II)

3.1 Are the BNA Surrogate Recovery Summaries (Form II) present for each of the following matrices:

a.	Low Water	[✓]	___ ___
b.	Low Soil	[✓]	___ ___
c.	Med Soil	[ ]	___ ✓

	YES	NO	N/A
3.2 Are all the BNA samples listed on the appropriate Surrogate Recovery Summaries for each of the following matrices:			
a. Low Water	[✓]		
b. Low Soil	[✓]		
c. Low Soil	[ ]		✓

ACTION: Call lab for explanation/resubmittals. If missing deliverables are unavailable, document effect in data assessments.

3.3 Were outliers marked correctly with an asterisk?	[✓]		

ACTION: Circle all outliers in red.

3.4 Were two or more base-neutral <u>OR</u> acid surrogate recoveries out of specification for any sample or method blank?	[ ]	✓	
If yes, were samples reanalyzed?	[ ]		✓
Were method blanks reanalyzed?	[ ]		✓

ACTION: If all BNA surrogate recoveries are > 10% but two within the base-neutral or acid fraction do not meet SOW specifications, <u>for the affected fraction only (i.e. base-neutral or acid compounds)</u>:

1. Flag all positive results as estimated ("J").
2. Flag all non-detects as estimated detection limits ("UJ") when recoveries are less than the lower acceptance limit.
3. If recoveries are greater than the upper acceptance limit, do not qualify non-detects.

	YES	NO	N/A
If any base-neutral <u>or</u> acid surrogate has a recovery of <10%: 1. Positive results for the fraction with <10% surrogate recovery are qualified with "J". 2. Non-detects for that fraction should be qualified as unusable (R) .			
Professional judgement should be used to qualify data that have method blank surrogate recoveries out of specification in both original and reanalyses. Check the internal standard areas.			
3.5 Are there any transcription/calculation errors between raw data and Form II?		[✓]	
ACTION: If large errors exist, call lab for explanation/resubmittal, make any necessary corrections and document effect in data assessments.			
4.0 <u>Matrix Spikes (Form III)</u>			
4.1 Is the Matrix Spike/Matrix Spike Duplicate Recovery Form (Form III) present?	[✓]		
4.2 Were matrix spikes analyzed at the required frequency for each of the following matrices:			
a. Low Water	[✓]		
b. Low Soil	[✓]		
c. Med Soil	[ ]		✓
ACTION: If any matrix spike data are missing, take the action specified in 3.2 above.			

YES NO N/A

4.3 How many BNA spike recoveries are outside QC limits?

Water	Soils
7 out of 22	0 out of 22

4.4 How many RPD's for matrix spike and matrix spike duplicate recoveries are outside QC limits?

Water	Soils
0 out of 11	1 out of 11

ACTION: No action is taken on MS/MSD data alone. However, using informed professional judgement, the data reviewer may use the matrix spike and matrix spike duplicate results in conjunction with other QC criteria and determine the need for some qualification of the data.

5.0 Blanks (Form IV)

5.1 Is the Method Blank Summary (Form IV) present? [✓] ___ ___

5.2 Frequency of Analysis:

Has a reagent/method blank analysis been reported per 20 samples of similar matrix, or concentration level, and for each extraction batch? [✓] ___ ___

5.3 Has a BNA method blank been analyzed for each GC/MS system used? [✓] ___ ___
(See SOW p. D - 59/SV, Section 8.7)

ACTION: If any method blank data are missing, call lab for explanation/resubmittal. If not available, use professional judgement to determine if the associated sample data should be qualified.

	YES	NO	N/A
5.4 Chromatography: review the blank raw data - chromatograms (RICs), quant reports or data system printouts and spectra.			
Is the chromatographic performance (baseline stability) for each instrument acceptable for BNAs?	[✓]	___	___

ACTION: Use professional judgement to determine the effect on the data.

6.0 Contamination

Note: "Water blanks", "drill blanks" and "distilled water blanks" are validated like any other sample and are not used to qualify the data. Do not confuse them with the other QC blanks discussed below.

	YES	NO	N/A
6.1 Do any method/instrument/reagent blanks have positive results (TCL and/or TIC) for BNAs? When applied as described below, the contaminant concentration in these blanks are multiplied by the sample dilution factor and corrected for % moisture where necessary.	✓	[✓] AH 08 2092	___
6.2 Do any field/rinse/ blanks have positive BNA results (TCL and/or TIC)?	✓	[ ]	___

ACTION: Prepare a list of the samples associated with each of the contaminated blanks. (Attach a separate sheet.)

Note: All field blank results associated to a particular group of samples (may exceed one per case) must be used to qualify data. Blanks may not be qualified because of contamination in another blank . Field Blanks must be qualified for surrogate, spectral, instrument performance or calibration QC problems.

YES NO N/A

ACTION: Follow the directions in the table below to qualify TCL results due to contamination. Use the largest value from all the associated blanks. If gross contamination exists, all data in the associated samples should be qualified as unusable (R).

Sample conc > CRQL but < 10x blank	Sample conc <CRQL & is< 10x blank value	Sample conc > CRQL value & >10x blank
Common Phthalate Esters		
Flag sample result with a "U";	Report CRQL & qualify "U"	No qualification is needed
Sample conc > CRQL but < 5x blank	Sample conc < CRQL & is < 5x blank value	Sample conc > CRQL value & >5 blank value
Other Contaminants		
Flag sample result with a "U";	Report CRQL & qualify "U"	No qualification is needed

NOTE: Analytes qualified "U" for blank contamination are still considered as "hits" when qualifying for calibration criteria.

ACTION: For TIC compounds, if the concentration in the sample is less than five times the concentration in the most contaminated associated blank, flag the sample data "R" (unusable).

6.3 Are there field/rinse/equipment blanks associated with every sample? [ ] ✓ ___

ACTION: For low level samples, note in data assessment that there is no associated field/rinse/equipment blank. Exception: samples taken from a drinking water tap do not have associated field blanks.

	YES	NO	N/A
7.0 GC/MS Instrument Performance Check			
7.1 Are the GC/MS Instrument Performance Check Forms (Form V) present for Decafluorotriphenylphosphine (DFTPP)?	[✓]	___	___
7.2 Are the enhanced bar graph spectrum and mass/charge (m/z) listing for the DFTPP provided for each twelve hour shift?	[✓]	___	___
7.3 Has an instrument performance check solution been analyzed for every twelve hours of sample analysis per instrument?	[✓]	___	___

ACTION: List date, time, instrument ID, and sample analyses for which no associated GC/MS tuning data are available.

DATE	TIME	INSTRUMENT	SAMPLE NUMBERS

DJH 08 20 92

ACTION: If lab cannot provide missing data, reject ("R") all data generated outside an acceptable twelve hour calibration interval.

ACTION: If mass assignment is in error, flag all associated sample data as unusable (R).

	YES	NO	N/A
7.4 Have the ion abundances been normalized to m/z 198?	[✓]	___	___

	YES	NO	N/A
7.5 Have the ion abundance criteria been met for each instrument used?	[✓]	___	___

ACTION: List all data which do not meet ion abundance criteria (attach a separate sheet).

ACTION: If ion abundance criteria are not met, the Region II TPO must be notified.

7.6 Are there any transcription/calculation errors between mass lists and Form Vs? (Check at least two values but if errors are found, check more.)	___	[✓]	___
7.7 Have the appropriate number of significant figures (two) been reported?	[✓]	___	___

ACTION: If large errors exist, call lab for explanation/resubmittal, make necessary corrections and document effect in data assessments.

7.8 Are the spectra of the mass calibration compound acceptable?	[✓]	___	___

ACTION: Use professional judgement to determine whether associated data should be accepted, qualified, or rejected.

8.0 <u>Target Compound List (TCL) Analytes</u>

8.1 Are the Organic Analysis Data Sheets (Form I BNA) present with required header information on each page, for each of the following:

a. Samples and/or fractions as appropriate	[✓]	___	___
b. Matrix spikes and matrix spike duplicates	[✓]	___	___
c. Blanks	[✓]	___	___

	YES	NO	N/A
8.2 Has GPC cleanup been performed on all soil/ sediment sample extracts?	[✓]	___	___
ACTION: If data suggests that GPC was not performed, use professional judgement. Make note in "Contract Problems/Non-Compliance".			
8.3 Are the BNA Reconstructed Ion Chromatograms, the mass spectra for the identified compounds, and the data system printouts (Quant Reports) included in the sample package for each of the following?			
a. Samples and/or fractions as appropriate	[✓]	___	___
b. Matrix spikes and matrix spike duplicates (Mass spectra not required)	[✓]	___	___
c. Blanks	[✓]	___	___
ACTION: If any data are missing, take action specified in 3.2 above.			
8.4 Are the response factors shown in the Quant Report?	[ ]	✓	___
8.5 Is chromatographic performance acceptable with respect to:			
Baseline stability?	[✓]	___	___
Resolution?	[✓]	___	___
Peak shape?	[✓]	___	___
Full-scale graph (attenuation)?	[✓]	___	___
Other:_____	[ ]	___	___
ACTION: Use professional judgement to determine the acceptability of the data.			

	YES	NO	N/A
8.6 Are the lab-generated standard mass spectra of identified BNA compounds present for each sample?	[✓]	___	___

ACTION: If any mass spectra are missing, take action specified in 3.2 above. If lab does not generate their own standard spectra, make note in "Contract Problems/ Non-compliance". If spectra are missing, reject all positive data.

8.7 Is the RRT of each reported compound within 0.06 RRT units of the standard RRT in the continuing calibration?	[✓]	___	___
8.8 Are all ions present in the standard mass spectrum at a relative intensity greater than 10% also present in the sample mass spectrum?	[✓]	___	___
8.9 Do sample and standard relative ion intensities agree within 20%?	[✓]	___	___

ACTION: Use professional judgement to determine acceptability of data. If it is determined that incorrect identifications were made, all such data should be rejected (R), flagged "N" (Presumptive evidence of the presence of the compound) or changed to not detected (U) at the calculated detection limit. In order to be positively identified, the data must comply with the criteria listed in 8.7, 8.8, and 8.9.

ACTION: When sample carry-over is a possibility, professional judgement should be used to determine if instrument cross-contamination has affected any positive compound identification.

9.0 <u>Tentatively Identified Compounds (TIC)</u>

9.1 Are all Tentatively Identified Compound Forms (Form I, Part B) present; and do listed TICs include scan number or retention time, estimated concentration and "JN" qualifier?	[ ]	___	___

	YES	NO	N/A
9.2 Are the mass spectra for the tentatively identified compounds and associated "best match" spectra included in the sample package for each of the following:			
a. Samples and/or fractions as appropriate	[✓]	___	___
b. Blanks	[✓]	___	___
ACTION: If any TIC data are missing, take action specified in 3.2 above.			
ACTION: Add "JN" qualifier if missing.			
9.3 Are any TCL compounds (from any fraction) listed as TIC compounds (example: 1,2-dimethylbenzene is xylene a VOA TCL - and should not be reported as a TIC)?	___	[✓]	___
ACTION: Flag with "R" any TCL compound listed as a TIC.			
9.4 Are all ions present in the reference mass spectrum with a relative intensity greater than 10% also present in the sample mass spectrum?	[✓]	___	___
9.5 Do TIC and "best match" standard relative ion intensities agree within 20%?	[✓]	___	___
ACTION: Use professional judgement to determine acceptability of TIC identifications. If it is determined that an incorrect identification was made, change identification to "unknown" or to some less specific identification (example: "C3 substituted benzene") as appropriate. Also, when a compound is not found in any blank, but is a suspected artifact of a common laboratory contaminant, the result should be qualified as unusable (R).			

	YES	NO	N/A
10.0 Compound Quantitation and Reported Detection Limits			
10.1 Are there any transcription/calculation errors in Form I results? Check at least two positive values. Verify that the correct internal standard, quantitation ion, and RRF were used to calculate Form I result. Were any errors found?	___	[✓]	___
10.2 Are the CRQLs adjusted to reflect sample dilutions and, for soils, sample moisture?	[✓]	___	___

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and document effect in data assessments.

ACTION: When a sample is analyzed at more than one dilution, the lowest CRQLs are used (unless a QC exceedance dictates the use of the higher CRQL data from the diluted sample analysis). Replace concentrations that exceed the calibration range in the original analysis by crossing out the "E" and it's associated value on the original Form I and substituting the data from the analysis of the diluted sample. Specify which Form I is to be used, then draw a red " X" across the entire page of all Form I's that should not be used, including any in the summary package.

	YES	NO	N/A
11.0 Standards Data (GC/MS)			
11.1 Are the Reconstructed Ion Chromatograms, and data system printouts (Quant, Reports) present for initial and continuing calibration?	[✓]	___	___

ACTION: If any calibration standard data are missing, take action specified in 3.2 above.

	YES	NO	N/A

12.0 GC/MS Initial Calibration (Form VI)

12.1 Are the Initial Calibration Forms (Form VI) present and complete for the BNA fraction? [✓] ___ ___

ACTION: If any calibration standard forms are missing, take action specified in 3.2 above.

12.2 Are response factors stable for BNAs over the concentration range of the calibration? (% Relative standard deviation (%RSD) < 30.0%) [ ] ✓ ___

ACTION: Circle all outliers in red.

NOTE: Although 20 BNA compounds have a minimum RRF and no maximum %RSD, the technical criteria are the same for all analytes.

ACTION: If the % RSD is > 30.0%, qualify positive results for that analyte "J" and non-detects using professional judgement. When RSD > 90%, flag all non-detect results for that analyte R (unusable).

NOTE: Analytes previously qualified "U" due to blank contamination are still considered as "hits" when qualifying for calibration criteria.

12.3 Are all BNA compound RRFs > 0.05? [✓] ___ ___

ACTION: Circle all outliers in red.

ACTION: If any RRF < 0.05
1. "R" all non-detects.
2. "J" all positive results.

12.4 Are there any transcription/calculation errors in the reporting of average response factors (RRF) or % RSD? (Check at least two values but if errors are found, check more.) ___ [✓] ___

ACTION: Circle Errors in red.

YES NO N/A

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and note errors in data assessments.

13.0 GC/MS Continuing Calibration (Form VII)

13.1 Are the Continuing Calibration Forms (Form VII) present and complete for the BNA fraction? [✓] ___ ___

13.2 Has a continuing calibration standard been analyzed for every twelve hours of sample analysis per instrument? [✓] ___ ___

ACTION: List below all sample analyses that were not within twelve hours of a continuing calibration analysis for each instrument used.

_____

_____

_____

ACTION: If any forms are missing or no continuing calibration standard has been analyzed within twelve hours of every sample analysis, call lab for explanation/ resubmittal. If continuing calibration data are not available, flag all associated sample data as unusable ("R").

13.3 Do any semivolatile compounds have a % Difference (% D) between the initial and continuing RRF which exceeds the + 25.0% criteria? ___ [✓] ___

ACTION: Circle all outliers in red.

ACTION: Qualify both positive results and non-detects for the outlier compound(s) as estimated (J). When %D is above 90%, reject all non-detects for that analyte (R) unusable.

	YES	NO	N/A
13.4 Do any semivolatile compounds have a RRF <0.05?	✓	[ ]	

ACTION: Circle all outliers in red.

ACTION: If RRF <0.05, qualify as unusable (R) associated non-detects and "J" associated positive values.

	YES	NO	N/A
13.5 Are there any transcription/calculation errors in the reporting of average response factors (RRF) or % difference (%D) between initial and continuing RRFs? (Check at least two values but if errors are found, check more).		[✓]	

ACTION: Circle errors in red.

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and document effect in data assessments.

14.0 Internal Standards (Form VIII)

	YES	NO	N/A
14.1 Are the internal standard areas (Form VIII) of every sample and blank within the upper and lower limits (-50% to + 100%) for each continuing calibration?	[✓]		

ACTION: List all the outliers below.

Sample #	Internal Std	Area	Lower Limit	Upper Limit

DJH 08-20-92

(Attach additional sheets if necessary.)

ACTION: 1. If the internal standard area count is outside the upper or lower limit, flag with "J" all positive results and non-detects (U values) quantitated with this internal standard.

YES NO N/A

2. Non-detects associated with IS areas > 100% should not be qualified.

3. If the IS area is below the lower limit (<50%), qualify all associated non-detects (U-values) "J". If extremely low area counts are reported (<25%) or if performance exhibits a major abrupt drop off, flag all associated non-detects as unusable (R).

14.2 Are the retention times of the internal standards within 30 seconds of the associated calibration standard? [✓] ___ ___

ACTION: Professional judgement should be used to qualify data if the retention times differ by more than 30 seconds.

15.0 Field Duplicates

15.1 Were any field duplicates submitted for BNA analysis? [ ] ✓ ___

ACTION: Compare the reported results for field duplicates and calculate the relative percent difference.

ACTION: Any gross variation between field duplicate results must be addressed in the reviewer narrative. However, if large differences exist, identification of field duplicates should be confirmed by contacting the sampler.

CLP DATA ASSESSMENT

Functional Guidelines for Evaluating Organic Analysis

Case No. 92061708 SDG No._____ LABORATORY RFW SITE Coltsneck

DATA ASSESSMENT:

The current Functional Guidelines for evaluating organic data have been applied.

All data are valid and acceptable except those analytes which have been qualified with a "J" (estimated), "N" (presumptive evidence for the presence of the material), "U" (non-detects), "R" (unusable),or "JN" (presumptive evidence for the presence of the material at an estimated value). All action is detailed on the attached sheets.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant QC problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Reviewer's Signature: Daniel J. Hill Date: 08/20/1992

Verified By:_____ Date:___/_____/199__

DATA ASSESSMENT

1. HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detects (sample quantitation limits) will be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

The following analytes in the samples shown were qualified because of holding time:

NONE

DATA ASSESSMENT

2. BLANK CONTAMINATION:

Quality assurance (QA) blanks, i.e., method, trip, field, or rinse blanks are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and rinse blanks measure cross- contamination of samples during field operations. If the concentration of the analyte is less than 5 times the blank contaminant level (10 times for the common contaminants), the analytes are qualified as non- detects, "U". The following analytes in the samples shown were qualified with "U" for these reasons:

A) Method blank contamination

SBIKLE0945

Phenol 18 330
Di-n-butylphthalate 41 330
bis(2ethylhexyl)phthalate 250 330
TICs

	Phenol	Di-n-butyl	bis(2ethylhexyl)
06-001-D001	CRQL	CRQL	CRQL
06-001-D001MS	~~CRQL~~	CRQL	CRQL
06-001-D001MSD		CRQL	CRQL
06-003-D001	CRQL	CRQL	CRQL
06-004-D001	CRQL	CRQL	U
06-004-D101	CRQL	CRQL	CRQL
17-002-D001	CRQL	CRQL	U
17-002-D001		CRQL	CRQL
17-004-D001	NA	CRQL	CRQL

B) Field or rinse blank contamination ("water blanks" or "distilled water blanks" are validated like any other sample)

not identified

C) Trip blank contamination

none

2. Blank Contamination: (Continued)

SBLKLE0909

bis(2ethylhexyl)phthalate 17 10

di-n-butylphthalate 2 10

	di-n-butyl	bis(2ethylhexyl)	TICs
06-001-M001	CRQL	U	8, 9, 13, 20
06-001-M201			1, 2, 3, 5, 6, 7, 8
06-002-M001			1, 3, 4, 6, 8, 12, 14, 15, 16, 21
06-004-M001			1, 6, 7, 11, 14, 19, 20, 23
17-001-M001			13, 18, 20
17-002-M001			4, 6, 8, 23, 13, 18, 17
01-001-M001			5, 6, 11, 12, 16, 17, 18, 23
17-002-M001	CRQL	CRQL	1, 2, 5, 20, 21, 22
17-003-M001	CRQL	U	1, 2, 3, 7, 8, 12, 16, 17, 18, 23
17-003-M101	CRQL	CRQL	3, 7, 8, 10, 11, 12, 18
01-003-M001	CRQL	U	4, 5, 8, 11, 12, 13, 14, 17
06-002-M001MS	CRQL	U	
06-002-M001MSD	CRQL		
01-003-M101	CRQL	U	
	CRQL	U	

TICs
7.75
7.92
9.03
11.42
20.48
22.23
22.57
22.63
23.83
23.98
[illegible].03
24.18
24.23
25.88
27.82
29.17
37.22

SBLKLE0954

	TICs
06-001-D001	1, 2, 3, 4, 5, 18, 21, 23
06-003-D001	1, 2, 3, 4, 5, 14, 20
06-004-D001	1, 2, 3, 4, 5, 6, 13, 17, 19, 23
06-004-D101	1, 2, 3, 4, 6, 7, 10, 13, 14
17-001-D001	2, 3, 4, 5, 7, 8, 9, 10, 12, 14
17-002-D001	2, 3, 8, 9, 11, 12, 14, 17, 18, 19
17-004-D001	2, 3, 4, 5, 11, 25

TICs
6.13
6.51
6.55
7.34
8.29
8.81
[illegible].54
18.90
21.35
23.98
24.64
27.79

DATA ASSESSMENT

3. MASS SPECTROMETER TUNING:

Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds, and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The tuning standard for volatile organics is bromofluorobenzene (BFB) and for semi-volatiles is decafluorotriphenyl- phosphine (DFTPP).

If the mass calibration is in error, or missing, all associated data will be classified as unusable, "R". The following samples shown were qualified with "R" because of tuning:

NONE

DATA ASSESSMENT

4. CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance.

A) RESPONSE FACTOR

The response factor measures the instrument's response to specific chemical compounds. The response factor for the VOA/BNA Target Compound List (TCL) must be ≥ 0.05 in both the initial and continuing calibrations. A value < 0.05 indicates a serious detection and quantitation problem (poor sensitivity). If the mean RRF of the initial calibration or the continuing calibration has a response factor <0.05 for any analyte, those analytes detected in environmental samples will be qualified as estimated, "J". All non-detects for those compounds will be rejected ("R"). The following analytes in the samples shown were qualified because of response factor:

Initial Cal 07/13/92 OK
Continuing Cal A071402 OK
Continuing Cal A071602 OK
Continuing Cal A071702 OK

Initial Cal 07/22/92 OK
Continuing Cal A072302

06-002-M001MS 3-nitroaniline 0.049
06-002-M001MSD
01-003-M101
17-004-D001

DATA ASSESSMENT

5. CALIBRATION:

A) PERCENT RELATIVE STANDARD DEVIATION (%RSD) AND PERCENT DIFFERENCE (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be <30% and %D must be <25%. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J"; and non-detects are flagged "UJ". If %RSD and %D grossly exceed QC criteria, non-detect data may be qualified "R".

For the PCB/PESTICIDE fraction, if %RSD exceeds 20% for all analytes except for the 2 surrogates (which must not exceed 30% RSD), qualify all associated positive results "J" and non-detects "UJ".

The following analytes in the samples shown were qualified for %RSD and %D:

Initial Cal 07/13/92

no samples — 4-nitro aniline 31.4

Continuing A071402

06-001-M001
06-001-M201
06-002-M001
17-001-M001
17-004-M001
01-001-M001

4-chloroaniline 37.7
3-Nitroaniline 44.1

Continuing A071602

SBIKLE0909
SBIKLE0909-BS
SBIKLE0909-BSD
SBIKLE0945
SBIKLE0945-BS
17-002-M001
17-003-M01
17-003-M1001
01-003-M001

3-nitroaniline -49.1
2,4-dinitrophenol 27.8
4-nitroaniline -97.8
n-nitrosodiphenylamine -56.5
Carbazole -149
3,3'-Dichlorobenzidine -33.7
2,4,6-tribromophenol -42.2

Continuing Cal ~~A01770~~ A071702

06-001-D001
06-001-D001MS
06-001-D001MSD
06-003-D001
06-004-D001
06-004-D001
17-001-D001
17-002-D001

Hexachlorocyclopentadiene 32.6
4-nitroaniline -91.9
n-nitrosodiphenylamine -45.2
Carbazole -150.
Benzo(ghi)perylene 27.6
2,4,6-Tribromophenol -31.2

Initial Cal 07/22/92

no samples — 4-chloroaniline 31.2
3-nitroaniline 45.5
n-nitrosodiphenylamine 40.8
Carbazole 33.3

Continuing Cal A072302

06-002-M001MS
06-002-M001MSD
01-003-M101
17-004-D001

4-chloroaniline 56.8
3-nitroaniline 54.6

DATA ASSESSMENT

6. SURROGATES/ SYSTEM MONITORING COMPOUNDS (SMC):

All samples are spiked with surrogate/ SMC compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured surrogate/ SMC concentrations were outside contract specifications, qualifications were applied to the samples and analytes as shown below. The following analytes for the samples shown were qualified because of surrogate/ SMC recovery:

06-002-M001MS TBP 134% NA

DATA ASSESSMENT

7. INTERNAL STANDARDS PERFORMANCE:

Internal Standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every experimental run. The internal standard area count must not vary by more than a factor of 2 (-50% to +100%) from the associated continuing calibration standard. The retention time of the internal standard must not vary more than ±30 seconds from the associated continuing calibration standard. If the area count is outside the (-50% to +100%) range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified as estimated, "J", and all non-detects as "UJ" only if IS area is < 50%. Non detects are qualified as "R" if there is a severe loss of sensitivity (< 25% of associated IS area counts).

If an internal standard retention time varies by more than 30 seconds, the reviewer will use professional judgment to determine either partial or total rejection of the data for that sample fraction. The following analytes in the samples shown were qualified because of internal standards performance:

NONE

DATA ASSESSMENT

8. COMPOUND IDENTIFICATION:

A) VOLATILE AND SEMI-VOLATILE FRACTIONS

TCL compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and ion spectra. For the results to be a positive hit, the sample peak must be within ± 0.06 RRT units of the standard compound, and have an ion spectra which has a ratio of the primary and secondary m/e intensities within 20% of that in the standard compound. For tentatively identified compounds (TIC), the ion spectra must match accurately. In the cases where there is not an adequate ion spectrum match, the laboratory may have provided false positive identifications. The following analytes in the samples shown were qualified for compound identification:

none

B) PESTICIDE FRACTION:

The retention times of reported compounds must fall within the calculated retention time windows for the two chromatographic columns. The percent difference (%D) of the positive results obtained on the two GC columns should be ≤25% The following analytes in the samples shown were qualified because of compound identification:

NA

DATA ASSESSMENT

9. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD may be used in conjunction with other QC criteria for some additional qualification of data. The following analytes, for the samples shown, were qualified because of MS/MSD:

		RPD
06-001-D001/MSD	pyrene	65 NA

		MS	MSD	
06-002-M001	3-4-chloromethylphenol	108		NA
	4-nitrophenol	122	112	NA
	2,4-dinitrotoluene	130	112	NA
	pentachlorophenol	140	110	NA

DATA ASSESSMENT

10. OTHER QC DATA OUT OF SPECIFICATION:

SB1KLE0945-MB1BS

2,4-Dinitrotoluene	96 %
pentachlorophenol	119 %

SB1KLE0909-MB1

	BS	BSD
4-nitrophenol	98	97
2,4-dinitrotoluene	105	103
pentachlorophenol	139	132
pyrene	128	

11. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT (continued on next page if necessary):

fair

12. CONTRACTUAL NON-COMPLIANCE:

NONE

13. This package contains re-extraction, re-analysis or dilution. Upon reviewing the QA results, the following form I(s) are identified to be used:

NONE

DATA ASSESSMENT

11. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT (continued):

HEARTLAND ENVIRONMENTAL SERVICES, INC.
P.O. BOX 163 ST. PETERS MO 63376
(314) 278-8232

Data Validation Report

Pesticide/Aroclors

August 25, 1992

Prepared for

Roy F. Weston, Inc.
Weston Way
West Chester, PA 19380

This Data Validation Report is a review of the analytical results of sampling conducted in support of the Navy program June 18, 1992 at the **NWS Earle - ColtsNeck, NJ** site. There were twelve (12) water samples with one (1) MS/MSD and seven (7) soil samples with one (1) MS/MSD which were received and analyzed by Roy F. Weston Laboratory - Lionville in this analytical batch, **RFW Lot# 9206L708.**

The data validation personnel have reviewed the data presented for the Samples listed below for the Analytical Fractions indicated. The Pesticide/Aroclor fraction has been validated utilizing: the "National Functional Guidelines For Organic Data Review, Multi-Media, Multi-Concentration (OLM01.0) and Low Concentration Water (OLC01.0), Draft December 1990, Revised June 1991; Region II SOP No. HW-6, Revision 8, January 1992; NEESA Level D requirements; and good professional judgement.

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatogram, etc., for each sample have been carefully reviewed. The end-user is urged to review the **Specific Findings** and associated **Data Qualifications** presented in this report. Annotated Form Is for all samples reviewed are included after the **Narratives**. Form Is for MS/MSD samples are not annotated.

HEARTLAND ENVIRONMENTAL SERVICES, INC.

SAMPLES AND FRACTIONS REVIEWED

Roy F. Weston, Inc.

Sample Identifications		Analytical Fraction	
FIELD ID	**LABORATORY ID**	**Matrix**	**PEST**
06-001-D001	9206L708-001	SOIL	X
06-003-D001	9206L708-002	SOIL	X
06-004-D001	9206L708-003	SOIL	X
06-004-D101	9206L708-004	SOIL	X
17-001-D001	9206L708-007	SOIL	X
17-002-D001	9206L708-008	SOIL	X
17-004-D001	9206L708-009	SOIL	X
17-004-D001DL	9206L708-009DL	SOIL	X
06-001-M001	9206L708-010	WATER	X
06-001-M201	9206L708-011	WATER	X
06-002-M001	9206L708-012	WATER	X
06-004-M001	9206L708-013	WATER	X
17-001-M001	9206L708-014	WATER	X
17-002-M001	9206L708-015	WATER	X
17-003-M001	9206L708-016	WATER	X
17-003-M101	9206L708-017	WATER	X
17-004-M001	9206L708-018	WATER	X
01-001-M001	9206L708-020	WATER	X
01-003-M001	9206L708-021	WATER	X
01-003-M101	9206L708-022	WATER	X
06-002-M001MS	9206L708-012MS	WATER	X
06-002-M001D	9206L708-012D	WATER	X
06-001-D001MS	9206L708-001MS	SOIL	X
06-001-D001D	9206L708-001D	SOIL	X

MS - Matrix Spike D - Matrix Spike Duplicate

Individual fractions were reviewed as follows:

	Primary	Secondary
PEST - CLP Pesticide/Aroclors 3/90 SOW	Chris Scarpellino	Paul Humburg

DATA ASSESSMENT NARRATIVE

PESTICIDE/AROCLOR ANALYSIS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, GC instrument performance, initial and continuing calibrations, analytical sequence, blank analysis results, surrogate recoveries, and MS/MSD results. All comments made within this report should be considered when examining the analytical results (Form Is). Please refer the specific findings found in each category to the Summary of Data Qualification table.

Twelve (12) water samples with one (1) MS/MSD and seven (7) soil samples with one (1) MS/MSD were included in this analytical data package, **RFW Lot # 9206L708.** The validator has reviewed the data for these samples for the TCL list for Pesticides/Aroclors using the requirements contained in the EPA CLP OLM01.6 Statement of Work, dated June 1991, the Draft EPA Pesticide/Aroclor Data Review Guidelines, 06/91, and the Region II SOP HW-6, Revision 8, 1/92. Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to the requirements and deliverables of U.S. EPA CLP. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results.

In general, the chromatography for these samples was good. The data package presented contained relatively minor contractual and technical deficiencies.

Contractual Non-Compliance

The laboratory is apparently using 0.5 uL injection volumes rather than the SOW specified 1.0 or 2.0 Ul volumes. This non-standard injection volume, apparently obtained by a split 1.0 uL injection, does not appear to adversely impact the reported results.

The laboratory did not include control limits or control charts in this data package for the reported Blank Spikes, as required by the NEESA QA Protocol. CLP control limits were reported for the blank spikes rather than performance-based statistical limits.

Holding Times

Extraction and analysis hold times were met for all samples.

GC Instrument Performance

The GC column resolution requirements were apparently met for both of the columns in all three sequences utilized for analyses included in this package.

Surrogate retention times were all within QC limits and all compounds in all analytical standards fell within the laboratory reported Retention Time Windows (RTWs).

No Endrin or 4,4'-DDT Breakdowns exceeded the QC limit.

No qualifications were required based on instrument performance.

Initial Calibration

The initial calibrations both columns in all three sequences were acceptably linear. No qualifications were required based on the initial calibrations.

Continuing Calibrations

No continuing calibration standards associated with the reported samples exceeded the QC limits. No qualifications were required.

Blanks

No confirmed positive results were reported by the laboratory or identified by the reviewer for either the water or the soil Method Blank.

Instrument Blanks showed no significant peaks within target compound retention time windows. Minor peaks were identified one column or the other. No qualifications were required.

Sulfur cleanup blanks were not required because sulfur cleanup was not performed on any of the samples.

Florisil and GPC QC Checks

All recoveries reported for the Florisil Check on Form 9A were within the required QC limits. No raw data for this analysis was identified in the data package. All recoveries reported for the GPC Calibration on Form 9B were within the required QC limits. No raw data for this analysis was identified in the data package.

Surrogate Recoveries

Four water samples exhibited low recoveries for at least three of the four reported surrogate results (2 columns x 2 surrogates).

Specific Finding

1. All positive and non-detect results for samples 06-001-M001, 17-001-M001, 17-002-M001, and 17-004-M001 are qualified as estimated, "J" or "UJ", due to low surrogate recoveries.

Matrix Spike/Matrix Spike Duplicate

All % Recoveries and RPDs for both the soil and water MS/MSD were within QC limits. No qualifications were required.

Analyte Identification/Quantitation

Six sediment samples showed very noisy chromatograms with numerous peaks. However, no clear multi-component peak patterns were identified by the lab or the reviewer. It is possible that these samples contain an exotic Aroclor or a highly weathered Aroclor mixture. No positive identification was possible. The samples of concern are: 06-001-D001, 06-003-D001, 06-004-D001, 06-004-D101, 17-001-D001, and 17-004-D001.

Many positive results were reported for these samples for target analytes. The reviewer has exercised sample-by-sample and analyte-by-analyte discretion for the qualification or rejection of results based on quantitative differences between the columns, while utilizing the Region II guidelines: 25-50% - "J"; 50-90% - "NJ"; and >90% - "R". However, the reviewer assumes that strict rejection of results reported near or below the CRQL due to high %Ds is unwarranted.

2. The reported positive result for the analyte is qualified as quantitatively estimated, "J", due to differences in the column quantitations (25-50%).

3. The reported positive result for the analyte is qualified as tentatively identified at an estimated concentration, "NJ", due to a significant discrepancy between the column quantitations (50-90%).

4. The reported positive result for the analyte is rejected "R" and may be replaced by the sample result value reported as "U" or "UJ", or the CRQL, whichever is greater, due to significant quantitative differences between the column quantitations (>90%).

QUALIFICATION CODES

U	=	Not detected
J	=	Reported result is quantitatively estimated
UJ	=	Reported quantitation limit is qualified as estimated
R	=	Result is rejected and unusable
N	=	Result is negated, do not consider result in sample
NJ	=	Presumptive evidence for the presence of the material at an estimated concentration

Validation specific findings are noted in numerical form on the Form Is in this data validation report. These specific finding footnotes reflect the conclusions found in the data validation process that resulted in the qualifications of the data.

SUMMARY OF PESTICIDE/AROCLOR QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL	SPECIFIC FINDING
06-001-M001, 17-001-M001, 17-002-M001, & 17-004-M001	All	+/U	J/UJ	1
All	All "P"	+	J	2
All	All "P"	+	NJ	3
All	All "P"	+	+U/UJ	4

* DL denotes the Form I laboratory qualifier/value
+ in the DL column denotes a positive result
QL denotes the qualifier(s) used by Validator
+ in the QL column denotes a validator revised result

1D 000029

PESTICIDE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06-001-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT — Lab Sample ID: 9206L708-001

Sample wt/vol: 30.0 (g/mL) G — Lab File ID: 07169235.45

% Moisture: 19. decanted: (Y/N)_ — Date Received: 06/19/92

Extraction: (SepF/Cont/Sonc) SONC — Date Extracted: 06/24/92

Concentrated Extract Volume: 5000(uL) — Date Analyzed: 07/18/92

Injection Volume: 0.5(uL) — Dilution Factor: 2.00

GPC Cleanup: (Y/N) Y pH: 8.0 — Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q		
319-84-6	Alpha-BHC	4.1	U		
319-85-7	Beta-BHC	4.1	U		
319-86-8	Delta-BHC	4.1	U		
58-89-9	gamma-BHC (Lindane)	4.1	U		
76-44-8	Heptachlor	1.2	J		
309-00-2	Aldrin	4.1	U		
1024-57-3	Heptachlor epoxide	4.1	U		
959-98-8	Endosulfan I	4.1	U		
60-57-1	Dieldrin	8.2	U		
72-55-9	4,4'-DDE	7.0	J		
72-20-8	Endrin	8.2	U		
33213-65-9	Endosulfan II	8.2	U		
72-54-8	4,4'-DDD	17			
1031-07-8	Endosulfan sulfate	8.2	U		
50-29-3	4,4'-DDT	6.6	~~JP~~	J	2
72-43-5	Methoxychlor	41	U		
53494-70-5	Endrin ketone	8.2	U		
7421934	Endrin aldehyde	8.2	U		
5103-71-9	alpha-Chlordane	12	~~P~~	NJ	3
5103-74-2	gamma-Chlordane	13			
8001-35-2	Toxaphene	410	U		
12674-11-2	Aroclor-1016	82	U		
11104-28-2	Aroclor-1221	160	U		
11141-16-5	Aroclor-1232	82	U		
53469-21-9	Aroclor-1242	82	U		
12672-29-6	Aroclor-1248	82	U		
11097-69-1	Aroclor-1254	82	U		
11096-82-5	Aroclor-1260	82	U		

JAM 7/29/92

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET 000036

CLIENT SAMPLE NO.

06-003-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT

Lab Sample ID: 9206L708-002

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

Lab File ID: 07169235.52

% Moisture: 8.9 decanted: (Y/N)_

Date Received: 06/19/92

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 06/24/92

Concentrated Extract Volume: 5000(uL)

Date Analyzed: 07/18/92

Injection Volume: 0.5(uL)

Dilution Factor: 5.00

GPC Cleanup: (Y/N) Y pH: 7.0

Sulfur Cleanup: (Y/N) N

7/21/92

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q		
319-84-6	Alpha-BHC	9.1	U		
319-85-7	Beta-BHC	9.1	U		
319-86-8	Delta-BHC	9.1	U		
58-89-9	gamma-BHC (Lindane)	9.1	U		
76-44-8	Heptachlor	9.1	U		
309-00-2	Aldrin	9.1	U		
1024-57-3	Heptachlor epoxide	1.1	~~JP~~	J	2
959-98-8	Endosulfan I	9.1	U		
60-57-1	Dieldrin	23 ~~2.9~~	~~JP~~	UJ	4
72-55-9	4,4'-DDE	34			
72-20-8	Endrin	18	U		
33213-65-9	Endosulfan II	18	U		
72-54-8	4,4'-DDD	13	J		
1031-07-8	Endosulfan sulfate	18	U		
50-29-3	4,4'-DDT	93			
72-43-5	Methoxychlor	91	U		
53494-70-5	Endrin ketone	18	U		
7421934	Endrin aldehyde	18	U		
5103-71-9	alpha-Chlordane	9.1	U		
5103-74-2	gamma-Chlordane	9.1	U		
8001-35-2	Toxaphene	910	U		
12674-11-2	Aroclor-1016	180	U		
11104-28-2	Aroclor-1221	370	U		
11141-16-5	Aroclor-1232	180	U		
53469-21-9	Aroclor-1242	180	U		
12672-29-6	Aroclor-1248	180	U		
11097-69-1	Aroclor-1254	180	U		
11096-82-5	Aroclor-1260	180	U		

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET 000043

CLIENT SAMPLE NO.

06-004-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT

Lab Sample ID: 9206L708-003

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

Lab File ID: 07169235.48

% Moisture: 12. decanted: (Y/N)_

Date Received: 06/19/92

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 06/24/92

Concentrated Extract Volume: 5000(uL)

Date Analyzed: 07/18/92

Injection Volume: 0.5(uL)

Dilution Factor: 2.00

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

Sulfur Cleanup: (Y/N) N

JWA 7/29/92

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q		
319-84-6	Alpha-BHC	3.8	U		
319-85-7	Beta-BHC	3.8	U		
319-86-8	Delta-BHC	3.8	U		
58-89-9	gamma-BHC (Lindane)	3.8	U		
76-44-8	Heptachlor	3.8	U		
309-00-2	Aldrin	3.8	U		
1024-57-3	Heptachlor epoxide	3.8	U		
959-98-8	Endosulfan I	3.8	U		
60-57-1	Dieldrin	10 ~~4.5~~	~~JP~~	UJ	4
72-55-9	4,4'-DDE	30			
72-20-8	Endrin	7.6	U		
33213-65-9	Endosulfan II	7.6	U		
72-54-8	4,4'-DDD	22	~~P~~	J	2
1031-07-8	Endosulfan sulfate	7.6	U		
50-29-3	4,4'-DDT	100			
72-43-5	Methoxychlor	38	U		
53494-70-5	Endrin ketone	7.6	U		
7421934	Endrin aldehyde	7.6	U		
5103-71-9	alpha-Chlordane	3.8	U		
5103-74-2	gamma-Chlordane	3.8	U		
8001-35-2	Toxaphene	380	U		
12674-11-2	Aroclor-1016	76	U		
11104-28-2	Aroclor-1221	150	U		
11141-16-5	Aroclor-1232	76	U		
53469-21-9	Aroclor-1242	76	U		
12672-29-6	Aroclor-1248	76	U		
11097-69-1	Aroclor-1254	76	U		
11096-82-5	Aroclor-1260	76	U		

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET 000050A

CLIENT SAMPLE NO.

06-004-D101

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT — Lab Sample ID: 9206L708-004

Sample wt/vol: 30.0 (g/mL) G — Lab File ID: 07169235.49

% Moisture: 13. decanted: (Y/N)_ — Date Received: 06/19/92

Extraction: (SepF/Cont/Sonc) SONC — Date Extracted: 06/24/92

Concentrated Extract Volume: 5000(uL) — Date Analyzed: 07/18/92

Injection Volume: 0.5(uL) — Dilution Factor: 2.00

GPC Cleanup: (Y/N) Y pH: 6.7 — Sulfur Cleanup: (Y/N) N

JWA 7/21/92

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q	
319-84-6	Alpha-BHC	3.8	U	
319-85-7	Beta-BHC	3.8	U	
319-86-8	Delta-BHC	3.8	U	
58-89-9	gamma-BHC (Lindane)	3.8	U	
76-44-8	Heptachlor	3.8	U	
309-00-2	Aldrin	3.8	U	
1024-57-3	Heptachlor epoxide	3.8	U	
959-98-8	Endosulfan I	3.8	U	
60-57-1	Dieldrin	7.7 ~~2.3~~	~~JP~~	U 4
72-55-9	4,4'-DDE	16		
72-20-8	Endrin	7.7	U	
33213-65-9	Endosulfan II	7.7	U	
72-54-8	4,4'-DDD	6.5	J	
1031-07-8	Endosulfan sulfate	7.7	U	
50-29-3	4,4'-DDT	62		
72-43-5	Methoxychlor	38	U	
53494-70-5	Endrin ketone	7.7	U	
7421934	Endrin aldehyde	7.7	U	
5103-71-9	alpha-Chlordane	3.8	U	
5103-74-2	gamma-Chlordane	3.8	U	
8001-35-2	Toxaphene	380	U	
12674-11-2	Aroclor-1016	77	U	
11104-28-2	Aroclor-1221	150	U	
11141-16-5	Aroclor-1232	77	U	
53469-21-9	Aroclor-1242	77	U	
12672-29-6	Aroclor-1248	77	U	
11097-69-1	Aroclor-1254	77	U	
11096-82-5	Aroclor-1260	77	U	

1D 000058

PESTICIDE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

17-001-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT

Lab Sample ID: 9206L708-007

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

Lab File ID: 07169235.50

% Moisture: 65. decanted: (Y/N)_

Date Received: 06/19/92

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 06/24/92

Concentrated Extract Volume: 5000(uL)

Date Analyzed: 07/18/92

Injection Volume: 0.5(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 6.2

Sulfur Cleanup: (Y/N) N

7/29/92

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q	
319-84-6	Alpha-BHC	4.7	U	
319-85-7	Beta-BHC	4.7	U	
319-86-8	Delta-BHC	4.7	U	
58-89-9	gamma-BHC (Lindane)	4.7	U	
76-44-8	Heptachlor	4.7	U	
309-00-2	Aldrin	4.7	U	
1024-57-3	Heptachlor epoxide	4.7	U	
959-98-8	Endosulfan I	4.7	U	
60-57-1	Dieldrin	4.7	~~JP~~	NJ 3
72-55-9	4,4'-DDE	13		
72-20-8	Endrin	9.5	U	
33213-65-9	Endosulfan II	9.5	U	
72-54-8	4,4'-DDD	5.7	J	
1031-07-8	Endosulfan sulfate	9.5	U	
50-29-3	4,4'-DDT	35		
72-43-5	Methoxychlor	47	U	
53494-70-5	Endrin ketone	9.5	U	
7421934	Endrin aldehyde	9.5	U	
5103-71-9	alpha-Chlordane	16 ~~7.9~~	~~P~~	UJ 4
5103-74-2	gamma-Chlordane	6.6		
8001-35-2	Toxaphene	470	U	
12674-11-2	Aroclor-1016	95	U	
11104-28-2	Aroclor-1221	190	U	
11141-16-5	Aroclor-1232	95	U	
53469-21-9	Aroclor-1242	95	U	
12672-29-6	Aroclor-1248	95	U	
11097-69-1	Aroclor-1254	95	U	
11096-82-5	Aroclor-1260	95	U	

FORM 1 PEST 03/90

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

17-002-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT

Lab Sample ID: 9206L708-008

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

Lab File ID: 07169235.90

% Moisture: 1.0 decanted: (Y/N)_

Date Received: 06/19/92

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 06/24/92

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 07/20/92

Injection Volume: 0.5 (uL)

Dilution Factor: 2.00

GPC Cleanup: (Y/N) Y pH: 6.2

Sulfur Cleanup: (Y/N) N

7/24/92

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

CAS NO.	COMPOUND		Q
319-84-6	Alpha-BHC	3.4	U
319-85-7	Beta-BHC	3.4	U
319-86-8	Delta-BHC	3.4	U
58-89-9	gamma-BHC (Lindane)	3.4	U
76-44-8	Heptachlor	3.4	U
309-00-2	Aldrin	3.4	U
1024-57-3	Heptachlor epoxide	3.4	U
959-98-8	Endosulfan I	3.4	U
60-57-1	Dieldrin	6.7	U
72-55-9	4,4'-DDE	6.7	U
72-20-8	Endrin	6.7	U
33213-65-9	Endosulfan II	6.7	U
72-54-8	4,4'-DDD	6.7	U
1031-07-8	Endosulfan sulfate	6.7	U
50-29-3	4,4'-DDT	6.7	U
72-43-5	Methoxychlor	34	U
53494-70-5	Endrin ketone	6.7	U
7421934	Endrin aldehyde	6.7	U
5103-71-9	alpha-Chlordane	3.4	U
5103-74-2	gamma-Chlordane	3.4	U
8001-35-2	Toxaphene	340	U
12674-11-2	Aroclor-1016	67	U
11104-28-2	Aroclor-1221	130	U
11141-16-5	Aroclor-1232	67	U
53469-21-9	Aroclor-1242	67	U
12672-29-6	Aroclor-1248	67	U
11097-69-1	Aroclor-1254	67	U
11096-82-5	Aroclor-1260	67	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET 0000072

CLIENT SAMPLE NO.

17-004-D001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT — Lab Sample ID: 9206L708-009

Sample wt/vol: 30.0 (g/mL) G — Lab File ID: 07169235.56

% Moisture: 69. decanted: (Y/N)_ — Date Received: 06/19/92

Extraction: (SepF/Cont/Sonc) SONC — Date Extracted: 06/24/92

Concentrated Extract Volume: 5000(uL) — Date Analyzed: 07/18/92

Injection Volume: 0.5(uL) — Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 3.1 — Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q	
319-84-6	Alpha-BHC	5.4	U	
319-85-7	Beta-BHC	5.4	U	
319-86-8	Delta-BHC	5.4	U	
58-89-9	gamma-BHC (Lindane)	5.4	U	DER 7/31/92
76-44-8	Heptachlor	5.4	U	
309-00-2	Aldrin	5.4	U	
1024-57-3	Heptachlor epoxide	5.4	U	
959-98-8	Endosulfan I	5.4	U	
60-57-1	Dieldrin	11	U	
72-55-9	4,4'-DDE	120		
72-20-8	Endrin	11	U	
33213-65-9	Endosulfan II	11	U	
72-54-8	4,4'-DDD	19	~~P~~	J 2
1031-07-8	Endosulfan sulfate	11	U	
50-29-3	4,4'-DDT	210	~~E~~	same result for DL, no qual
72-43-5	Methoxychlor	54	U	
53494-70-5	Endrin ketone	11	U	
7421934	Endrin aldehyde	11	U	
5103-71-9	alpha-Chlordane	42 ~~15~~	~~P~~	UJ 4
5103-74-2	gamma-Chlordane	16	~~P~~	NJ 3
8001-35-2	Toxaphene	540	U	
12674-11-2	Aroclor-1016	110	U	
11104-28-2	Aroclor-1221	220	U	
11141-16-5	Aroclor-1232	110	U	
53469-21-9	Aroclor-1242	110	U	
12672-29-6	Aroclor-1248	110	U	
11097-69-1	Aroclor-1254	110	U	
11096-82-5	Aroclor-1260	110	U	

1D 000087

PESTICIDE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

17-004-D001DL

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT

Lab Sample ID: 9206L708-009 DL

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

Lab File ID: 07289235.46

% Moisture: 69. decanted: (Y/N)

Date Received: 06/19/92

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted:

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 07/30/92

Injection Volume: 0.5 (uL)

Dilution Factor: 2.00

GPC Cleanup: (Y/N) Y pH: 3.1

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
319-84-6	Alpha-BHC	11	NA
319-85-7	Beta-BHC	11	NA
319-86-8	Delta-BHC	11	NA
58-89-9	gamma-BHC (Lindane)	11	NA
76-44-8	Heptachlor	11	NA
309-00-2	Aldrin	11	NA
1024-57-3	Heptachlor epoxide	11	NA
959-98-8	Endosulfan I	11	NA
60-57-1	Dieldrin	22	NA
72-55-9	4,4'-DDE	22	NA
72-20-8	Endrin	22	NA
33213-65-9	Endosulfan II	22	NA
72-54-8	4,4'-DDD	22	NA
1031-07-8	Endosulfan sulfate	22	NA
50-29-3	4,4'-DDT	210	D
72-43-5	Methoxychlor	110	NA
53494-70-5	Endrin ketone	22	NA
7421934	Endrin aldehyde	22	NA
5103-71-9	alpha-Chlordane	11	NA
5103-74-2	gamma-Chlordane	11	NA
8001-35-2	Toxaphene	1100	NA
12674-11-2	Aroclor-1016	220	NA
11104-28-2	Aroclor-1221	440	NA
11141-16-5	Aroclor-1232	220	NA
53469-21-9	Aroclor-1242	220	NA
12672-29-6	Aroclor-1248	220	NA
11097-69-1	Aroclor-1254	220	NA
11096-82-5	Aroclor-1260	220	NA

DER 7/31/92

1D 000088

PESTICIDE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06-001-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-010

Sample wt/vol: 990 (g/mL) ML

Lab File ID: 07169235.21

% Moisture: decanted: (Y/N)_

Date Received: 06/19/92

Extraction: (SepF/Cont/Sonc) CONT

Date Extracted: 06/23/92

Concentrated Extract Volume: 10000.00(uL)

Date Analyzed: 07/17/92

Injection Volume: 0.5(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

Sulfur Cleanup: (Y/N) N

JEM 7/29/92

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

CAS NO.	COMPOUND		Q
319-84-6	Alpha-BHC	0.050	U
319-85-7	Beta-BHC	0.050	U
319-86-8	Delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421934	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

uJ 1

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET 000095

CLIENT SAMPLE NO.

06-001-M201

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-011

Sample wt/vol: 970 (g/mL) ML

Lab File ID: 07169235.22

% Moisture: decanted: (Y/N)_

Date Received: 06/19/92

Extraction: (SepF/Cont/Sonc) CONT

Date Extracted: 06/23/92

Concentrated Extract Volume: 10000.00(uL)

Date Analyzed: 07/17/92

Injection Volume: 0.5(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

Sulfur Cleanup: (Y/N) N

JRA 7/29/92

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	Alpha-BHC	0.052	U
319-85-7	Beta-BHC	0.052	U
319-86-8	Delta-BHC	0.052	U
58-89-9	gamma-BHC (Lindane)	0.052	U
76-44-8	Heptachlor	0.052	U
309-00-2	Aldrin	0.052	U
1024-57-3	Heptachlor epoxide	0.052	U
959-98-8	Endosulfan I	0.052	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.52	U
53494-70-5	Endrin ketone	0.10	U
7421934	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.052	U
5103-74-2	gamma-Chlordane	0.052	U
8001-35-2	Toxaphene	5.2	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.1	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

000102

CLIENT SAMPLE NO.

06-002-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-012

Sample wt/vol: 990 (g/mL) ML

Lab File ID: 07169235.23

% Moisture: decanted: (Y/N)_

Date Received: 06/19/92

Extraction: (SepF/Cont/Sonc) CONT

Date Extracted: 06/23/92

Concentrated Extract Volume: 10000.00(uL)

Date Analyzed: 07/17/92

Injection Volume: 0.5(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

Sulfur Cleanup: (Y/N) N

7/21/92

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	Alpha-BHC	0.050	U
319-85-7	Beta-BHC	0.050	U
319-86-8	Delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421934	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET 000109

CLIENT SAMPLE NO.

06-004-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER — Lab Sample ID: 9206L708-013

Sample wt/vol: 990 (g/mL) ML — Lab File ID: 07169235.26

% Moisture: decanted: (Y/N)_ — Date Received: 06/19/92

Extraction: (SepF/Cont/Sonc) CONT — Date Extracted: 06/23/92

Concentrated Extract Volume: 10000.00(uL) — Date Analyzed: 07/17/92

Injection Volume: 0.5(uL) — Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0 — Sulfur Cleanup: (Y/N) N

JLM 7/29/92

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	Alpha-BHC	0.050	U
319-85-7	Beta-BHC	0.050	U
319-86-8	Delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421934	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET 000116

CLIENT SAMPLE NO.

17-001-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER — Lab Sample ID: 9206L708-014

Sample wt/vol: 990 (g/mL) ML — Lab File ID: 07169235.27

% Moisture: decanted: (Y/N)_ — Date Received: 06/19/92

Extraction: (SepF/Cont/Sonc) CONT — Date Extracted: 06/23/92

Concentrated Extract Volume: 10000.00(uL) — Date Analyzed: 07/17/92

Injection Volume: 0.5(uL) — Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0 — Sulfur Cleanup: (Y/N) N

7/29/92

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	Alpha-BHC	0.050	U
319-85-7	Beta-BHC	0.050	U
319-86-8	Delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421934	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

UJ

1

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET 000123

CLIENT SAMPLE NO.

17-002-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-015

Sample wt/vol: 990 (g/mL) ML

Lab File ID: 07169235.31

% Moisture: decanted: (Y/N)_

Date Received: 06/19/92

Extraction: (SepF/Cont/Sonc) CONT

Date Extracted: 06/23/92

Concentrated Extract Volume: 10000.00(uL)

Date Analyzed: 07/18/92

Injection Volume: 0.5(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

Sulfur Cleanup: (Y/N) N

gam 7/29/92

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q	
319-84-6	Alpha-BHC	0.050	U	UJ
319-85-7	Beta-BHC	0.050	U	
319-86-8	Delta-BHC	0.050	U	
58-89-9	gamma-BHC (Lindane)	0.050	U	
76-44-8	Heptachlor	0.050	U	
309-00-2	Aldrin	0.050	U	
1024-57-3	Heptachlor epoxide	0.050	U	
959-98-8	Endosulfan I	0.050	U	
60-57-1	Dieldrin	0.10	U	
72-55-9	4,4'-DDE	0.10	U	
72-20-8	Endrin	0.10	U	
33213-65-9	Endosulfan II	0.10	U	
72-54-8	4,4'-DDD	0.10	U	
1031-07-8	Endosulfan sulfate	0.10	U	
50-29-3	4,4'-DDT	0.10	U	
72-43-5	Methoxychlor	0.50	U	
53494-70-5	Endrin ketone	0.10	U	
7421934	Endrin aldehyde	0.10	U	
5103-71-9	alpha-Chlordane	0.050	U	
5103-74-2	gamma-Chlordane	0.050	U	
8001-35-2	Toxaphene	5.0	U	
12674-11-2	Aroclor-1016	1.0	U	
11104-28-2	Aroclor-1221	2.0	U	
11141-16-5	Aroclor-1232	1.0	U	
53469-21-9	Aroclor-1242	1.0	U	
12672-29-6	Aroclor-1248	1.0	U	
11097-69-1	Aroclor-1254	1.0	U	
11096-82-5	Aroclor-1260	1.0	U	

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET 0000130

CLIENT SAMPLE NO.

17-003-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-016

Sample wt/vol: 990 (g/mL) ML

Lab File ID: 07169235.32

% Moisture: decanted: (Y/N)_

Date Received: 06/19/92

Extraction: (SepF/Cont/Sonc) CONT

Date Extracted: 06/23/92

Concentrated Extract Volume: 10000.00(uL)

Date Analyzed: 07/18/92

Injection Volume: 0.5(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

Sulfur Cleanup: (Y/N) N

SMB 7/29/92

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	Alpha-BHC	0.050	U
319-85-7	Beta-BHC	0.050	U
319-86-8	Delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421934	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D 000137

PESTICIDE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

17-003-M101

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-017

Sample wt/vol: 990 (g/mL) ML

Lab File ID: 07169235.33

% Moisture: decanted: (Y/N)_

Date Received: 06/19/92

Extraction: (SepF/Cont/Sonc) CONT

Date Extracted: 06/23/92

Concentrated Extract Volume: 10000.00(uL)

Date Analyzed: 07/18/92

Injection Volume: 0.5(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

Sulfur Cleanup: (Y/N) N

7/29/92

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	Alpha-BHC	0.050	U
319-85-7	Beta-BHC	0.050	U
319-86-8	Delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421934	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET 0000142

CLIENT SAMPLE NO.

17-004-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER — Lab Sample ID: 9206L708-018

Sample wt/vol: 980 (g/mL) ML — Lab File ID: 07169235.34

% Moisture: decanted: (Y/N)_ — Date Received: 06/19/92

Extraction: (SepF/Cont/Sonc) CONT — Date Extracted: 06/23/92

Concentrated Extract Volume: 10000.00(uL) — Date Analyzed: 07/18/92

Injection Volume: 0.5(uL) — Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0 — Sulfur Cleanup: (Y/N) N

SMD 7/29/92

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	Alpha-BHC	0.051	U
319-85-7	Beta-BHC	0.051	U
319-86-8	Delta-BHC	0.051	U
58-89-9	gamma-BHC (Lindane)	0.051	U
76-44-8	Heptachlor	0.051	U
309-00-2	Aldrin	0.051	U
1024-57-3	Heptachlor epoxide	0.051	U
959-98-8	Endosulfan I	0.051	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.51	U
53494-70-5	Endrin ketone	0.10	U
7421934	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.051	U
5103-74-2	gamma-Chlordane	0.051	U
8001-35-2	Toxaphene	5.1	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

uJ 1

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET 000151

CLIENT SAMPLE NO.

01-001-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-020

Sample wt/vol: 980 (g/mL) ML

Lab File ID: 07169235.35

% Moisture: decanted: (Y/N)_

Date Received: 06/19/92

Extraction: (SepF/Cont/Sonc) CONT

Date Extracted: 06/23/92

Concentrated Extract Volume: 10000.00(uL)

Date Analyzed: 07/18/92

Injection Volume: 0.5(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

Sulfur Cleanup: (Y/N) N

JLB 7/29/92

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	Alpha-BHC	0.051	U
319-85-7	Beta-BHC	0.051	U
319-86-8	Delta-BHC	0.051	U
58-89-9	gamma-BHC (Lindane)	0.051	U
76-44-8	Heptachlor	0.051	U
309-00-2	Aldrin	0.051	U
1024-57-3	Heptachlor epoxide	0.051	U
959-98-8	Endosulfan I	0.051	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.51	U
53494-70-5	Endrin ketone	0.10	U
7421934	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.051	U
5103-74-2	gamma-Chlordane	0.051	U
8001-35-2	Toxaphene	5.1	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

000158

CLIENT SAMPLE NO.

01-003-M001

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-021

Sample wt/vol: 960 (g/mL) ML

Lab File ID: 07169235.43

% Moisture: decanted: (Y/N)_

Date Received: 06/19/92

Extraction: (SepF/Cont/Sonc) CONT

Date Extracted: 06/23/92

Concentrated Extract Volume: 10000.00(uL)

Date Analyzed: 07/18/92

Injection Volume: 0.5(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

Sulfur Cleanup: (Y/N) N

JWM 7/24/92

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	Alpha-BHC	0.052	U
319-85-7	Beta-BHC	0.052	U
319-86-8	Delta-BHC	0.052	U
58-89-9	gamma-BHC (Lindane)	0.052	U
76-44-8	Heptachlor	0.052	U
309-00-2	Aldrin	0.052	U
1024-57-3	Heptachlor epoxide	0.052	U
959-98-8	Endosulfan I	0.052	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.52	U
53494-70-5	Endrin ketone	0.10	U
7421934	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.052	U
5103-74-2	gamma-Chlordane	0.052	U
8001-35-2	Toxaphene	5.2	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.1	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

000165

CLIENT SAMPLE NO.

01-003-M101

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-022

Sample wt/vol: 980 (g/mL) ML

Lab File ID: 07169235.44

% Moisture: decanted: (Y/N)_

Date Received: 06/19/92

Extraction: (SepF/Cont/Sonc) CONT

Date Extracted: 06/23/92

Concentrated Extract Volume: 10000.00(uL)

Date Analyzed: 07/18/92

Injection Volume: 0.5(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

Sulfur Cleanup: (Y/N) N

SEN 7/24/92

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	Alpha-BHC	0.051	U
319-85-7	Beta-BHC	0.051	U
319-86-8	Delta-BHC	0.051	U
58-89-9	gamma-BHC (Lindane)	0.051	U
76-44-8	Heptachlor	0.051	U
309-00-2	Aldrin	0.051	U
1024-57-3	Heptachlor epoxide	0.051	U
959-98-8	Endosulfan I	0.051	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.51	U
53494-70-5	Endrin ketone	0.10	U
7421934	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.051	U
5103-74-2	gamma-Chlordane	0.051	U
8001-35-2	Toxaphene	5.1	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET 000632

CLIENT SAMPLE NO.

06-002-M001MS

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-012 MS

Sample wt/vol: 960 (g/mL) ML

Lab File ID: 07169235.24

% Moisture: decanted: (Y/N)_

Date Received: 06/19/92

Extraction: (SepF/Cont/Sonc) CONT

Date Extracted: 06/23/92

Concentrated Extract Volume: 10000.00(uL)

Date Analyzed: 07/17/92

Injection Volume: 0.5(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

Sulfur Cleanup: (Y/N) N

JCB 7/27/92

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	Alpha-BHC	0.052	U
319-85-7	Beta-BHC	0.052	U
319-86-8	Delta-BHC	0.052	U
58-89-9	gamma-BHC (Lindane)	68.0	%
76-44-8	Heptachlor	80.0	%
309-00-2	Aldrin	60.0	%
1024-57-3	Heptachlor epoxide	0.052	U
959-98-8	Endosulfan I	0.052	U
60-57-1	Dieldrin	90.0	%
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	94.0	%
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	87.0	%
72-43-5	Methoxychlor	0.52	U
53494-70-5	Endrin ketone	0.10	U
7421934	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.052	U
5103-74-2	gamma-Chlordane	0.052	U
8001-35-2	Toxaphene	5.2	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.1	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

%: SPIKE COMPOUND

FORM 1 PEST

03/90

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

000639

CLIENT SAMPLE NO.

06-002-M001MSD

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) WATER

Lab Sample ID: 9206L708-012 MSD

Sample wt/vol: 970 (g/mL) ML

Lab File ID: 07169235.25

% Moisture: decanted: (Y/N)_

Date Received: 06/19/92

Extraction: (SepF/Cont/Sonc) CONT

Date Extracted: 06/23/92

Concentrated Extract Volume: 10000.00(uL)

Date Analyzed: 07/17/92

Injection Volume: 0.5(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

Sulfur Cleanup: (Y/N) N

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

CAS NO.	COMPOUND		Q
319-84-6	Alpha-BHC	0.052	U
319-85-7	Beta-BHC	0.052	U
319-86-8	Delta-BHC	0.052	U
58-89-9	gamma-BHC (Lindane)	64.0	%
76-44-8	Heptachlor	76.0	%
309-00-2	Aldrin	60.0	%
1024-57-3	Heptachlor epoxide	0.052	U
959-98-8	Endosulfan I	0.052	U
60-57-1	Dieldrin	85.0	%
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	89.0	%
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	84.0	%
72-43-5	Methoxychlor	0.52	U
53494-70-5	Endrin ketone	0.10	U
7421934	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.052	U
5103-74-2	gamma-Chlordane	0.052	U
8001-35-2	Toxaphene	5.2	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.1	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

%: SPIKE COMPOUND

FORM 1 PEST

03/90

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET 000046

CLIENT SAMPLE NO.

06-001-D001MS

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT — Lab Sample ID: 9206L708-001 MS

Sample wt/vol: 30.0 (g/mL) G — Lab File ID: 07169235.46

% Moisture: 19. decanted: (Y/N)_ — Date Received: 06/19/92

Extraction: (SepF/Cont/Sonc) SONC — Date Extracted: 06/24/92

Concentrated Extract Volume: 5000(uL) — Date Analyzed: 07/18/92

Injection Volume: 0.5(uL) — Dilution Factor: 2.00

GPC Cleanup: (Y/N) Y pH: 8.0 — Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q	
319-84-6	Alpha-BHC	4.1	U	
319-85-7	Beta-BHC	4.1	U	
319-86-8	Delta-BHC	4.1	U	
58-89-9	gamma-BHC (Lindane)	56.0	%	
76-44-8	Heptachlor	78.0	%	
309-00-2	Aldrin	70.0	%	
1024-57-3	Heptachlor epoxide	4.1	U	
959-98-8	Endosulfan I	4.1	U	
60-57-1	Dieldrin	73.0	%	
72-55-9	4,4'-DDE	10		
72-20-8	Endrin	85.0	%	
33213-65-9	Endosulfan II	8.2	U	
72-54-8	4,4'-DDD	24		
1031-07-8	Endosulfan sulfate	8.2	U	
50-29-3	4,4'-DDT	96.0	%	
72-43-5	Methoxychlor	41	U	
53494-70-5	Endrin ketone	8.2	U	
7421934	Endrin aldehyde	8.2	U	
5103-71-9	alpha-Chlordane	14	~~P~~	NJ 3
5103-74-2	gamma-Chlordane	15		
8001-35-2	Toxaphene	410	U	
12674-11-2	Aroclor-1016	82	U	
11104-28-2	Aroclor-1221	160	U	
11141-16-5	Aroclor-1232	82	U	
53469-21-9	Aroclor-1242	82	U	
12672-29-6	Aroclor-1248	82	U	
11097-69-1	Aroclor-1254	82	U	
11096-82-5	Aroclor-1260	82	U	

%: SPIKE COMPOUND FORM 1 PEST 03/90

JLM 7/29/92

1D 0000653

PESTICIDE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06-001-D001MSD

Lab Name: Roy F. Weston, Inc. Work Order: 1771-15-04-0000

Client: NAVAL WEAPONS/COLTSNECK

Matrix: (soil/water) SEDIMENT

Lab Sample ID: 9206L708-001 MSD

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

Lab File ID: 07169235.47

% Moisture: 19. decanted: (Y/N)

Date Received: 06/19/92

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 06/24/92

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 07/18/92

Injection Volume: 0.5 (uL)

Dilution Factor: 2.00

GPC Cleanup: (Y/N) Y pH: 8.0

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
319-84-6	Alpha-BHC	4.1	U
319-85-7	Beta-BHC	4.1	U
319-86-8	Delta-BHC	4.1	U
58-89-9	gamma-BHC (Lindane)	50.0	%
76-44-8	Heptachlor	74.0	%
309-00-2	Aldrin	64.0	%
1024-57-3	Heptachlor epoxide	4.1	U
959-98-8	Endosulfan I	4.1	U
60-57-1	Dieldrin	66.0	%
72-55-9	4,4'-DDE	7.8	
72-20-8	Endrin	74.0	%
33213-65-9	Endosulfan II	8.2	U
72-54-8	4,4'-DDD	18	
1031-07-8	Endosulfan sulfate	8.2	U
50-29-3	4,4'-DDT	73.0	%
72-43-5	Methoxychlor	41	U
53494-70-5	Endrin ketone	8.2	U
7421934	Endrin aldehyde	8.2	U
5103-71-9	alpha-Chlordane	16	~~P~~
5103-74-2	gamma-Chlordane	18	
8001-35-2	Toxaphene	410	U
12674-11-2	Aroclor-1016	82	U
11104-28-2	Aroclor-1221	160	U
11141-16-5	Aroclor-1232	82	U
53469-21-9	Aroclor-1242	82	U
12672-29-6	Aroclor-1248	82	U
11097-69-1	Aroclor-1254	82	U
11096-82-5	Aroclor-1260	82	U

Nd. 3

%: SPIKE COMPOUND FORM 1 PEST 03/90

STANDARD OPERATING PROCEDURE

Date: January 1992
Revision: 8

	YES	NO	N/A

PACKAGE COMPLETENESS AND DELIVERABLES
CASE NUMBER: 9206L708 LAB: Roy F. Weston - Lionville

SITE: NWS Earle / Colts Neck, NJ

1.0 Data Completeness and Deliverables

1.1	Have any missing deliverables been received and added to the data package?	[ ]	___	✓

ACTION: Call lab for explanation/resubmittal of any missing deliverables. If lab cannot provide them, note the effect on review of the package under the "Contract Problems/Non-Compliance" section of reviewer narrative.

1.2	Was SMO CCS checklist included with package?	[ ]	___	✓

2.0 Cover Letter SDG Narrative

2.:	Is the Narrative or Cover Letter Present?	[✓]	___	___
2.	Are Case Number and/or SAS number contained in the Narrative or Cover letter?	[✓]	___	___

3.0 Data Validation Checklist

The following checklist is divided into three parts. Part A is filled out if the data package contains any VOA analyses, Part B for any BNA analyses and Part C for Pesticide/PCBs.

Does this package contain:

VOA Data?	___	✓
BNA Data?	___	✓
Pesticide/PCB data?	✓	___

Action: Complete corresponding parts of checklist:

YES NO N/A

PART C: PESTICIDE/PCB ANALYSIS

1.0 Traffic Reports and Laboratory Narrative

1.1 Are Traffic Report Forms present for all samples? [✓] ___ ___

ACTION: If no, contact lab for replacement of missing or illegible copies.

1.2 Do the Traffic Reports or SDG Narrative indicate any problems with sample receipt, condition of the samples, analytical problems or special circumstances affecting the quality of the data? ✓ [ ] ___

ACTION: If any sample analyzed as a soil, other than TCLP, contains 50%-90% water, all data should be qualified as estimated (J). If a soil sample, other than TCLP, contains more than 90% water, all data should be qualified as unusable (R).

Samples collected 6/18/92 received by lab 6/19/92 at ambient temp.

ACTION: If samples were not iced upon receipt at the laboratory, flag all positive results "J" and all non-detects "UJ".

"J" / "UJ"

2.0 Holding Times

2.1 Have any PEST/PCB technical holding times, determined from date of collection to date of extraction, been exceeded? ___ [✓] ___

Water and soil samples for PEST/PCB analysis must be extracted within 7 days of the date of collection. Extracts must be analyzed within 40 days of the date extraction.

	YES	NO	N/A

ACTION: If technical holding times are exceeded, flag all positive results as estimated (J) and sample quantitation limits (UJ) and document in the narrative that holding times were exceeded. If analyses were done more than 14 days beyond holding time, either on the first analysis or upon re-analysis, the reviewer must use professional judgement to determine the reliability of the data and the effects of additional storage on the sample results. At a minimum, all the data should at least be qualified "J", but the reviewer may determine that non-detects are unusable (R).

3.0 Surrogate Recovery (Form II)

		YES	NO	N/A
3.1	Are the PEST/PCB Surrogate Recovery Summaries (Form II) present for each of the following matrices?			
	a. Low Water	[✓]	___	___
	b. Soil	[✓]	___	___
3.2	Are all the PEST/PCB samples listed on the appropriate Surrogate Recovery Summary for each of the following matrices?			
	a. Low Water	[✓]	___	___
	b. Soil	[✓]	___	___

ACTION: Call lab for explanation/resubmittals. If missing deliverables are unavailable, document effect in data assessments.

		YES	NO	N/A
3.3	Were outliers marked correctly with an asterisk?	[✓]	___	___

ACTION: Circle all outliers in red.

		YES	NO	N/A
3.4	Were surrogate recoveries of TCX or DCB outside of the contract specification for any sample or blank? (60-150%)	✓	[ ]	___

2E
WATER PESTICIDE SURROGATE RECOVERY

Lab Name: Roy F. Weston, Inc. Contract: 1771-15-04-0000

Case No.: NAVAL WEAPONS/COLTSNECK RFW Lot No.: 9206L708

GC Column(1): DB608 ID: 0.53(mm) GC Column(2): DB1701 ID: 0.53(mm)

	CLIENT SAMPLE NO.	TCX1 %REC #	TCX2 %REC #	DCB1 %REC #	DCB2 %REC #	OTHER (1)	OTHER (2)	TOT OUT	
01	06-001-M001	40*	55*	40*	40*			4	J/UJ
02	06-001-M201	70	85	70	70			0	
03	06-002-M001	70	80	45*	45*			2	
04	06-002-M001MS	75	95	45*	45*			2	
05	06-002-M001MSD	70	85	50*	45*			2	
06	06-004-M001	75	95	20*	20*			2	
07	17-001-M001	35*	50*	15*	I			3	J/UJ
08	17-002-M001	40*	50*	10*	10*			4	J/UJ
09	17-003-M001	75	90	80	85			0	
10	17-003-M101	75	95	75	80			0	
11	17-004-M001	55*	75	10*	10*			3	J/UJ
12	01-001-M001	65	80	75	75			0	
13	01-003-M001	70	85	45*	50*			2	
14	01-003-M101	65	80	55*	55*			2	
15	PBLKLE0911-MB1	70	85	55*	55*			2	
16	PBLKLE0911-MB1 BS	75	95	50*	50*			2	
17	PBLKLE0911-MB1 BSD	70	95	50*	50*			2	

	ADVISORY QC LIMITS
TCX = Tetrachloro-m-xylene	(60-150)
DCB = Decachlorobiphenyl	(60-150)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogate diluted out

2F

SOIL PESTICIDE SURROGATE RECOVERY

Lab Name: Roy F. Weston, Inc. Contract: 1771-15-04-0000

Case No.: NAVAL WEAPONS/COLTSNECK RFW Lot No.: 9206L708

GC Column(1): DB608 ID: 0.53(mm) GC Column(2): DB1701 ID: 0.53(mm)

	CLIENT SAMPLE NO.	TCX1 %REC #	TCX2 %REC #	DCB1 %REC #	DCB2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	06-001-D001	72	88	90	85			0
02	06-001-D001MS	75	98	92	85			0
03	06-001-D001MSD	68	85	102	72			0
04	06-003-D001	75	85	152*	75			1
05	06-004-D001	70	85	118	95			0
06	06-004-D101	75	90	125	110			0
07	17-001-D001	70	82	78	78			0
08	17-002-D001	72	98	88	85			0
09	17-004-D001	70	85	82	82			0
10	17-004-D001DL	65	65	92	85			0
11	PBLKLE0918-MB1	75	85	85	88			0
12	PBLKLE0918-MB1 BS	75	82	80	88			0

	ADVISORY QC LIMITS
TCX = Tetrachloro-m-xylene	(60-150)
DCB = Decachlorobiphenyl	(60-150)

Column to be used to flag recovery values
* Values outside of QC limits
Z Surrogate diluted out

	YES	NO	N/A
ACTION: No qualification is done if surrogates are diluted out. If recovery for both surrogates is below the contract limit, but above 10%, flag all results for that sample 'J". If recovery is < 10% for either surrogate, qualify positive results 'J" and flag non-detects "R". If recovery is above the contract advisory limits for both surrogates qualify positive values "J".			
3.5 Were surrogate retention times (RT) within the windows established during the initial 3-point analysis of Individual Standard Mixture A?	[✓]	___	___
ACTION: If the RT limits are not met, the analysis may be qualified unusable (R) for that sample on the basis of professional judgement.			
3.6 Are there any transcription/calculation errors between raw data and Form II?	___	[✓]	___
ACTION: If large errors exist, call lab for explanation/resubmittal. Make any necessary corrections and document effect in data assessments.			
4.0 Matrix Spikes (Form III)			
4.1 Is the Matrix Spike/Matrix Spike Duplicate Recovery Form (Form III) present?	[✓]	___	___
4.2 Were matrix spikes analyzed at the required frequency for each of the following matrices? (1 MS/MSD must be performed for every 20 samples of similar matrix or concentration level)			
a. Low Water	[✓]	___	___
b. Soil	[✓]	___	___
ACTION: If any matrix spike data are missing, take the action specified in 3.2 above.			

YES NO N/A

4.3 How many PEST/PCB spike recoveries are outside QC limits?

Water	Soil
0 out of 12	0 out of 12

4.4 How many RPD's for matrix spike and matrix spike duplicate recoveries are outside QC limits?

Water	Soil
0 out of 6	0 out of 6

ACTION: No action is taken on MS/MSD data alone. However, using informed professional judgement, the data reviewer may use the matrix spike and matrix spike duplicate results in conjunction with other QC criteria and determine the need for some qualification of the data.

5.0 Blanks (Form IV)

5.1 Is the Method Blank Summary (Form IV) present? [✓] ___ ___

5.2 Frequency of Analysis: For the analysis of Pesticide PCB TCL compounds, has a reagent/ method blank been analyzed for each SDG or every 20 samples of similar matrix or concentration or each extraction batch, whichever is more frequent? [✓] ___ ___

ACTION: If any blank data are missing, take the action specified above in 3.2. If blank data is not available, reject (R) all associated positive data. However, using professional judgement, the data reviewer may substitute field blank data for missing method blank data.

5.3 Has a PEST/PCB instrument blank been analyzed at the beginning of every 12 hr. period following the initial calibration sequence? (minimum contract requirement)

	YES	NO	N/A

ACTION: If any blank data are missing, call lab for explanation/resubmittals. If missing deliverables are unavailable, document the effect in data assessments.

5.4 Chromatography: review the blank raw data - chromatograms, quant reports or data system printouts.

Is the chromatographic performance (baseline stability) for each instrument acceptable for PEST/PCBs? [✓] ___ ___

ACTION: Use professional judgement to determine the effect on the data.

6.0 Contamination

NOTE: "Water blanks", "distilled water blanks" and "drilling water blanks" are validated like any other sample and are not used to qualify the data. Do not confuse them with the other QC blanks discussed below.

6.1 Do any method/instrument/reagent/cleanup blanks have positive results for PEST/PCBs? When applied as described below, the contaminant concentration in these blanks are multiplied by the sample Dilution Factor and corrected for % moisture when necessary. ___ [✓] ___

6.2 Do any field/rinse blanks have positive PEST/PCB results? ___ [ ] [✓]

ACTION: Prepare a list of the samples associated with each of the contaminated blanks. (Attach a separate sheet) not identified

NOTE: All field blank results associated to a particular group of samples (may exceed one per case or one per day) may be used to qualify data. Blanks may not be qualified because of contamination in another blank. Field blanks must be qualified for surrogate, or calibration QC problems.

YES NO N/A

ACTION: Follow the directions in the table below to qualify TCL results due to contamination. Use the largest value from all the associated blanks.

Sample conc > CRQL but < 5x blank	Sample conc < CRQL & is < 5x blank value	Sample conc > CRQL & > 5x blank value
Flag sample result with a "U";	Report CRQL & qualify "U"	No qualification is needed

NOTE: If gross blank contamination exists, all data in the associated samples should be qualified as unusable (R).

6.3 Are there field/rinse/equipment blanks associated with every sample? [✓] ___ ___

ACTION: For low level samples, note in data assessment that there is no associated field/rinse/equipment blank. Exception: samples taken from a drinking water tap do not have associated field blanks.

7.0 Calibration and GC Performance

7.1 Are the following Gas Chromatograms and Data Systems Printouts for both columns present for all samples, blanks, MS/MSD?

a. peak resolution check [✓] ___ ___

b. performance evaluation mixtures [✓] ___ ___

c. aroclor 1016/1260 [✓] ___ ___

d. aroclors 1221, 1232, 1242, 1248, 1254 [✓] ___ ___

e. toxaphene [✓] ___ ___

f. low points individual mixtures A & B [✓] ___ ___

g. med points individual mixtures A & B [✓] ___ ___

h. high points individual mixtures A & B [✓] ___ ___

	YES	NO	N/A
i. instrument blanks	[✓]		

ACTION: If no, take action specified in 3.2 above.

7.2 Are Forms VI - PEST 1-4 present and complete for each column and each analytical sequence? [✓] ___ ___

ACTION: If no, take action specified in 3.2 above.

3 analytical sequences

7.3 Are there any transcription/calculation errors between raw data and Forms VI? ___ [✓] ___

ACTION: If large errors exist, call lab for explanation/resubmittal, make necessary corrections and document effect in data assessments.

7.4 Do all standard retention times, including each pesticide in each level of Individual Mixtures A & B, fall within the windows established during the initial calibration analytical sequence? (For Initial Calibration Standards, Form VI - PEST - 1). [✓] ___ ___

ACTION: If no, all samples in the entire analytical sequence are potentially affected. Check to see if the chromatograms contain peaks within an expanded window surrounding the expected retention times. If no peaks are found and the surrogates are visible, non-detects are valid. If peaks are present and cannot be identified through pattern recognition or using a revised RT window, qualify all positive results and non-detects as unusable (R).
For aroclors, RT may be outside the RT window, but the aroclor may still be identified from the individual pattern.

7.5 Are the linearity criteria for the initial analyses of Individual Standards A & B within limits for both columns? (% RSD must be < 20.0% for all analytes except for the 2 surrogates, which must not exceed 30.0 % RSD). See Form VI PEST - 2. [✓] ___ ___

	YES	NO	N/A
ACTION: If no, qualify all associated positive results generated during the entire analytical sequence "J" and all non-detects "UJ". When RSD >90%, flag all non-detect results for that analyte R (unusable).			
7.6 Is the resolution between any two adjacent peaks in the Resolution Check Mixture > 60.0% for both columns? (Form VI-PEST - 4)	[✓]	___	___
ACTION: If no, positive results for compounds that were not adequately resolved should be qualified "J". Use professional judgement to determine if non-detects which elute in areas affected by co-eluting peaks should be qualified "N" as presumptive evidence of presence or unusable (R).			
7.7 Is Form VII - Pest-1 present and complete for each Performance Evaluation Mixture analyzed during the analytical sequence for both columns?	[✓]	___	___
ACTION: If no, take action as specified in 3.2 above.			
7.8 Has the individual % breakdown exceeded 20.0% on either column.	___	[✓]	___
- for 4,4' - DDT?	___	[✓]	___
- for endrin?	___	[✓]	___
Has the combined % breakdown for 4,4'- DDT/ Endrin exceeded 30.0% on either column? (required in all instances)	___	[✓]	___

ACTION: 1. If any % breakdown has failed the QC criteria in either PEM in steps 2 and 17 in the initial calibration sequence (p. D-38/Pest SOW 3/90), qualify all sample analyses in the entire analytical sequence as described below.

YES NO N/A

2. If any % breakdown has failed the QC criteria in a PEM Verification calibration, review data beginning with the samples which followed the last in-control standard until the next acceptable PEM & qualify the data as described below.

a. 4,4'-DDT Breakdown: If 4,4'-DDT breakdown is greater than 20.%:

   i. Qualify all positive results for DDT with 'J". If DDT was not detected, but DDD and DDE are positive, then qualify the quantitation limit for DDT as unusable (R).

   ii. Qualify positive results for DDD and/or DDE as presumptively present at an approximated quantity (NJ).

b. Endrin Breakdown: If endrin breakdown is greater than 20.0%:

   i. Qualify all positive results for endrin with "J". If endrin was not detected, but endrin aldehyde and endrin ketone are positive, then qualify the quantitation limit for endrin as unusable (R).

   ii. Qualify positive results for endrin ketone and endrin aldehyde as presumptively present at an approximated quantity (NJ).

c. Combined Breakdown: If the combined 4,4'-DDT and endrin breakdown is greater than 30.0%:

   i. Qualify all positive results for DDT and endrin with "J". If endrin was not detected, but endrin aldehyde and endrin ketone are positive, then qualify the quantitation limit for endrin as unusable (R). If DDT was not detected, but DDD and DDE are positive, then qualify the quantitation limit for DDT as unusable (R).

	YES	NO	N/A

ii. Qualify positive results for endrin ketone and endrin aldehyde as presumptively present at an approximated quantity (NJ). Qualify positive results for DDD and/or DDE as presumptively present at an approximated quantity (NJ).

7.9 Are the relative percent difference (RPD) values for all PEM analytes <25.0%? (Form VII-PEST-1) [✓] ___ ___

ACTION: If no, qualify all associated positive results generated during the analytical sequence "J" and sample quantitation limits "UJ".

NOTE: If the failing PEM is part of the initial calibration. all samples are potentially affected. If the offending standard is a verification calibration, the associated samples are those which followed the last in-control standard until the next passing standard.

7.10 Have all samples been injected within a 12 hr. period beginning with the injection of an Instrument Blank? [✓] ___ ___

ACTION: If no, use professional judgement to determine the severity of the effect on the data and qualify accordingly.

7.11 Is Form VII - Pest-2 present and complete for each INDA and INDB Verification Calibration analyzed? [✓] ___ ___

ACTION: If no, take action specified in 3.2 above.

7.12 Are there any transcription/calculation errors between raw data and Form VII - Pest-2? ___ [✓] ___

ACTION: If large errors exists, call lab for explanation/resubmittal, make any necessary corrections and document effect in data assessments. under "Conclusions".

YES NO N/A

7.13 Do all standard retention times for each INDA and INDB Verification Calibration fall within the windows established by the initial calibration sequence? [✓] ___ ___

ACTION: If no, beginning with the samples which followed the last in-control standard, check to see if the chromatograms contain peaks within an expanded window surrounding the expected retention times. If no peaks are found and the surrogates are visible, non-detects are valid. If peaks are present and cannot be identified through pattern recognition or using a revised RT window, qualify all positive results and non-detects as unusable (R).

7.14 Are RPD values for all verification calibration standard compounds < 25.0%? [✓] ___ ___

ACTION: If the RPD is >25.0% for the compound being quantitated, qualify all associated positive results "J" and non-detects "UJ". The "associated samples" are those which followed the last in-control standard up to the next passing standard containing the analyte which failed the criteria. If the RPD is >90%, flag all non-detects for that analyte R (unusable).

8.0 Analytical Sequence Check (Form VIII-PEST)

8.1 Is Form VIII present and complete for each column and each period of analyses? [✓] ___ ___

ACTION: If no, take action specified in 3.2 above.

8.2 Was the proper analytical sequence followed for each initial calibration and subsequent analyses? (see CLP SOW p. D-39 & D-41/PEST) [✓] ___ ___

ACTION: If no, use professional judgement to determine the severity of the effect on the data and qualify it accordingly. Generally, the effect is negligible unless the sequence was grossly altered or the calibration was also out of limits.

YES NO N/A

9.0 Cleanup Efficiency Verification (Form IX)

9.1 Is Form IX - Pest-1 present and complete for each lot of Florisil Cartridges used? (Florisil Cleanup is required for all Pest/PCB extracts.) [✓] ___ ___

ACTION: If no, take action specified in 3.2 above. If data suggests that florisil cleanup was not performed, make note in "Contract Problems/Non-Compliance".

9.2 Are all samples listed on the Pesticide Florisil Cartridge Check Form? [✓] ___ ___

ACTION: If no, take action specified in 3.2 above.

9.3 If GPC Cleanup was performed, (mandatory for all soil sample extracts) is Form IX - Pest-2 present? [✓] ___ ___

ACTION: If no, take action specified in 3.2 above.

ACTION: If GPC was not performed when required, make note in" Contract Problems/Non-Compliance" section of data assessment.

9.4 Are percent recoveries (% R) of the pesticide and surrogate compounds used to check the efficiency of the cleanup procedures within QC limits:

80-120% for florisil cartridge check? [✓] ___ ___

80-110% for GPC calibration? [✓] ___ ___

Qualify only the analyte(s) which fail the recovery criteria as follows:

ACTION: If % R are < 80%, qualify positive results "J" and quantitation limits "UJ". Non-detects should be qualified "R" if zero %R was obtained for pesticide compounds. Use professional judgement to qualify positive results if recoveries are greater than the upper limit.

	YES	NO	N/A

NOTE: Sample data should be evaluated for potential interferences if recovery of 2,4,5-trichlorophenol was > 5% in the Florisil Cartridge Performance Check analysis. Make note in Contract Problems/ Non-Compliance section of reviewer narrative.

NOTE: The raw data of the GPC Calibration Check analysis is evaluated for pattern similarity with previously run Aroclor standards.

10.0 Pesticide/PCB Identification

	YES	NO	N/A
10.1 Is Form X complete for every sample in which a pesticide or PCB was detected?	[✓]	___	___
ACTION: If no, take action specified in 3.2 above.			
10.2 Are there any transcription/calculation errors between raw data and Forms 6E, 6G, 7E, 7D, 8D, 9A, B, 10A.	___	[✓]	___
ACTION: If large errors exist, call lab for explanation/resubmittal, make necessary corrections and note error under "Conclusions".			
10.3 Are retention times (RT) of sample compounds within the established RT windows for both analyses?	[✓]	___	___
Was GC/MS confirmation provided when required (when compound concentration is > 10 ug/ml in final extract)?	[ ]	___	✓
Action: Use professional judgement to qualify positive results which were not confirmed by GC/MS. Qualify as unusable (R) all positive results which were not confirmed by second GC column analysis. Also qualify as unusable (R) all positive results not meeting RT window unless associated standard compounds are similarly biased. (see Functional Guidelines) The reviewer should use professional judgement to assign an appropriate quantitation limit.			

CLP DATA ASSESSMENT

Functional Guidelines for Evaluating Organic Analysis

Case No. 92061708 SDG No. 06-001-D001 LABORATORY Roy F. Weston Lionville SITE NWS Earle Colts Neck, NJ

DATA ASSESSMENT:

The current Functional Guidelines for evaluating organic data have been applied.

All data are valid and acceptable except those analytes which have been qualified with a "J" (estimated), "N" (presumptive evidence for the presence of the material), "U" (non-detects), "R" (unusable), or "JN" (presumptive evidence for the presence of the material at an estimated value). All action is detailed on the attached sheets.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant QC problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Reviewer's Signature: Christopher D. Fangellis Date: 8/25/1992

Verified By: Paul B. Hanly Date: 8/25/1992

DATA ASSESSMENT

1. HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detects (sample quantitation limits) will be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

The following analytes in the samples shown were qualified because of holding time: None

DATA ASSESSMENT

2. BLANK CONTAMINATION:

Quality assurance (QA) blanks, i.e., method, trip, field, or rinse blanks are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and rinse blanks measure cross- contamination of samples during field operations. If the concentration of the analyte is less than 5 times the blank contaminant level (10 times for the common contaminants), the analytes are qualified as non- detects, "U". The following analytes in the samples shown were qualified with "U" for these reasons:

A) Method blank contamination

None

B) Field or rinse blank contamination ("water blanks" or "distilled water blanks" are validated like any other sample)

None

C) Trip blank contamination

N/A

DATA ASSESSMENT

5. CALIBRATION:

A) PERCENT RELATIVE STANDARD DEVIATION (%RSD) AND PERCENT DIFFERENCE (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be <30% and %D must be <25%. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J"; and non-detects are flagged "UJ". If %RSD and %D grossly exceed QC criteria, non-detect data may be qualified "R".

For the PCB/PESTICIDE fraction, if %RSD exceeds 20% for all analytes except for the 2 surrogates (which must not exceed 30% RSD), qualify all associated positive results "J" and non-detects "UJ".

The following analytes in the samples shown were qualified for %RSD and %D:

None

DATA ASSESSMENT

6. SURROGATES/ SYSTEM MONITORING COMPOUNDS (SMC):

All samples are spiked with surrogate/ SMC compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured surrogate/ SMC concentrations were outside contract specifications, qualifications were applied to the samples and analytes as shown below. The following analytes for the samples shown were qualified because of surrogate/ SMC recovery:

all waters { 06-001-M001, 17-001-M001, 17-002-M001, 17-004-M001 } low recoveries for at least 3 out of 4. Qualified "J"/"UJ" positives & non-detects

DATA ASSESSMENT

8. COMPOUND IDENTIFICATION:

A) VOLATILE AND SEMI-VOLATILE FRACTIONS

TCL compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and ion spectra. For the results to be a positive hit, the sample peak must be within ± 0.06 RRT units of the standard compound, and have an ion spectra which has a ratio of the primary and secondary m/e intensities within 20% of that in the standard compound. For tentatively identified compounds (TIC), the ion spectra must match accurately. In the cases where there is not an adequate ion spectrum match, the laboratory may have provided false positive identifications. The following analytes in the samples shown were qualified for compound identification:

B) PESTICIDE FRACTION:

The retention times of reported compounds must fall within the calculated retention time windows for the two chromatographic columns. The percent difference (%D) of the positive results obtained on the two GC columns should be ≤25% The following analytes in the samples shown were qualified because of compound identification:

Numerous — See Form Is for Qualifications & Annotations

DATA ASSESSMENT

9. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD may be used in conjunction with other QC criteria for some additional qualification of data. The following analytes, for the samples shown, were qualified because of MS/MSD:

None

DATA ASSESSMENT

10. OTHER QC DATA OUT OF SPECIFICATION:

None

11. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT (continued on next page if necessary):

Good

12. CONTRACTUAL NON-COMPLIANCE:

None

13. This package contains re-extraction, re-analysis or dilution. Upon reviewing the QA results, the following form I(s) are identified to be used:

See Form I's

YES NO N/A

10.4 Is the percent difference (% D) calculated for the positive sample results on the two GC columns < 25.0%? [ ] [✓] ___

ACTION: If the reviewer finds neither column shows interference for the positive hits, the data should be flagged as follows: Numerous

% Difference	Qualifier
25-50 %	J
50-90 %	JN
> 90 %	R

NOTE: The lower of the two values is reported on Form I. If using professional judgement, the reviewer determines that the higher result was more acceptable, the reviewer should replace the value and indicate the reason for the change in the data assessment.

10.5 Check chromatograms for false negatives, especially the multiple peak compounds toxaphene and PCBs. Were there any false negatives? ___ [✓] ___

ACTION: Use professional judgement to decide if the compound should be reported. If the appropriate PCB standards were not analyzed, qualify the data unusable (R).

Pseudo-Aroclor patterns in samples:
06-001-D001
06-003-D001
06-004-D001
06-004-D101
17-001-D001
& 17-004-D001

11.0 Compound Quantitation and Reported Detection Limits

11.1 Are there any transcription/calculation errors in Form I results? Check at least two positive values. Were any errors found? ___ [✓] ___

NOTE: Single-peak pesticide results can be checked for rough agreement between quantitative results obtained on the two GC columns. The reviewer should use professional judgement to decide whethera much larger concentration obtained on one column versus the other indicates the presence of an interfering compound. If an interfering compound is indicated, the lower of the two values should be reported and qualified as presumptively present at an approximated quantity (NJ). This necessitates a determination of an estimated concentration on the confirmation column. The narrative should indicate that the presence of interferences has interfered with the evaluation of the second column confirmation.

	YES	NO	N/A
11.2 Are the CRQLs adjusted to reflect sample dilutions and, for soils, % moisture?	☑		

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and document effect in data assessments.

ACTION: When a sample is analyzed at more than one dilution, the lowest CRQLs are used (unless a QC exceedance dictates the use of the higher CRQL data from the diluted sample analysis). Replace concentrations that exceed the calibration range in the original analysis by crossing out the "E" value on the original Form I and substituting it with data from the analysis of diluted sample. Specify which Form I is to be used, then draw a red "X" across the entire page of all Form I's that should not be used, including any in the summary package.

ACTION: Quantitation limits affected by large, off-scale peaks should be qualified as unusable (R). If the interference is on-scale, the reviewer can provide an approximated quantitation limit (UJ) for each affected compound.

12.0 Chromatogram Quality

	YES	NO	N/A
12.1 Were baselines stable? some humps, dilutions analyzed OK	☑		
12.2 Were any electropositive displacement (negative peaks) or unusual peaks seen?		☑	

ACTION: Address comments under System Performance of data assessment.

	YES	NO	N/A
13.0 Field Duplicates			
13.1 Were any field duplicates submitted for PEST/PCB analysis?	[1]		
ACTION: Compare the reported results for field duplicates and calculate the relative percent difference.			
ACTION: Any gross variation between field duplicate results must be addressed in the reviewer narrative. However, if large differences exist, identification of field duplicates should be confirmed by contacting the sampler.			

But not identified

DATA ASSESSMENT

11. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT (continued):

- good

Several very "noisy" samples with multiple peaks — however, no clear multi-component patterns were identified by the lab or by the reviewer, possibly could be exotic &/or highly weathered mixture of Aroclors — no ID possible.

Samples of concern:

06-001-D001
06-003-D001
06-004-D001
06-004-D101
17-001-D001
17-004-D001

HEARTLAND ENVIRONMENTAL SERVICES, INC.
P.O. BOX 163 ST. PETERS MO 63376
(314) 278-8232

August 24, 1992

TO: John Williams Jr.
Project Manager
Roy F. Weston Inc.

FROM: Paul Humburg
Project Manager
Heartland ESI.

SUBJECT: Submittal of Data Validation results for Naval Weapons Station, New Jersey. Nine (9) water samples and one (1) Matrix Spike and Duplicate pair and two (2) soil samples and one (1) Matrix Spike and Duplicate pair were analyzed by the Roy F. Weston Lionville Laboratory.

Navy No.	RFW No.
06-001	920670801
06-003	920670802
06-001M	920670810
06-M201	920670811
06-002	920670812
06-004	920670813
17-001	920670814
17-002	920670815
17-003	920670816
17-003M	920670817
17-004	920670818

Heartland ESI has reviewed the data for the samples listed above TAL Metals using Region II Data Validation Protocol, January 1992 revision. Analytical data in this report were screened to determine usability of the results and also to determine contractual compliance relative to the requirements and deliverables of the Region II Protocol. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results.

Inorganic fraction was reviewed as follows:

Tal Metals reviewed by Paul B. Humburg

Please refer to the Annotated From 1s and the detailed data validation report for additional information. Specific comments are provided on the following pages.

HEARTLAND ENVIRONMENTAL
SERVICES, INC.

DATA ASSESSMENT NARRATIVE
Metals

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, calibration standards, blank analysis results and MS/MSD results. A minimum of ten percent of all laboratory calculations and reported results are reviewed utilizing the raw instrument data. All comments made within this report should be considered when examining the analytical results (Form Is).

This data package consisted of results from **Naval Weapons Station,N.J., SDG# 9206708**, the analysis of nine (9) field water samples and one (1) matrix spike and duplicate pair and two (2) field soil samples and one (1) matrix spike and duplicate pair. Overall, the inorganic data quality was fair. The USEPA CLP analytical protocol was followed as required.

Specific QA/QC deficiency Findings are listed numerically in the following categories:

Holding Times

The holding times were met as specified in Region II Protocol.

Calibration

1. The CRDL Standard for waters for Lead was below the lower control limit. All positive and non-detect results within the affected range are qualified as estimated, "J" or "UJ".

2. The CRDL Standard for soils for Arsenic was above the upper control limit. All positive results within the affected range are qualified as estimated, "J".

Preparation and Field Blanks

No deficiencies in this section.

Interferences

No significant interferences were observed.

Spike Recovery

3. The Matrix Spike recoveries for waters for Arsenic, Lead and Thallium were below the lower control limit. All positive and non-detect results are qualified as estimated, "J" or "UJ".

   The Matrix Spike recoveries for soils for Beryllium, Selenium, Silver and Cyanide were below the lower control limit. All positive and non-detect results are qualified as estimated, "J" or "UJ".

4. The Matrix Spike recovery for waters for Aluminum was above 150%. All positive results are rejected.

Duplicate

5. The Duplicate Analyses for Calcium and Magnesium for soils was outside the control limits. All positive and non-detect results are qualified as estimated, "J" or "UJ".

LCS

No deficiencies in this section.

Serial Dilution

6. The Serial dilution for soil Zinc was outside the control limit. All positive results are qualified as estimated,"J" if the values are greater than 10 times the CRDL.

   The Serial Dilutions for waters for Aluminum, Barium, Calcium, Iron, Magnesium, Manganese, Sodium and Zinc were outside the control limits. All positive results are qualified as estimated, "J" if the values are greater than 10 times the CRDL.

MSA

7. The following analytes exhibited low recovery during the GFAA spiking procedures. All data is qualified as estimated, "J" or "UJ".

Analyte	Samples
Arsenic	06-001M, 06-002, 06-004, 17-003 and 17-003M.
Lead	06-001, 06-001M and 06-002.
Selenium	06-001, 06-003, 06-004, 17-001, 17-002, 17-003, 17-003M and 17-004.
Thallium	06-001M, 06-002, 06-004, 17-003M and 17-004.

8. The following analytes exhibited high recovery during the GFAA spiking procedures. All positive data is qualified as estimated, "J".

Analyte	Samples
Thallium	17-002 and 17-003.

HEARTLAND ENVIRONMENTAL
SERVICES, INC.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE	DL	QL	SPECIFIC FINDING
All water samples	Pb	+/U	J/UJ	1
All soil samples	As	+	J	2
All soil samples All water samples	Be, Se, Ag and Cn. As, Pb and Tl.	+/U	J/UJ	3
All water samples	Al	+	R	4
All soil samples	Ca and Mg.	+/U	J/UJ	5
All soil samples All water samples	Zn. Al, Ba, Ca, Fe, Mg, Mn, Na and Zn.	+	J	6
06-001M, 06-002, 06-004, 17-003 and 17-003M. 06-001, 06-001M and 06-002. 06-001, 06-003, 06-004, 17-001 17-002, 17-003, 17-003M and 17-004. 06-001M, 06-002, 06-004, 17-003M and 17-004.	As Pb Se Tl	+/U	J/UJ	7
17-002 and 17-003.	Tl	+	J	8

DL - denotes laboratory qualifier/reported value
+ denotes positive values
U denotes non-detect values
QL - denotes data validation qualifier

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

06-001

Lab Name: ROY F. WESTON, INC - L372 Contract: 1771-15-04

Lab Code: WESTON Case No.: NWS SAS No.: SDG No.: CLP708

Matrix (soil/water): SOIL Lab Sample ID: 920670801

Level (low/med): LOW Date Received: 6/19/92

% Solids: 81.3

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

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	2320.00			P	
7440-36-0	Antimony	8.86	U		P	
7440-38-2	Arsenic	1.50	B		F	
7440-39-3	Barium	22.20	B		P	
7440-41-7	Beryllium	.27	B	N	P	J3
7440-43-9	Cadmium	.98	U		P	
7440-70-2	Calcium	886.00	B	*	P	J5
7440-47-3	Chromium	7.30			P	
7440-48-4	Cobalt	2.90	B		P	
7440-50-8	Copper	16.00			P	
7439-89-6	Iron	8770.00		*	P	
7439-92-1	Lead	29.50		W*	F	J7
7439-95-4	Magnesium	628.00	B	*	P	J5
7439-96-5	Manganese	27.00			P	
7439-97-6	Mercury	.06	U		CV	
7440-02-0	Nickel	4.43	U		P	
7440-09-7	Potassium	306.00	B		P	
7782-49-2	Selenium	.49	U	NW	F	UJ3,7
7440-22-4	Silver	1.97	U	N	P	UJ3
7440-23-5	Sodium	140.00	B		P	
7440-28-0	Thallium	.49	U		F	
7440-62-2	Vanadium	6.80	B		P	
7440-66-6	Zinc	97.60		*E	P	J6
	Cyanide	1.23	U	N	C	UJ3

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

FORM I - IN 03/90

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

06-003

Lab Name: ROY F. WESTON, INC - L372 Contract: 1771-15-04

Lab Code: WESTON Case No.: NWS SAS No.: SDG No.: CLP708

Matrix (soil/water): SOIL Lab Sample ID: 920670802

Level (low/med): LOW Date Received: 6/19/92

% Solids: 91.1

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

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	3100.00			P	
7440-36-0	Antimony	7.86	U		P	
7440-38-2	Arsenic	5.10			F	
7440-39-3	Barium	25.00	B		P	
7440-41-7	Beryllium	.55	B	N	P	J3
7440-43-9	Cadmium	1.30			P	
7440-70-2	Calcium	3630.00		*	P	J5
7440-47-3	Chromium	16.10			P	
7440-48-4	Cobalt	4.30	B		P	
7440-50-8	Copper	21.80			P	
7439-89-6	Iron	16400.00		*	P	
7439-92-1	Lead	66.70		*S	F	
7439-95-4	Magnesium	1350.00		*	P	J5
7439-96-5	Manganese	98.10			P	
7439-97-6	Mercury	.10	B		CV	
7440-02-0	Nickel	4.90	B		P	
7440-09-7	Potassium	748.00	B		P	
7782-49-2	Selenium	.44	U	NW	F	UJ3,7
7440-22-4	Silver	1.75	U	N	P	UJ3
7440-23-5	Sodium	65.80	B		P	
7440-28-0	Thallium	.44	U	N	F	
7440-62-2	Vanadium	14.10			P	
7440-66-6	Zinc	139.00		E	P	J6
	Cyanide	1.10	U	N	C	UJ3

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

FORM I - IN 03/90

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

06-001M

Lab Name: ROY F. WESTON, INC - L372 Contract: 1771-15-04

Lab Code: WESTON Case No.: NWS SAS No.: SDG No.: CLP708

Matrix (soil/water): WATER Lab Sample ID: 920670810

Level (low/med): LOW Date Received: 6/19/92

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	~~3110.00~~		~~N*E~~	~~P~~	4
7440-36-0	Antimony	36.00	U		P	
7440-38-2	Arsenic	2.60	B	NW	F	J2,3,7
7440-39-3	Barium	74.00	B		P	J6
7440-41-7	Beryllium	1.00	U	N	P	
7440-43-9	Cadmium	4.00	U		P	
7440-70-2	Calcium	32800.00		E	P	~~J5~~ J6 PBH 8/20/92
7440-47-3	Chromium	9.90	B		P	
7440-48-4	Cobalt	7.00	U		P	
7440-50-8	Copper	9.00	B		P	
7439-89-6	Iron	49800.00		*E	P	J6
7439-92-1	Lead	2.90	B	NW	F	J3,7
7439-95-4	Magnesium	14500.00		E	P	~~J5~~ J6 PBH 8/20/92
7439-96-5	Manganese	1650.00		E	P	J6
7439-97-6	Mercury	.10	U		CV	
7440-02-0	Nickel	18.00	U		P	
7440-09-7	Potassium	7060.00			P	
7782-49-2	Selenium	2.00	U	N	F	
7440-22-4	Silver	8.00	U	N	P	
7440-23-5	Sodium	60800.00		E	P	J6
7440-28-0	Thallium	20.00	U	NW	F	UJ3,7
7440-62-2	Vanadium	5.00	U		P	
7440-66-6	Zinc	35.30			P	
	Cyanide				NR	

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN 03/90

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

06-M201

Lab Name: ROY F. WESTON, INC - L372 Contract: 1771-15-04

Lab Code: WESTON Case No.: NWS SAS No.: SDG No.: CLP708

Matrix (soil/water): WATER Lab Sample ID: 920670811

Level (low/med): LOW Date Received: 6/19/92

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	46.00	U	N*E	P	
7440-36-0	Antimony	36.00	U		P	
7440-38-2	Arsenic	2.00	U	N	F	UJ3
7440-39-3	Barium	7.00	U		P	
7440-41-7	Beryllium	1.00	U	N	P	
7440-43-9	Cadmium	4.00	U		P	
7440-70-2	Calcium	62.00	U	E	P	
7440-47-3	Chromium	7.00	U		P	
7440-48-4	Cobalt	7.00	U		P	
7440-50-8	Copper	7.00	U		P	
7439-89-6	Iron	30.00	U	*E	P	
7439-92-1	Lead	2.00	U	N	F	UJ3
7439-95-4	Magnesium	69.00	U	E	P	
7439-96-5	Manganese	2.00	U	E	P	
7439-97-6	Mercury	.10	U		CV	
7440-02-0	Nickel	18.00	U		P	
7440-09-7	Potassium	896.00	U		P	
7782-49-2	Selenium	2.00	U	N	F	
7440-22-4	Silver	8.00	U	N	P	
7440-23-5	Sodium	171.00	B	E	P	
7440-28-0	Thallium	2.00	U	N	F	UJ3
7440-62-2	Vanadium	5.00	U		P	
7440-66-6	Zinc	8.00	B		P	
	Cyanide				NR	

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

06-002

Lab Name: ROY F. WESTON, INC - L372 Contract: 1771-15-04

Lab Code: WESTON Case No.: NWS SAS No.: SDG No.: CLP708

Matrix (soil/water): WATER Lab Sample ID: 920670812

Level (low/med): LOW Date Received: 6/19/92

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	~~2420.00~~		~~N*E~~	~~P~~	4
7440-36-0	Antimony	36.00	U		P	
7440-38-2	Arsenic	2.00	U	NW	F	UJ3,7
7440-39-3	Barium	112.00	B		P	J6
7440-41-7	Beryllium	1.00	U	N	P	
7440-43-9	Cadmium	4.00	U		P	
7440-70-2	Calcium	8810.00		E	P	J6
7440-47-3	Chromium	7.00	U		P	
7440-48-4	Cobalt	7.00	U		P	
7440-50-8	Copper	8.30	B		P	
7439-89-6	Iron	16800.00		*E	P	J6
7439-92-1	Lead	2.00	U	NW	F	UJ3,7
7439-95-4	Magnesium	6620.00		E	P	J6
7439-96-5	Manganese	322.00		E	P	J6
7439-97-6	Mercury	.10	U		CV	
7440-02-0	Nickel	18.00	U		P	
7440-09-7	Potassium	2980.00	B		P	
7782-49-2	Selenium	2.00	U	N	F	
7440-22-4	Silver	8.00	U	N	P	
7440-23-5	Sodium	37400.00		E	P	J6
7440-28-0	Thallium	20.00	U	NW	F	UJ3,7
7440-62-2	Vanadium	5.00	U		P	
7440-66-6	Zinc	69.00			P	J6
	Cyanide				NR	

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

06-004

Lab Name: ROY F. WESTON, INC - L372 Contract: 1771-15-04

Lab Code: WESTON Case No.: NWS SAS No.: SDG No.: CLP708

Matrix (soil/water): WATER Lab Sample ID: 920670813

Level (low/med): LOW Date Received: 6/19/92

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	~~2580.00~~		~~*NE~~	~~P~~	4
7440-36-0	Antimony	36.00	U		P	
7440-38-2	Arsenic	6.60	B	NW	F	J2,3,7
7440-39-3	Barium	130.00	B		P	J6
7440-41-7	Beryllium	1.00	U	N	P	
7440-43-9	Cadmium	4.00	U		P	
7440-70-2	Calcium	102000.00		*E	P	J6
7440-47-3	Chromium	8.30	B		P	
7440-48-4	Cobalt	7.10	B		P	
7440-50-8	Copper	18.90	B		P	
7439-89-6	Iron	46900.00		*E	P	J6
7439-92-1	Lead	20.70		NS	F	J3
7439-95-4	Magnesium	42400.00		*E	P	J6
7439-96-5	Manganese	1120.00		E	P	J6
7439-97-6	Mercury	.10	U		CV	
7440-02-0	Nickel	18.00	U		P	
7440-09-7	Potassium	9450.00			P	
7782-49-2	Selenium	2.00	U	NW	F	UJ7
7440-22-4	Silver	8.00	U	N	P	
7440-23-5	Sodium	13200.00		E	P	J6
7440-28-0	Thallium	2.00	U	NW	F	UJ3,7
7440-62-2	Vanadium	13.60	B		P	
7440-66-6	Zinc	216.00			P	J6
	Cyanide				NR	

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

17-001

Lab Name: ROY F. WESTON, INC - L372 Contract: 1771-15-04

Lab Code: WESTON Case No.: NWS SAS No.: SDG No.: CLP708

Matrix (soil/water): WATER Lab Sample ID: 920670814

Level (low/med): LOW Date Received: 6/19/92

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	~~27400.00~~		~~*NE~~	~~P~~	4
7440-36-0	Antimony	36.00	U		P	
7440-38-2	Arsenic	16.50		N	F	J2,3
7440-39-3	Barium	129.00	B		P	J6
7440-41-7	Beryllium	6.10		N	P	
7440-43-9	Cadmium	4.00	U		P	
7440-70-2	Calcium	17600.00		E	P	J6
7440-47-3	Chromium	139.00			P	
7440-48-4	Cobalt	39.10	B		P	
7440-50-8	Copper	81.10			P	
7439-89-6	Iron	88000.00		*E	P	J6
7439-92-1	Lead	80.00		N	F	J3
7439-95-4	Magnesium	9840.00		E	P	J6
7439-96-5	Manganese	1540.00		E	P	J6
7439-97-6	Mercury	.13	B		CV	
7440-02-0	Nickel	41.80			P	
7440-09-7	Potassium	9220.00			P	
7782-49-2	Selenium	2.00	U	NW	F	UJ7
7440-22-4	Silver	8.00	U	N	P	
7440-23-5	Sodium	9370.00		E	P	J6
7440-28-0	Thallium	20.00	U	N	F	UJ3
7440-62-2	Vanadium	376.00			P	
7440-66-6	Zinc	253.00			P	J6
	Cyanide				NR	

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

17-002

Lab Name: ROY F. WESTON, INC - L372 Contract: 1771-15-04

Lab Code: WESTON Case No.: NWS SAS No.: SDG No.: CLP708

Matrix (soil/water): WATER Lab Sample ID: 920670815

Level (low/med): LOW Date Received: 6/19/92

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	~~23300.00~~		~~*NE~~	~~P~~	4
7440-36-0	Antimony	36.00	U		P	
7440-38-2	Arsenic	37.00		NS	F	J3
7440-39-3	Barium	82.10	B		P	J6
7440-41-7	Beryllium	2.10	B	N	P	
7440-43-9	Cadmium	4.70	B		P	
7440-70-2	Calcium	15300.00		E	P	J6
7440-47-3	Chromium	156.00			P	
7440-48-4	Cobalt	44.00	B		P	
7440-50-8	Copper	81.50			P	
7439-89-6	Iron	71000.00		*E	P	J6
7439-92-1	Lead	56.00		N	F	J3
7439-95-4	Magnesium	5320.00		*E	P	J6
7439-96-5	Manganese	286.00		E	P	J6
7439-97-6	Mercury	.13	B		CV	
7440-02-0	Nickel	43.30			P	
7440-09-7	Potassium	9170.00			P	
7782-49-2	Selenium	2.20	B	NW	F	J7
7440-22-4	Silver	8.00	U	N	P	
7440-23-5	Sodium	14300.00		E	P	J6
7440-28-0	Thallium	2.00	U	NW	F	UJ3
7440-62-2	Vanadium	259.00			P	~~J~~ PBH 8/20/92
7440-66-6	Zinc	182.00			P	J6
	Cyanide				NR	

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN 03/90

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

17-003

Lab Name: ROY F. WESTON, INC - L372 Contract: 1771-15-04

Lab Code: WESTON Case No.: NWS SAS No.: SDG No.: CLP708

Matrix (soil/water): WATER Lab Sample ID: 920670816

Level (low/med): LOW Date Received: 6/19/92

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	~~1990.00~~		~~*NE~~	~~P~~	4
7440-36-0	Antimony	36.00	U		P	
7440-38-2	Arsenic	2.00	U	NW	F	UJ3,7
7440-39-3	Barium	68.50	B		P	J6
7440-41-7	Beryllium	1.00	U	N	P	
7440-43-9	Cadmium	4.00	U		P	
7440-70-2	Calcium	7410.00		E	P	J6
7440-47-3	Chromium	9.30	B		P	
7440-48-4	Cobalt	11.10	B		P	
7440-50-8	Copper	7.00	U		P	
7439-89-6	Iron	2300.00		*E	P	J6
7439-92-1	Lead	16.40		NS	F	J3
7439-95-4	Magnesium	5260.00		E	P	J6
7439-96-5	Manganese	290.00		E	P	J6
7439-97-6	Mercury	.10	U		CV	
7440-02-0	Nickel	18.00	U		P	
7440-09-7	Potassium	2640.00	B		P	
7782-49-2	Selenium	2.00	U	NW	F	UJ7
7440-22-4	Silver	8.00	U	N	P	
7440-23-5	Sodium	17900.00		E	P	J6
7440-28-0	Thallium	2.00	U	NW	F	UJ3,
7440-62-2	Vanadium	10.30	B		P	
7440-66-6	Zinc	90.40			P	J6
	Cyanide				NR	

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

17-003M

Lab Name: ROY F. WESTON, INC - L372 Contract: 1771-15-04

Lab Code: WESTON Case No.: NWS SAS No.: SDG No.: CLP708

Matrix (soil/water): WATER Lab Sample ID: 920670817

Level (low/med): LOW Date Received: 6/19/92

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	~~2320.00~~		~~*NE~~	~~P~~	4
7440-36-0	Antimony	36.00	U		P	
7440-38-2	Arsenic	2.00	U	NW	F	UJ3,7
7440-39-3	Barium	77.30	B		P	J6
7440-41-7	Beryllium	1.00	U	N	P	
7440-43-9	Cadmium	4.00	U		P	
7440-70-2	Calcium	8250.00		E	P	J6
7440-47-3	Chromium	10.90			P	
7440-48-4	Cobalt	10.60	B		P	
7440-50-8	Copper	7.00	U		P	
7439-89-6	Iron	2600.00		*E	P	J6
7439-92-1	Lead	17.60		NS	F	J3
7439-95-4	Magnesium	5910.00		*E	P	J6
7439-96-5	Manganese	325.00		E	P	J6
7439-97-6	Mercury	.10	U		CV	
7440-02-0	Nickel	18.00	U		P	
7440-09-7	Potassium	2710.00	B		P	
7782-49-2	Selenium	2.00	U	NW	F	UJ7
7440-22-4	Silver	8.00	U	N	P	
7440-23-5	Sodium	17600.00		E	P	J6
7440-28-0	Thallium	2.00	U	NW	F	UJ3,7
7440-62-2	Vanadium	10.90	B		P	
7440-66-6	Zinc	63.10			P	J6
	Cyanide				NR	

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

17-004

Lab Name: ROY F. WESTON, INC - L372 Contract: 1771-15-04

Lab Code: WESTON Case No.: NWS SAS No.: SDG No.: CLP708

Matrix (soil/water): WATER Lab Sample ID: 920670818

Level (low/med): LOW Date Received: 6/19/92

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	~~5780.00~~		~~*NE~~	~~P~~	4
7440-36-0	Antimony	36.00	U		P	
7440-38-2	Arsenic	100.00	U	N	F	UJ3
7440-39-3	Barium	551.00			P	J6
7440-41-7	Beryllium	1.00	U	N	P	
7440-43-9	Cadmium	4.00	U		P	
7440-70-2	Calcium	466000.00		E	P	J6
7440-47-3	Chromium	13.30			P	
7440-48-4	Cobalt	12.20	B		P	
7440-50-8	Copper	7.10	B		P	
7439-89-6	Iron	136000.00		*E	P	J6
7439-92-1	Lead	20.00	U	N	F	UJ3
7439-95-4	Magnesium	76100.00		E	P	J6
7439-96-5	Manganese	2380.00		E	P	J6
7439-97-6	Mercury	.10	U		CV	
7440-02-0	Nickel	18.00	U		P	
7440-09-7	Potassium	58900.00			P	
7782-49-2	Selenium	40.00	U	NW	F	UJ7
7440-22-4	Silver	8.00	U	N	P	
7440-23-5	Sodium	703000.00		E	P	J6
7440-28-0	Thallium	20.00	U	NW	F	UJ3,7
7440-62-2	Vanadium	51.80			P	
7440-66-6	Zinc	75.20			P	J6
	Cyanide				NR	

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

06-001S

Lab Name: ROY F. WESTON, INC - L372 Contract: 1771-15-04

Lab Code: WESTON Case No.: NWS SAS No.: SDG No.: CLP708

Matrix: SOIL Level (low/med): LOW

% Solids for Sample: 81.3

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony	75-125	111.3000		8.8596	U	123.10	90.4		P
Arsenic	75-125	8.9300		1.5000	B	9.84	75.5		F
Barium	75-125	425.3999		22.2000	B	492.20	81.9		P
Beryllium	75-125	8.4000		.2700	B	12.30	66.1	N	P
Cadmium	75-125	10.5000		.9844	U	12.30	85.0		P
Calcium									NR
Chromium	75-125	48.3000		7.3000		49.20	83.4		P
Cobalt	75-125	105.8000		2.9000	B	123.10	83.6		P
Copper	75-125	82.9000		16.0000		61.50	108.7		P
Iron									NR
Lead	75-125	20.1800		29.5000		4.92	-189.4		F
Magnesium									NR
Manganese	75-125	136.3000		27.0000		123.10	88.8		P
Mercury	75-125	.6300		.0615	U	.62	101.6		CV
Nickel	75-125	110.6000		4.4300	U	123.10	89.9		P
Potassium									NR
Selenium	75-125	1.7000		.4922	U	2.50	69.0	N	F
Silver	75-125	3.2900		1.1000	B	12.30	17.8	N	P
Sodium									NR
Thallium	75-125	10.2000		.4922	U	12.30	82.6		F
Vanadium	75-125	106.0000		6.8000	B	123.10	80.6		P
Zinc	75-125	242.6000		97.6000		123.10	117.8		P
Cyanide	75-125	3.5910		1.2300	U	6.15	58.4	N	C

Comments:

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

06-002S

Lab Name: ROY F. WESTON, INC - L372 Contract: 1771-15-04

Lab Code: WESTON Case No.: NWS SAS No.: SDG No.: CLP708

Matrix: WATER Level (low/med): LOW

% Solids for Sample: 0.0

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	75-125	6171.1020		2417.2000		2000.00	187.7	N	P
Antimony	75-125	486.0000		36.0000	U	500.00	97.2		P
Arsenic	75-125	23.6000		2.0000	U	40.00	59.0	N	F
Barium	75-125	1873.6000		112.0000	B	2000.00	88.1		P
Beryllium	75-125	43.7000		1.0000	U	50.00	87.4		P
Cadmium	75-125	42.7000		4.0000	U	50.00	85.4		P
Calcium									NR
Chromium	75-125	180.9000		7.0000	U	200.00	90.4		P
Cobalt	75-125	445.3000		7.0000	U	500.00	89.0		P
Copper	75-125	224.2000		8.3000	B	250.00	86.4		P
Iron	75-125	19744.7000		16830.7000		1000.00	291.4		P
Lead	75-125	12.6000		2.0000	U	20.00	63.0	N	F
Magnesium									NR
Manganese	75-125	780.6001		322.5000		500.00	91.6		P
Mercury	75-125	.9210		.1000	U	1.00	92.1		CV
Nickel	75-125	433.8999		18.0000	U	500.00	86.8		P
Potassium									NR
Selenium	75-125	8.8000		2.0000	U	10.00	88.0		F
Silver	75-125	42.7000		8.0000	U	50.00	85.4		P
Sodium									NR
Thallium	75-125	16.5000		2.0000	U	50.00	33.0	N	F
Vanadium	75-125	446.8000		5.0000	U	500.00	89.4		P
Zinc	75-125	553.2000		69.0000		500.00	96.8		P
Cyanide									NR

Comments:

U.S. EPA - CLP

5B
POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

06-001A

Lab Name: ROY F. WESTON, INC - L372 Contract: 1771-15-04

Lab Code: WESTON Case No.: NWS SAS No.: SDG No.: CLP708

Matrix: Level (low/med):

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium		12.50		1.10	B	10.0	114.0		P
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

FORM V (Part 2) - IN

U.S. EPA - CLP

5B
POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

06-002A

Lab Name: ROY F. WESTON, INC - L372 Contract: 1771-15-04

Lab Code: WESTON Case No.: NWS SAS No.: SDG No.: CLP708

Matrix: Level (low/med):

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum		6610.20		2417.20		4800.0	87.4		P
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

FORM V (Part 2) - IN

70

U.S. EPA - CLP

6
DUPLICATES

EPA SAMPLE NO.

06-001D

Lab Name: ROY F. WESTON, INC - L372 Contract: 1771-15-04

Lab Code: WESTON Case No.: NWS SAS No.: SDG No.: CLP708

Matrix (water/soil): SOIL Level (low/med): LOW

% Solids for Sample: 81.3 % Solids for Duplicate: 81.3

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	%RPD	Q	M
Aluminum		2322.9000		1995.4000		15.2		P
Antimony		8.8596	U	8.8596	U			P
Arsenic		1.5000	B	.7600	B	200.0		F
Barium		22.2000	B	14.4000	B	42.9		P
Beryllium		.2700	B	.4200	B	42.9		P
Cadmium		.9844	U	.9844	U			P
Calcium	1230.5	885.8000	B	10816.4000		169.7	*	P
Chromium	2.5	7.3000		5.8000		21.8		P
Cobalt		2.9000	B	2.9000	B	0.0		P
Copper	6.2	16.0000		20.1000		22.5		P
Iron		8772.1990		4900.1990		56.6	*	P
Lead		29.5000		15.0000		65.2	*	F
Magnesium	1230.5	627.7000	B	6349.0000		164.0	*	P
Manganese		27.0000		29.5000		8.7		P
Mercury		.0615	U	.0615	U			CV
Nickel		4.4298	U	4.6000	B	200.0		P
Potassium		305.8000	B	300.1001	B	1.9		P
Selenium		.4922	U	.4922	U			F
Silver		1.9688	U	1.9688	U			P
Sodium		140.5000	B	174.7000	B	21.7		P
Thallium		.4922	U	.4922	U			F
Vanadium		6.8000	B	5.9000	B	14.8		P
Zinc		97.6000		139.9000		35.6	*	P
Cyanide		1.2300	U	1.2300	U			C

FORM VI - IN

03/90

U.S. EPA - CLP

6
DUPLICATES

EPA SAMPLE NO.

06-002D

Lab Name: ROY F. WESTON, INC - L372 Contract: 1771-15-04

Lab Code: WESTON Case No.: NWS SAS No.: SDG No.: CLP708

Matrix (water/soil): WATER Level (low/med): LOW

% Solids for Sample: 0.0 % Solids for Duplicate: 0.0

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	%RPD	Q	M
Aluminum		2417.2000		1652.0000		37.6	*	P
Antimony		36.0000	U	36.0000	U			P
Arsenic		2.0000	U	2.0000	U			F
Barium		112.0000	B	112.2000	B	.2		P
Beryllium		1.0000	U	1.0000	U			P
Cadmium		4.0000	U	4.0000	U			P
Calcium	5000.0	8808.3980		8610.1020		2.3		P
Chromium		7.0000	U	7.0000	U			P
Cobalt		7.0000	U	7.0000	U			P
Copper		8.3000	B	7.0000	U	200.0		P
Iron		16830.7000		12451.1000		29.9	*	P
Lead		2.0000	U	2.0000	U			F
Magnesium	5000.0	6620.0000		6575.6020		.7		P
Manganese		322.5000		315.3999		2.2		P
Mercury		.1000	U	.1000	U			CV
Nickel		18.0000	U	18.0000	U			P
Potassium		2981.7000	B	3050.5000	B	2.3		P
Selenium		2.0000	U	2.0000	U			F
Silver		8.0000	U	8.0000	U			P
Sodium		37435.0000		36878.8000		1.5		P
Thallium		2.0000	U	2.0000	U			F
Vanadium		5.0000	U	5.0000	U			P
Zinc	20.0	69.0000		87.8000		24.0		P
Cyanide								NR

FORM VI - IN

03/90

	YES	NO	N/A
A.1.1 Contract Compliance Screening Report (CCS) - Present?	[ ]		✓
ACTION: If no, contact RSCC.			
A.1.2 Record of Communication (from RSCC) - Present?	[ ]		✓
ACTION: If no, request from RSCC.			
A.1.3 Trip Report - Present and complete?	[ ]		✓
ACTION: If no, contact RSCC for trip report.			
A.1.4 Sample Traffic Report - Present?	[ ]		✓
Legible?	[ ]		✓
ACTION: If no, request from Regional Sample Control Center (RSCC).			
A.1.5 Cover Page - Present?	[✓]		
Is cover page properly filled in and signed by the lab manager or the manager's designee?	[✓]		
ACTION: If no, prepare Telephone Record Log, and contact laboratory.			
Do numbers of samples correspond to numbers on Record of Communication?	[ ]		✓
Do sample numbers on cover page agree with sample numbers on:			
(a) Traffic Report Sheet?	[ ]		✓
(b) Form I's?	[✓]		
ACTION: If no for any of the above, contact RSCC for clarification.			

A.1.6	Form I to IX	Yes	No	N/A
A.1.6.1	Are all the Form I through Form IX labeled with:			
	Laboratory name?	[✓]	___	___
	Case/SAS number?	[✓]	___	___
	EPA sample No.?	[✓]	___	___
	SDG No.?	[✓]	___	___
	Contract No.?	[✓]	___	___
	Correct units?	[✓]	___	___
	Matrix?	[✓]	___	___

ACTION: If no for any of the above, note under Contract Problem/Non-Compliance section of the "Data Assessment Narrative".

A.1.6.2	Do any computation/transcription errors exceed 10% of reported values on Forms I-IX for:			
	(NOTE: Check all forms against raw data.)			
	(a) all analytes analyzed by ICP?	[✓]	___	___
	(b) all analytes analyzed by GFAA?	[✓]	___	___
	(c) all analytes analyzed by AA Flame?	[✓] PBH 8/20/92	___	✓
	(d) Mercury?	[✓]	___	___
	(e) Cyanide?	[✓]	___	___

ACTION: If yes, prepare Telephone Log, contact laboratory for corrected data and correct errors with red pencil and initial.

Title: Evaluation of Metals Data for the Contract Laboratory Program Appendix A.1: Data Assessment - Contract Compliance (Total Review)

Date: Jan. 1992
Number: HW-2
Revision: 11

		YES	NO	N/A
A.1.7	**Raw Data**			
A.1.7.1	Digestion Log* for flame AA/ICP (Form XIII) present?	[✓]	___	___
	Digestion Log for furnace AA Form XIII present?	[✓]	___	___
	Distillation Log for mercury Form XIII present?	[✓]	___	___
	Distillation Log for cyanides Form XIII present?	[✓]	___	___
	Are pH values (pH<2 for all metals, pH>12 for cyanide) present?	[✓]	___	___
	*Weights, dilutions and volumes used to obtain values.			
	Percent solids calculation present for soils/sediments?	[✓]	___	___
	Are preparation dates present on sample preparation logs/bench sheets?	[✓]	___	___
A.1.7.2	Measurement read out record present? ICP	[✓]	___	___
	Flame AA	[___]	___	✓
	Furnace AA	[✓]	___	___
	Mercury	[✓]	___	___
	Cyanides	[✓]	___	___
A.1.7.3	Are all raw data to support all sample analyses and QC operations present?	[✓]	___	___
	Legible?	[✓]	___	___
	Properly Labeled?	[✓]	___	___

ACTION: If no for any of the above questions in sections A.1.7.1 through A.1.7.3, write Telephone Record Log and contact laboratory for resubmittals.

		YES	NO	N/A
A.1.8	**Holding Times** - (aqueous and soil samples)			
	(Examine sample traffic reports and digestion/distillation logs.)			
	Mercury analysis (28 days). . . . . exceeded?	___	[✓]	___
	Cyanide distillation (14 days). . . . . exceeded?	___	[✓]	___
	Other Metals analysis (6 months). . . . exceeded?	___	[✓]	___
	NOTE: Prepare a list of all samples and analytes for which holding times have been exceeded. Specify the number of days from date of collection to the date of preparation (from raw data). Attach to checklist.			
	ACTION: If yes, reject (red-line) values less than Instrument Detection Limit (IDL) and flag as estimated (J) the values above IDL even though sample(s) was preserved properly.			
A.1.8.2	Is pH of aqueous samples for: Metals Analysis >2?	___	[✓]	___
	Cyanides Analysis <12?	___	[✓]	___
	Action: If yes, flag the associated metals and cyanides data as estimated.			
A.1.9	**Form I (Final Data)**			
A.1.9.1	Are all Form I's present and complete?	[✓]	___	___
	ACTION: If no, prepare telephone record log and contact laboratory for submittal.			
A.1.9.2	Are correct units (ug/l for waters and mg/kg for soils) indicated on Form I's?	[✓]	___	___
	Are soil sample results for each parameter corrected for percent solids?	[✓]	___	___
	Are all "less than IDL" values properly coded with "U"?	[✓]	___	___

		YES	NO	N/A
	Are the correct concentration qualifiers used with final data?	[✓]		
	ACTION: If no for any of the above, prepare Telephone Record Log, and contact laboratory for corrected data.			
A.1.9.3	Are EPA sample # s and corresponding laboratory sample ID # s the same as on the Cover Page, Form I's and in the raw data?	[✓]		
	Was a brief physical description of samples given on Form I's?	[✓]		
	Was the dilution of any sample diluted beyond the requirements of the contract noted on Form I or Form XIV?		[✓]	
	ACTION: If no for any of the above, note under Contract-Problem/Non-Compliance of the"Data Assessment Narrative".			
A.1.10	**Calibration**			
A.1.10.1	Is record of at least 2 point calibration present for ICP analysis?	[✓]		
	Is record of 5 point calibration present for Hg analysis?	[✓]		
	Is record of 4 point calibration present for:			
	Flame AA?	[ ]		✓
	Furnace AA?	[✓]		
	Cyanides?	[✓]		
	Is one calibration standard at the CRDL level for all AA (except Hg) and cyanides analyses?	[✓]		

ACTION: If no for any of the above, write in the Contract Problem/Non-Compliance section of the "Data Assessment Narrative".

		YES	NO	N/A
A.1.10.2	Is correlation coefficient less than 0.995 for:			
	Mercury Analysis?	___	[✓]	___
	Cyanide Analysis?	___	[✓]	___
	Atomic Absorption Analysis?	___	[✓]	___

ACTION: If yes, flag the associated data as estimated.

NOTE: The data validator shall calculate the correlation coefficient using concentrations of the standards and the corresponding instrument response (e.g. absorbance, peak area, peak height, etc.).

A.1.10.3	In the instance where less than 4 standards are measured in absorbance (or peak area, peak height,etc.) mode, are the remaining standards analyzed in concentration mode immediately after calibration within ±10% of the true values?	[✓]	___	___

ACTION: If no, flag the associated data as estimated if standards are not within ±10% of true values. Do not flag the data as estimated in linear range indicated by good recovery of standard(s).

A.1.11 Form II A (Initial and Continuing Calibration Verification)-

A.1.11.1	Present and complete for every metal and cyanide?	[✓]	___	___
	Present and complete for AA and ICP when both are used for the same analyte?	[✓]	___	___

ACTION: If no for any of the above, prepare Telephone Record Log and contact laboratory.

A.1.11.2	Circle on each Form IIA all percent recoveries that are outside the contract windows. Are all calibration standards (initial and continuing) within control limits:			
	Metals- 90-110%R?	[✓]	___	___
	Hg - 80-120%R?	[✓]	___	___
	Cyanides- 85-115%R?	[✓]	___	___

	YES	NO	N/A
ACTION: Flag as estimated (J) all positive data (not flagged with a "U") analyzed between a calibration standard with %R between 75-89% (65-79% for Hg; 70-84% for CN) or 111-125% (121-135% for Hg; 116-130% for CN) recovery and nearest good calibration standard. Qualify results <IDL as estimated (UJ) if the ICV or CCV %R is 75-89% (CN, 70-84% ; HG, 65-79%). Reject (red-line) as unacceptable data if recovery of the ICV or CCV is outside the range 75-125% (CN, 70-130%; Hg, 65-135%). Qualify five samples on either side of verification standard out of control limits.			
A.1.11.3 Was continuing calibration performed every 10 samples or every 2 hours?	[✓]	___	___
Was ICV for cyanides distilled?	[___]	✓	___
ACTION: If no for any of the above, write in the Contract-Problem/Non-Compliance section of the "Data Assessment Narrative".			
A.1.12 **Form II B (CRDL Standards for AA and ICP)** -			
A.1.12.1 Was a CRDL standard (CRA) analyzed after initial calibration for all AA metals (except Hg)?	[✓]	___	___
Was a mid-range calib. verification standard distilled and analyzed for cyanide analysis?	[___]	✓	___
Was a 2xCRDL (or 2xIDL when IDL>CRDL) analyzed (CRI) for each ICP run? (Note: CRI for AL,Ba,Ca,Fe,Mg,Na,or K is not required.)	[✓]	___	___
ACTION: If no for any of the above, flag as estimated all data falling within the affected ranges. The affected ranges are: AA Analysis - **True Value ± CRDL; ICP Analysis - **True Value ± 2CRDL; CN Analysis - **True Value ± 0.5 x True Value.			

**[illegible]e value of CRA, CRI or mid-range standard. Substitute IDL for CRDL when IDL > CRDL. Compute the concentration of the missing mid-range standard from the calibration range.

		YES	NO	N/A
A.1.12.2	Was CRI analyzed after ICV/ICB and before the final CCV/CCB, and twice every eight hours of ICP run?	[✓]	___	___
	ACTION: If no, write in Contract Problem/Non-Compliance Section of the "Data Assessment Narrative".			
A.1.12.3	Circle on each Form IIB all the percent recoveries that are outside the acceptance windows.			
	Are CRA and CRI standards within control limits:			
	Metals 80 - 120%R?	[___]	✓	___
	Is mid-range standard within control limits:			
	Cyanide 80 - 120%R?	[✓]	___	___
	ACTION: Flag as estimated all sample results within the affected range if the recovery of the standard is between 50-79%; flag only positive data within the affected range if the recovery is between 121-150%; reject all data within the affected range if the recovery is less than 50%; reject only positive data within the affected range if the recovery is greater than 150%. Qualify 50% of the samples on either side of CRI standard outside the control limits.			
	Note: Flag or reject the final results only when sample raw data are within the affected ranges and the CRDL standards are outside the acceptance windows.			
A.1.13	**Form III (Initial and Continuing Calibration Blanks)**			
A.1.13.1	Present and complete?	[✓]	___	___
	For both AA and ICP when both are used for the same analyte?	[✓]	___	___
	Was an initial calibration blank analyzed?	[✓]	___	___
	Was a continuing calibration blank analyzed after every 10 samples or every 2 hours (which ever is more frequent)?	[✓]	___	___

		YES	NO	N/A
	ACTION: If no, prepare Telephone Record Log, contact laboratory and write in the Contract-Problems/ Non-Compliance section of the "Data Assessment Narrative".			
A.1.13.2	Circle on each Form III all calibration blank values that are above CRDL (or 2 x IDL when IDL > CRDL).			
	Are all calibration blanks (when IDL<CRDL) less than or equal to the Contract Required Detection Limits (CRDLs)?	[✓]	___	___
	Are all calibration blanks less than two times Instrument Detection Limit (when IDL>CRDL)?	[✓]	___	___
	ACTION: If no for any of the above, flag as estimated (J) positive sample results when raw sample value is less than or equal to calibration blank value analyzed between calibration blank with value over CRDL (or 2xIDL) and nearest good calibration blank. Flag five samples on either side of the calibration blank outside the control limits.			
A.1.14	FORM III (Preparation Blank) - (Note: The preparation blank for mercury is the same as the calibration blank.)			
A.1.14.1	Was one prep. blank analyzed for:			
	each Sample Delivery Group (SDG)?	[✓]	___	___
	each batch of digested samples?	[✓]	___	___
	each matrix type?	[✓]	___	___
	both AA and ICP when both are used for the same analyte?	[___]	___	✓
	ACTION: If no for any of the above, flag as estimated (J) all the associated positive data <10 x IDLs for which prep. blank was not analyzed.			
	NOTE: If only one blank was analyzed for more than 20 samples, then first 20 samples analyzed do not have to be flagged as estimated (J).			

		YES	NO	N/A
A.1.14.2	Is concentration of prep. blank value greater than the CRDL when IDL is less than or equal to CRDL?	___	[✓]	___
	If yes, is the concentration of the sample with the least concentrated analyte less than 10 times the prep.blank?	___	[✓]	___
	ACTION: If yes, reject (red-line) all associated data greater than CRDL concentration but less than ten times the prep. blank value.			
A.1.14.3	Is concentration of prep. blank value (Form III) less than two times IDL, when IDL is greater than CRDL?	[✓]	___	___
	ACTION: If no, reject (red-line) all positive sample results when sample raw data are less than 10 times the prep. blank value.			
A.1.14.4	Is concentration of prep. blank below the negative CRDL?	___	[✓]	___
	ACTION: If yes, reject (red-line) all associated sample results less than 10xCRDL.			
A.1.15	**Form IV (ICP Interference Check Sample)**			
A.1.15.1	Present and complete?	[✓]	___	___
	(**NOTE:** Not required for furnace AA, flame AA, mercury, cyanide and Ca, Mg, K and Na.)			
	Was ICS analyzed at beginning and end of run (or at least twice every 8 hours)?	[✓]	___	___
	ACTION: If no, flag as estimated (J) all the samples for which AL, Ca, Fe, or Mg is higher than in ICS.			
A.1.15.2	Circle all values on each Form IV that are more than ± 20% of true or established mean value.			
	Are all Interference Check Sample results inside the control limits (± 20%)?	[✓]	___	___
	If no, is concentration of Al, Ca, Fe, or Mg lower than the respective concentration in ICS?	[✓]	___	___

		YES	NO	N/A
	ACTION: If no, flag as estimated (J) those positive results for which ICS recovery is between 121-150%; flag all sample results as estimated if ICS recovery falls within 50-79%; reject (red-line) those sample results for which ICS recovery is less than 50%; if ICS recovery is above 150%, reject positive results only (not flagged with a "U").			
A.1.16	Form V A (Spiked Sample Recovery - Pre-Digestion/Pre-Distillation)- (Note: Not required for Ca, Mg, K, and Na (both matrices), Al, and Fe (soil only.)			
A.1.16.1	Present and complete for: each SDG?	[✓]	___	___
	each matrix type?	[✓]	___	___
	each conc. range (i.e. low, med., high)?	[✓]	___	___
	For both AA and ICP when both are used for the same analyte?	[___]	___	✓
	ACTION: If no for any of the above, flag as estimated (J) all the positive data less than four times the spiking levels specified in SOW for which spiked sample was not analyzed.			
	NOTE: If one spiked sample was analyzed for more than 20 samples, then first 20 samples analyzed do not have to be flagged as estimated (J).			
A.1.16.2	Was field blank used for spiked sample?	___	[✓]	___
	ACTION: If yes, flag all positive data less than 4 x spike added as estimated (J) for which field blank was used as spiked sample.			
A.1.16.3	Circle on each Form VA all spike recoveries that are outside control limits (75% to 125%).			
	Are all recoveries within control limits?	[___]	✓	___
	If no, is sample concentration greater than or equal to four times spike concentration?	[___]	✓	___

	YES	NO	N/A
ACTION: If yes, disregard spike recoveries for analytes whose concentrations are greater than or equal to four times spike added. If no, circle those analytes on Form V for which sample concentration is less than four times the spike concentration.			
Are results outside the control limits (75-125%) flagged with "N" on Form I's and Form VA?	[✓]	___	___
ACTION: If no, write in the Contract - Problem/Non - Compliance section of "Data Assessment Narrative".			

PBH 8/20/92

A.1.16.4 Aqueous

Are any spike recoveries:

(a) less than 30%?	✓	[✓]	___
(b) between 30-74%?	✓	[___]	___
(c) between 126-150%?	___	[✓]	___
(d) greater than 150%?	✓	[✓]	___

PBH 8/20/92

ACTION: If less than 30%, reject all associated aqueous data; if between 30-74%, flag all associated aqueous data as estimated (J); if between 126-150%, flag as estimated (J) all associated aqueous data not flagged with a "U"; if greater than 150%, reject (red-line) all associated aqueous data not flagged with a "U".

A.1.16.5 Soil/Sediment

Are any spike recoveries:

PBH 8/20/92

(a) less than 10%?	✓	[✓]	___
(b) between 10-74%?	✓	[___]	___
(c) between 126-200%?	___	[✓]	___
(d) greater than 200%?	___	[✓]	___

		YES	NO	N/A
	ACTION: If less than 10%, reject all associated data; if between 10-74%, flag all associated data as estimated; if between 126-200%, flag as estimated all associated data was not flagged with a "U"; if greater than 200%, reject all associated data not flagged with a "U".			
A.1.17	Form VI (Lab Duplicates)			
A.1.17.1	Present and complete for: each SDG?	[✓]	___	___
	each matrix type?	[✓]	___	___
	each concentration range (i.e. low, med., high)?	[✓]	___	___
	both AA and ICP when both are used for the same analyte?	[___]	___	✓
	ACTION: If no for any the above, flag as estimated (J) all the data ≥CRDL* for which duplicate sample was not analyzed.			
	Note: 1. If one duplicate sample was analyzed for more than 20 samples, then first 20 samples do not have to be flagged as estimated.			
	2. If percent solids for soil sample and its duplicate differ by more than 1%, prepare a Form VI for each duplicate pair, report concentrations in ug/L on wet weight basis and calculate RPD or Difference for each analyte.			
A.1.17.2	Was field blank used for duplicate analysis?	___	[✓]	___
	ACTION: If yes, flag all data ≥CRDL* as estimated (J) for which field blank was used as duplicate.			
A.1.17.3	Are all values within control limits (RPD 20% or difference ≤ ±CRDL)?	[___]	✓	___
	If no, are all results outside the control limits flagged with an * on Form I's and VI?	[✓]	___	___
	ACTION: If no, write in the Contract - Problems/Non-Compliance section of "Data Assessment Narrative".			

* Substitute IDL for CRDL when IDL > CRDL.

	YES	NO	N/A

NOTE: 1. RPD is not calculable for an analyte of the sample - duplicate pair when both values are less than IDL.
2. If the result of lab duplicate analyzed by GFAA is rejectable due to coefficient of correlation of MSA, analytical spike recovery, or duplicate injections criteria, do not apply precision criteria to metals analyzed by GFAA.

A.1.17.4 Aqueous

Circle on each Form VI all values that are:

RPD > 50%, or
Difference > CRDL*

Is any RPD greater than 50% where sample and duplicate are both greater than or equal to 5 times *CRDL?	___	[✓]	___
Is any difference** between sample and duplicate greater than *CRDL where sample and/or duplicate is less than 5 times *CRDL?	___	[✓]	___

ACTION: If yes, flag the associated data as estimated.

A.1.17.5 Soil/Sediment

Circle on each Form VI all values that are:

RPD > 100%, or

Difference > 2 x CRDL*

Is any RPD (where sample and duplicate are both greater than or equal to 5 times *CRDL) : > 100%?	✓	[___]	___
Is any **difference between sample and duplicate (where sample and/or duplicate is less than 5x*CRDL) : > 2x*CRDL?	___	[✓]	___

* Substitute IDL for CRDL when IDL > CRDL.
** Use absolute values of sample and duplicate to calculate the difference.

		YES	NO	N/A
	ACTION: If yes, flag the associated data as estimated.			
A.1.18	**Field Duplicates**			
A.1.18.1	Were field duplicates analyzed?	[ ]	✓	

ACTION: If yes, prepare a Form VI for each aqueous field duplicate pair. Prepare a Form VI for each soil duplicate pair, if percent solids for sample and its duplicate differ by more than 1%; report concentrations of soils in ug/l on wet weight basis and calculate RPDs or Difference for each analyte.

NOTE: 1. Do not calculate RPD when both values are less than IDL.
2. Flag all associated data only for field duplicate pair.

A.1.18.2 **Aqueous**

Circle all values on self prepared Form VI for field duplicates that are:

RPD > 50%, or
Difference > CRDL*

Is any RPD greater than 50% where sample and duplicate are both greater than or equal to 5 times *CRDL?		[✓]	
Is any **difference between sample and duplicate greater than *CRDL where sample and/or duplicate is less than 5 times *CRDL?		[✓]	

ACTION: If yes, flag the associated data as estimated.

* Substitute IDL for CRDL when IDL > CRDL.
** Use absolute values of sample and duplicate to calculate the difference.

		YES	NO	N/A
A.1.18.3	**Soil/Sediment**			
	Circle all values on self prepared Form VI for field duplicates that are:			
	RPD >100%, or			
	Difference > 2 x CRDL*			
	Is any RPD (where sample and duplicate are both greater than 5 times *CRDL) : >100%?	___	[✓]	___
	Is any **difference between sample and duplicate (where sample and/or duplicate is less than 5x *CRDL): >2x *CRDL?	___	[✓]	___
	ACTION: If yes, flag the associated data as estimated.			
A.1.19	**Form VII (Laboratory Control Sample)** (Note: LCS - not required for aqueous Hg and cyanide analyses.)			
A.1.19.1	Was one LCS prepared and analyzed for:			
	each SDG?	[✓]	___	___
	each batch samples digested/distilled?	[✓]	___	___
	both AA and ICP when both are used for the same analyte?	[___]	___	✓
	ACTION: If no for any of the above, prepare Telephone Record Log and contact laboratory for submittal of results of LCS. Flag as estimated (J) all the data for which LCS was not analyzed.			
	NOTE: If only one LCS was analyzed for more than 20 samples, then first 20 samples close to LCS do not have to be flagged as estimated.			

* Substitute IDL for CRDL when IDL > CRDL.
** Use absolute values of sample and duplicate to calculate the difference.

		YES	NO	N/A
A.1.19.2	**Aqueous LCS**			
	Circle on each Form VII the LCS percent recoveries outside control limits (80 - 120%) except for aqueous Ag and Sb.			
	Is any LCS recovery: less than 50%?	___	[✓]	___
	between 50% and 79%?	___	[✓]	___
	between 121% and 150%?	___	[✓]	___
	greater than 150%?	___	[✓]	___

ACTION: Less than 50%, reject (red-line) all data; between 50% and 79%, flag all associated data as estimated (J); between 121% and 150%, flag all positive (not flagged with a "U") results as estimated; greater than 150%, reject all positive results.

A.1.19.3 **Solid LCS**

NOTE:
1. If "Found" value of LCS is rejectable due to duplicate injections or analytical spike recovery criteria, regardless of LCS recovery, flag the associated data as estimated (J).
2. If IDL of an analyte is equal to or greater than true value of LCS, disregard the "Action" below even though LCS is out of control limits.

Is LCS "Found" value higher than the control limits on Form VII?	___	[✓]	___

ACTION: If yes, qualify all associated positive data as estimated.

Is LCS "Found" value lower than the Control limits on Form VII?	___	[✓]	___

ACTION: If yes, qualify all associated data as estimated.

		YES	NO	N/A
A.1.20	**Form IX (ICP Serial Dilution)** -			
	NOTE: Serial dilution analysis is required only for initial concentrations equal to or greater than 10 x IDL.			
A.1.20.1	Was Serial Dilution analysis performed for:			
	each SDG?	[✓]	___	___
	each matrix type?	[✓]	___	___
	each concentration range (i.e. low, med.)?	[✓]	___	___
	ACTION: If no for any of the above, flag as estimated all the positive data ≥ 10xIDLs or ≥ CRDL when 10xIDL ≤ CRDL for which Serial Dilution Analysis was not performed.			
A.1.20.2	Was field blank(s) used for Serial Dilution Analysis?	___	[✓]	___
	ACTION: If yes, flag all associated data ≥ 10 x IDL as estimated (J). If 10xIDL ≤ CRDL, flag all data ≥ CRDL.			
A.1.20.3	Are results outside control limit flagged with an "E" on Form I's and Form IX when initial concentration on Form IX is equal to 50 times IDL or greater.	[✓]	___	___
	ACTION: If no, write in the Contract-Problem/Non-Compliance section of the "Data Assessment Narrative".			
A.1.20.4	Circle on each Form IX all percent difference that are outside the control limits for initial concentrations equal to or greater than 10 x IDLs only.			
	Are any % difference values:			
	> 10%?	✓	[___]	___
	≥ 100%?	___	[✓]	___

		YES	NO	N/A
	ACTION: Flag as estimated (J) all the associated sample data ≥ 10xIDLs (or ≥ CRDL when 10xIDL ≤ CRDL) for which percent difference is greater than 10% but less than 100%. Reject (red-line) all the associated sample results equal to or greater than 10xIDLs (or ≥ CRDL when 10xIDL ≤ CRDL) for which PD is greater than or equal to 100%.			
	Note: Flag or reject on Form I's only the sample results whose associated raw data are ≥ 10xIDL (or ≥ CRDL when 10xIDL≤ CRDL)			
A.1.21	**Furnace Atomic Absorbtion (AA) QC Analysis**			
A.1.21.1	Are duplicate injections present in furnace raw data (except during full Method of Standard Addition) for each sample analyzed by GFAA?	[✓]	___	___
	ACTION: If no, reject the data on Form I's for which duplicate injections were not performed.			
A.1.21.2	Do the duplicate injection readings agree within 20% Relative Standard Deviation (RSD) or Coefficient of Variation (CV) for concentration greater than CRDL?	[✓]	___	___
	Was a dilution analyzed for sample with analytical spike recovery less than 40%?	[✓]	___	___
	ACTION: If no for any of the above, flag all the associated data as estimated.			
A.1.21.3	Is *analytical spike recovery outside the control limits (85-115%) for any sample?	✓	[___]	___
	ACTION: If yes, flag as estimated the affected sample results if the recovery is between 10-84%; if the recovery is between 115-200%, flag the associated positive sample results as estimated; reject the associated sample results if the recovery is less than 10%; reject positive sample results if the recovery is greater than 200%.			

*Analytical spike is not required on the pre-digestion spiked sample.

		YES	NO	N/A
	NOTE: Reject or flag the data only when the affected sample(s) was not subsequently analyzed by Method of Standard Addition.			
A.1.22	**Form VIII (Method of Standard Addition Results)**			
A.1.22.1	Present?	[✓]		
	If no, is any Form I result coded with "S" or a "+"?		[✓]	
	ACTION: If yes, write request on Telephone Record Log and contact laboratory for submittal of Form VIII.			
A.1.22.2	Is coefficient of correlation for MSA less than 0.990 for any sample?		[✓]	
	ACTION: If yes, reject (red-line) the affected data.			
A.1.22.3	Was *MSA required for any sample but not performed?		[✓]	
	Is coefficient of correlation for MSA less than 0.995?		[✓]	
	Are MSA calculations outside the linear range of the calibration curve generated at the beginning of the analytical run?		[✓]	
	ACTION: If yes for any of the above, flag all the associated data as estimated (J).			
A.1.22.4	Was proper quantitation procedure followed correctly as outlined in the SOW on page E-23?	[✓]		
	ACTION: If no, note exception under Contract Problem/ Non-Compliance section of the "Data Assessment Narrative", and prepare a separate list.			

MSA is not required on LCS and prep. blank.

		YES	NO	N/A
A.1.23	**Dissolved/Total or Inorganic/Total Analytes** -			
A.1.23.1	Were any analyses performed for dissolved as well as total analytes on the same sample(s).	___	[✓]	___
	Were any analyses performed for inorganic as well as total (organic + inorganic) analytes on the same sample(s)?	___	[✓]	___
	NOTE: 1. If yes, prepare a list comparing differences between all dissolved (or inorganic) and total analytes. Compute the differences as a percent of the total analyte only when dissolved concentration is greater than CRDL as well as total concentration. 2. Apply the following questions only if inorganic (or dissolved) results are (i) above CRDL, and (ii) greater than total constituents. 3. At least one preparation blank, ICS, and LCS should be analyzed in each analytical run.			
A.1.23.2	Is the concentration of any dissolved (or inorganic) analyte greater than its total concentration by more than 10%?	___	[✓]	___
A.1.23.3	Is the concentration of any dissolved (or inorganic) analyte greater than its total concentration by more than 50%?	___	[✓]	___
	ACTION: If more than 10%, flag both dissolved (or inorganic) and total values as estimated (J); if more than 50%, reject (red-line) the data for both values.			
A.1.24	**Form I (Field Blank)** -			
	(Note: Designate "Field Blank" as such on Form I.)			
A.1.24.1	Circle all field blank values on Form I that are greater than CRDL, (or 2 x IDL when IDL > CRDL).			
	Is field blank concentration less than CRDL (or 2 x IDL when IDL > CRDL) for all parameters of associated aqueous and soil samples?	[✓]	___	___

	YES	NO	N/A
If no, was field blank value already rejected due to other QC criteria?	[✓]	___	___

ACTION: If no, reject (except field blank results) all associated positive sample data less than or equal to five times the field blank value. Reject on Form I's the soil sample results that when converted to ug/L on wet basis are less than or equal to five times the field blank value in ug/L.

A.1.25 Form X, XI, XII (Verification of Instrumental Parameters).

A.1.25.1 Is verification report present for:

	YES	NO	N/A
Instrument Detection Limits (quarterly)?	[✓]	___	___
ICP Interelement Correction Factors (annually)?	[✓]	___	___
ICP Linear Ranges (quarterly)?	[✓]	___	___

ACTION: If no, contact TPO of the lab.

A.1.25.2 Form X (Instrument Detection Limits) - (Note: IDL is not required for Cyanide.)

	YES	NO	N/A
A.1.25.2.1 Are IDLs present for: all the analytes?	[✓]	___	___
all the instruments used?	[✓]	___	___
For both AA and ICP when both are used for the same analyte?	[___]	___	✓

ACTION: If no for any of the above, prepare Telephone Record Log and contact laboratory.

	YES	NO	N/A
A.1.25.2.2 Is IDL greater than CRDL for any analyte?	___	[✓]	___
If yes, is the concentration on Form I of the sample analyzed on the instrument whose IDL exceeds CRDL, greater than 5 x IDL.	[✓]	___	___

	YES	NO	N/A
Action : If no, flag as estimated all values less than five times IDL of the instrument whose IDL exceeds CRDL.			
A.1.25.3 **Form XI (Linear Ranges)**			
A.1.25.3.1 Was any sample result higher than high linear range of ICP.	___	[✓]	___
Was any sample result higher than the highest calibration standard for non-ICP parameters?	___	[✓]	___
If yes for any of the above, was the sample diluted to obtain the result on Form I?	[✓]	___	___
ACTION: If no, flag the result reported on Form I as estimated(J).			
A.1.26 **Percent Solids of Sediments**			
A.1.26.1 Are percent solids in sediment(s): < 50%?	___	[✓]	___
< 10%?	___	[✓]	___

ACTION: If yes, qualify as estimated all the results of a sample that has per cent solids between 10%-50% (i.e. moisture content between 50%-90%). Reject all the results of a sample that has per cent solids less than 10% (i.e. moisture content greater than 90%).

NOTE: Reject or flag(J) only the sample results that were not previously rejected or flaged due to other QC criteria.

Case#	NWS	Site	Naval Weapons Station	Matrix: Soil	✓
SDG#	CLP 708	Lab	Roy F. Weston	Water	✓
Contractor	Roy F. Weston	Reviewer	Heartland ESI	Other	

A.2.1 Validation Flags- The following flags have been applied in red by the data validator and must be considered by the data user.

J- This flag indicates the result qualified as estimated

Red- Line- A red-line drawn through a sample result indicates unusable value. The red-lined data are known to contain significant errors based on documented information and must not be used by the data user.

Fully Usable Data- The results that do not carry "J" or "red-line" are fully usable.

Contractual Qualifiers- The legend of contractual qualifiers applied by the lab on Form I's is found on page B-20 of SOW IILM01.0.

A.2.2 The data assessment is given below and on the attached sheets.

1. The first group of samples run for Lead had a CRDL that was low. All data near the CRDL will be qualified as estimated.
2. The second and third group of samples run for Arsenic had a CRDL that was above the control limit. All positive results near the CRDL are qualified as estimated.
3. The Matrix Spike recoveries for soils for Beryllium, Selenium, Silver and Cyanide were below the lower control limit. All data is estimated.

.2.2 (continuation)

The Matrix spike recoveries for water for Arsenic, Lead and Thallium were below the lower control limit. All data is estimated.

4. The Matrix spike recovery for water for Aluminum was above 150%. All positive results are rejected.

5. The Duplicate analyses for soils for Calcium and Magnesium were outside the control limit. All data is estimated.

6. The serial dilutions for soil for Zinc and for water for Aluminum, Barium, Calcium, Iron, Magnesium, Manganese, Sodium and Zinc were outside the control limit. All positive results greater than 10XCRDL will be qualified as estimated.

7. The post digestion recoveries were low for the following samples. All data is estimated.

Arsenic 06-001M, 06-002, 06-004, 17-003, 17003M.

Lead 06-001, 06-001M, 06-002

Selenium 06-001, 06-003, 06-004, 17-001, 17-002, 17003, 17-003M, 17-004.

Thallium 06-001M, 06-002, 06-004, 17-003M, 17-004.

A.2.2 (continuation)

8. The Post digestion was high for the following sample. All positive results are qualified as estimated.

PBH 8/20/92

Title: Evaluation of Metals Data for the Contract Laboratory Program
Appendix A.2: Data Assessment Narrative

Date: Jan. 1992
Number: HW-2
Revision: 11

A.2.3 Contract-Problem/Non-Compliance

Several samples were flagged with 'N's for poor spike recoveries even though the data does not support these findings. The ICV and Midrange standards for Cyanides were not distilled as required.

PBH 8/20/92

MMB/ESAT Rviewer: _____ Date: _____
Signature

Contractor Reviewer: Paul B. Hindy Date: 8/20/92
Signature

Verified by: Stephen D. Scarpelli Date: 8/25/92

e: [illegible]aluation of Metals Data for the Contract Laboratory Program
Apendix A.5: CLP Data Assessment Summary Form (Inorganics)

Date: Jan. 1992
Number: HW-2
Revision: 11

CLP DATA ASSESSMENT SUMMARY FORM (INORGANICS)

of Review: 8/20/92 Date: 8/20/92 Case #: NWS

: Naval Weapons Station Lab Name: Roy F. Weston

ewer's Initials: PBH Number of Samples: 11

Analytes Rejected Due to Exceeding Review Criteria:*

	Holding Times	Calibration	Prep Blank	Field Blank	Inter-ferences	Spike Recovery	Duplicates Lab	Duplicates Field	Detection Limits	LCS	Serial Dilution	MSA	Total Analytes	Rejection
						1							1	
ne AA														
nace AA														
cury														
al						1							1	
er														

Analytes Flagged as Estimated (J) Due to Exceeding Criteria For:*

						2	2				9		13	
ne AA														
nace AA		2				4						4	10	
cury														
al		2				6	2				9	4	23	
er						1							1	

e:
sterisk (*) Indicates additional exceedances of review criteria.

Title: Evaluation of Metals Data for the Contract Laboratory Program
Appendix A.6: CLP Data Assessment Checklist

Date: Jan. 1992
Number: HW-2
Revision: 11

Inorganic Analysis

INORGANIC REGIONAL DATA ASSESSMENT

Region II

ASE NO. NWS

SITE Naval Weapon Station

ABORATORY Roy F. Weston

NO. OF SAMPLES/ MATRIX 9 waters 2 soils

DG# CLP 708

REVIEWER (IF NOT ESD) Heartland Est

OW# 290

REVIEWER'S NAME Paul B. Humby

PO: ACTION _____ FYI _____

COMPLETION DATE 8/20/92

DATA ASSESSMENT SUMMARY

	ICP	AA	Hg	CYANIDE
. HOLDING TIMES	O	O	O	O
. CALIBRATIONS	↓	↓	↓	↓
. BLANKS	↓	↓	↓	↓
. ICS	↓	↓	↓	↓
. LCS	↓	↓	↓	↓
. DUPLICATE ANALYSIS	↓	↓	↓	↓
. MATRIX SPIKE	Z	↓	↓	↓
. MSA		↓	↓	↓
. SERIAL DILUTION	O	↓	↓	↓
0. SAMPLE VERIFICATION	↓	↓	↓	↓
1. OTHER QC	↓	↓	↓	↓
2. OVERALL ASSESSMENT	↓	↓	↓	↓

O = Data has no problems/or qualified due to minor problems.
M = Data qualified due to major problems.
Z = Data unacceptable.
X = Problems, but do not affect data.

CTION ITEMS: _____

REAS OF CONCERN: _____

OTABLE PERFORMANCE: _____

HEARTLAND ENVIRONMENTAL SERVICES, INC.

P.O. BOX 163 ST. PETERS MO 63376
(314) 278-8232

August 25, 1992

TO: John Williams Jr.
Project Manager
Roy F. Weston Inc.

FROM: Paul Humburg
Project Manager
Heartland ESI.

SUBJECT: Submittal of Data Validation results for Naval Weapons Station, New Jersey. Nine (9) water samples and one (1) Matrix Spike and Duplicate pair and four (4) soil samples were analysed by the Roy F. Weston Lionville Laboratory.

Navy No.	RFW No.
06-004	920670803
12-002	920670805
17-001	920670807
17-004	920670809
06-001	920670810
06-201	920670811
06-002	920670812
06-004	920670813
17-001M	920670814
17-002	920670815
17-003	920670816
17-003M	920670817
17-004	920670818

Heartland ESI has reviewed the data for the samples listed above for Ground Water parameters using good professional judgement in context with the methods from the USEPA Method for Chemical Analysis of Water and Wastes and the Standard Methods for the Examination of Water and Waterwater 16 ed. Analytical data in this report were screened to determine usability of the results and also to determine contractual compliance relative to the requirements and deliverables of the Region II Protocol. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results.

HEARTLAND ENVIRONMENTAL
SERVICES, INC.

Inorganic fraction was reviewed as follows:

Groundwater Parameters and TOCs for soils reviewed by Paul B. Humburg

Please refer to the Annotated From 1s and the detailed data validation report for additional information. Specific comments are provided on the following pages.

DATA ASSESSMENT NARRATIVE
Groundwater Parameters
and TOCs for soils

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, calibration standards, blank analysis results and MS/MSD results. A minimum of ten percent of all laboratory calculations and reported results are reviewed utilizing the raw instrument data. All comments made within this report should be considered when examining the analytical results (Form Is).

This data package consisted of results from **Naval Weapons Station,N.J., SDG# 9206708**, the analysis of nine (9) field water samples and one (1) matrix spike and duplicate pair and four (4) field soil samples. Overall, the groundwater parameter data quality was good. The USEPA analytical protocol was followed as required.

Specific QA/QC deficiency Findings are listed numerically in the following categories:

Holding Times

The holding times were met as specified in by USEPA. Protocol.

Calibration

No deficiencies in this section.

Preparation and Field Blanks

NO deficiencies in this section.

Spike Recovery

No deficiencies in this section.

Matrix Spike Duplicate

No deficiencies in this section.

LCS

No deficiencies in this section.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE	DL	QL	SPECIFIC FINDING

All data stands as reported without qualification.

DL - denotes laboratory qualifier/reported value
+ denotes positive values
U denotes non-detect values

QL - denotes data validation qualifier

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 07/17/92

CLIENT: NAVAL WEAPONS/COLTSNECK
WORK ORDER: 1771-15-04-0000

WESTON BATCH #: 9206L708

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-001	06-001-D001	% Solids	81.3		%	0.10
		Cyanide, Total	1.2	u	MG/KG	1.2
-002	06-003-D001	% Solids	91.2		%	0.10
		Cyanide, Total	1.1	u	MG/KG	1.1
-003	06-004-D001	% Solids	88.2		%	0.10
		Total Organic Carbon	4.8		%	0.010
-004	06-004-D101	% Solids	86.7		%	0.10
-005	12-002-D001	% Solids	35.1		%	0.10
		Total Organic Carbon	5.7		%	0.010
-006	12-002-W001	Hardness	102		MG/L	4.0
		Total Suspended Solids	54.0		MG/L	5.0
-007	17-001-D001	% Solids	97.5		%	0.10
		Total Organic Carbon	2.1		%	0.010
-008	17-002-D001	% Solids	99.0		%	0.10
-009	17-004-D001	% Solids	30.6		%	0.10
		Total Organic Carbon	7.7		%	0.010
-010	06-001-M001	Chloride	155		MG/L	50.0
		Chemical Oxygen Demand	62.9		MG/L	5.0
		Nitrate Nitrite	0.14		MG-N/L	0.10
		Ammonia, as N	5.1		MG/L	0.10
		Total Organic Carbon	18.4		MG/L	1.0
		Phosphate, as P	0.42		MG/L	0.040
		Sulfate	53.8		MG/L	5.0
		Turbidity	1440		NTU	0.050

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 07/17/92

CLIENT: NAVAL WEAPONS/COLTSNECK
WORK ORDER: 1771-15-04-0000

WESTON BATCH #: 9206L708

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-011	06-001-M201	Chloride	5.0 u	MG/L	5.0
		Chemical Oxygen Demand	5.0 u	MG/L	5.0
		Nitrate Nitrite	0.10 u	MG-N/L	0.10
		Ammonia, as N	0.10 u	MG/L	0.10
		Total Organic Carbon	0.50 u	MG/L	0.50
		Phosphate, as P	0.020u	MG/L	0.020
		Sulfate	2.5 u	MG/L	2.5
		Turbidity	0.22	NTU	0.050
-012	06-002-M001	Chloride	98.8	MG/L	25.0
		Chemical Oxygen Demand	12.8	MG/L	5.0
		Nitrate Nitrite	0.55	MG-N/L	0.10
		Ammonia, as N	0.42	MG/L	0.10
		Total Organic Carbon	2.4	MG/L	0.50
		Phosphate, as P	0.045	MG/L	0.020
		Sulfate	29.0	MG/L	2.5
		Turbidity	128	NTU	0.050
-013	06-004-M001	Chloride	17.8	MG/L	5.0
		Chemical Oxygen Demand	158	MG/L	25.0
		Nitrate Nitrite	0.10 u	MG-N/L	0.10
		Ammonia, as N	3.6	MG/L	0.10
		Total Organic Carbon	17.5	MG/L	0.50
		Phosphate, as P	0.51	MG/L	0.040
		Sulfate	10.2	MG/L	2.5
		Turbidity	552	NTU	0.050
-014	17-001-M001	Chloride	37.6	MG/L	5.0
		Chemical Oxygen Demand	119	MG/L	25.0
		Nitrate Nitrite	0.10 u	MG-N/L	0.10
		Ammonia, as N	0.10 u	MG/L	0.10
		Total Organic Carbon	4.2	MG/L	1.0
		Phosphate, as P	0.48	MG/L	0.040
		Sulfate	57.6	MG/L	5.0
		Turbidity	242	NTU	0.25
-015	17-002-M001	Chloride	17.3	MG/L	5.0
		Chemical Oxygen Demand	79.6	MG/L	25.0
		Nitrate Nitrite	0.10 u	MG-N/L	0.10
		Ammonia, as N	0.49	MG/L	0.10

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 07/17/92

CLIENT: NAVAL WEAPONS/COLTSNECK
WORK ORDER: 1771-15-04-0000

WESTON BATCH #: 9206L708

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-015	17-002-M001	Total Organic Carbon	97.2	MG/L	10.0
		Phosphate, as P	0.41	MG/L	0.040
		Sulfate	12.9	MG/L	2.5
		Turbidity	288	NTU	0.25
-016	17-003-M001	Chloride	34.6	MG/L	5.0
		Chemical Oxygen Demand	8.1	MG/L	5.0
		Nitrate Nitrite	0.10 u	MG-N/L	0.10
		Ammonia, as N	0.10 u	MG/L	0.10
		Total Organic Carbon	1.4	MG/L	0.50
		Phosphate, as P	0.028	MG/L	0.020
		Sulfate	46.8	MG/L	5.0
		Turbidity	9.2	NTU	0.050
-017	17-003-M101	Chloride	47.0	MG/L	5.0
		Chemical Oxygen Demand	119	MG/L	25.0
		Nitrate Nitrite	0.10 u	MG-N/L	0.10
		Ammonia, as N	0.10 u	MG/L	0.10
		Total Organic Carbon	1.3	MG/L	0.50
		Phosphate, as P	0.022	MG/L	0.020
		Sulfate	45.3	MG/L	5.0
		Turbidity	10	NTU	0.050
-018	17-004-M001	Chloride	19900	MG/L	1250
		Chemical Oxygen Demand	15.9	MG/L	5.0
		Nitrate Nitrite	0.20 u	MG-N/L	0.20
		Ammonia, as N	6.6	MG/L	0.10
		Total Organic Carbon	30.9	MG/L	2.5
		Phosphate, as P	0.48	MG/L	0.040
		Sulfate	260	MG/L	50.0
		Turbidity	550	NTU	0.050
-020	01-001-M001	Nitrate Nitrite	1.4	MG-N/L	0.20
		Ncellulose/Nglycerine	5.0 u	UG/L	5.0
-021	01-003-M001	Nitrate Nitrite	0.15	MG-N/L	0.10
		Ncellulose/Nglycerine	5.0 u	UG/L	5.0

ROY F. WESTON INC.

MICROBIOLOGICAL DATA SUMMARY REPORT 07/06/92

CLIENT: NAVAL WEAPONS/COLTSNECK
WORK ORDER: 1771-15-04-0000

WESTON BATCH #: 9206L708

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-010	06-001-M001	BOD 5 Day	3.5	MG/L	1.0
-011	06-001-M201	BOD 5 Day	1.0 u	MG/L	1.0
-012	06-002-M001	BOD 5 Day	1.0 u	MG/L	1.0
-013	06-004-M001	BOD 5 Day	2.0	MG/L	1.0
-014	17-001-M001	BOD 5 Day	3.9	MG/L	1.0
-015	17-002-M001	BOD 5 Day	1.7	MG/L	1.0
-016	17-003-M001	BOD 5 Day	1.0 u	MG/L	1.0
-017	17-003-M101	BOD 5 Day	19.2	MG/L	1.0
-018	17-004-M001	BOD 5 Day	8.8	MG/L	1.0

HEARTLAND ENVIRONMENTAL SERVICES, INC.
P.O. BOX 163 ST. PETERS MO 63376
(314) 278-8232

Data Validation Report

August 25, 1992

Prepared for

R. F. Weston
Weston Way
West Chester, PA. 19380

This Data Validation Report is a review of the analytical results of sampling conducted in support of the Navy CLEAN program June 18, 1992 at the **NWS Earle- Coltsneck Naval Weapons Station** site. There were three (3) water samples with one (1) MS/MSD which were received and analyzed by Roy F. Weston Laboratories - Lionville in this analytical batch, **R. F. Weston Number 9206L708.**

The data validation personnel have reviewed the data presented for the Samples listed below for the Analytical Fractions indicated. The Nitroaromatic fraction has been validated utilizing method specific requirements and good professional judgement.

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatogram, etc., for each sample have been carefully reviewed. The end-user is urged to review the **Specific Findings** and associated **Data Qualifications** presented in this report. Annotated Form Is for all samples reviewed are included after the **Narratives**. Form Is for MS/MSD samples are not annotated.

SAMPLES AND FRACTIONS REVIEWED

Sample Identifications		Analytical Fraction	
CLIENT ID	**RF WESTON ID**	**Matrix**	**PICA**
01-001-M001	9206L708-020	WATER	X
01-001-M001MS	9206L708-020MS	WATER	X
01-001-M001MSD	9206L708-020MSD	WATER	X
01-003-M001	9206L708-021	WATER	X
01-003-M101	9206L708-022	WATER	X

Individual fractions were reviewed as follows:

		Primary	Secondary
PICA -	Picric Acid	Gene Watson	Paul Humburg

DATA ASSESSMENT NARRATIVE

PICRIC ACID ANALYSIS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike recoveries, HPLC performance, blank spike results and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the Roy F. Weston Analytical Method for Picric Acid by HPLC and Region II Data Validation Deliverable Guidelines. However, due to the fact this package does not require the submission of true Form Is, Heartland ESI will submit the laboratory summary in place of the Form I's in the data validation package. All comments made within this report should be considered when examining the analytical results (laboratory summary). Please refer the specific findings found in each category to the Summary of Data Qualifications table.

Holding times

The methodology supplied by Roy F. Weston Laboratories does not state a specified holding time criteria. However, the samples were extracted and analyzed within the holding time criteria set forth by the explosives methodologies. No action is required.

HPLC performance

The system performance of the HPLC was good. The instrument did not exhibit any major problems.

Initial calibrations

The initial calibration performed by the laboratory is acceptable per the methodology.

Continuing calibrations

No continuing calibrations associated with this sample batch.

Method blanks

The method blank did not exhibit contamination for the target explosive compounds.

PICRIC ACID ANALYSIS

MS/MSD analysis

Heartland ESI had to use good professional judgement to evaluate the MS/MSD and the BS/BSD results due to the fact that the protocol does not have set QA/QC limits for the recoveries of the spike compounds. All of the recoveries were acceptable. No qualifications are required.

Method specific QA/QC

There is no method specific QA/QC.

Compound identification/quantitation

No positive results were reported.

Overall assessment

The overall quality of the data package is good.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

NJ = Presumptive evidence for the presence of the material at an estimated value

K = Result is biased high

L = Result is biased low

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL	SPECIFIC FINDINGS

No qualifications are required.

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

Roy F. Weston, Inc. - Lionville Laboratory
Picric Acid by HPLC

RFW Batch Number: 9206L708 Client: NAVAL WEAPONS/COLTSNECK Work Order: 1771-15-04-0000 Report Date: 07/14/ 12:33 Page: 1

	Cust ID:	01-001-M001	01-001-M001	01-001-M001	01-003-M001	01-003-M101	BLK
Sample Information	RFW#:	020	020 MS	020 MSD	021	022	92LLC096-MB1
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Picric Acid		0.86 U	77 %	89 %	0.86 U	0.86 U	0.82 U

	Cust ID:	BLK BS	BLK BSD
Sample Information	RFW#:	92LLC096-MB1	92LLC096-MB1
	Matrix:	WATER	WATER
	D.F.:	1.00	1.00
	Units:	ug/L	ug/L
Picric Acid		79 %	77 %

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked. %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

000007

HEARTLAND ENVIRONMENTAL SERVICES, INC.
P.O. BOX 163 ST. PETERS MO 63376
(314) 278-8232

Data Validation Report

August 25, 1992

Prepared for

R. F. Weston
Weston Way
West Chester, PA. 19380

This Data Validation Report is a review of the analytical results of sampling conducted in support of the Navy CLEAN program June 18, 1992 at the **NWS Earle- Coltsneck Naval Weapons Station** site. There were three (3) water samples with one (1) MS/MSD which were received and analyzed by Roy F. Weston Laboratories - Lionville in this analytical batch, **R. F. Weston Number 9206L708.**

The data validation personnel have reviewed the data presented for the Samples listed below for the Analytical Fractions indicated. The Nitroaromatic fraction has been validated utilizing method specific requirements and good professional judgement.

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatogram, etc., for each sample have been carefully reviewed. The end-user is urged to review the **Specific Findings** and associated **Data Qualifications** presented in this report. Annotated Form Is for all samples reviewed are included after the **Narratives**. Form Is for MS/MSD samples are not annotated.

SAMPLES AND FRACTIONS REVIEWED

Sample Identifications		Analytical Fraction	
CLIENT ID	**RF WESTON ID**	**Matrix**	**NITRO**
01-001-M001	9206L708-020	WATER	X
01-001-M001MS	9206L708-020MS	WATER	X
01-001-M001MSD	9206L708-020MSD	WATER	X
01-003-M001	9206L708-021	WATER	X
01-003-M101	9206L708-022	WATER	X

Individual fractions were reviewed as follows:

		Primary	Secondary
NITRO-	USATHAMA Nitroaromatics	Gene Watson	Paul Humburg

DATA ASSESSMENT NARRATIVE

EXPLOSIVES ANALYSIS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike recoveries, HPLC performance, blank spike results and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the USATHAMA/PMRMA Programs Analytical Method for Explosives in Soil by HPLC and Region II Data Validation Deliverable Guidelines. However, due to the fact this package does not require the submission of true Form Is, Heartland ESI will submit the RFW Data Summary in place of the Form I's in the data validation package. All comments made within this report should be considered when examining the analytical results (RFW Data Summary). Please refer the specific findings found in each category to the Summary of Data Qualifications table.

Holding times

All of the extraction (7 days) and analysis (40 days) holding times were met per the USATHAMA/PMRMA protocol.

HPLC performance

The system performance of the HPLC was good. The instrument did not exhibit any major problems.

Initial calibrations

The laboratory did not calibrate the instrument per the USATHAMA/PMRMA protocol in two ways. First and foremost, the laboratory did not analyze all of the calibration points required by the methodology. The low concentration standard (0.2X) was not analyzed which, according to the protocol, reflects the laboratory's ability to achieve the sensitivity needed for the detection limits that are reported. Although this is a deviation from the protocol, Heartland ESI will not qualify the data based upon the good compound responses in the 0.5X standard.

Secondly, the laboratory did not follow the proper procedure for the analysis of the final closing check standard that is analyzed at the end of the sequence. The methodology states that the highest concentration standard (100X) is to be analyzed at the completion of the analyses and its response must agree within:

a) 25% for that concentration from the first seven calibration curves or

EXPLOSIVES ANALYSIS

Initial Calibrations (continued)

b) thereafter, two (2) standard deviations of the mean response for the concentration for the calibrations curves.

The lack of information in the data package made it impossible to determine if the standard that was analyzed by the laboratory agreed within 25% of the initial calibration. The laboratory only reported the correlation coefficients for the initial calibration, and did not summarize the closing standard except for the recoveries of the individual analytes. In addition, the laboratory did not analyze the highest concentration standard, instead the laboratory analyzed the 10X standard.

However, based on the deliverable requirement of the methodology, Heartland ESI cannot qualify the data based on the information available.

Continuing calibrations

No continuing calibrations associated with this sample batch.

Method blanks

The method blank did not exhibit contamination for the target explosive compounds.

MS/MSD and BS/BSD analysis

Heartland ESI had to use good professional judgement to evaluate the MS/MSD and the BS/BSD results due to the fact that the USATHAMA/PMRMA protocol does not have set QA/QC limits for the recoveries of the spike compounds. The MS/MSD and the BS/BSD exhibited acceptable recoveries for all the target explosive compounds. No qualifications are required.

Method specific QA/QC

The control charts were not provided in the package to access the daily quality control. The proper closing standards were analyzed per the methodology. No qualifications are required.

EXPLOSIVES ANALYSIS

Compound identification/quantitation

No qualifications are required.

Overall assessment

The overall quality of the data package is fair. The laboratory deviated from the required protocol in some instances.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

NJ = Presumptive evidence for the presence of the material at an estimated value

K = Result is biased high

L = Result is biased low

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL	SPECIFIC FINDINGS

No qualifications are required.

* DL denotes the Form I qualifier supplied by the laboratory

QL denotes the qualifier used by the data validation firm

+ in the DL column denotes a positive result

- in the DL column denotes a non detect result

Roy F. Weston, Inc. - Lionville Laboratory
Explosives [illegible]water by HPLC

RFW Batch Number: 9206L708 Client: NAVAL WEAPONS/COLTSNECK Work Order: 1771-15-04-0000

Report Date: 07/14/[illegible]7:05
Page: 1

	Cust ID:	01-001-M001	01-001-M001	01-001-M001	01-003-M001	01-003-M101	BLK
Sample Information	RFW#:	020	020 MS	020 MSD	021	022	92LLC092-MB1
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
HMX		1.30 U	95 %	109 %	1.30 U	1.30 U	1.30 U
RDX		0.63 U	88 %	97 %	0.63 U	0.63 U	0.63 U
1,3,5-TNB		0.56 U	118 %	95 %	0.56 U	0.56 U	0.56 U
1,3-DNB		0.61 U	92 %	94 %	0.61 U	0.61 U	0.61 U
Nitrobenzene		1.13 U	93 %	94 %	1.13 U	1.13 U	1.13 U
TETRYL		0.66 U	95 %	95 %	0.66 U	0.66 U	0.66 U
2,4,6-TNT		0.78 U	98 %	101 %	0.78 U	0.78 U	0.78 U
2,6-DNT		0.55 U	91 %	89 %	0.55 U	0.55 U	0.55 U
2,4-DNT		0.60 U	94 %	93 %	0.60 U	0.60 U	0.60 U

	Cust ID:	BLK BS	BLK BS	BLK BSD
Sample Information	RFW#:	92LLC092-MB1	92LLC092-MB2	92LLC092-MB2
	Matrix:	WATER	WATER	WATER
	D.F.:	1.00	1.00	1.00
	Units:	ug/L	ug/L	ug/L
HMX		92 %	88 %	95 %
RDX		118 %	86 %	93 %
1,3,5-TNB		84 %	96 %	102 %
1,3-DNB		75 %	95 %	97 %
Nitrob nzene		81 %	98 %	97 %
TETRYL		87 %	82 %	83 %
2,4,6-TNT		89 %	92 %	94 %
2,6-DNT		116 %	93 %	96 %
2,4-DNT		102 %	93 %	97 %

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC