

# B&V WASTE SCIENCE AND TECHNOLOGY CORP.

The Curtis Center, Suite 705, 601 Walnut Street, Philadelphia, Pennsylvania 19106-3307, (215) 928-0700, Fax (215) 928-1780

92601

BVST Project: 20310.101  
January 28, 1993

Ms. Debra Rossi  
Remedial Project Manager  
United States Environmental  
Protection Agency - Region III  
841 Chestnut Building  
Philadelphia, PA 19107

Re: USEPA Region III - ARCS  
Release of Data Validation Report

Dear Ms. Rossi:

The enclosed data validation report for SAS Number 7568C-01 (Organic) for the Woodlawn Landfill Site has been approved by the Region III Central Regional Laboratory for distribution.

This information is for your files. If you have any questions, please do not hesitate to call me.

Very truly yours,

B&V WASTE SCIENCE AND TECHNOLOGY CORP.

  
Peter H. Chapman

PHC/jlh

Enclosure

cc: S. Andersen

AADV/APP360  
01/28/93

AR306227



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III  
CENTRAL REGIONAL LABORATORY  
839 BESTGATE ROAD  
ANNAPOLIS, MARYLAND 21401-3013  
(410) 573-2799

DATE: 1-21-93

SUBJECT: Region III CLP Data Quality Assurance Review

FROM: *for* Cindy Metzger, Chief  
Region III Program Support Section (3ES23) *Sus Stevens*

TO: Debbie Rossi  
Remedial Project Manager (3HW25)

I have attached for your information and use an approved Data Validation Report for SAS Number 7568C-01.

The attached report was prepared in accordance with the Region III modified Functional Guidelines by B&V Waste Science and Technology Corp. (BVWST) and its subcontractors under Alternative Remedial Contracts Strategy (ARCS) Contract Number 68-W8-0091. My staff has reviewed this report and approved it for distribution.

The specific details for the report are listed below:

SAS Number: 7568C-01 (Revision 1)

SDG Number: SC0251

Site Name: Woodlawn Landfill

Laboratory: PNELI

Reviewer: Pete Chapman

If you have any questions regarding this report, please call Susanne Stevens of my staff.

Attachment

cc: Edward Kantor, EMSL-LV  
Regional CLP TPO: Gerald Muth Region: X

ADV92-#6/DV117-A  
01/12/93

AR306228

**DATA VALIDATION EVALUATION CHECKLIST**

Case/SAS Number: 7568C-01 Site Name: Woodlawn Landfill  
 Assignment #: \_\_\_\_\_ Revision Number: 1 Analysis Type: Organic (VOA)  
 Reviewer: Pete Chapman Contractor: BVWST SOW #: 3/90  
 Laboratory performing analysis: PNELI

**Information**  
 Request Date: \_\_\_\_\_

**Information**  
 Received Date: \_\_\_\_\_

Date submitted to EPA: 01-13-93  
 EPA CPO: Joe Tralie  
 EPA RPM: Debbie Rossi  
 cc: \_\_\_\_\_

Number of hours spent  
 on review: 9  
 Number of  
 samples: 3

<u>CRITERIA</u>	<u>YES</u>	<u>NO</u>	<u>COMMENTS</u>
Format according to Region III protocol	_____	_____	_____
Clarity of report	_____	_____	_____
Qualifiers applied correctly	_____	_____	_____
Consistency between narrative, data summary form(s), and TPO report	_____	_____	_____
Error-free transcription	_____	_____	_____

<u>EFFICIENCY OF CONTRACTOR</u>	<u>YES</u>	<u>NO</u>	<u>COMMENTS</u>
Approval recommended for current submission	_____	_____	_____
Time spent on review is reasonable	_____	_____	_____

**ESD OVERSIGHT**

<u>DATE</u>	<u>AFC/DPO</u>	<u>MONITOR/EVALUATOR</u>	<u>BVWST</u>
Received at EPA	_____	_____	_____
Oversight assigned	_____	_____	_____
Oversight began	_____	_____	_____
Oversight complete	_____	_____	_____
Feedback given	_____	_____	_____
Mailed to RPM	_____	_____	_____

Attachment(s) - Check if applicable: Cover memo \_\_\_\_\_ Phone log \_\_\_\_\_ Comments \_\_\_\_\_

Contract Laboratory Program  
LABORATORY COMMUNICATION

Telephone Record Log

Date of Call: 12-9-92

Time of Call: 455 pm

Laboratory Name: PNELI (206) 825-8083

Lab Contact: Land Jenkins - Dr. Whitney

B&V Waste Science and Technology (BVWST)

BVWST Contact: Pete Chapman

Call Initiated By:      Laboratory     BVWST

In reference to data for the following sample number(s):

SCD252 and SCD253

Summary of Questions/Issues Discussed:

Several compounds were qualified "L" on the Form I's. We have not encountered this qualifier in the past.

Dr. Whitney explained that the "L" qualifier is a result of TOL cachete blank contamination.

Summary of Resolution:

Dr. Whitney will fax BVWST a copy of the "L" qualifier definition. We will include this information in the data validation report.

Pete Chapman  
Signature

12-9-92  
Date

**DATA VALIDATION REPORT**  
**SAS NO. 7568C-01 - REVISION 1**  
**ORGANICS**  
**WOODLAWN LANDFILL**

**Prepared by**  
**B&V Waste Science and Technology Corp.**  
**for the**  
**United States Environmental Protection Agency**  
**Contract Number**  
**68-W8-0091**

**JANUARY 13, 1993**

ADV92-#6/DV117-A  
01/12/93

AR306231

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D	REVIEWED AND TENTATIVELY IDENTIFIED COMPOUNDS
E	REGIONAL DATA ASSESSMENT SUMMARY
F	SUPPORTING DOCUMENTATION

DATE: January 13, 1993  
SUBJECT: Organic Data Validation for SAS# 7568C-01  
SITE: Woodlawn Landfill  
FROM: Pete Chapman *PC*  
BVWST Data Manager  
TO: Susanne Stevens  
ARCS III QA/QC Officer  
THRU: Robert Martel  
BVWST Sample Coordinator

## OVERVIEW

The set of samples for SAS# 7568C-01 consisted of two (2) low level soil samples and one (1) low level aqueous sample for volatile organic analyses. The two (2) soil samples were extracted by the Toxicity Characteristic Leachate Procedure (TCLP) under SW-846, Method 1311. The aqueous sample in the sample set was a trip blank analyzed for volatiles only. The samples were analyzed as a Contract Laboratory Program (CLP) Special Analytical Service (SAS).

## SUMMARY

All samples were successfully analyzed for all target compounds. All instrument and method sensitivities were according to the Contract Laboratory Program (CLP) Routine Analytical Service (RAS) protocol.

## NOTES

- The maximum concentrations of compounds found in the trip, field, or method blanks are listed below. All samples with concentrations of common laboratory contaminants less than ten times (<10x), and uncommon laboratory contaminants less than five times (<5x) the blank concentration have been qualified "B" in the data summary. (See Appendix F).

<u>Compound</u>	<u>Concentration (ug/L)</u>
methylene chloride*	12 B
acetone*	8 J
2-butanone*	19

\* - common laboratory contaminant

- The reported Tentatively Identified Compounds (TIC) in Appendix D have been reviewed during data validation. No TIC's were found as blank contaminants and crossed off the Form I's.
- The volatile MS/MSD analyses had compounds other than the spiking compounds present. Following is a table of results and precision estimates for these non-spiked compounds:

MS/MSD Non-Spiked Compounds

<u>Compound</u>	<u>Concentration (µg/L)</u>			<u>%RSD</u>
	<u>SC0252</u>	<u>SC0252MS</u>	<u>SC0252MSD</u>	
methylene chloride	7 BJL	8 BJL	7 BJL	7.5
acetone	14 L	17 L	15 L	10.0
2-butanone	15 L	16 L	13 L	10.4
xylene	2 J	2 J	2 J	0

RSD - Relative Standard Deviation

The soil samples were extracted thirteen (13) days from the sampling date, one (1) day before the TCLP extraction holding time expired. The leachate samples were analyzed a few days later within the fourteen (14) day holding time for aqueous volatile organic samples.

Please note the data reporting qualifiers utilized by PNELI. They used the qualifier "L" on the Form I's denoting leachate blank contamination. A summary of the laboratory's qualifiers is attached to this report in Appendix F.

All data for SAS# 7568C-01 were reviewed in accordance with the Functional Guidelines for Evaluating Organic Analyses with Modifications for use within Region III. The text of this report addresses only those problems affecting usability.



**TABLE I**

ADV92-#6/DV117-A  
01/12/83

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ENVIRONMENTAL PROTECTION AGENCY REGION III  
 CALIBRATION OUTLIERS  
 VOLATILE HSL COMPOUNDS  
 CONTRACTOR BVWST

CASE/SAS No. 7568C-01

Instrument#	HPMSD-A	Init. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.			
DATE/TIME:		10/2/92 0907	11/2/92 0811	11/11/92 1208					
		RF	%RSD	RF	%SD	RF	%SD	RF	%SD
Chloromethane				31.6	C				
Bromomethane									
Vinyl Chloride									
Chloroethane									
Methylene Chloride									
Acetone									
Carbon Disulfide									
1,1-Dichloroethene									
1,1-Dichloroethane									
Total-1,2-Dichloroethene									
Chloroform									
1,2-Dichloroethane									
2-Butanone									
1,1,1-Trichloroethane									
Carbon Tetrachloride									
Vinyl Acetate									
Bromodichloromethane									
1,2-Dichloropropane									
cis-1,3-Dichloropropene									
Trichloroethene									
Dibromochloromethane									
1,1,2-Trichloroethane									
Benzene									
trans-1,3-Dichloropropene									
Bromoform									
4-Methyl-2-Pentanone				25.8	C	28.0	C		
2-Hexanone				30.8	C	34.0	C		
Tetrachloroethene									
1,1,2,2-Tetrachloroethane									
Toluene									
Chlorobenzene									
Ethylbenzene									
Styrene									
Total Xylenes									
				VSTD05D		VSTD05D			
				VBLKAE		VBLKAL			
				SC0251		LEACHATE BLK			
						SC0252			
						SC0253			
						SC0252MS			
						SC0252MSD			

AFFECTED  
 SAMPLES:

Reviewer  
 Initials/Date: PC 12/9/92

\* See last page of this table for DEFINITION OF CODES.

## DEFINITION OF CODES USED IN TABLE I

- I = %RSD exceeded 30% in the initial calibration, positive results are qualified "j", and because the %RSD exceeded 50% the quantitation limits are qualified "UJ".
- C = %D exceeded 25% in the continuing calibration, positive results are qualified "J", and because the %D exceeded 50% the quantitation limits are qualified "UJ".
- F = RF less than 0.05 in all calibrations. All quantitation limits are qualified "R".
- + = The "B" qualifier denoting blank contamination supersedes the qualifier issued in this table.

**APPENDIX A**

**GLOSSARY OF DATA**

**QUALIFIER CODES**

## APPENDIX A

### GLOSSARY OF DATA QUALIFIER CODES (ORGANIC)

#### CODES RELATED TO IDENTIFICATION

(Confidence concerning presence or absence of analytes):

U = Not detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unreliable result. Analyte may or may not be present in the sample. supporting data necessary to confirm result.

N = Tentative Identification.

#### CODES RELATED TO QUANTITATION

(Can be used for both positive results and sample quantitation limits):

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

[] = Analyte present. As values approach the IDL the quantitation may not be accurate.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably higher.

#### OTHER CODES

Q = No analytical result.

**APPENDIX B**

**DATA SUMMARY FORMS**

ADV92-#6/DV117-A  
01/12/93

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**APPENDIX C**

**LABORATORY RESULTS - FORM Is**

ADV92-#6/DV117-A  
01/12/93

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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC0251

Lab Name: FNELI Contract: 68D00152  
 Lab Code: FNELI Case No.: SAS No.: 756801 SDG No.: SC0251  
 Matrix: (soil/water) WATER Lab Sample ID: 4521-01  
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A2528  
 Level: (low/med) LOW Date Received: 10/29/92  
 % Moisture: not dec. Date Analyzed: 11/02/92  
 GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/L
74-87-3	Chloromethane	10	U
74-89-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	3	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
67-68-3	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
78-67-5	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
79-03-5	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	Xyleno (total)	10	U

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC0251

Lab Name: FREL1 \_\_\_\_\_ Contract: 68D00152 \_\_\_\_\_  
 Lab Code: FREL1 Case No.: \_\_\_\_\_ SAS No.: 756801 EDG No.: SC0251  
 Matrix: (soil/water): WATERL Lab Sample ID: 4521-02 \_\_\_\_\_  
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AC606 \_\_\_\_\_  
 Level: (low/med): LOW Date Received: 10/29/92  
 % Moisture: not dec. Date Analyzed: 11/11/92  
 GC Column: CAF ID: 0.530 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-89-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-6	Chloroethane	10	U
75-09-2	Methylene Chloride	7	BEJL
67-64-1	Acetone	14	IL
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
78-53-3	2-Butanone	15	IL
71-55-2	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)	2	U

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC0253

Lab Name: FNELI \_\_\_\_\_ Contract: 68D00152 \_\_\_\_\_

Lab Code: FNELI Case No.: \_\_\_\_\_ SAS No.: 756801 SDG No.: SC0251

Matrix: (soil/water) WATER Lab Sample ID: 4521-03 \_\_\_\_\_

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A2609 \_\_\_\_\_

Level: (low/med) LOW Date Received: 10/29/92

% Moisture: not dec. Date Analyzed: 11/11/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/L
74-87-3	Chloromethane	10	IU
74-83-9	Bromomethane	10	IU
75-01-4	Vinyl Chloride	10	IU
75-00-3	Chloroethane	10	IU
75-09-2	Methylene Chloride	11	IEL
67-64-1	Acetone	40	IL
75-15-0	Carbon Disulfide	10	IU
75-35-4	1,1-Dichloroethene	10	IU
75-34-3	1,1-Dichloroethane	10	IU
540-59-0	1,2-Dichloroethene (total)	10	IU
67-66-3	Chloroform	10	IU
107-06-2	1,2-Dichloroethane	10	IU
78-93-3	2-Butanone	17	IL
71-55-6	1,1,1-Trichloroethane	10	IU
56-23-5	Carbon Tetrachloride	10	IU
75-27-4	Bromodichloromethane	10	IU
78-87-5	1,2-Dichloropropane	10	IU
10061-01-5	cis-1,3-Dichloropropene	10	IU
79-01-6	Trichloroethene	10	IU
124-48-1	Dibromochloromethane	10	IU
79-00-5	1,1,2-Trichloroethane	10	IU
71-43-2	Benzene	2	IJ
10061-02-6	trans-1,3-Dichloropropene	10	IU
75-25-2	Bromoform	10	IU
108-10-1	4-Methyl-2-Pentanone	10	IU
591-78-6	2-Hexanone	10	IU
127-18-4	Tetrachloroethene	10	IU
79-34-5	1,1,2,2-Tetrachloroethane	10	IU
108-88-3	Toluene	10	IU
108-90-7	Chlorobenzene	10	IU
100-41-4	Ethylbenzene	10	IU
100-42-5	Styrene	10	IU
1330-20-7	Xylene (total)	2	IJ

**APPENDIX D**

**CORRECTED AND TENTATIVELY IDENTIFIED COMPOUNDS**

ADVS2-#6/DV117-A  
01/12/93

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1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

500251

Lab Name: PNELI\_\_\_\_\_ Contract: 68D00132\_\_\_\_\_

Lab Code: PNELI\_\_\_ Case No.: \_\_\_\_\_ BAS No.: 756801\_\_\_ SIG No.: 500251

Matrix: (soil/water) WATER\_\_\_ Lab Sample ID: 4521-01\_\_\_\_\_

Sample wt/vol: \_\_\_5.0 (g/mL) ML\_\_\_ Lab File ID: A2528\_\_\_\_\_

Level: (low/med) LOW\_\_\_ Date Received: 10/29/92

% Moisture: not dec. \_\_\_ Date Analyzed: 11/02/92

GC Column: CAP\_\_\_\_\_ ID: \_0.530 (mm) Dilution Factor: \_\_\_\_\_1.0

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.	G

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SC00252

Lab Name: PNELI\_\_\_\_\_ Contract: 68D00152\_\_\_\_\_  
Lab Code: PNELI\_\_\_ Case No.: \_\_\_\_\_ SAS No.: 756801\_\_\_ BDG No.: SC00251  
Matrix: (soil/water): WATER\_\_\_ Lab Sample ID: 4521-02\_\_\_\_\_  
Sample wt/vol: \_\_\_5.0 (g/mL) ML\_\_\_ Lab File ID: A2606\_\_\_\_\_  
Level: (low/med) LOW\_\_\_ Date Received: 10/29/92  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/11/92  
GC Column: CAP\_\_\_\_\_ ID: 0.530 (mm) Dilution Factor: \_\_\_\_\_1.0  
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

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SC0253

Lab Name: PNELI\_\_\_\_\_ Contract: 68D00152\_\_\_\_\_  
Lab Code: PNELI\_\_\_ Case No.: \_\_\_\_\_ SAS No.: 756801\_ SDG No.: SC0251  
Matrix: (soil/water) WATER\_ Lab Sample ID: 4521-03\_\_\_\_\_  
Sample wt/vol: \_\_\_5.0 (g/mL) ML\_\_\_ Lab File ID: A2609\_\_\_\_\_  
Level: (low/med) LOW\_\_\_ Date Received: 10/29/92  
% Moisture: not disc. \_\_\_\_\_ Date Analyzed: 11/11/92  
GC Column: CAP\_\_\_\_\_ ID: L0.530 (mm) Dilution Factor: \_\_\_\_\_1.0  
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



**APPENDIX E**

**REGIONAL DATA  
ASSESSMENT SUMMARY**

ADV92-#6/DV117  
12/10/92

AR306251

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ORGANIC REGIONAL DATA ASSESSMENT SUMMARY

SAS NO: 7568C-01 LABORATORY PNELI  
 SDG NO. SCO251 DATA USER Gerald Muth  
 SOW 3/90 REVIEW COMPLETION DATE 12/10/92

NO. OF SAMPLES 3 MATRIX Leachate

REVIEWER [X] BVWST [ ] OTHER, SUBCONTRACTOR \_\_\_\_\_

	VOA	BNA	PEST	OTHER
1. HOLDING TIMES	<u>0</u>	___	___	___
2. GC-MS TUNE/GC PERFORMANCE	<u>0</u>	___	___	___
3. INITIAL CALIBRATIONS	<u>0</u>	___	___	___
4. CONTINUING CALIBRATIONS	<u>0</u>	___	___	___
5. FIELD BLANKS ("F" = NOT APPLICABLE)	<u>0</u>	___	___	___
6. LABORATORY BLANKS	<u>X</u>	___	___	___
7. SURROGATES	<u>0</u>	___	___	___
8. MATRIX SPIKE/DUPLICATES	<u>0</u>	___	___	___
9. REGIONAL QC ("F" = NOT APPLICABLE)	<u>F</u>	___	___	___
10. INTERNAL STANDARDS	<u>0</u>	___	___	___
11. COMPOUND IDENTIFICATION	<u>0</u>	___	___	___
12. COMPOUND QUANTITATION	<u>0</u>	___	___	___
13. SYSTEM PERFORMANCE	<u>0</u>	___	___	___
14. OVERALL ASSESSMENT	<u>X</u>	___	___	___

O = No problems or minor problems that do not affect data usability.  
 X = No more than about 5% of the data points are qualified as either estimated or unusable.  
 M = More than about 5% of the data points are qualified as estimated.  
 Z = More than about 5% of the data points are qualified as unusable.  
 A = DPO action requested; use in conjunction with one of the above codes.

TPO ACTION ITEMS: \_\_\_\_\_

AREAS OF CONCERN: See Attached.

ORGANIC REGIONAL DATA ASSESSMENT SUMMARY

Note 6A The maximum concentrations of the following common laboratory contaminants were found in the laboratory TCLP method blank.

<u>Compound</u>	<u>Concentration (ug/L)</u>
methylene chloride	12 B
acetone	8 J
2-butanone	19

**APPENDIX F**

**SUPPORTING DOCUMENTATION**

ADV92-#6/DV117-A  
01/12/93

AR306254

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6A  
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: FHELI Contract: 68D00152  
 Lab Code: FHELI Case No.: SAB No.: 756801 EDG No.: 500251  
 Instrument ID: HPMSD-A Calibration Date(s): 10/23/92 10/23/92  
 Heated Purge: (Y/N): N Calibration Times: 0907 1400  
 GC Column: CAP ID: 0.530 (mm)

-----  
 I LAS FILE ID: RRF10 = A2400 RRF20 = A2403  
 I RRF50 = A2396 RRF100 = A2401 RRF200 = A2399  
 -----

COMPOUND	RRF10	RRF20	RRF50	RRF100	RRF200	RRF	% RSD
Chloromethane	0.431	0.300	0.364	0.265	0.306	0.333	19.6
Bromomethane	* 1.096	1.017	1.032	1.038	1.006	1.038	3.4*
Vinyl Chloride	* 0.686	0.577	0.624	0.514	0.552	0.591	11.3*
Chloroethane	0.652	0.579	0.566	0.577	0.559	0.587	6.4
Methylene Chloride	1.472	1.218	1.188	1.188	1.182	1.250	10.0
Acetone	0.290	0.240	0.195	0.198	0.183	0.221	19.9
Carbon Disulfide	2.193	2.060	2.391	2.635	2.755	2.407	12.1
1,1-Dichloroethene	* 1.063	1.006	1.004	1.018	0.999	1.018	2.6*
1,1-Dichloroethane	* 2.366	2.158	2.218	2.242	2.283	2.253	3.4*
1,2-Dichloroethene (total)	1.289	1.194	1.205	1.289	1.287	1.253	3.9
Chloroform	* 2.750	2.583	2.661	2.756	2.772	2.704	7.9*
1,2-Dichloroethane	* 1.892	1.786	1.798	1.812	1.813	1.820	3.7*
2-Butanone	0.400	0.356	0.317	0.333	0.308	0.343	10.7
1,1,1-Trichloroethane	* 0.506	0.486	0.540	0.537	0.567	0.527	6.0*
Carbon Tetrachloride	* 0.456	0.446	0.510	0.524	0.564	0.500	9.8*
Bromodichloromethane	* 0.488	0.501	0.582	0.609	0.644	0.565	12.0*
1,2-Dichloropropane	0.353	0.327	0.342	0.324	0.353	0.340	4.1
cis-1,3-Dichloropropene	* 0.353	0.362	0.415	0.436	0.467	0.407	11.9*
Trichloroethene	* 0.463	0.430	0.458	0.440	0.440	0.446	3.1*
Dibromochloromethane	* 0.477	0.492	0.564	0.600	0.616	0.550	11.4*
1,1,2-Trichloroethane	* 0.307	0.283	0.290	0.292	0.289	0.292	3.1*
Benzene	* 0.859	0.825	0.814	0.774	0.818	0.818	3.7*
trans-1,3-Dichloropropene	* 0.314	0.317	0.370	0.416	0.452	0.374	16.2*
Bromoform	* 0.314	0.332	0.385	0.432	0.484	0.389	18.1*
4-Methyl-2-Pentanone	0.381	0.307	0.284	0.295	0.303	0.314	12.2
2-Hexanone	0.252	0.181	0.161	0.169	0.175	0.188	19.6
Tetrachloroethene	* 0.595	0.560	0.580	0.540	0.563	0.568	3.7*
1,1,2,2-Tetrachloroethane	* 0.415	0.421	0.386	0.428	0.444	0.419	5.1*
Toluene	* 1.261	1.187	1.202	1.195	1.204	1.210	2.4*
Chlorobenzene	* 1.013	0.957	0.933	0.917	0.953	0.955	3.8*
Ethylbenzene	* 0.445	0.421	0.410	0.415	0.424	0.423	3.2*
Styrene	* 0.853	0.821	0.824	0.842	0.865	0.841	2.2*
Xylene (total)	* 0.522	0.506	0.511	0.489	0.499	0.505	2.5*
Toluene-d8	1.178	1.036	1.055	1.022	1.041	1.066	6.0
Bromofluorobenzene	0.891	0.792	0.775	0.797	0.769	0.805	4.2
1,2-Dichloroethane-d4	1.731	1.487	1.468	1.515	1.470	1.534	3.8

\* Compounds with required minimum RRF and maximum %RSD values.  
 All other compounds must meet a minimum RRF of 0.010.

FORM 11-1984  
 AR306255

3/90

004043

7A  
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: FNE11 \_\_\_\_\_ Contract: 68D00152 \_\_\_\_\_  
 Lab Code: FNE11 \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: 756801 \_\_\_\_\_ SDG No.: SC0251  
 Instrument ID: HPMED-A \_\_\_\_\_ Calibration date: 11/02/92 Time: 0841 \_\_\_\_\_  
 Lab File ID: A2506 \_\_\_\_\_ Init. Calib. Date(s): 10/23/92 10/23/92  
 Heated Purge: (Y/N) N \_\_\_\_\_ Init. Calib. Times: 0907 \_\_\_\_\_ 1400 \_\_\_\_\_  
 GC Column: CAP \_\_\_\_\_ ID: \_0.530 (mm) \_\_\_\_\_

COMPOUND	RRF	RRF50	MIN RRF	%D	MAX %D
Chloromethane	0.333	0.465		-39.6	
Bromomethane	1.038	1.043	0.100	-0.5	25.0
Vinyl Chloride	0.591	0.697	0.100	-17.9	25.0
Chloroethane	0.587	0.664		-13.1	
Methylene Chloride	1.250	1.220		2.4	
Acetone	0.221	0.180		18.6	
Carbon Disulfide	2.407	2.789		-15.9	
1,1-Dichloroethane	1.018	1.114	0.100	-9.4	25.0
1,1-Dichloroethane	2.253	2.444	0.200	-8.5	25.0
1,2-Dichloroethane (total)	1.253	1.414		-12.8	
Chloroform	2.704	3.001	0.200	-11.0	25.0
1,2-Dichloroethane	1.820	1.782	0.100	2.1	25.0
2-Butanone	0.343	0.271		21.0	
1,1,1-Trichloroethane	0.527	0.587	0.100	-11.4	25.0
Carbon Tetrachloride	0.500	0.550	0.100	-10.0	25.0
Bromodichloromethane	0.565	0.588	0.200	-4.1	25.0
1,2-Dichloropropane	0.340	0.353		-3.8	
cis-1,3-Dichloropropene	0.407	0.379	0.200	6.9	25.0
Trichloroethane	0.446	0.460	0.300	-3.1	25.0
Dibromochloromethane	0.550	0.516	0.100	6.2	25.0
1,1,2-Trichloroethane	0.292	0.281	0.100	3.8	25.0
Benzene	0.818	0.865	0.500	-5.7	25.0
trans-1,3-Dichloropropene	0.374	0.313	0.100	16.3	25.0
Bromoform	0.389	0.329	0.100	15.4	25.0
4-Methyl-2-Pentanone	0.314	0.233		25.8	
2-Hexanone	0.188	0.130		30.8	
Tetrachloroethene	0.568	0.604	0.200	-6.3	25.0
1,1,2,2-Tetrachloroethane	0.419	0.416	0.500	0.7	25.0
Toluene	1.210	1.137	0.400	6.0	25.0
Chlorobenzene	0.955	1.021	0.500	-6.9	25.0
Ethylbenzene	0.423	0.446	0.100	-5.4	25.0
Styrene	0.841	0.881	0.300	-4.8	25.0
Xylene (total)	0.505	0.536	0.300	-6.1	25.0
Toluene-d8	1.066	0.979		8.2	
Bromofluorobenzene	0.805	0.772	0.200	4.1	25.0
1,2-Dichloroethane-d4	1.534	1.423		7.2	

All other compounds must meet a minimum RRF of 0.010.

7A  
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: FNELI\_\_\_\_\_ Contract: 68D00152\_\_\_\_\_

Lab Code: FNELI\_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: 756201\_\_\_\_\_ SDG No.: S00251\_\_\_\_\_

Instrument ID: HP680-A\_\_\_\_\_ Calibration date: 11/11/92\_\_\_\_\_ Time: 1208\_\_\_\_\_

Lab File ID: A2601\_\_\_\_\_ Init. Calib. Date(s): 10/23/92\_\_\_\_\_ 10/23/92\_\_\_\_\_

Heated Purge: (Y/N) N\_\_\_\_\_ Init. Calib. Times: 0907\_\_\_\_\_ 1400\_\_\_\_\_

GC Column: CAP\_\_\_\_\_ ID: \_0.530(mm)\_\_\_\_\_

COMPOUND	RRF	RRF50	MIN	MAX
			%D	%D
Chloromethane	0.333	0.317	4.8	
Bromomethane	1.038	1.050	0.100	-1.2 25.0
Vinyl Chloride	0.591	0.585	0.100	1.0 25.0
Chloroethane	0.587	0.553		5.8
Methylene Chloride	1.250	1.286		-2.9
Acetone	0.221	0.176		20.4
Carbon Disulfide	2.407	2.529		-5.1
1,1-Dichloroethene	1.018	1.036	0.100	-1.8 25.0
1,1-Dichloroethane	2.253	2.252	0.200	0.0 25.0
1,2-Dichloroethene (total)	1.253	1.248		0.4
Chloroform	2.704	2.731	0.200	-1.0 25.0
1,2-Dichloroethane	1.820	1.756	0.100	3.5 25.0
2-Butanone	0.343	0.264		23.0
1,1,1-Trichloroethane	0.527	0.510	0.100	3.2 25.0
Carbon Tetrachloride	0.500	0.490	0.100	2.0 25.0
Bromodichloromethane	0.565	0.529	0.200	6.4 25.0
1,2-Dichloropropene	0.340	0.318		6.5
cis-1,3-Dichloropropene	0.407	0.374	0.200	8.1 25.0
Trichloroethene	0.446	0.401	0.300	10.1 25.0
Dibromochloromethane	0.550	0.467	0.100	15.1 25.0
1,1,2-Trichloroethane	0.292	0.250	0.100	14.4 25.0
Benzene	0.818	0.759	0.500	7.2 25.0
trans-1,3-Dichloropropene	0.374	0.322	0.100	13.9 25.0
Bromoform	0.389	0.308	0.100	20.8 25.0
4-Methyl-2-Pentanone	0.314	0.226		28.0
2-Hexanone	0.188	0.124		34.0
Tetrachloroethene	0.568	0.519	0.200	8.6 25.0
1,1,2,2-Tetrachloroethane	0.419	0.373	0.500	11.0 25.0
Toluene	1.210	1.143	0.400	5.5 25.0
Chlorobenzene	0.955	0.877	0.500	8.2 25.0
Ethylbenzene	0.423	0.392	0.100	7.3 25.0
Styrene	0.841	0.764	0.300	9.2 25.0
Xylene (total)	0.505	0.472	0.300	6.5 25.0
Toluene-d8	1.066	1.050		1.5
Bromofluorobenzene	0.805	0.781	0.200	3.0 25.0
1,2-Dichloroethane-d4	1.534	1.462		4.7

All other compounds must meet a minimum RRF of 0.010.

FORM VII VDA  
AR306257

004065

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LEACHATE\_BLK

Lab Name: FNEL1 \_\_\_\_\_ Contract: 68D00152 \_\_\_\_\_

Lab Code: FNEL1 Case No.: \_\_\_\_\_ CAS No.: 756801 EDG No.: SC0051

Matrix: (soil/water) WATER Lab Sample ID: 4521-LE \_\_\_\_\_

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A2605 \_\_\_\_\_

Level: (low/med) LOW Date Received: \_\_\_\_\_

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/11/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/L
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	12	B
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	19	
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

EPA SAMPLE NO.

LEACHATE\_BLK

Lab Name: PNEI \_\_\_\_\_ Contract: 89000152 \_\_\_\_\_  
Lab Code: PNEI \_\_\_\_\_ Case No.: \_\_\_\_\_ SAE No.: 758801 \_\_\_\_\_ SLDG No.: SC0251  
Matrix: (soil/water) WATER \_\_\_\_\_ Lab Sample ID: 4521-LB \_\_\_\_\_  
Sample wt/vol: 5.0 (g/mL) ML \_\_\_\_\_ Lab File ID: A2605 \_\_\_\_\_  
Levels: (low/med) LOW \_\_\_\_\_ Date Received: \_\_\_\_\_  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/11/92  
GC Column: CAF \_\_\_\_\_ ID: 10.530 (mm) Dilution Factor: 1.0  
Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)

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

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	PT	EST. CONC.	Q

FORM 1 VOA-TIC  
AR306259

004097

3/90

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

300252MG

Lab Name: PNEL \_\_\_\_\_ Contract: 68200160 \_\_\_\_\_

Lab Code: PNEL \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: 756901 \_\_\_\_\_ SPG No.: 300251

Matrix: (soil/water) WATER \_\_\_\_\_ Lab Sample ID: 4521-02MS \_\_\_\_\_

Sample wt/vol: 5.0 (g/mL) ML \_\_\_\_\_ Lab File ID: A2607 \_\_\_\_\_

Level: (low/med) LOW \_\_\_\_\_ Date Received: 10/29/92

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/11/92

GC Column: CAP \_\_\_\_\_ ID: 0.530 (mm) Dilution Factor: 1.0

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) US/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	8	BUJL
67-64-1	Acetone	17	IL
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	48	
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	16	IL
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	59	
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	59	
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	60	
108-90-7	Chlorobenzene	64	
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	2	U

AR306260

004106

3/90

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

500252MSD

Lab Name: FNEL1\_\_\_\_\_ Contract: 68D00150\_\_\_\_\_

Lab Code: FNEL1\_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: 756801\_\_\_\_\_ EDB No.: 500251

Matrix: (soil/water) WATER\_\_\_\_\_ Lab Sample ID: 4521-02MSD\_\_\_\_\_

Sample wt/vol: 2.5.0 (g/mL) ML\_\_\_\_\_ Lab File ID: A2506\_\_\_\_\_

Level: (low/med) LOW\_\_\_\_\_ Date Received: 10/29/92

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/11/92

GC Column: CAP\_\_\_\_\_ ID: 0.530 (mm) Dilution Factor: \_\_\_\_\_1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/L
74-87-3	Chloromethane	10	U
74-89-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	7	U/L
67-64-1	Acetone	15	U/L
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	45	
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	13	U/L
71-55-6	1,1,1-Trichloroethane	10	U
58-23-5	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	56	
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	56	
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	56	
108-90-7	Chlorobenzene	59	
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	2	U

NatEx Laboratories, Inc.  
 Pacific Northwest Environmental Laboratory, Inc.

01/10/1993

**DATA REPORTING QUALIFIERS**

Some of these qualifiers may appear in this analytical data report. Soil samples are analyzed and reported on a dry weight basis unless otherwise noted.

**Organics Data Qualifiers** .....

- A - This flag indicates that a TIC is a suspected aldol-condensation product.
- B - Indicates compound was found in the associated blank as well as in the sample.
- C - This flag applies to pesticide results where the identification has been confirmed by GC/MS.
- D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- E - This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis.
- J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a target compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
- L - Compound detected in leachate blank.
- M - Indicates value is taken from a medium level analysis.
- N - Indicates that the identity of the compound is based upon a mass spectral library search (applies to tentatively identified compounds only).
- ND - Not detected. Detection limit shown in parentheses.
- NO - Not quantitated as...
- U - Indicates compound was analyzed for but not detected at the given detection limit. The sample quantitation limit was corrected for dilution and for percent moisture, when applicable.
- X - Other specific flags and footnotes may be required to properly define the results. If more than two qualifiers are required for a sample result, the "X" flag combines several flags, as needed. For instance, the "X" flag might combine the "A," "B," and "D" flags for some sample.
- Z - Spike compound diluted out, recovery value could not be determined.

**Inorganics Data Qualifiers** .....

- NA - Relative percent difference calculation is not applicable to analytes when not detected.
- NC - Not calculated when analyte is not detected.
- NS - Not calculated when sample concentration of analyte exceeds spike level by a factor of four or more.
- U - Indicates that analyte was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.
- B - Indicates that the reported value is less than the Contract Required Detection Limit (CRDL) but greater than or equal to the Instrument Detection Limit (IDL).
- E - The reported value is estimated because of the presence of interference. An explanatory note must be included under Comments on the Cover Page (if the problem applies to all samples) or on the specific FORM-I (if it is an isolated problem).
- M - Duplicate injection precision not met.
- N - Spike sample recovery not within control limits.
- S - The reported value was determined by the Method of Standard Additions (MSA).
- W - Post-digestion spike for furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance. (See Exhibit E)
- \* - Duplicate analysis not within control limits.
- + - Correlation coefficient for the MSA is less than 0.995.

**Inorganics Method Qualifiers** .....

- CV - Manual Cold Vapor AA
- F - FURNACE AA
- P - ICP

AR30626

Post-It™ brand fax transmittal memo 7671 # of pages 1

To: Pete Chapman	From: Rich Whitson
CC: B+W West, Su+Ted	CO: PNEEL
Phone: 206-885-0083	Phone: 883-8528
Fax: 215-928-1780	Fax: 883-8528



United States Environmental Protection Agency  
 Central Laboratory Program Sample Management Office  
 PO Box 818 Alexandria, VA 22313  
 703-557-2490 FTS 557-2490

**Special Analytical Service**  
 Packing List/Chain of Custody

SAS No.

7568-C.01

1. Sample Description (Enter in Column A)		2. Preservative (Enter in Column C)		3. Region No. Sampling Co.		5. Date Shipped Carrier		7. Date Received - Received by	
1. Surface Water 2. Ground Water 3. Leachate 4. Rinse 5. Soil/Sediment 6. Oil 7. Waste 8. Other (Specify)		1. HCl 2. HNO3 3. H2SO4 4. H2SO4 5. NaOH 6. Other (Specify) 7. Ice only 8. Not Preserved		Region No. <u>11</u> Sampling Co. <u>VA45T</u>		Date Shipped <u>10/28/92</u> Carrier <u>1111 Express</u>		Date Received <u>10-29-92</u> Received by <u>RS Bano/PNEC</u>	
Sample Numbers		4. Type of Activity		Ship To		Airbill Number		8. Transfer to FIR-ST IN SDG	
A. Matrix from Box 1 B. Cond Low Med High C. Preservative Used from Box 2 D. Analyte		Lead Pre-Removal SF <input checked="" type="checkbox"/> PA <input checked="" type="checkbox"/> ST <input checked="" type="checkbox"/> FED <input type="checkbox"/> LSI <input type="checkbox"/> CLEM <input type="checkbox"/> REMA <input type="checkbox"/> REM <input type="checkbox"/> OIL <input type="checkbox"/> UST		Ship To <u>Moody Park Northwest Environmental</u> <u>6145 185th Ave. NE</u> <u>Suite 100</u> <u>Redmond, WA 98052</u>		Airbill Number <u>617 2334 551</u>		Date Received LAST IN SDG <u>SC0253</u>	
Sample Numbers		E. Regional Specific Tracking Number or Tag Number		F. Station Location Identifier		G. Mo/Day/Year/Time Sample Collection		H. Sampler Initials	
1. SC0261		TCLP - Volatiles		01 TB-1		10/27/92 - 0830		CWB	
2. SC0252		TCLP - Volatiles		02 BV-1		10/27/92 - 1600		CWB	
3. SC0253		TCLP - Volatiles		03 BV-2		10/27/92 - 1615		CWB	
4.									
5.									
6.									
7.									
8.									
9.									
10.									
Shipment for SAS complete (Y/N)		Sample Used for Spike and/or Duplicate		Additional Sampler Signatures		Chain of Custody Seal Number			
Page 1 of 1		SC0252		N/A		NA			

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Received by: (Signature)	Date / Time
<u>Chp Bette</u>	<u>10/28/92 1630</u>	<u>617 2334 551</u>	<u>10/29/92 0930</u>	<u>RS Bano</u>	<u>10/29/92 0930</u>
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Received by: (Signature)	Date / Time
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	is custody seal intact? (Y/N)
		<u>RS Bano/PNEC</u>	<u>10/29/92 0930</u>		<u>NA</u>

EPA 1110-3 (7/81)

White - Region Copy, Yellow - SMO Copy, Gold - Lab Copy for Return to

Pink - Lab Copy for Return to SMO

See Reverse Side for Additional Standard Instructions

Split Samples  Accepted (Signature)  Declined

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AR306263

3001

