02.08-05/01/97-02286

FINAL

~~DRAFT~~

Contractor's Closeout Report

Soil Remediation
Operable Unit 10, Site 35
MCB Camp Lejeune
Jacksonville, North Carolina

Volume VI of VII

Prepared for:

DEPARTMENT OF THE NAVY
Contract No. N62470-93-D-3032
Delivery Order 0044

Prepared by

OHM Remediation Services Corp.
A Subsidiary of OHM Corporation

5335 Triangle Parkway, Suite 450
Norcross, GA 30092

May 1997

~~July 1996~~

OHM Project No. 16487

02.08-05/01/97-02286

PACE INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

October 23, 1995

OHM Remediation Services Corporation
5335 Triangle Parkway
Suite 450
Norcross, GA 30092

SAMPLE DELIVERY GROUP NARRATIVE

Case: OHMRC
SDG: LJN26
Laboratory: PACE New England - New Hampshire of Hampton, NH
Lab Numbers: 45562
Protocol: SW846 Methods. NEESA E deliverables. No diskette.

Sample Receipt: These samples were received at PACE, Inc. on October 3, 1995. Laboratory sample numbers were assigned for test parameters as listed on the Sample Table which follows this narrative. The sample shipment was checked for custody seal integrity and cooler temperature. Samples were checked for appropriate preservation and accuracy against the Chains-of-Custody provided. Other than the exceptions noted below, samples were received between 2-6° C and in good condition. PACE Sample Receipt Condition Reports can be found with the Chains-of-Custody.

Shipment received 10/3/95 (45562): Samples were received in two coolers and were assigned PACE# 45562 and 45563. A temperature blank was not included with the shipment, therefore the cooler temperature could not be verified upon receipt of samples at PACE. The samples were received cool, and had been packed on ice. Samples assigned PACE Lab# 45563 were logged in for a 3-day turnaround per the request on the COC. Samples assigned PACE Lab# 45562 were logged in for 24-hour turnaround per the request on the COC.

GRO Analysis: Surrogate recovery was not quantitated for laboratory numbers 45562-3, -5, -6 and -7 due to matrix interference.

DRO Analysis: Laboratory control sample results for "LSH1400" are plotted on a control chart which has limits that were established using low level solid extract results. The result for diesel is outside the control limits possible due to the difference of the extraction. When enough points are collected for the medium level solid extraction, a new control chart will be created with different acceptance limits.

Oil and Grease Analysis: Analyses proceeded without difficulty. Matrix spikes and duplicates met all acceptance criteria.

Statement of Compliancy and Data Authorization

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Richard A Wellman — 10/23/95

PACE Incorporated, New England-New Hampshire — October 23, 1995

P.O. Box 2130
1 Lafayette Road
Hampton, NH 03842
TEL: 603-926-7777
800-992-0724
FAX: 603-926-7939

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ENVIRONMENTAL LABORATORIES

NEW ENGLAND - NEW HAMPSHIRE LABORATORY
SAMPLE RECEIPT CONDITION REPORT
Tel. (603) 926-7777
FAX (603) 926-7939

LAB# 45562
PAGE 1 of 1
COOLER ____ of ____
COC# ____
SDG# LJN26
CASE# OHMRC

CLIENT OHM
DATE/TIME RECEIVED 10/3/95 0915
DELIVERED BY Fed Ex
RECEIVED BY Gretchen Grollman
LIMS ENTRY BY GMF
TRANSCRIPTION REVIEW BY GMF
LIMS REVIEW BY/PM GMF

	NA	YES	EXCEPTION	COMMENT	RESOLUTION
1. CUSTODY SEALS PRESENT/INTACT	☑	☐	☐		
2. CHAIN OF CUSTODY PRESENT IN THIS COOLER	☐	☑	☐		
3. CHAIN OF CUSTODY SIGNED	☐	☑	☐		
4. CHAIN OF CUSTODY MATCHES SAMPLES	☐	☑	☐		
5. SAMPLES RECEIVED AT 2° - 6° C (Ice/Ice Packs Present? (Y) or N)	☐	☐	☑	No temp Blank - all Samples cool to touch	
6. VOLATILES FREE OF HEAD SPACE	☐	☑	☐		
7. TRIP BLANK PRESENT IN THIS COOLER	☐	☑	☐		
8. PROPER SAMPLE CONTAINERS AND VOLUME	☐	☑	☐		
9. SAMPLES WITHIN HOLD TIME	☐	☑	☐		
10. SAMPLES PROPERLY PRESERVED	☐	☑	☐		

11. ANALYTICAL PROGRAMS (circle one) COMMERCIAL CLP EPA-CLP NYASP NJ ISRA (NEESA - E) AFCEE Other ____
12. NUMBER OF PACE FILTRATIONS: ____
13. CORRECTIVE ACTIONS REPORT # ____

Log-in Notes:

CLIENT AUTHORIZATION SIGNATURE ____ DATE ____

SAMPLE TABLE

CLIENT ID.	MATRIX	PACE #	PARAMETERS
CLJ44-CC-061	SOLID	45562-001	TOTAL GASOLINE
		45562-008	OIL & GREASE BY GRAVIMETRY
			TOTAL DIESEL
CLJ44-CC-062	SOLID	45562-002	TOTAL GASOLINE
		45562-009	OIL & GREASE BY GRAVIMETRY
			TOTAL DIESEL
CLJ44-CC-063	SOLID	45562-003	TOTAL GASOLINE
		45562-010	OIL & GREASE BY GRAVIMETRY
			TOTAL DIESEL
CLJ44-CC-064	SOLID	45562-004	TOTAL GASOLINE
		45562-011	OIL & GREASE BY GRAVIMETRY
			TOTAL DIESEL
CLJ44-CC-065	SOLID	45562-005	TOTAL GASOLINE
		45562-012	OIL & GREASE BY GRAVIMETRY
			TOTAL DIESEL
CLJ44-CC-066	SOLID	45562-006	TOTAL GASOLINE
		45562-013	OIL & GREASE BY GRAVIMETRY
			TOTAL DIESEL
CLJ44-CC-067	SOLID	45562-007	TOTAL GASOLINE
		45562-014	OIL & GREASE BY GRAVIMETRY
			TOTAL DIESEL

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Field Identification: CLJ44-CC-061 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	14	45562-001	10/04/95	BG1041A	8015(mod)/2
Total Diesel (ug/g)	1400	11	45562-008	10/03/95		8015(mod),3350/2
Oil and Grease by Gravimetry (ug/g)	1200	280	45562-008	10/04/95	BG1385	9071,503D/2,3

Field Identification: CLJ44-CC-062 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	14	45562-002	10/03/95	BG1041A	8015(mod)/2
Total Diesel (ug/g)	260	12	45562-009	10/03/95		8015(mod),3350/2
Oil and Grease by Gravimetry (ug/g)	1300	290	45562-009	10/04/95	BG1385	9071,503D/2,3

Field Identification: CLJ44-CC-063 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	380	26	45562-003	10/04/95	BG1041A	8015(mod)/2
Total Diesel (ug/g)	5600	230	45562-010	10/04/95		8015(mod),3350/2
Oil and Grease by Gravimetry (ug/g)	4400	280	45562-010	10/04/95	BG1385	9071,503D/2,3

Field Identification: CLJ44-CC-064 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	23	14	45562-004	10/04/95	BG1041A	8015(mod)/2
Total Diesel (ug/g)	3000	220	45562-011	10/04/95		8015(mod),3350/2
Oil and Grease by Gravimetry (ug/g)	2600	280	45562-011	10/04/95	BG1385	9071,503D/2,3

Field Identification: CLJ44-CC-065 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	240	34	45562-005	10/04/95	BG1041A	8015(mod)/2
Total Diesel (ug/g)	12000	220	45562-012	10/04/95		8015(mod),3350/2
Oil and Grease by Gravimetry (ug/g)	8800	280	45562-012	10/04/95	BG1385	9071,503D/2,3

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Results expressed on a dry weight basis.

Field Identification: CLJ44-CC-066 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	110	13	45562-006	10/04/95	BG1041A	8015(mod)/2
Total Diesel (ug/g)	5400	220	45562-013	10/04/95		8015(mod),3350/2
Oil and Grease by Gravimetry (ug/g)	4500	270	45562-013	10/04/95	BG1385	9071,503D/2,3

Field Identification: CLJ44-CC-067 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	180	12	45562-007	10/04/95	BG1041A	8015(mod)/2
Total Diesel (ug/g)	9700	220	45562-014	10/05/95		8015(mod),3350/2
Oil and Grease by Gravimetry (ug/g)	3800	270	45562-014	10/04/95	BG1385	9071,503D/2,3

Results expressed on a dry weight basis.

References: 2) EPA SW 846, 3rd Edition
3) Standard Methods, 16th Edition

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QUALITY CONTROL DATA
TOTAL GASOLINE

BLANK DATA

Laboratory Number: BG1041A
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/04/95
Matrix: SOLID

COMPOUND	CONCENTRATION ug/g	DETECTION LIMIT ug/g
GASOLINE	BDL	12

MATRIX SPIKE RECOVERY

Laboratory Number: LS-G1041
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/04/95
Matrix: SOLID

COMPOUND	ug/g IN SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
GASOLINE	0	50	51	102

METHOD REFERENCE: METHOD 8015 (MODIFIED)

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QUALITY CONTROL DATA
PETROLEUM HYDROCARBONS BY GCFID

BLANK DATA

Laboratory Number: B-H1400
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/03/95
Matrix: SOLID

HYDROCARBON TYPE	CONCENTRATION ug/g	DETECTION LIMIT ug/g
DIESEL	BDL	10

MATRIX SPIKE RECOVERY

Laboratory Number: LSH1400
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/03/95
Matrix: SOLID

COMPOUND	ug/g SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
DIESEL	0	101	89.0	88

METHOD REFERENCE: EPA SW 846, 3RD EDITION METHOD 8015 (MODIFIED) AND 3350

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QUALITY CONTROL
OIL & GREASE

BLANK DATA

Laboratory Number: B-G1385
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/04/95
Matrix: SOLID

PARAMETER	CONCENTRATION ug/g	DETECTION LIMIT ug/g
OIL & GREASE	BDL	250

MATRIX SPIKE RECOVERY

Laboratory Number: LS-G1385
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/04/95
Matrix: SOLID

PARAMETER	ug/g IN SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
OIL & GREASE	0	1275	1200	94

METHOD REFERENCE: EPA SW846, 3RD EDITION
METHOD 9071
STANDARD METHODS, 16TH EDITION, METHOD 503D

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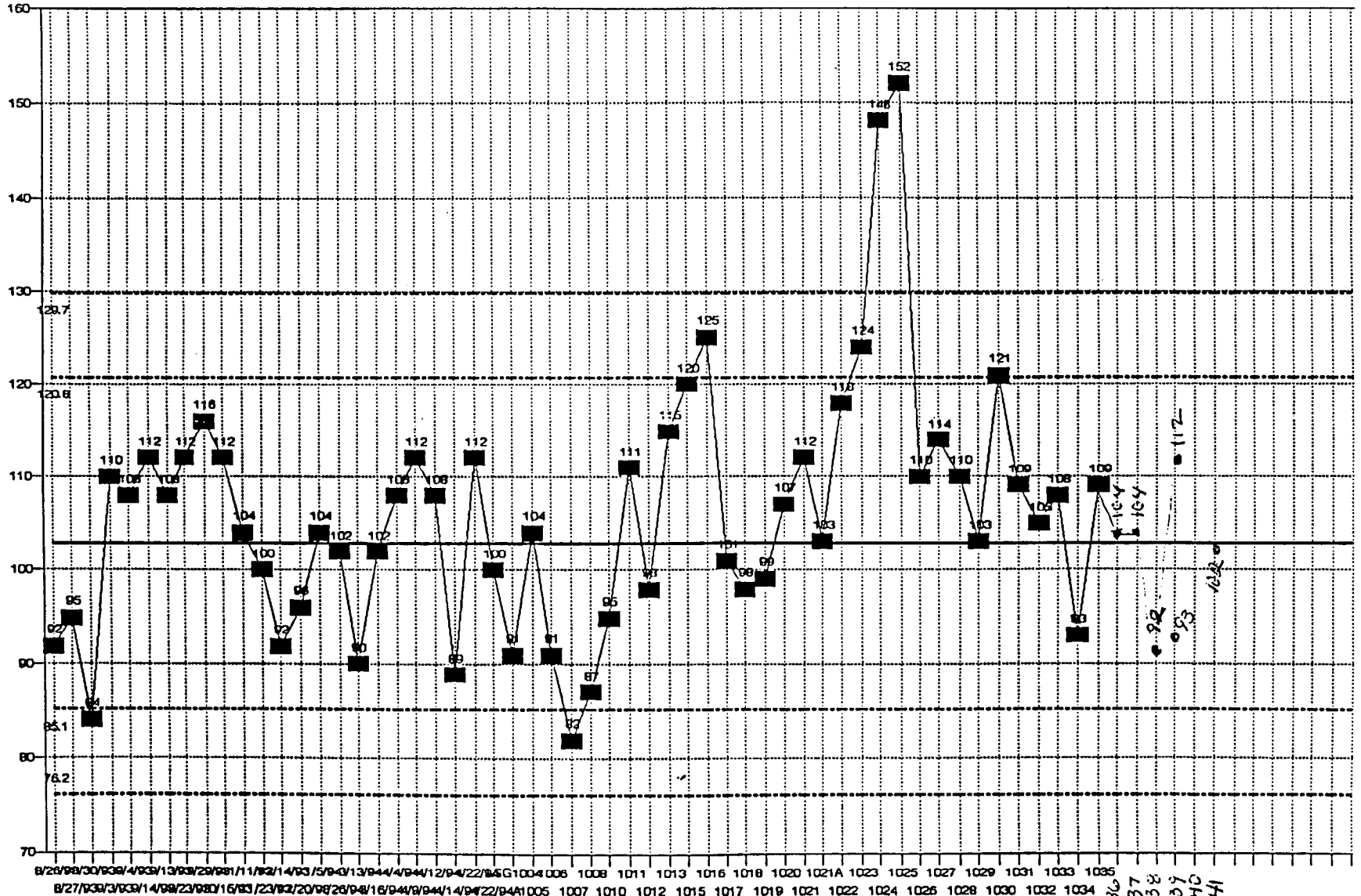
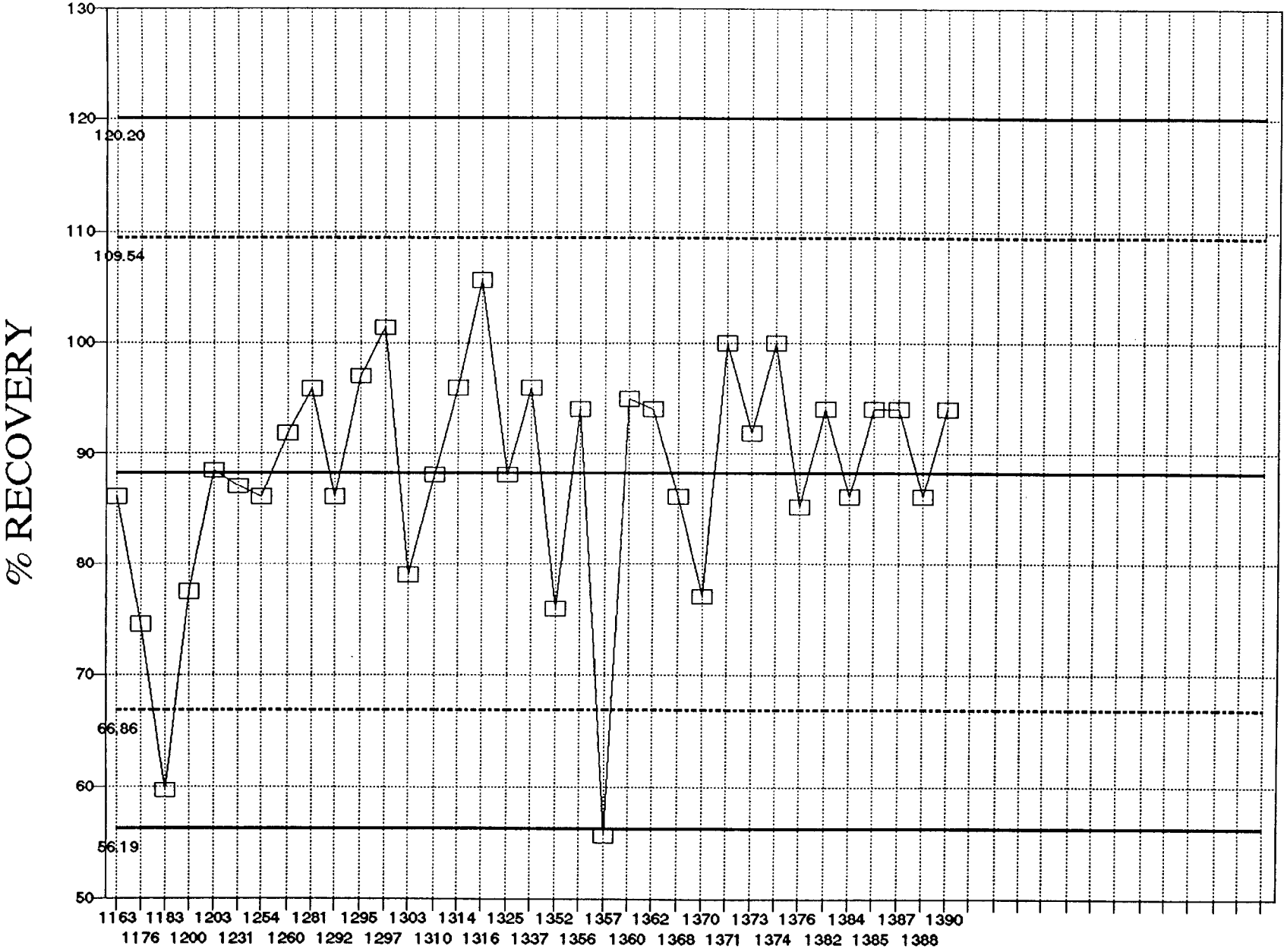
TOTAL GAS LCS RECOVERIES
LIMITS SET 4/13/94



6000000

O&G GRAV-S LCS RECOVERIES

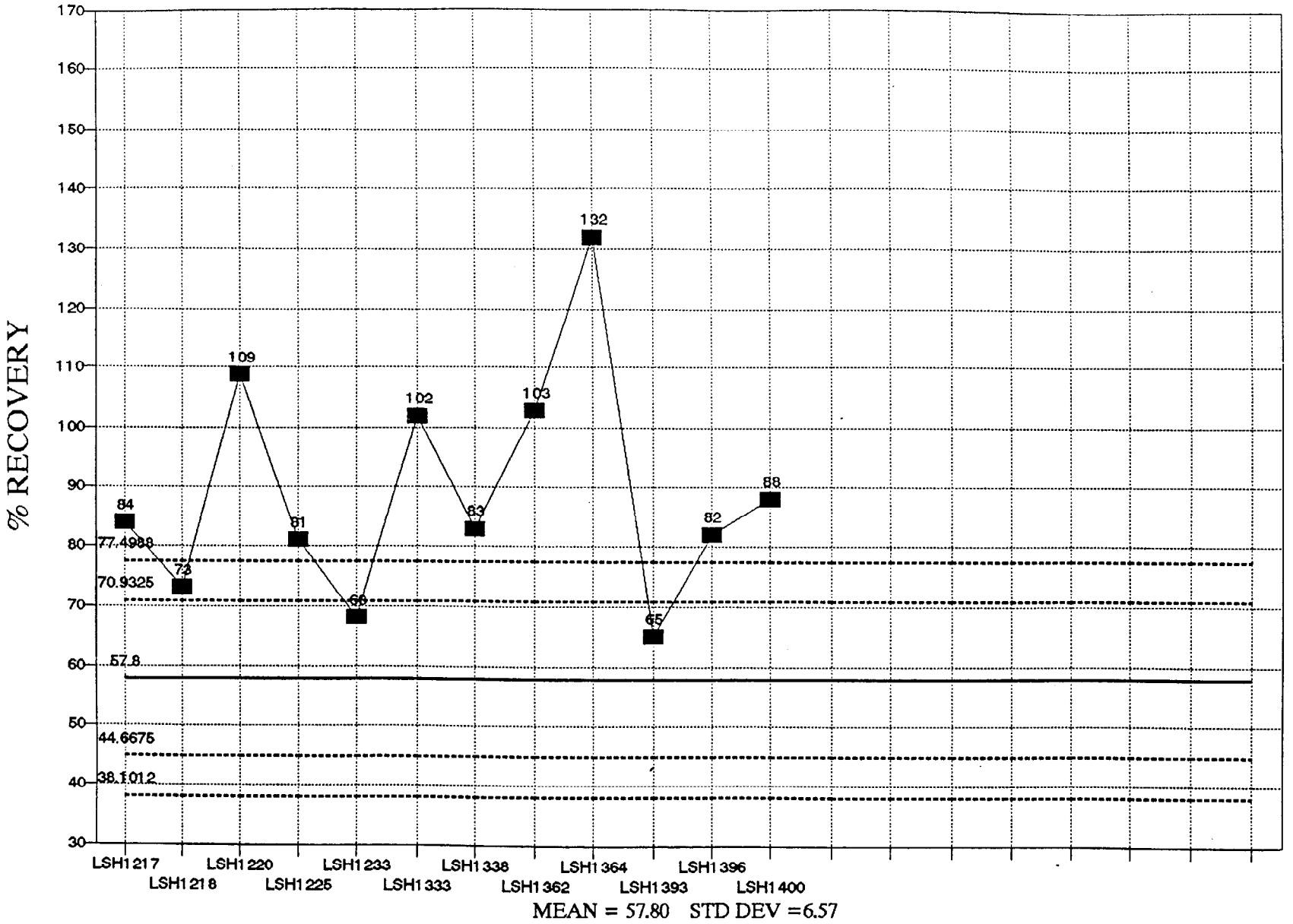


MEAN = 87.5 STD DEV = 11.3

0000010

PHC MEDIUM SOLIDS - DIESEL

SPK REC LIMS SET195-PPCBCHT\PHCMS195



MEAN = 57.80 STD DEV =6.57

OHM Remediation Services Corp.

LAB COPY

CHAIN-OF-CUSTODY RECORD

Form 0015
Field Technical Services
Rev. 08/8

166687

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526

PROJECT NAME	PROJECT LOCATION
Camp Lejeune DO44	Camp Geiger, NC

PROJ. NO.	PROJECT CONTACT	PROJECT TELEPHONE NO.
16487	Rakesh Mishra	910-451-2599

CLIENT'S REPRESENTATIVE	PROJECT MANAGER/SUPERVISOR
	Jim Dunn / Randy Smyth

45562

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS): TPH-GRO	TPH-DRO	TCLP Metals, TCLP Semi-Volatile	TCLP Volatile	RCRA Haz Waste Char.	O&G	PCB / Total Lead	Volatile + BTEX (8245)	REMARKS
1	CLJ44-CA-058	10/2	0645	X		Clean Soil from Pile 14 of Area A	4	X	X	X	X	X				
2	CLJ44-CA-059	10/2	0650	X		Clean Soil from Pile 15 of Area A	4	X	X	X	X	X				
3	CLJ44-CA-060	10/2	0700	X		Clean Soil from Pile 16 of Area A	4	X	X	X	X	X				
4	CLJ44-CC-061	10/2	0715	X		Contaminated Soil from Pile 34	4	-1 X	-8 X				-8 X			
5	CLJ44-CC-062	10/2	0720	X		Contaminated Soil from Pile 35	4	-2 X	-9 X	X	X	X	-7 X	X	X	
6	CLJ44-CC-063	10/2	0725	X		Contaminated soil from Pile 36	4	-3 X	-10 X				-10 X			
7	CLJ44-CC-064	10/2	0730	X		Contaminated soil from Pile 37	4	-4 X	-11 X				-11 X			
8	CLJ44-CC-065	10/2	0735	X		Contaminated Soil from Pile 38	4	-5 X	-12 X				-12 X			
9	CLJ44-CC-066	10/2	0740	X		Contaminated Soil from Pile 39	4	-6 X	-13 X				-13 X			
10	CLJ44-CC-067	10/2	0745	X		Contaminated soil from Pile 40	4	-7 X	-14 X	X	X	X	-14 X	X	X	

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-10		Fed Ex	10/2	1330
2		Fed Ex	Gretchen From the PACE	10/3/05	0715
3					
4					

REMARKS Send Samples to Pace Lab
Item # 1-3 3days TAT
Item # 4-10 24 hr. TAT (except TCLP analysis)

SAMPLER'S SIGNATURE

0000012

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October 23, 1995

OHM Remediation Services Corporation
5335 Triangle Parkway
Suite 450
Norcross, GA 30092

SAMPLE DELIVERY GROUP NARRATIVE

Case: OHMRC
SDG: LJN27
Laboratory: PACE New England - New Hampshire of Hampton, NH
Lab Numbers: 45563
Protocol: SW846 Methods. NEESA C deliverables. No diskette.

Sample Receipt: These samples were received at PACE, Inc. on October 3, 1995. Laboratory sample numbers were assigned for test parameters as listed on the Sample Table which follows this narrative. The sample shipment was checked for custody seal integrity and cooler temperature. Samples were checked for appropriate preservation and accuracy against the Chains-of-Custody provided. Other than the exceptions noted below, samples were received between 2-6° C and in good condition. PACE Sample Receipt Condition Reports can be found with the Chains-of-Custody.

Shipment received 10/3/95 (45563): Samples were received in two coolers and were assigned PACE# 45562 and 45563. A temperature blank was not included with the shipment, therefore the cooler temperature could not be verified upon receipt of samples at PACE. The samples were received cool, and had been packed on ice. Samples assigned PACE Lab# 45563 were logged in for a 3-day turnaround per the request on the COC. Samples assigned PACE Lab# 45562 were logged in for 24-hour turnaround per the request on the COC.

GRO Analysis: Analyses proceeded without difficulty. Matrix spikes and duplicates met all acceptance criteria.

DRO Analysis: Samples were analyzed within holding time and in accordance with SW846 methods. The method blank contained nontarget interferences which may have caused a high bias in sample quantitation. Sample 45563-23 contained petroleum hydrocarbons with a pattern that did not match diesel. The hydrocarbons were quantitated because they were within the diesel range. Results should be used with due consideration.

Volatiles Analysis: Samples were analyzed within holding time and in accordance with SW846 methods. The blanks "BV1125C" and "BG100595A1" contained low levels of methylene chloride. Blank "BG101395B1" contained low levels of methylene chloride and acetone. The sample results for these analytes should be used with due consideration. Sample 45563-14 had a low internal standard (IS) recovery. This was confirmed as a matrix effect by a second analysis conducted outside of holding time.

TCLP Semivolatiles Analysis: Samples were analyzed within holding time and in accordance with SW846 methods. NEESA control charts revealed low recoveries for surrogates 2-fluorophenol and phenol-d5. This was a consequence of using the separatory funnel extraction method in order to meet rapid turnaround times. Separatory funnels do not extract these two surrogates as well as continuous extractors do, as shown by the control charts. However, data quality was maintained.

Metals Analysis: Samples were analyzed within holding time and in accordance with SW846 methods for the TCLP list of eight metals (Ag, As, Ba, Cd, Cr, Hg, Pb, Se). Sample matrices consisted of one water, two solids, and five TCLP extracts run as waters. Sample QC analyses were not requested for this SDG. Due to software restrictions, sample field identifications were shortened to six characters. The correct full identifications have been included as comments on the Form I sample data. NEESA control charts showed acceptable recoveries for laboratory control samples.

P.O. Box 2130
One Lafayette Road
Hampton, NH 03842
TEL: 603-926-7777
FAX: 603-926-7939

Samples were prepared in two ICP batches and one mercury batch. Analyses were conducted in four sequences on three instruments:

TJA01 10/03/95 for Pb on the solids.
TJA01 10/06/95 for As, Ba, Cd, Cr, Pb, Se, Ag.
TJA02 10/10/95 for As, Pb, Se on the water sample.
PE02 10/05/95 for Hg.

The TJA02 instrument achieves lower detection limits for As, Pb, and Se than the TJA01. Therefore, the non-TCLP sample (water) was run on the TJA02 instrument for these elements. The higher detection limits of TJA01 were acceptable for the TCLP extracts with high regulatory limits, and for the solids which contained lead above the TJA01 IDL. Forms have different detection limits depending on which instrument was used. Standards met all compliance criteria. Method blanks were free of contaminants but a few instrument blanks contained low levels of mercury, lead, or arsenic. Because TCLP regulatory limits are so much higher than CLP reporting limits, the blank contamination was not believed to affect sample results. The laboratory control samples showed acceptable analyte recoveries. No difficulties were encountered during metals analysis.

Conventional Parameters Analysis: Analyses proceeded without difficulty. Matrix spikes and duplicates met all acceptance criteria.

PCB Analysis: Analyses proceeded without difficulty. Matrix spikes and duplicates met all acceptance criteria.

Statement of Compliancy and Data Authorization

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Richard E. Wellman — 10/23/95

Richard Wellman, Operations Manager
PACE Incorporated, New England-New Hampshire

October 23, 1995

P.O. Box 2130
One Lafayette Road
Hampton, NH 03842
TEL: 603-926-7777
FAX: 603-926-7939

Case: _____

SDG: _____

TABLE 1: MANUAL INTEGRATIONS PERFORMED

EPA ID	LAB ID	FILE NUMBER	COMPOUNDS MANUALLY INTEGRATED
	VSTD010	AG4614	2-chloroethylvinylether Chloromethane

Manual Integrations were performed as required to correct faulty integrations made by the automated software. The manual integrations began and ended at the points where the peak intersected the baseline, in order that the entire peak and only the peak would be integrated. Hardcopies of the manually-integrated peaks have been provided with the data.

Analyst Signature
PACE Incorporated

Date

c:\document\manint.frm

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NEW ENGLAND - NEW HAMPSHIRE LABORATORY
SAMPLE RECEIPT CONDITION REPORT
Tel. (603) 926-7777
FAX (603) 926-7939

LAB# 45563
PAGE 1 of 2
COOLER 1 of 2
COC#
SDG# LJN27
CASE# OHMRC

CLIENT OHM
DATE/TIME RECEIVED 10/3/95 0915
DELIVERED BY Fed-Ex
RECEIVED BY Rosanne Tranchemontagne
LIMS ENTRY BY CMF
TRANSCRIPTION REVIEW BY CMF
LIMS REVIEW BY/PM CMF

	NA	YES	EXCEPTION	COMMENT	RESOLUTION
1. CUSTODY SEALS PRESENT/INTACT	☑	☐	☐		
2. CHAIN OF CUSTODY PRESENT IN THIS COOLER	☐	☑	☐		
3. CHAIN OF CUSTODY SIGNED	☐	☑	☐		
4. CHAIN OF CUSTODY MATCHES SAMPLES	☐	☑	☐		
5. SAMPLES RECEIVED AT 2° - 6° C (Ice) Ice Packs Present? (Y) or N	☐	☐	☑	No Temp Blank - Samples Cool to Touch	
6. VOLATILES FREE OF HEAD SPACE	☐	☑	☐		
7. TRIP BLANK PRESENT IN THIS COOLER	☐	☑	☐		
8. PROPER SAMPLE CONTAINERS AND VOLUME	☐	☑	☐		
9. SAMPLES WITHIN HOLD TIME	☐	☑	☐		
10. SAMPLES PROPERLY PRESERVED	☐	☑	☐		

11. ANALYTICAL PROGRAMS (circle one) COMMERCIAL CLP EPA-CLP NYASP NJ ISRA (NEESA -C) AFCEE Other
12. NUMBER OF PACE FILTRATIONS:
13. CORRECTIVE ACTIONS REPORT #

Log-in Notes:

Rec'd in Cooler #1
all VOA H2O vials
all parameters for CLJ-CU-060

CLIENT AUTHORIZATION SIGNATURE DATE

pace INCORPORATED
ENVIRONMENTAL LABORATORIES

NEW ENGLAND - NEW HAMPSHIRE LABORATORY
SAMPLE RECEIPT CONDITION REPORT
Tel. (603) 926-7777
FAX (603) 926-7939

LAB# 45563
PAGE 2 of 2
COOLER 2 of 2
COC#
SDG# LJN27
CASE# OHMRC

CLIENT OHM
DATE/TIME RECEIVED 10/3/95 0915
DELIVERED BY Fed-Ex
RECEIVED BY Gretchen Franzheim
LIMS ENTRY BY GMF
TRANSCRIPTION REVIEW BY GMF
LIMS REVIEW BY/PM GMF

	NA	YES	EXCEPTION	COMMENT	RESOLUTION
1. CUSTODY SEALS PRESENT/INTACT	☑	☐	☐		
2. CHAIN OF CUSTODY PRESENT IN THIS COOLER	☐	☑	☐		
3. CHAIN OF CUSTODY SIGNED	☐	☑	☐		
4. CHAIN OF CUSTODY MATCHES SAMPLES	☐	☑	☐		
5. SAMPLES RECEIVED AT 2° - 6° C (Ice) Ice Packs Present? (Y) or N	☐	☐	☑	NO TEMP BLANK - SAMPLES COOL TO TOUCH	
6. VOLATILES FREE OF HEAD SPACE	☐	☑	☐		
7. TRIP BLANK PRESENT IN THIS COOLER	☑	☐	☐		
8. PROPER SAMPLE CONTAINERS AND VOLUME	☐	☑	☐		
9. SAMPLES WITHIN HOLD TIME	☐	☑	☐		
10. SAMPLES PROPERLY PRESERVED	☐	☑	☐		

11. ANALYTICAL PROGRAMS (circle one) COMMERCIAL CLP EPA-CLP NYASP NJ ISRA (NEESA -C) AFCEE Other
12. NUMBER OF PACE FILTRATIONS:
13. CORRECTIVE ACTIONS REPORT #

Log-in Notes:

All in Cooler #2

All sample containers for CLJ44-CU-058
CLJ44-CU-059

4 - 1 Liter containers for CLJ44-CU-068-RB

CLIENT AUTHORIZATION SIGNATURE DATE

SAMPLE TABLE

CLIENT ID.	MATRIX	PACE #	PARAMETERS
CLJ44-CU-058	SOLID	45563-001	TOTAL GASOLINE
		45563-006	TOTAL DIESEL
		45563-009	GC/MS VOA
			ACID EXTRACTABLES
			BASE/NEUTRAL EXTRACTABLES
			TCLP VOA EXTRACT
			TCLP ORGANICS EXTRACT
			CORROSIVITY
			FLASH POINT
			RELEASABLE CYANIDE
			RELEASABLE SULFIDE
			TCLP METALS EXTRACTION
			Ba, Cd, Cr, Pb, Hg, Ag, As, Se
CLJ44-CU-059	SOLID	45563-002	TOTAL GASOLINE
		45563-007	TOTAL DIESEL
		45563-010	GC/MS VOA
			ACID EXTRACTABLES
			BASE/NEUTRAL EXTRACTABLES
			TCLP VOA EXTRACT
			TCLP ORGANICS EXTRACT
			CORROSIVITY
			FLASH POINT
			RELEASABLE CYANIDE
			RELEASABLE SULFIDE
			TCLP METALS EXTRACTION
			Ba, Cd, Cr, Pb, Hg, Ag, As, Se
CLJ44-CU-060	SOLID	45563-003	TOTAL GASOLINE
		45563-008	TOTAL DIESEL
		45563-011	GC/MS VOA
			ACID EXTRACTABLES
			BASE/NEUTRAL EXTRACTABLES
			TCLP VOA EXTRACT
			TCLP ORGANICS EXTRACT
			CORROSIVITY
			FLASH POINT
			RELEASABLE CYANIDE
			RELEASABLE SULFIDE
			TCLP METALS EXTRACTION
			Ba, Cd, Cr, Pb, Hg, Ag, As, Se
CLJ44-CC-068-RB	WATER	45563-004	TOTAL GASOLINE
		45563-018	Ba, Cd, Cr, Pb, Hg, Ag, As, Se
		45563-019	ACID EXTRACTABLES

SAMPLE TABLE
(CONTINUED)

CLIENT ID.	MATRIX	PACE #	PARAMETERS
CLJ44-CC-068-RB	WATER	45563-019	BASE/NEUTRAL EXTRACTABLES
		45563-020	GC/MS VOA
		45563-021	CORROSIVITY
			FLASH POINT
			RELEASABLE CYANIDE
			RELEASABLE SULFIDE
		45563-023	TOTAL DIESEL
CLJ44-CC-069-TB	WATER	45563-005	TOTAL GASOLINE
		45563-022	GC/MS VOA
CLJ44-CC-062	SOLID	45563-012	GC/MS VOA
			ACID EXTRACTABLES
			BASE/NEUTRAL EXTRACTABLES
			TCLP VOA EXTRACT
			TCLP ORGANICS EXTRACT
			CORROSIVITY
			FLASH POINT
			RELEASABLE CYANIDE
			RELEASABLE SULFIDE
			TCLP METALS EXTRACTION
			Ba, Cd, Cr, Pb, Hg, Ag, As, Se
		45563-014	GC/MS VOA
			PCBS
			Pb
CLJ44-CC-067	SOLID	45563-013	GC/MS VOA
			ACID EXTRACTABLES
			BASE/NEUTRAL EXTRACTABLES
			TCLP VOA EXTRACT
			TCLP ORGANICS EXTRACT
			CORROSIVITY
			FLASH POINT
			RELEASABLE CYANIDE
			RELEASABLE SULFIDE
			TCLP METALS EXTRACTION
			Ba, Cd, Cr, Pb, Hg, Ag, As, Se
		45563-016	GC/MS VOA
			PCBS
			Pb

Field Identification: CLJ44-CU-058 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	12	45563-001	10/03/95	BG1041A	8015(mod)/2
Total Diesel (ug/g)	330	3.5	45563-006	10/05/95		8015(mod),3350/2
Corrosivity (pH, units)	6.8		45563-009	10/04/95	365	2.1.2/2
Releasable Sulfide (mg/Kg)	BDL	50	45563-009	10/04/95	308	7.3.4.2/2
Releasable Cyanide (mg/Kg)	BDL	1	45563-009	10/05/95	308	7.3.3.2/2
Flash Point (degrees F)	>150	50	45563-009	10/04/95	340	1010/2

Field Identification: CLJ44-CU-059 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	12	45563-002	10/03/95	BG1041A	8015(mod)/2
Total Diesel (ug/g)	720	35	45563-007	10/06/95		8015(mod),3350/2
Corrosivity (pH, units)	5.1		45563-010	10/04/95	365	2.1.2/2
Releasable Sulfide (mg/Kg)	BDL	50	45563-010	10/04/95	308	7.3.4.2/2
Releasable Cyanide (mg/Kg)	BDL	1	45563-010	10/05/95	308	7.3.3.2/2
Flash Point (degrees F)	>150	50	45563-010	10/04/95	340	1010/2

Field Identification: CLJ44-CU-060 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	12	45563-003	10/03/95	BG1041A	8015(mod)/2
Total Diesel (ug/g)	1500	69	45563-008	10/06/95		8015(mod),3350/2
Corrosivity (pH, units)	4.6		45563-011	10/04/95	365	2.1.2/2
Releasable Sulfide (mg/Kg)	BDL	50	45563-011	10/04/95	308	7.3.4.2/2
Releasable Cyanide (mg/Kg)	BDL	1	45563-011	10/05/95	308	7.3.3.2/2
Flash Point (degrees F)	>150	50	45563-011	10/04/95	340	1010/2

Field Identification: CLJ44-CC-068-RB Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/L)	BDL	100	45563-004	10/03/95		8015(mod)/2
Corrosivity (pH, units)	5.8		45563-021	10/04/95	365	2.1.2/2
Releasable Sulfide (mg/Kg)	BDL	50	45563-021	10/04/95	308	7.3.4.2/2
Releasable Cyanide (mg/Kg)	BDL	1	45563-021	10/05/95	308	7.3.3.2/2
Flash Point (degrees F)	>150	50	45563-021	10/04/95	340	1010/2
Total Diesel (ug/L)	180	100	45563-023	10/06/95		8015(mod),3350/2

Results for solid samples expressed on a dry weight basis with the exception of releasables, which are expressed on a weight as received basis.

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Field Identification: CLJ44-CC-069-TB Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/L)	BDL	100	45563-005	10/04/95		8015(mod)/2

Field Identification: CLJ44-CC-062 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Corrosivity (pH, units)	5.1		45563-012	10/04/95	365	2.1.2/2
Releasable Sulfide (mg/Kg)	BDL	50	45563-012	10/04/95	308	7.3.4.2/2
Releasable Cyanide (mg/Kg)	BDL	1	45563-012	10/05/95	308	7.3.3.2/2
Flash Point (degrees F)	>150	50	45563-012	10/04/95	340	1010/2

Field Identification: CLJ44-CC-067 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Corrosivity (pH, units)	5.1		45563-013	10/04/95	365	2.1.2/2
Releasable Sulfide (mg/Kg)	BDL	50	45563-013	10/04/95	308	7.3.4.2/2
Releasable Cyanide (mg/Kg)	BDL	1	45563-013	10/05/95	308	7.3.3.2/2
Flash Point (degrees F)	>150	50	45563-013	10/04/95	340	1010/2

Results expressed on a weight as received basis.

References: 2) EPA SW 846, 3rd Edition

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QUALITY CONTROL DATA
TOTAL GASOLINE

BLANK DATA

Laboratory Number: BG1041A
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/04/95
Matrix: SOLID

COMPOUND	CONCENTRATION ug/g	DETECTION LIMIT ug/g
GASOLINE	BDL	12

MATRIX SPIKE RECOVERY

Laboratory Number: LS-G1041
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/04/95
Matrix: SOLID

COMPOUND	ug/g IN SAMPLE	ug/g SPIKE	ug/g FOUND	%RECOVERY
GASOLINE	0	50	51	102

METHOD REFERENCE: METHOD 8015 (MODIFIED)

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THE ASSURANCE OF QUALITY

QUALITY CONTROL DATA
TOTAL GASOLINE

BLANK DATA

Laboratory Number: BG100395TGA
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/03/95
Matrix: WATER

COMPOUND	CONCENTRATION ug/L	DETECTION LIMIT ug/L
GASOLINE	BDL	100

MATRIX SPIKE DUPLICATE RECOVERY

Laboratory Number: LW100395TGA
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/03/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
GASOLINE	0	500	570	114

METHOD REFERENCE: METHOD 8015 (MODIFIED)

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THE ASSURANCE OF QUALITY

QUALITY CONTROL DATA
TOTAL GASOLINE

BLANK DATA

Laboratory Number: BG100495TGA
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/04/95
Matrix: WATER

COMPOUND	CONCENTRATION ug/L	DETECTION LIMIT ug/L
GASOLINE	BDL	100

MATRIX SPIKE DUPLICATE RECOVERY

Laboratory Number: LW100495TGA
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/04/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
GASOLINE	0	500	556	111

METHOD REFERENCE: METHOD 8015 (MODIFIED)

pace INCORPORATED THE ASSURANCE OF QUALITY

Calibration Curve for TBAS

Titles

Test: TBAS

Date: 09/26/95

X-Axis: CONC.

Y-Axis: AREA

	Conc.	Abs.	Calc-Abs.
1	100	3570006	3856227
2	200	6327539	6710581
3	500	14045613	15273642
4	1000	33362006	29545409
5	2000	55388382	58088945
6	3000	87710732	86632480

Regression Output:

Constant	1001874
Std Err of Y Est	2466208
R Squared	0.995491
No. of Observations	6
Degrees of Freedom	4

X Coefficient(s) 28543.54

Std Err of Coef. 960.4553

Slope = 28543.54

Y-Intercept = 1001874

Calibration Curve for BFB SURR

Titles

Test: BFB SURR
Date: 09/26/95
X-Axis: CONC
Y-Axis: AREA

	Conc.	Abs.	Calc-Abs.
1	10	223616	204423.4
2	20	402761	401291.7
3	50	786999	791896.7
4	100	2010474	1976238

Regression Output:

Constant	7555.031
Std Err of Y Est	69779.55
R Squared	0.994998
No. of Observations	4
Degrees of Freedom	2
X Coefficient(s)	19686.83
Std Err of Coef.	976.8508

Slope = 19686.83
Y-Intercept = 7555.031

PACE INCORPORATED

CARBON SIX-CARBON TEN
Sample Name : VSTD1000 5ML

Report No :308.01

Instrument : GC05

Subseq/Sample/Bottle: 1/ 2/ 2

Sequence File: /DATA/GC05/SEQUENCE/G51003.SEQ
Method File : /DATA/GC05/METHOD/TCAC0926.MTH
Result File : /DATA/GC05/RESULT/G5CF115869.RES

Run Time : 37.83 Minutes Injected on 1912 030ct1995
Report Time : 0660 040ct1995
Run Status : RunStatusOK
EndOffBaseline
SpecialInteg

Timed Events	Time	Events	Logic	Value	EventUpdate
1	.869	EndIntegrateAtB	NoLogic	-1	True
2	5.245	SetBLandIntegra	NoLogic	-1	True
3	29.590	EndIntegrateAtB	NoLogic	-1	True
4	36.651	SetBLandIntegra	NoLogic	-1	True

Dil-Fact : 100.00% Sample Amt: 0.0000 Standard Amt: 1.0000

Pk#	RT	IB-tw	Factor	Area	Code	UG/L	Name
1	6.30			4474609	FF	134.2383	
2	7.72			1426223	PV	42.7867	
3	8.38			444697	VV	13.3409	
4	8.75			526505	VV	74.6220	C6 N-HEXANE
5	9.06			919894	VV	27.5968	
6	9.95			330001	VV	9.9000	
7	10.61			95567	PV	2.8670	
8	11.24			828028	VV	24.7809	
9	11.61			1705031	VV	51.1509	
10	11.85			868148	VV	26.0444	
11	12.48			1714313	VV	51.4294	
12	12.97			391710	VV	11.7513	
13	13.28			871360	VV	26.1408	
14	13.47			486264	VV	14.5879	
15	13.69			61542	VV	1.8462	
16	14.04			228945	VV	6.8683	
18	15.06			191308	VV	5.7392	
19	15.28			353372	VV	10.6012	
20	15.93			483839	VV	14.5152	
21	16.51			152059	VV	4.5618	
22	16.75			661491	VV	19.8447	
23	17.30			1167180	VV	35.0154	
24	17.98			597691	VV	17.9307	
26	18.89			44318	VV	1.3295	
27	19.29			172750	PV	5.1825	
28	19.67			434975	VV	13.0492	
29	20.27			2530770	VV	75.9231	
30	20.78			108448	VV	3.2534	
31	21.18			226099	VV	6.7830	

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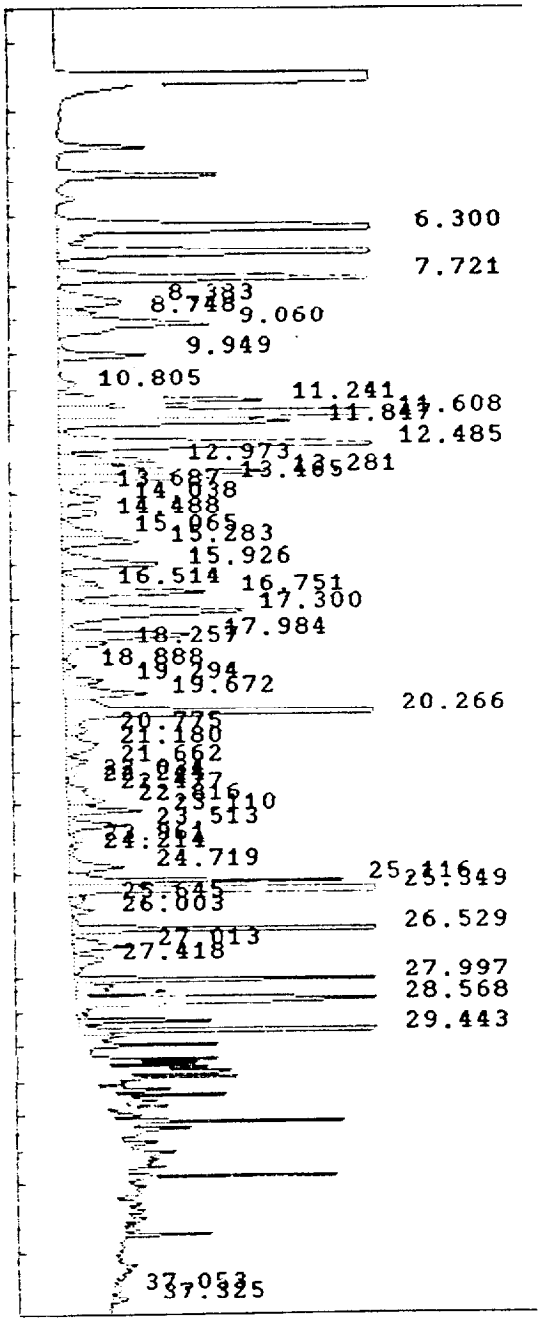
Pk#	RT	ID-tm	Factor	Area	Code	UG/L	Name
32	21.66			92873	VV	2.7862	
33	22.03			34163	VV	1.0249	
34	22.24			3638	VV	.1092	
35	22.48			67221	VV	2.0166	
36	22.82			204962	VV	6.1488	
37	23.11			252012	VV	7.5603	
38	23.51			226965	VV	6.8090	
39	23.96			55182	VV	1.6554	
40	24.21			2800B	VV	.8402	
41	24.72			244643	VV	7.3393	
42	25.12			660238	VV	19.8071	
43	25.35			2210291	VV	66.3087	
44	25.65			67868	VV	2.0360	
45	26.00			72100	VV	2.1630	
46	26.53			822625	PV	24.6788	
47	27.01			283478	VV	8.5043	
48	27.42			175096	VV	5.2529	
49	28.00	#28.02		1205303	VV	1205303.0000	4 BROMOFLOUROBENZENE
50	28.57			1722135	VV	51.6640	
51	29.44			1314851	VB	39.4455	
52	37.05			23962	BV	.7189	
53	37.33			30765	PB	.9229	

Total Area DRO only : 32293508



10 54/1000 105% Rec

1510 1000
G51003
TG-A50926
G5CF115869

0000016

PACE INCORPORATED

CARBON SIX-CARBON TEN
Sample Name : VSTD1000 5ML

Report No :327.01

Instrument : GC05

Subseq/Sample/Bottle: 1/ 2/ 2

Sequence File: /DATA/GC05/SEQUENCE/G51004.SEQ
Method File : /DATA/GC05/METHOD/TGRS0926A.MTH
Result File : /DATA/GC05/RESULT/G5CF115808.RES

Run Time : 37.83 Minutes Injected on 1028 04Oct1995
Report Time : 1455 04Oct1995
Run Status : RunStatusOK
EndOffBaseline

Timed Events	Time	Events	Logic	Value	EventUpdate
1	.860	EndIntegrateAtB	NoLogic	-1	True
2	5.245	SetBLandIntegra	NoLogic	-1	True
3	29.590	EndIntegrateAtB	NoLogic	-1	True
4	36.651	SetBLandIntegra	NoLogic	-1	True

Dil-Fact : 100.00% Sample Amt: 0.0000 Standard Amt: 1.0000

Pk#	RT	ID-tm	Factor	Area	Code	UG/L	Name
1	6.14			2466241	BV	73.9872	
2	6.50			88649	VV	2.6595	
3	6.85			1680344	VV	50.4103	
4	7.59			1422279	VV	42.6684	
5	8.26			451009	VV	13.5303	
6	8.62			2173353	VV	238.7230	C6 N-HEXANE
7	8.93			906095	VV	27.1815	
8	9.80			125456	VV	3.7637	
9	10.68			95941	PV	2.8782	
11	11.47			1675188	VV	50.2556	
12	11.70			849270	VV	25.4781	
13	12.33			1693253	VV	50.7976	
15	13.13			865220	VV	25.9566	
16	13.33			526822	VV	15.8047	
17	13.88			224525	VV	6.7357	
19	14.92			200121	VV	6.0036	
20	15.13			348875	VV	10.4662	
22	16.60			815102	VV	24.4531	
23	17.15			1176939	VV	35.3082	
24	17.83			604252	VV	18.1276	
26	18.73			44455	VV	1.3336	
27	19.14			170986	PV	5.1296	
28	19.53			436812	VV	13.1044	
29	20.12			2447754	VV	73.4326	
30	20.64			106081	VV	3.1824	
31	21.04			215820	VV	6.4746	
32	21.53			93100	VV	2.7930	
33	21.90			29033	VV	.8710	
34	22.12			1962	PV	.0589	
35	22.35			64089	VV	1.9227	

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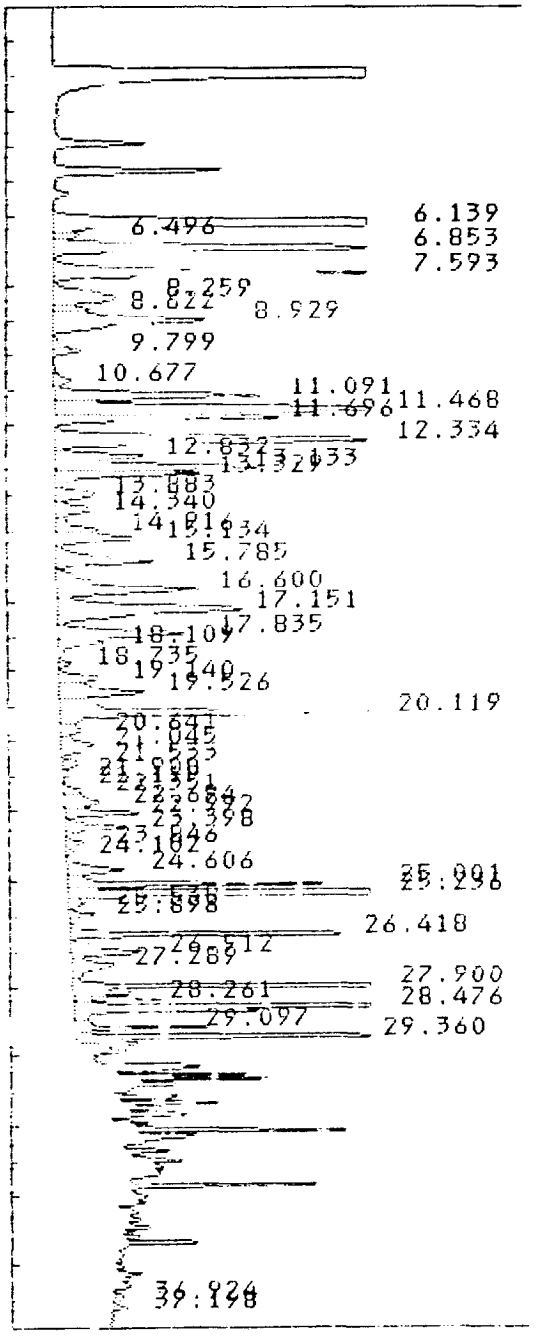
Pk#	RT	ID-tm	Factor	Area	Code	UG/L	Name
36	22.69			209041	VV	6.2712	
37	22.99			276093	VV	8.2828	
38	23.40			244440	VV	7.3332	
39	23.85			52901	VV	1.5870	
40	24.10			21908	VV	.6572	
41	24.61			247189	VV	7.4157	
42	25.00			647077	VV	19.4123	
43	25.24			2176942	VV	65.3083	
44	25.54			69823	VV	2.0947	
45	25.90			77932	VV	2.3380	
46	26.42			824332	PV	24.7300	
47	26.91			341238	PV	10.2371	
48	27.29			262733	VV	7.8820	
49	27.90	#27.90		1362988	VV	1362988.0000	4 BROMOFLOUROBENZENE
50	28.26			239829	VV	7.1949	69/50
51	28.48			1454295	VV	43.6289	
52	29.10			317678	VV	9.5304	
53	29.36			1237905	VB	37.1371	
54	36.92			41333	BV	1.2400	
55	37.20			36445	PB	1.0933	

Total Area DRO only : 32141100

1643/1000



VSTD1000 5ml
G51004
TA50926A
G5CF115888

PACE New England
VOA SOILS PREP

TOTAL GASOLINE

Date/Init	Smpl Ct.	SAMPLE #	Prep Wt. (g)	Pan #	Pan Wt. (g)	Wet Wt. + Pan (g)	Dry Wt. + Pan (g)	% Solid	COMMENTS
CF 9/29/95		BG1040A	4.0						MeOH Lot#
		LS1040A	4.0						
		45543-1	4.0						
		-2	4.3						
		-3	4.3						
		-4	4.4						
		-5	4.4						
		~~-6~~ WATER							
		45542-1	4.0						
		-2	4.0						
CF 10/2/95		BG1039B	4.0						
		45513-1 MS RQ	4.0						
		-1 MSD RQ	4.0						
CF 10/3/95		BG1041A	4.0						
		LS1041A	4.0						
		45562-1	4.0						
		2	4.2						
		3	4.4						
		4	4.0						
		5	4.1						
		6	4.4						
		7	4.5						
		45563-1	4.3						
		-2	4.4						
		-3	4.3						

CF 10/5/95

Surrogate ~~V6398~~ V6461
Spike V6399 V6462

PACE New England
VOA Screening **Analyst/Date** CF 10/03/95

GC05			SCRNA		GC04			SCRNB	
FRN	tube	Sample#	Vol.	Comments	FRN	tube	Sample#	Vol.	Comments
G5CF115867	1	BAKE	/		G4CF114238		Blank	5ml	
68	1	LW100395TCA	5ml	BOV			G4std Vstd100	5ml	
69	2	VSTD1000	5ml	1054/1000 105%Rec					
70	3	LW100395TCA	5ml	519/500 104%Rec					
71	4	BG1041A	100ml	NL Not BOV					
72	5	45562-1	20ml	NL 100ml					
73	6	-2	20ml	NL 100ml					
74	7	3	20ml	NL 50ml					
75	8	4	↓	NL 100ml					
76	9	5	↓	NL 40ml					
77	10	6	↓	NL 100ml					
78	1	7	↓	NL 100ml					
79	2	45562-1	100ml	NL 100ml					
80	3	-2	100ml	✓					
81	4	-4	100ml	NL 100ml					
82	5	45563-1	100ml	✓					
83	6	-2	↓	✓					
84	7	3	↓	✓					
85	8	LS1041	100ml	419/400 102%Rec					
86	9	45563-~~2~~ 4 CF 10/6/95	5ml	✓	pH Neutral				

PACE New England
VOA Screening Analyst/Date 01 10/4/95

GC05		SCRNA			GC04		SCRNB		
FRN	tube	Sample#	Vol.	Comments	FRN	tube	Sample#	Vol.	Comments
6SCF115887	1	BG10049STGA		BDL					
88	2	VSTD1000		1043/1000 1ug/ml					
89	3	LW10049STGA		553/500 1ug/ml					
90	4	BG1041A		BDL					
91	5	45562-3	50ml	✓					
92	6	-5	40ml	✓					
93	7	45562-4	100ml	✓					
94	8	-6	100ml	✓					
95	9	-7	100ml	✓					
96	10	45563-4	5ml	✓	not run -4 = -20				
6SCF115887	1	-5	5ml						
88	2	45562-1	100ml						
99	3	45552-1	5ml	5ml LR	624 screens				
900	4	45541-1	500µl	5ml					
1	5	45537-1	10ml	20ml LR					
2	6	45538-1	10ml	10ml LR					
3	7	45539-1	20ml	100ml LR					
4	8	45547-1	500µl	5ml LR					
5	9	45524-1		5ml LR					
6	10	2		5ml					
7	11	3		5ml					
8	12	4		5ml LR					
9	13	5		5ml					
10	14	45581-1	5ml	25ml					
	15	2		NOT LOADED					
	16	3							
	17	4							

QUALITY CONTROL DATA
PETROLEUM HYDROCARBONS BY GCFID

BLANK DATA

Laboratory Number: B-H1401
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/05/95
Matrix: SOLID

HYDROCARBON TYPE	CONCENTRATION ug/g	DETECTION LIMIT ug/g
DIESEL	BDL	3

MATRIX SPIKE RECOVERY

Laboratory Number: LSH1401
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/05/95
Matrix: SOLID

COMPOUND	ug/g SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
DIESEL	0	33.6	21.2	63

METHOD REFERENCE: EPA SW 846, 3RD EDITION METHOD 8015 (MODIFIED) AND 3350

pace INCORPORATED THE ASSURANCE OF QUALITY

QUALITY CONTROL DATA
PETROLEUM HYDROCARBONS BY GCFID

BLANK DATA

Laboratory Number: B-H1408
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/05/95
Matrix: WATER

HYDROCARBON TYPE	CONCENTRATION ug/L	DETECTION LIMIT ug/L
DIESEL	134	100

MATRIX SPIKE RECOVERY

Laboratory Number: LSH1408
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/05/95
Matrix: SOLID

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
DIESEL	0	1007	669	67

METHOD REFERENCE: EPA SW 846, 3RD EDITION METHOD 8015 (MODIFIED) AND 3350

pace INCORPORATED
THE ASSURANCE OF QUALITY

PACE INCORPORATED
Organics Extraction
SOLIDS PREP LOG

REVIEWED BY JBH 10/04/95

PROTOCOL: EPA SW846

SOP #: _____

METHOD: SONC/3550

MATRIX: SOLID

TEST / LEVEL: PHC / low

COUNT	DATE/INIT	BLANK/SPIKES SAMPLE #	INIT WT (g)	SURR # AMT/CONC.	LCS MS/MSD	SPIKE # AMT/CONC.	NA2SO4 (g)	INTER VOL (ml)	ALIQUOT VOL (ml)	FINAL VOL (ml)
–	mc 10/03/95	BH1401	30.0	E1416 SOIL		N/A	60.0	10.0	10.0	
–		LS11401	30.0	10ppm	LS11401	E1394 SOIL				
16		45563-6	30.70		45513-2 MS/MSD	20ml N/A				
17		-7	30.24			50Bpm				
18		-8	30.98							
19		45542-3	30.63							
20		-4	30.03							

Send to MC 10/4/95

mc JBH 10/03/95

COMMENTS: _____

REVIEWED BY
JEK 10/06/95

PACE, INC. NEW ENGLAND - NEW HAMPSHIRE LAB
Organic Extractions
AQUEOUS PREP LOG

PROTOCOL: EPA SW846 LOGBOOK NO: 3

SOP: PACE NE-NH SOP 5501 METHOD: CONT/3520 (SEPF/3510)

MATRIX: AQUEOUS TEST/LEVEL: PHC /

COUNT	DATE/ INIT	CONT #	BLANK/ SPIKE/ SAMPLE #	INIT VOL (L)	SURR AMT/ CONC	LCS MS/MSD	SPIKE # AMT/CONC	INTER VOL (mL)	ALIQUOT VOL (mL)	FINAL VOL (mL)
—	WMA	N/A	BH1408	1.0	E1416			10.0	10.0	1.0
—	10/05/95	↓	LSH1408	1.0			E1894	↓	↓	↓
11	↓	↓	45563-23	1.0	↓	↓	↓	↓	↓	↓
12	↓	↓	45565-20	1.0	↓	↓	↓	↓	↓	↓
13	↓	↓	45593-9	1.0	↓	↓	↓	↓	↓	↓

JEK
WMA
10/05/95
DW

COMMENTS:

ENTERED INTO QUATTRO - WMA 10/06/95

PACE, Incorporated

INITIAL CALIBRATION SUMMARY

for /DATA/GC06/METHOD/DIESEL016.MTH
Method created: 09/28/95 09:17:56
Method updated: 09/29/95 15:21:21

Result files used for Calibration data:
Level 1 /DATA/GC06/RESULT/G6H18073.RES
Level 2 /DATA/GC06/RESULT/G6H18072.RES
Level 3 /DATA/GC06/RESULT/G6H18071.RES
Level 4 /DATA/GC06/RESULT/G6H18070.RES
Level 5 /DATA/GC06/RESULT/G6H18069.RES

#	Time	Analyte	Correlation	B_0 Intercept	B1 Slope	B2 Quadratic
1	3.73	SOLVENT PEAK	.00000	0.00	**********	**********
2	20.45	DIESEL FUEL	.99990	-225552.00	4495.09	.01

$$R = B_0 + B_1 X + B_2 X^2$$

PACE, Incorporated

INITIAL CALIBRATION SUMMARY

for /DATA/GC09/METHOD/DIESEL016.MTH
Method created: 09/28/95 08:43:34
Method updated: 09/28/95 16:41:38

Result files used for Calibration data:
Level 1 /DATA/GC09/RESULT/G9H18053.RES
Level 2 /DATA/GC09/RESULT/G9H18052.RES
Level 3 /DATA/GC09/RESULT/G9H18051.RES
Level 4 /DATA/GC09/RESULT/G9H18050.RES
Level 5 /DATA/GC09/RESULT/G9H18049.RES

#	Time	Analyte	Correlation	B_0 Intercept	B1 Slope	B2 Quadratic
1	3.73	SOLVENT PEAK	.00000	0.00	**********	**********
2	20.45	DIESEL FUEL	.99997	-376848.00	5767.67	.01

$$R = B0 + B1X + B2X^2$$

PACE, Incorporated
Continuing Calibration Report Fri Oct 20, 1995 2:44:19 pm

/DATA/GC06/RESULT/G6H18157.RES
/DATA/GC06/METHOD/DIESEL016A.MTH

Sample: 2013PPM DRO P8843
Injected: Thu Oct 5, 1995 12:55:09 pm

RetTime	Analyte	Found	Nominal	%D	Recovery
13.90	DIESEL FUEL	1847.20	2013.000	8.2	91.8

PACE, Incorporated
Continuing Calibration Report

Fri Oct 20, 1995 2:43:13 pm

/DATA/GC09/RESULT/G9H18137.RES
/DATA/GC09/METHOD/DIESEL016A.MTH

Sample: DRO 2013PPM P8843
Injected: Wed Oct 4, 1995 11:04:10 am

Rectime	Analyte	Found	Nominal	%D	Recovery
13.12	DIESEL FUEL	2022.94	2013.000	.5	100.5

PACE, Incorporated
Continuing Calibration Report Fri Oct 20, 1995 2:43:36 pm

/DATA/GC09/RESULT/G9H18163.RES
/DATA/GC09/METHOD/DIESEL016A.MTH

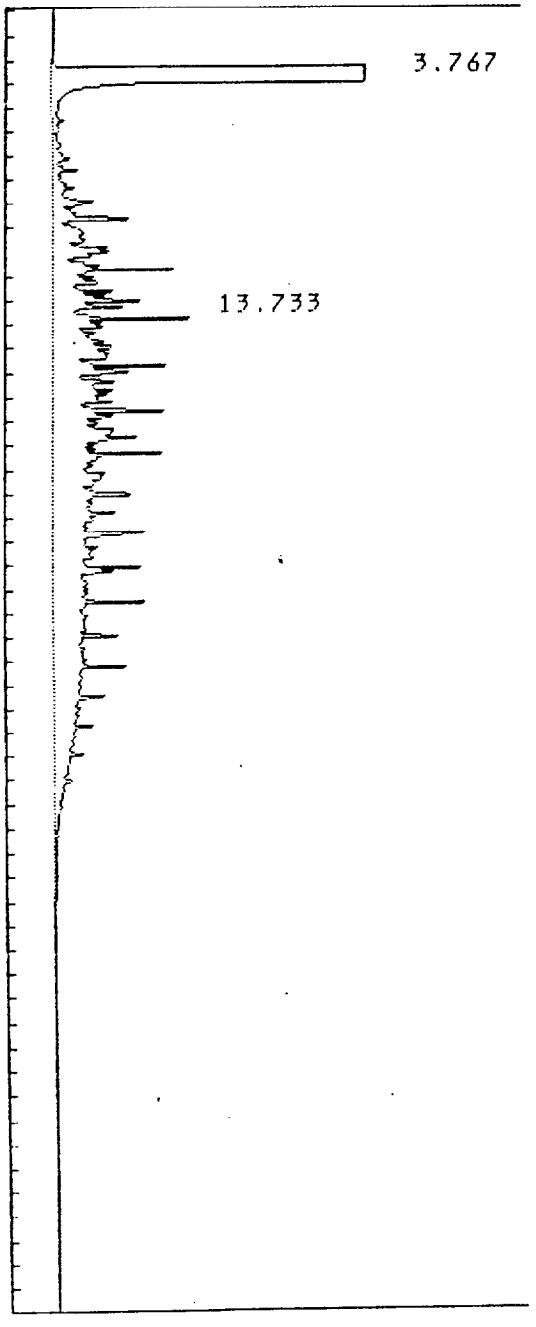
Sample: DRO 2013PPM P8843
Injected: Thu Oct 5, 1995 8:24:21 pm

RetTime	Analyte	Found	Nominal	%D	Recovery
17.10	DIESEL FUEL	1613.01	2013.000	19.8	80.2

PACE INCORPORATED

PHC GC-FID : SPB-5 COLUMN # 130, RANGE 3000 - 100000 Page 1
Sample Name : DRO 2013PPM P8843 Report No : 40.01

Instrument : GC06 Subseq/Sample/Bottle: 1/ 4/ 4



Sequence File: /DATA/GC06/SEQUENCE/G60929.SEQ
Method File : /DATA/GC06/METHOD/DIESEL016.MTH
Result File : /DATA/GC06/RESULT/G6H18071.RES

Run Time : 55.00 Minutes Injected on 1202 29Sep1995
Report Time : 1519 29Sep1995
Run Status : EndOffBaseline
SignalOverload
SpecialInteg

Timed Events	Time	Events	Logic	Value	EventUpdate
1	1.700	ResetBL	NoLogic	-1	True
2	4.963	SumPeaks	EventOn	-1	True
3	35.000	SumPeaks	EventOff	-1	True
4	36.000	ResetBL	NoLogic	-1	True

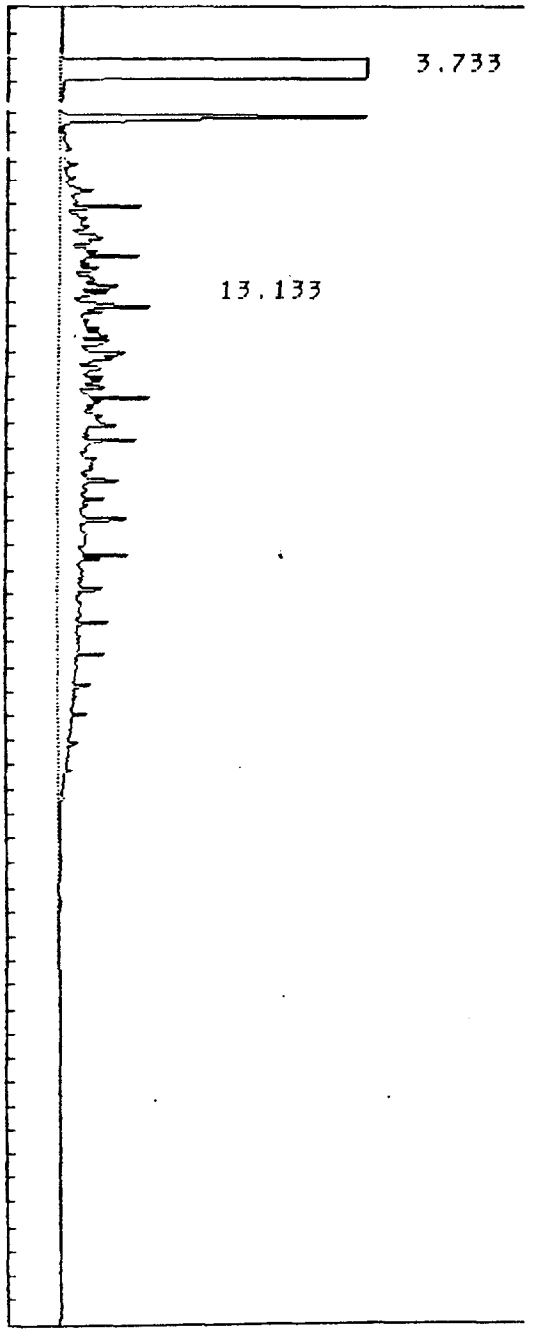
Dil-Fact : 100.00% Sample Amt: 0.0000 Standard Amt: 1.0000

Pk#	RT	ID-tm	Factor	Area	Code	UG/ML	Name
1	3.77	#3.73		36747336	FF	0.0000	SOLVENT PEAK
2	13.73	#20.45		7849440	FF	1793.3690	DIESEL FUEL

PACE INCORPORATED

PHC GC-FID : SPB-5 COLUMN # 130, RANGE 3000 - 100000 Page 1
Sample Name : DRO 2013PPM P8843 Report No : 50.01

Instrument : GC09 Subseq/Sample/Bottle: 1/ 3/ 3



Sequence File: /DATA/GC09/SEQUENCE/G90928.SEQ
Method File : /DATA/GC09/METHOD/DIESEL016.MTH
Result File : /DATA/GC09/RESULT/G9H18051.RES

Run Time : 55.00 Minutes Injected on 1337 28Sep1995
Report Time : 1621 28Sep1995
Run Status : EndOffBaseline
SignalOverload
SpecialInteg

Timed Events	Time	Events	Logic	Value	EventUpdate
1	1.700	ResetBL	NoLogic	-1	True
2	4.963	SumPeaks	EventOn	-1	True
3	35.000	SumPeaks	EventOff	-1	True
4	36.000	ResetBL	NoLogic	-1	True

Dil-Fact : 100.00% Sample Amt: 0.0000 Standard Amt: 1.0000

Pk#	RT	ID-tm	Factor	Area	Code	UG/ML	Name
1	3.73	#3.73		48106864	FF	0.0000	SOLVENT PEAK
2	13.13	#20.45		10898808	FF	1918.0700	DIESEL FUEL

PACE, INCORPORATED
GC Instrument Run Log

Circle one:
CLP/(PHC)/OPP/HERB/P-P

Reviewed by ____________ Date _________

Date	init	result file	Sample	MI	√	Method	column	Sequence
9/24/95	RL	Signal was still high - >100						
		Cooled - cleaned the Jet						
9/26/95	RL	G9/6H18037	MeCl2 baseline noise on GC09	N	N	CALIB230	154/157	S.S
		38	GC09 ok		N			
		39	GC09 ok		Y			
		Performed Column Compensation						
			for both A+B - GC09/GC06					
		40	Column Compensation	N	Y			
9/2?/95	RL	41	MeCl2	N	Y			
		42	"	N	Y			
9/?/95	HS	G9/6H18043	DRO 50 PPm P8845 / DRO 503 PPm P8844	N	N	Diesel016	154/157	G9/60927
		044	DRO 503 PPm P8844 / DRO 2013 PPm P8843					
		045	DRO 2013 PPm P8843 / DRO 5034 PPm P8842					
		046	DRO 5034 PPm P8842 / DRO 20134 PPm P8841					
		047	DRO 20134 PPm P8841 / DRO 50 PPm P8845					
		048	Column Compensation		Y			
9/28/95	HS	G9/6H18049	DRO 20134 PPm P8841 / DRO 5034 PPm P8842	Y	Y*	Diesel016	154/157	G9/60928
		050	DRO 5034 PPm P8842 / DRO 2013 PPm P8843					
		051	DRO 2013 PPm P8843 / DRO 503 PPm P8844					
		052	DRO 503 PPm P8844 / DRO 50 PPm P8845					
		053	DRO 50 PPm P8845 / ~~Bad~~ BI (3) no injection					
			* only accepts GC09.					
9/28/95	HS	G9 1118 054	45480-39 DRO-S Batch 1210/3	Y	Y	Diesel016	154/~~157~~ (3)	G9 0928 A
		G6 1118 054	no injection	N	N		57 (3)	G6
		G9 1118 055	45480-40	Y	Y		54	G9
		G6 1118 055	no injection	N	N		57	G6
		G9 1118 056	45480-41	Y	Y		54	G9
		G6 1118 056	no injection	N	N		57	G6
		G9 1118 057	45480-42	Y	Y		54	G9
		G6 1118 057	no injection	N	N		57	G6
		G9 1118 058	45480-43	Y	Y		54	G9

PACE, INCORPORATED
GC Instrument Run Log

0000078

Reviewed by _____ Date _____

Circle one:
CLP/PHC/OPP/HERB/P-P

Date	init	result file	Sample	MI	V	Method	column	Sequence
9/28/16	BS	160928-8	Injection	N	N	Diesel016	154/157	GA0928A
		G9 059	45480-44 Bechtel DRO-S D10/3	Y	Y		154	G9
		G6 059	no injection	N	N		157	G6
		G9 060	45480-45 Bechtel DRO-S D10/3	Y	Y		154	G9
		G6 060	no injection	N	N		157	G6
9/28/16		G9 061	BH 1393 DRO-S OHM	Y	Y		154	G9
		G6 061	no injection	N	N		157	G6
		G9 062	LSH 1393 DRO-S OHM	Y	Y		154	G9
		G6 062	no injection #3	N	N		157	G6
		G9 063	45515-4 DRO-S OHM V9/29 1:10	Y	Y		154	G9
		G6 063	no injection	N	N		157	G6
		G9 064	DRO 2013ppm P8843	Y	Y		154	G9
		G6 064	no injection	N	N		157	G6
		G9 065	45515-5 DRO-S OHM V9/29 1:10	Y	Y		154	G9
		G6 066	no injection	N	N		157	G6
		G9 066	45515-6 DRO-S OHM V9/29 1:10	Y	Y		154	G9
		G6 066	no injection	N	N		157	G6
		G9 067	Meclz	Y	Y		154	G9
		G6 067	no injection	N	N		157	G6
9/28/16	BS	G9 068	BH1392 DRO-S Bechtel D10/3	Y	Y	Diesel016	154	G9 0929
		G6 068	Meclz				157	G6
		G9 069	LSH1392-DRO-S Bechtel D10/3				154	G9
		G6 069	DRO 20134 ppm P8841				157	G6
		G9 070	45515-4 OHM				154	G9
		G6 070	DRO 5134 ppm P8842				157	G6
		G9 071	45515-5 OHM				154	G9
		G6 071	DRO 2013 ppm P8843				157	G6
		G9 072	45515-6 OHM				154	G9
		G6 072	DRO 503 ppm P8844				157	G6
		G9 073	45480-32 DRO-S Bechtel D10/3				154	G9
		G6 073	DRO 50 ppm P8845				157	G6

PACE, INCORPORATED
GC Instrument Run Log

0000083

Reviewed by _____ Date _____

Circle one:
CLP/(PHC)/OPP/HERB/P-P

Date	init	result file	Sample	MI	v	Method	column	Sequence
10/3/95	WS	G9H18122	LSH1399 DRO-W		Y	Diesel/Crude	154	G9
		G6 122	L61+1397 DRO-S Bechtel				157	G6
		G9 123	BH1400 DRO-MS				154	G9
		G6 123	45530-16 DRO-S Bechtel				157	G6
		G9 124	LSH1400 DRO-MS				157	G9
		G6 124	45530-17 DRO-S Bechtel				157	G6
		G9 125	45562-8 DRO-MS OHM				154	G9
		G6 125	45530-18 DRO-S Bechtel				157	G6
		G9 126	45562-9 DRO-MS OHM				154	G9
		G6 126	45530-19 DRO-S Bechtel				157	G6
		G9 127	45562-10 DRO-MS OHM need dilution				154	G9
		G6 127	45530-20 DRO-S Bechtel			Dirty chromatogram	157	G6
		G9 128	45562-11 DRO-MS OHM need dilution		N		154	G9
		G6 128	45536-21 DRO-S Bechtel		Y		157	G6
10/4/95		G9 129	DRO 2013ppm P8843 78		Y*	not surrogate problem	154	G9
		G6 129	45536-21MS DRO-S Bechtel		Y		157	G6
		G9 130	45562-12 DRO-MS OHM need dilution		N		154	G9
		G6 130	45536-22 DRO-S Bechtel		Y		157	G6
		G9 131	45562-13 DRO-MS OHM need dilution		N		154	G9
		G6 131	DRO 2013ppm P8843 99		Y		157	G6
		G9 132	45562-14 DRO-MS OHM need dilution		N		154	G9
		G6 132	45536-21MSD DRO-MS Bechtel		Y		157	G6
		G9 133	BH1401 DRO-LS OHM		N		154	G9
		G6 133	45535-1 DRO-S Bechtel		Y		157	G6
		G9 134	LSH1401 DRO-LS OHM		N		154	G9
		G6 134	45535-2 DRO-S Bechtel		Y		157	G6
		G9 135	45542-3 DRO-LS OHM		N		154	G9
		G6 135	45535-3 DRO-S Bechtel		Y		157	G6
		G9 136	45542-4 DRO-LS OHM		N		154	G9
		G6 136	45535-4 DRO-S Bechtel		Y		157	G6
↓	↓	G9 137	DRO 2013ppm P8843 100	↓	↓	↓	154	G9

PACE, INCORPORATED
GC Instrument Run Log

0000084

Reviewed by _____ Date_____

Circle one:
CLP/PHC/OPP/HERB/P-P

Date	init	result file	Sample	MI	V	Method	column	Sequence
10/19/95	WS	Gb1H18137	45535-5 DRO-S Bechtel	Y	Y	Diesel.m	157	Gb1H18137
		G9 138	5019 ppm Kerosene PP610				134	G9 138
		Gb 138	↓				157	Gb
		G9 139	5000 ppm #4 Fuel Oil P8869				134	G9
		Gb 139	↓				137	Gb
		G9 140	10,000 ppm #6 Fuel Oil P8878				134	G9
		Gb 140	↓				137	Gb
		G9 141	P8591 JP4/C8 501/24 ppm				134	G9
		Gb 141	↓				137	Gb
		G9 142	45562-10 PHC-S 1:20 Ohm				136	G9
		Gb 142	45535-6 PHC-S Bechtel				137	Gb
		G9 143	45562-11 PHC-S 1:20 Ohm				134	G9
		Gb 143	45535-7 PHC-S Bechtel				137	Gb
		G9 144	45562-12 PHC-S 1:20 Ohm				134	G9
		Gb 144	45535-8 PHC-S Bechtel				137	Gb
		G9 145	45562-13 PHC-S 1:20 Ohm		↓		134	G9
↓		Gb 145	45559-1 PHC-S Bechtel		N		137	Gb
10/19/95		G9 146	45562-14 PHC-S 1:20 Ohm		Y		134	G9
		Gb 146	2013 ppm DRO P8843 83				137	Gb
		G9 147	B1H1401 PHC-S				134	G9
		Gb 147	B1H1402 PHC-W				137	Gb
		G9 148	LS1H1401 PHC-S				134	G9
		Gb 148	LS1H1402 PHC-W				137	Gb
		G9 149	45542-3 PHC-S Ohm				134	G9
		Gb 149	45536-23 PHC-W Bechtel				137	Gb
		G9 150	45542-4 PHC-S Ohm				134	G9
		Gb 150	45535-10 PHC-W Bechtel				137	Gb
		G9 151	45563-6 PHC-S Ohm				134	G9
		Gb 151	B1H1403 PHC-S				137	Gb
		G9 152	DRO 2013 ppm P8843 83				134	G9
↓	↓	Gb 152	LS1H1403 PHC-S	↓	↓	↓	137	Gb

PACE, INCORPORATED
GC Instrument Run Log

Reviewed by _____ Date _____

Circle one:
CLP/(PHC)/OPP/HERB/P-P

Date	init	result file	Sample	MI	V	Method	column	Sequence
10/5/95	BS	G9 1+18 153	45563-7 PHC-S OHM need print	Y	N	Diesel	114	G9 1 of 4
		G6 183	45558-17 ↓ Bechtel		Y		113	G6
		G9 184	45563-8 PHC-S OHM need print		N		114	G9
		G6 184	45558-18 ↓ Bechtel		Y		113	G6
		G9 185	BH 100195ME PHC-S PACE-ME				114	G9
		G6 185	45558-19 ↓ Bechtel				113	G6
		G9 186	LSH 100195ME PHC-S PACE-ME				114	G9
		G6 186	45558-20 ↓ Bechtel				113	G6
		G9 187	45577-1 PHC-S PACE-ME 1				114	G9
		G6 187	2013 PPM DRO P8843 92.				113	G6
		G9 188	45577-2 PHC-S PACE-ME 1:10				114	G9
		G6 188	45558-21 ↓ Bechtel				113	G6
		G9 189	45577-2 PHC-S PACE-ME 1:100 1:1000	N	N		114	G9
	↓	G6 189	45558-22 ↓ Bechtel	Y	Y		113	G6
	BS	G9 160	BH 1405 DRO-S				114	G9 1 of 4
		G6 160	45578-1 ↓ PACE-ME				117	G6
		G9 161	LSH 1405 DRO-S				114	G9
		G6 161	45578-1 MS ↓ PACE-ME				117	G6
		G9 162	45589-5 DRO-S OHM 1:10				114	G9
		G6 162	45578-1 MSD ↓ PACE-ME				117	G6
		G9 163	DRO 2013 PPM P8843 80				114	G9
		G6 163	45578-2 DRO-S PACE-ME				117	G6
		G9 164	45589-5 MS DRO-S OHM 1:10				114	G9
		G6 164	45578-3 DRO-S PACE-ME				117	G6
		G9 165	45589-5 MSD DRO-S OHM 1:10				114	G9
		G6 165	BH 1408 DRO-W OHM				117	G6
		G9 166	45589-6 DRO-S OHM 1:10				114	G9
		G6 166	LSH 1408 DRO-W OHM				117	G6
10/6/95		G9 167	45589-7 DRO-S OHM 1:10				114	G9
		G6 167	45563-23 DRO-W OHM		↓		117	G6
↓	↓	G9 168	45593-6 DRO-S OHM 1:10	↓	↓	↓	114	G9 ↓

PACE, INCORPORATED
GC Instrument Run Log

0000086

Reviewed by _____ Date _____

Circle one:
CLP/PHC/OPP/HERB/P-P

Date	init	result file	Sample	MI	V	Method	column	Sequence
10/6/95	HS	Gb #18168	2013 ppm DRO P8843 92-	Y	Y	Diesel/oil	157	Gb
		G9 169	45593-7 DRO-S OHM 1:10		N		154	G9
		Gb 169	45563-20 DRO-W		N		157	Gb
		G9 170	45593-8 DRO-S OHM 1:10		Y		154	G9
		Gb 170	45563-9 DRO-W OHM		Y		157	Gb
		G9 171	45593-8 DRO-S OHM need dilution		N		154	G9
		Gb 171	45558-23 DRO-S Bechtel		Y		157	Gb
		G9 172	45563-7 DRO-S 1:10 OHM				154	G9
		Gb 172	45558-24 ↓ Bechtel				157	Gb
		G9 173	45563-8 DRO-S OHM 1:20				154	G9
		Gb 173	45558-25 ↓ Bechtel				157	Gb
		G9 174	DRO 2013 ppm P8843 S1				154	G9
		Gb 174	45558-26 DRO-S Bechtel				157	Gb
		G9 175	45593-6 DRO-S OHM				154	G9
		Gb 175	45558-27 ↓ Bechtel				157	Gb
		G9 176	45593-7 DRO-S OHM				154	G9
	↓	Gb 176	45558-28 ↓ Bechtel				157	Gb
10/6/95	HS	G9 177	BH 1404 DRO-S BH 1412 DRO-S	Y	N	Diesel/oil	154	G9
		Gb 177	LSH 1404 ↓ LSH 1412 DRO-S ③ HS 10/6/95		Y		157	Gb
		G9 178	LSH 1412 DRO-S ③ HS 10/6/95 2013 PPM Diesel P8870		N		154	G9
		Gb 178	45535-1MS DRO-S Bechtel 45544-4 DRO-S OHM ③ HS 10/6/95		Y		157	Gb
		G9 179	45535-1MSD DRO-S Bechtel 2013 PPM Diesel P8870		N		154	G9
		Gb 179	45535-1MSD DRO-S Bechtel 45590-2 ③ HS 10/6/95		Y		157	Gb
		G9 180	BH 1404 ③ HS 10/6/95 45594-4 DRO-S OHM		N		154	G9
		Gb 186	45536-40 DRO-S Bechtel		Y		157	Gb
		G9 181	45594-5 DRO-S OHM		N		154	G9
		Gb 181	45558-17MS DRO-S Bechtel		Y		157	Gb
		G9 182	45590-2 DRO-S OHM		N		154	G9
		Gb 182	45558-17MSD DRO-S Bechtel		Y		157	Gb
		G9 183	BH 1406 DRO-S		N		154	G9
	↓	Gb 183		↓		↓	157	Gb

QUALITY CONTROL
Corrosivity
Method: 7.2 SW846 3rd Edition

QC Batch: 365 For: 45563
Matrix: SOLID

LABORATORY CONTROL SAMPLES:

	True Value Units	Observed Value Units
LCS1	7.0	7.00

PACE INC. NE-NH LAB
QUALITY CONTROL
Releasable Sulfide
Method: 7.3.4.2 EPA SW846, 3rd Edition

QC Batch: 308 For: 45563
Matrix: SOLID

METHOD BLANK:

	Result ug/g
	< 50.00

LABORATORY CONTROL SAMPLES:

	True Value ug/g	Observed Value ug/g	Accuracy Recovery %
LCS1	1322.4	1379.1	104.3

QUALITY CONTROL QUALIFIER STATEMENT
The sample results used to generate quality control information for solid samples are uncorrected for dry weight. This does not affect the results reported for percent of spike recovery and relative percent difference.

pace INCORPORATED
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PACE INC. NE-NH LAB
QUALITY CONTROL
Releasable Cyanide
Method: 7.3.3.2 SW846, 3rd Edition

QC Batch: 308 For: 45563
Matrix: SOIL

METHOD BLANK:

	Result ug/g
	< 1.00

LABORATORY CONTROL SAMPLES:

	True Value ug/g	Observed Value ug/g	Accuracy Recovery %
LCS1	40.0	8.000	20.0

FIELD SAMPLE:

Precision Lab No.	Replicate 1 ug/g	Replicate 2 ug/g	Average ug/g	Relative Percent Difference %
0	< 1.00	< 1.00	NC	NC

QUALITY CONTROL QUALIFIER STATEMENT
The sample results used to generate quality control information for solid samples are uncorrected for dry weight. This does not affect the results reported for percent of spike recovery and relative percent difference.

NC = Not calculable due to result below detection limit.

QUALITY CONTROL
Flashpoint
Method: D93-80, ASTM

QC Batch: 340 For: 45563
Matrix: SOIL

LABORATORY CONTROL SAMPLES:

	True Value Deg F	Observed Value Deg F
LCS1	81.0	82.00

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR VOLATILE CONSTITUENTS

Laboratory Number : 45563-009
Field Identification : CLJ44-CU-058
Extraction Date : 10/03/95
TCLP Blank : 90,002-401

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

Extraction Fluid #1 was used as specfied in the method.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 25 g of sample was added to the extractor with 500 mL of Extraction Fluid #1.

Extraction Time : 19.00 hrs

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid #1: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

pace INCORPORATED THE ASSURANCE OF QUALITY

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
ANALYSIS FOR VOLATILE CONSTITUENTS

Laboratory number: 45563-009
Sample Designation: CLJ44-CU-058
Date Analyzed: 10/05/95 14:05
QC Batch: BG100595A1
TCLP Batch: 401
Matrix: TCLP EXTRACT

VOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Vinyl chloride	BDL	0.2	0.01
1,1-Dichloroethene	BDL	0.7	0.005
1,2-Dichloroethane	BDL	0.5	0.005
Chloroform	BDL	6.0	0.005
Methyl ethyl ketone	BDL	200	0.025
Carbon Tetrachloride	BDL	0.5	0.005
Trichloroethene	BDL	0.5	0.005
Benzene	BDL	0.5	0.005
Tetrachloroethene	BDL	0.7	0.005
Chlorobenzene	BDL	100	0.005

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8240

Results uncorrected for matrix spike recovery.

BDL = Below reporting limit

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TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR VOLATILE CONSTITUENTS

Laboratory Number : 45563-010
Field Identification : CLJ44-CU-059
Extraction Date : 10/03/95
TCLP Blank : 90,002-401

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

Extraction Fluid #1 was used as specfied in the method.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 25 g of sample was added to the extractor with 500 mL of Extraction Fluid #1.

Extraction Time : 19.00 hrs

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid #1: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

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TOXICITY CHARACTERISTIC LEACHING PROCEDURE
ANALYSIS FOR VOLATILE CONSTITUENTS

Laboratory number: 45563-010
Sample Designation: CLJ44-CU-059
Date Analyzed: 10/05/95 14:46
QC Batch: BG100595A1
TCLP Batch: 401
Matrix: TCLP EXTRACT

VOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Vinyl chloride	BDL	0.2	0.01
1,1-Dichloroethene	BDL	0.7	0.005
1,2-Dichloroethane	BDL	0.5	0.005
Chloroform	BDL	6.0	0.005
Methyl ethyl ketone	BDL	200	0.025
Carbon Tetrachloride	BDL	0.5	0.005
Trichloroethene	BDL	0.5	0.005
Benzene	BDL	0.5	0.005
Tetrachloroethene	BDL	0.7	0.005
Chlorobenzene	BDL	100	0.005

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8240

Results uncorrected for matrix spike recovery.

BDL = Below reporting limit

pace INCORPORATED
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TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR VOLATILE CONSTITUENTS

Laboratory Number : 45563-011
Field Identification : CLJ44-CU-060
Extraction Date : 10/03/95
TCLP Blank : 90,002-401

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

Extraction Fluid #1 was used as specfied in the method.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 25 g of sample was added to the extractor with 500 mL of Extraction Fluid #1.

Extraction Time : 19.00 hrs

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid #1: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

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TOXICITY CHARACTERISTIC LEACHING PROCEDURE
ANALYSIS FOR VOLATILE CONSTITUENTS

Laboratory number: 45563-011
Sample Designation: CLJ44-CU-060
Date Analyzed: 10/05/95 15:26
QC Batch: BG100595A1
TCLP Batch: 401
Matrix: TCLP EXTRACT

VOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Vinyl chloride	BDL	0.2	0.01
1,1-Dichloroethene	BDL	0.7	0.005
1,2-Dichloroethane	BDL	0.5	0.005
Chloroform	BDL	6.0	0.005
Methyl ethyl ketone	BDL	200	0.025
Carbon Tetrachloride	BDL	0.5	0.005
Trichloroethene	BDL	0.5	0.005
Benzene	BDL	0.5	0.005
Tetrachloroethene	BDL	0.7	0.005
Chlorobenzene	BDL	100	0.005

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8240

Results uncorrected for matrix spike recovery.

BDL = Below reporting limit

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TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR VOLATILE CONSTITUENTS

Laboratory Number : 45563-012
Field Identification : CLJ44-CC-062
Extraction Date : 10/03/95
TCLP Blank : 90,002-401

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

Extraction Fluid #1 was used as specfied in the method.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 25 g of sample was added to the extractor with 500 mL of Extraction Fluid #1.

Extraction Time : 19.00 hrs

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid #1: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

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TOXICITY CHARACTERISTIC LEACHING PROCEDURE
ANALYSIS FOR VOLATILE CONSTITUENTS

Laboratory number: 45563-012
Sample Designation: CLJ44-CC-062
Date Analyzed: 10/05/95 16:06
QC Batch: BG100595A1
TCLP Batch: 401
Matrix: TCLP EXTRACT

VOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Vinyl chloride	BDL	0.2	0.01
1,1-Dichloroethene	BDL	0.7	0.005
1,2-Dichloroethane	BDL	0.5	0.005
Chloroform	BDL	6.0	0.005
Methyl ethyl ketone	BDL	200	0.025
Carbon Tetrachloride	BDL	0.5	0.005
Trichloroethene	BDL	0.5	0.005
Benzene	BDL	0.5	0.005
Tetrachloroethene	BDL	0.7	0.005
Chlorobenzene	BDL	100	0.005

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8240

Results uncorrected for matrix spike recovery.

BDL = Below reporting limit

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TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR VOLATILE CONSTITUENTS

Laboratory Number : 45563-013
Field Identification : CLJ44-CC-067
Extraction Date : 10/03/95
TCLP Blank : 90,002-401

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

Extraction Fluid #1 was used as specfied in the method.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 25 g of sample was added to the extractor with 500 mL of Extraction Fluid #1.

Extraction Time : 19.00 hrs

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid #1: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

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TOXICITY CHARACTERISTIC LEACHING PROCEDURE
ANALYSIS FOR VOLATILE CONSTITUENTS

Laboratory number: 45563-013
Sample Designation: CLJ44-CC-067
Date Analyzed: 10/05/95 16:46
QC Batch: BG100595A1
TCLP Batch: 401
Matrix: TCLP EXTRACT

VOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Vinyl chloride	BDL	0.2	0.01
1,1-Dichloroethene	BDL	0.7	0.005
1,2-Dichloroethane	BDL	0.5	0.005
Chloroform	BDL	6.0	0.005
Methyl ethyl ketone	BDL	200	0.025
Carbon Tetrachloride	BDL	0.5	0.005
Trichloroethene	BDL	0.5	0.005
Benzene	BDL	0.5	0.005
Tetrachloroethene	BDL	0.7	0.005
Chlorobenzene	BDL	100	0.005

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8240

Results uncorrected for matrix spike recovery.

BDL = Below reporting limit

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Laboratory number: 45563-014
Sample Designation: CLJ44-CC-062
Date Analyzed: 10/13/95
Matrix: SOLID

Instrument File Name: >G5130

Results are expressed on a dry (103 degrees C) basis.
Moisture content was 14 % , elevating the reporting limits
by a factor of 1.16 .

VOLATILE ORGANICS	CONCENTRATION (ug/Kg)		REPORTING LIMIT (ug/Kg)
Chloromethane	BDL		12
Bromomethane	BDL		12
Vinyl chloride	BDL		12
Chloroethane	BDL		6
Methylene chloride	11	J B	12
Acetone	30	J B	29
Carbon disulfide	BDL		6
Tetrahydrofuran	BDL		29
Trichlorofluoromethane	BDL		6
1,1-Dichloroethene	BDL		6
1,1-Dichloroethane	BDL		6
1,2-Dichloroethene (total)	BDL		6
Chloroform	BDL		6
1,2-Dichloroethane	BDL		6
2-Butanone	BDL		29
1,1,1-Trichloroethane	BDL		6
Carbon Tetrachloride	BDL		6
Vinyl acetate	BDL		12
Bromodichloromethane	BDL		6
1,2-Dichloropropane	BDL		6
cis-1,3-Dichloropropene	BDL		6
trans-1,3-Dichloropropene	BDL		6
Trichloroethene	BDL		6
Dibromochloromethane	BDL		6
1,1,2-Trichloroethane	BDL		6
Benzene	BDL		6
2-Chloroethyl vinyl ether	BDL		6
Bromoform	BDL		6
4-Methyl-2-Pentanone	BDL		29
2-Hexanone	BDL		29
Tetrachloroethene	BDL		6
1,1,2,2-Tetrachloroethane	BDL		6
Toluene	BDL		6
Chlorobenzene	BDL		6
Ethylbenzene	BDL		6
Styrene	BDL		6
Xylene (total)	BDL		6

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8240

BDL = Below reporting limit
J = Probable presence below listed detection limit

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Laboratory number: 45563-016
Sample Designation: CLJ44-CC-067
Date Analyzed: 10/05/95
Matrix: SOLID

Instrument File Name: >G4945

Results are expressed on a dry (103 degrees C) basis.
Moisture content was 18 % , elevating the reporting limits
by a factor of 1.21 .

VOLATILE ORGANICS	CONCENTRATION (ug/g)	REPORTING LIMIT (ug/g)
Chloromethane	BDL	1.4
Bromomethane	BDL	1.4
Vinyl chloride	BDL	1.4
Chloroethane	BDL	0.7
Methylene chloride	0.9 J	1.4
Acetone	BDL	3.4
Carbon disulfide	BDL	0.7
1,1-Dichloroethene	BDL	0.7
Tetrahydrofuran	BDL	3.4
1,1-Dichloroethane	BDL	0.7
1,2-Dichloroethene (total)	BDL	0.7
Chloroform	BDL	0.7
Methyl ethyl ketone	BDL	3.4
1,2-Dichloroethane	BDL	0.7
1,1,1-Trichloroethane	BDL	0.7
Carbon Tetrachloride	BDL	0.7
Vinyl acetate	BDL	1.4
Bromodichloromethane	BDL	0.7
cis-1,3-Dichloropropene	BDL	0.7
trans-1,3-Dichloropropene	BDL	0.7
Trichloroethene	BDL	0.7
Benzene	BDL	0.7
Dibromochloromethane	BDL	0.7
1,1,2-Trichloroethane	BDL	0.7
1,2-Dichloropropane	BDL	0.7
2-Chloroethyl vinyl ether	BDL	0.7
Bromoform	BDL	0.7
Methyl isobutyl ketone	BDL	3.4
2-Hexanone	BDL	3.4
1,1,2,2-Tetrachloroethane	BDL	0.7
Tetrachloroethene	0.5 J	0.7
Toluene	BDL	0.7
Chlorobenzene	BDL	0.7
Ethylbenzene	0.5 J	0.7
Xylene (total)	1.9	0.7
Styrene	BDL	0.7

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8240

BDL = Below reporting limit
J = Probable presence below listed detection limit

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TOXICITY CHARACTERISTIC LEACHING PROCEDURE
ANALYSIS FOR VOLATILE CONSTITUENTS

Laboratory number: 45563-020
Sample Designation: CLJ44-CC-068-RB
Date Analyzed: 10/05/95 18:46
QC Batch: BG100595A1
Matrix: WATER

VOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Vinyl chloride	BDL	0.2	0.01
1,1-Dichloroethene	BDL	0.7	0.005
1,2-Dichloroethane	BDL	0.5	0.005
Chloroform	BDL	6.0	0.005
Methyl ethyl ketone	BDL	200	0.025
Carbon Tetrachloride	BDL	0.5	0.005
Trichloroethene	BDL	0.5	0.005
Benzene	BDL	0.5	0.005
Tetrachloroethene	BDL	0.7	0.005
Chlorobenzene	BDL	100	0.005

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8240

Results uncorrected for matrix spike recovery.

BDL = Below reporting limit

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Laboratory number: 45563-022
Sample Designation: CLJ44-CC-069-TB
Date Analyzed: 10/05/95
Matrix: WATER

Instrument File Name: >G4947

VOLATILE ORGANICS	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Chloromethane	BDL	10
Bromomethane	BDL	10
Vinyl chloride	BDL	10
Chloroethane	BDL	5
Methylene chloride	6 J	10
Acetone	BDL	25
Carbon disulfide	BDL	5
Tetrahydrofuran	BDL	25
Trichlorofluoromethane	BDL	5
1,1-Dichloroethene	BDL	5
1,1-Dichloroethane	BDL	5
1,2-Dichloroethene (total)	BDL	5
Chloroform	BDL	5
1,2-Dichloroethane	BDL	5
2-Butanone	BDL	25
1,1,1-Trichloroethane	BDL	5
Carbon Tetrachloride	BDL	5
Vinyl acetate	BDL	10
Bromodichloromethane	BDL	5
1,2-Dichloropropane	BDL	5
cis-1,3-Dichloropropene	BDL	5
trans-1,3-Dichloropropene	BDL	5
Trichloroethene	BDL	5
Dibromochloromethane	BDL	5
1,1,2-Trichloroethane	BDL	5
Benzene	BDL	5
Bromoform	BDL	5
4-Methyl-2-Pentanone	BDL	25
2-Hexanone	BDL	25
Tetrachloroethene	2.6 J	5
1,1,2,2-Tetrachloroethane	BDL	5
Toluene	BDL	5
Chlorobenzene	BDL	5
Ethylbenzene	BDL	5
Styrene	BDL	5
Xylene (total)	BDL	5

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8240

BDL = Below reporting limit
J = Probable presence below listed detection limit

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2A

WATER VOLATILES SURROGATE RECOVERY

Client: OHM REMEDIATION SERVICES CORP. Lab No.: 45563
Project: CAMP GEIGER/LJN27

CLIENT SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
CLJ44-CU-058	99	101	103		0
CLJ44-CU-059	99	101	101		0
CLJ44-CU-060	102	99	105		0
CLJ44-CC-062	99	99	101		0
CLJ44-CC-067	99	102	108		0
CLJ44-CC-068-RB	93	105	105		0
CLJ44-CC-069-TB	100	103	108		0
BG100595A1	102	99	101		0
BG100695A1	101	95	100		0
TCLP BLANK #401	97	97	101		0

	QC LIMITS
S1 (TOL) = Toluene-d8	86 - 114
S2 (BFB) = Bromofluorobenzene	72 - 132
S3 (DCE) = 1,2-Dichloroethane-d4	70 - 138

Column to be used to flag recovery values with an asterisk
* Values outside of designated QC limits
D Surrogates diluted out

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THE ASSURANCE OF QUALITY

SOIL VOLATILES SURROGATE RECOVERY

Client: OHM REMEDIATION SERVICES CORP. Lab No.: 45563
Project: CAMP GEIGER/LJN27
Level: Soil

CLIENT SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
CLJ44-CC-067	90	102	94		0
BG101395B1	100	101	104		0
BV1125C	93	92	97		0

	QC LIMITS
S1 (TOL) = Toluene-d8	86 - 114
S2 (BFB) = Bromofluorobenzene	72 - 132
S3 (DCE) = 1,2-Dichloroethane-d4	70 - 138

Column to be used to flag recovery values with an asterisk
* Values outside of designated QC limits
D Surrogates diluted out

pace INCORPORATED THE ASSURANCE OF QUALITY

2B

SOIL VOLATILES SURROGATE RECOVERY

Client: OHM REMEDIATION SERVICES CORP. Lab No.: 45563
Project: CAMP GEIGER/LJN27
Level: Low Soil

CLIENT SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
CLJ44-CC-062	100	99	104		0

	QC LIMITS
S1 (TOL) = Toluene-d8	86 - 114
S2 (BFB) = Bromofluorobenzene	72 - 132
S3 (DCE) = 1,2-Dichloroethane-d4	70 - 138

Column to be used to flag recovery values with an asterisk
* Values outside of designated QC limits
D Surrogates diluted out

pace INCORPORATED THE ASSURANCE OF QUALITY

Laboratory number: BG100595A1
Sample Designation: LAB BLANK
Date Analyzed: 10/05/95
Matrix: WATER

Instrument File Name: >G4937

VOLATILE ORGANICS	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Chloromethane	BDL	10
Bromomethane	BDL	10
Vinyl chloride	BDL	10
Chloroethane	BDL	5
Methylene chloride	3.3 J	10
Acetone	BDL	25
Carbon disulfide	BDL	5
Tetrahydrofuran	BDL	25
Trichlorofluoromethane	BDL	5
1,1-Dichloroethene	BDL	5
1,1-Dichloroethane	BDL	5
1,2-Dichloroethene (total)	BDL	5
Chloroform	BDL	5
1,2-Dichloroethane	BDL	5
2-Butanone	BDL	25
1,1,1-Trichloroethane	BDL	5
Carbon Tetrachloride	BDL	5
Vinyl acetate	BDL	10
Bromodichloromethane	BDL	5
1,2-Dichloropropane	BDL	5
cis-1,3-Dichloropropene	BDL	5
trans-1,3-Dichloropropene	BDL	5
Trichloroethene	BDL	5
Dibromochloromethane	BDL	5
1,1,2-Trichloroethane	BDL	5
Benzene	BDL	5
Bromoform	BDL	5
4-Methyl-2-Pentanone	BDL	25
2-Hexanone	BDL	25
Tetrachloroethene	BDL	5
1,1,2,2-Tetrachloroethane	BDL	5
Toluene	BDL	5
Chlorobenzene	BDL	5
Ethylbenzene	BDL	5
Styrene	BDL	5
Xylene (total)	BDL	5

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8240

BDL = Below reporting limit
J = Probable presence below listed detection limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: TCLP BLANK #401
Client ID: TCLP BLANK
Date Analyzed: 10/06/95
Matrix: TCLP EXTRACT

Parameter	Result (ug/L)	Regulatory Limit (ug/L)	Detection Limit (ug/L)
Vinyl chloride	BDL	200	10
1,1-Dichloroethene	BDL	700	5
1,2-Dichloroethane	BDL	500	5
Chloroform	BDL	6000	5
Methyl ethyl ketone	BDL	200000	25
Carbon Tetrachloride	BDL	500	5
Trichloroethene	BDL	500	5
Benzene	BDL	500	5
Tetrachloroethene	BDL	700	5
Chlorobenzene	BDL	100000	5

METHOD REFERENCE: EPA SW846 3rd EDITION
METHOD 8240

BDL = Below detection limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: BG100695A1
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/06/95
Matrix: WATER

VOLATILE ORGANICS	CONCENTRATION (ug/L)	DETECTION LIMIT (ug/L)
Chloromethane	BDL	10
Bromomethane	BDL	10
Vinyl chloride	BDL	10
Chloroethane	BDL	5
Methylene chloride	BDL	10
Acetone	BDL	25
Carbon disulfide	BDL	5
1,1-Dichloroethene	BDL	5
Tetrahydrofuran	BDL	25
1,1-Dichloroethane	BDL	5
1,2-Dichloroethene (total)	BDL	5
Chloroform	BDL	5
Methyl ethyl ketone	BDL	25
1,2-Dichloroethane	BDL	5
1,1,1-Trichloroethane	BDL	5
Carbon Tetrachloride	BDL	5
Vinyl acetate	BDL	10
Bromodichloromethane	BDL	5
cis-1,3-Dichloropropene	BDL	5
trans-1,3-Dichloropropene	BDL	5
Trichloroethene	BDL	5
Benzene	BDL	5
Dibromochloromethane	BDL	5
1,1,2-Trichloroethane	BDL	5
1,2-Dichloropropane	BDL	5
2-Chloroethyl vinyl ether	BDL	5
Bromoform	BDL	5
Methyl isobutyl ketone	BDL	25
2-Hexanone	BDL	25
1,1,2,2-Tetrachloroethane	BDL	5
Tetrachloroethene	BDL	5
Toluene	BDL	5
Chlorobenzene	BDL	5
Ethylbenzene	BDL	5
m-Xylene	BDL	5
o,p-Xylene	BDL	5
Styrene	BDL	5

METHOD REFERENCE: EPA SW 846 3RD EDITION
METHOD 8240

BDL = Below detection limit
J = Probable presence below listed detection limit.

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: BV1125C
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/06/95
Matrix: SOLID

VOLATILE ORGANICS	CONCENTRATION (ug/g)	DETECTION LIMIT (ug/g)
Chloromethane	BDL	1.0
Bromomethane	BDL	1.0
Vinyl chloride	BDL	1.0
Chloroethane	BDL	0.5
Methylene chloride	BDL	1.0
Acetone	BDL	2.5
Carbon disulfide	BDL	0.5
1,1-Dichloroethene	BDL	0.5
Tetrahydrofuran	BDL	2.5
1,1-Dichloroethane	BDL	0.5
Chloroform	BDL	0.5
Methyl ethyl ketone	BDL	2.5
1,2-Dichloroethane	BDL	0.5
1,1,1-Trichloroethane	BDL	0.5
Carbon Tetrachloride	BDL	0.5
Vinyl acetate	BDL	1.0
Bromodichloromethane	BDL	0.5
cis-1,3-Dichloropropene	BDL	0.5
cis-1,3-Dichloropropene	BDL	0.5
trans-1,3-Dichloropropene	BDL	0.5
Trichloroethene	BDL	0.5
Benzene	BDL	0.5
Dibromochloromethane	BDL	0.5
1,1,2-Trichloroethane	BDL	0.5
1,2-Dichloropropane	BDL	0.5
2-Chloroethyl vinyl ether	BDL	0.5
Bromoform	BDL	0.5
Methyl isobutyl ketone	BDL	2.5
2-Hexanone	BDL	2.5
1,1,2,2-Tetrachloroethane	BDL	0.5
Tetrachloroethene	BDL	0.5
Toluene	BDL	0.5
Chlorobenzene	BDL	0.5
Ethylbenzene	BDL	0.5
m-Xylene	BDL	0.5
o,p-Xylene	BDL	0.5
Styrene	BDL	0.5

METHOD REFERENCE: EPA SW 846, 3RD EDITION
METHOD 8240

BDL = Below detection limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: BG101395B1
Sample Designation: LAB BLANK
Date Analyzed: 10/13/95
Matrix: SOLID

Instrument File Name: >G5128

Results are expressed on a dry (103 degrees C) basis.

VOLATILE ORGANICS	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Chloromethane	BDL	10
Bromomethane	BDL	10
Vinyl chloride	BDL	10
Chloroethane	BDL	5
Methylene chloride	8 J	10
Acetone	7 J	25
Carbon disulfide	BDL	5
Tetrahydrofuran	BDL	25
Trichlorofluoromethane	BDL	5
1,1-Dichloroethene	BDL	5
1,1-Dichloroethane	BDL	5
1,2-Dichloroethene (total)	BDL	5
Chloroform	BDL	5
1,2-Dichloroethane	BDL	5
2-Butanone	BDL	25
1,1,1-Trichloroethane	BDL	5
Carbon Tetrachloride	BDL	5
Vinyl acetate	BDL	10
Bromodichloromethane	BDL	5
1,2-Dichloropropane	BDL	5
cis-1,3-Dichloropropene	BDL	5
trans-1,3-Dichloropropene	BDL	5
Trichloroethene	BDL	5
Dibromochloromethane	BDL	5
1,1,2-Trichloroethane	BDL	5
Benzene	BDL	5
2-Chloroethyl vinyl ether	BDL	5
Bromoform	BDL	5
4-Methyl-2-Pentanone	BDL	25
2-Hexanone	BDL	25
Tetrachloroethene	BDL	5
1,1,2,2-Tetrachloroethane	BDL	5
Toluene	BDL	5
Chlorobenzene	BDL	5
Ethylbenzene	BDL	5
Styrene	BDL	5
Xylene (total)	BDL	5

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8240

BDL = Below reporting limit
J = Probable presence below listed detection limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

MATRIX SPIKE RECOVERY
VOLATILE ORGANIC COMPOUNDS

Laboratory Number: LCG100695A1
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/06/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
1,1-DICHLOROETHENE	0	50	51	101
TRICHLOROETHYLENE	0	50	51	101
BENZENE	0	50	50	99
TOLUENE	0	50	48	96
CHLOROBENZENE	0	50	52	103

METHOD REFERENCE: EPA SW 846, 3RD EDITION
METHOD 8240

pace INCORPORATED
THE ASSURANCE OF QUALITY

MATRIX SPIKE RECOVERY
VOLATILE ORGANIC COMPOUNDS

Laboratory Number: LCG100595A1
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/05/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
1,1-DICHLOROETHENE	0	50	53	105
TRICHLOROETHYLENE	0	50	54	107
BENZENE	0	50	50	100
TOLUENE	0	50	51	101
CHLOROBENZENE	0	50	55	109

METHOD REFERENCE: EPA SW 846, 3RD EDITION
METHOD 8240

pace INCORPORATED
THE ASSURANCE OF QUALITY

VOLATILE ORGANIC COMPOUNDS
MATRIX SPIKE RECOVERY

Laboratory Number: LS-V1125
Field Identification: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/04/95
Matrix: SOLID

COMPOUND	ug/g IN SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
1,1-DICHLOROETHENE	0.00	6.25	6.23	100
TRICHLOROETHYLENE	0.00	6.25	5.65	90
BENZENE	0.00	6.25	5.75	92
TOLUENE	0.00	6.25	5.58	89
CHLOROBENZENE	0.00	6.25	6.10	98

METHOD REFERENCE: EPA SW 846, 3RD EDITION METHOD 8240

pace INCORPORATED THE ASSURANCE OF QUALITY

MATRIX SPIKE RECOVERY
VOLATILE ORGANIC COMPOUNDS

Laboratory Number: LCG101395A1
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/13/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
1,1-DICHLOROETHENE	0	50	50	101
TRICHLOROETHYLENE	0	50	49	98
BENZENE	0	50	49	97
TOLUENE	0	50	46	93
CHLOROBENZENE	0	50	51	102

METHOD REFERENCE: EPA SW 846, 3RD EDITION
METHOD 8240

pace INCORPORATED
THE ASSURANCE OF QUALITY

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN27

Lab File ID: >G4607 BFB Injection Date: 09/21/95

Instrument ID: GMS BFB Injection Time: 12:19

ION ABUNDANCE CRITERIA for G4607 are reported on a separate sheet.

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
VSTD200	VSTD200	G4609	09/21/95	13:25
VSTD100	VSTD100	G4610	09/21/95	14:07
VSTD050	VSTD050	G4611	09/21/95	14:48
VSTD020	VSTD020	G4612	09/21/95	15:29
VSTD010	VSTD010	G4614	09/21/95	17:23

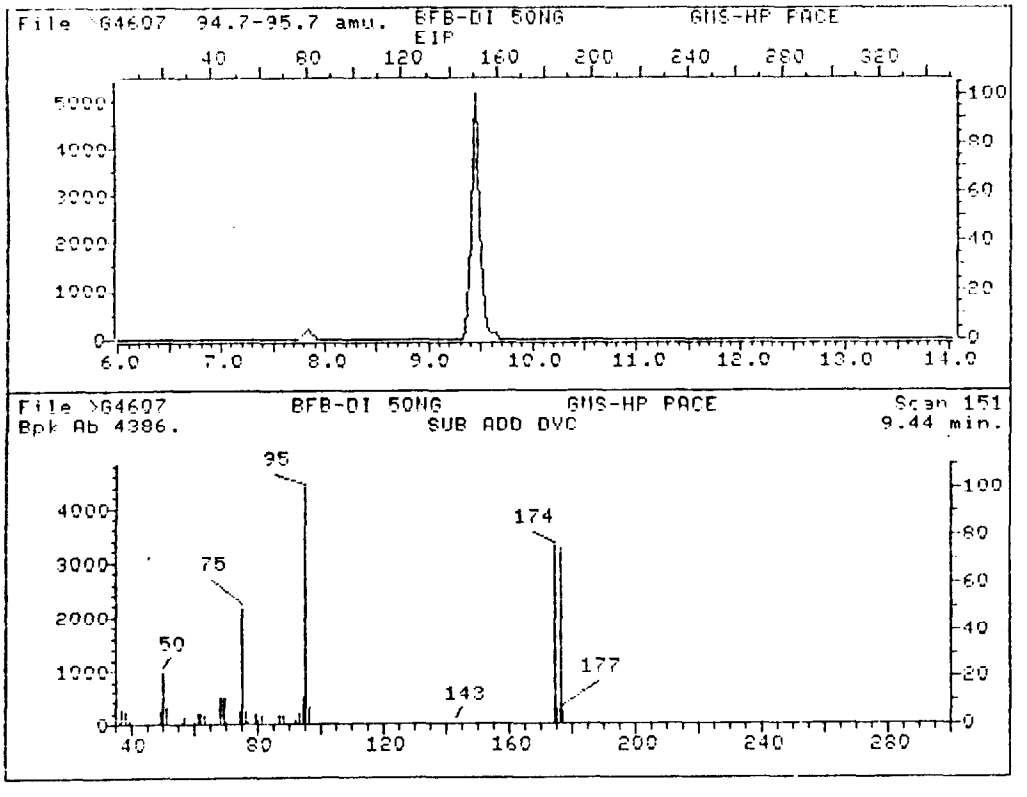
GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB) '88

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	22.06	22.06	Ok
75	30-60% of mass 95	49.30	49.30	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	6.86	6.86	Ok
173	Less than 2% of mass 174	.32	.43	Ok
174	Greater than 50% of mass 95	74.54	74.54	Ok
175	5-9% of mass 174	5.74	7.70	Ok
176	95-101% of mass 174	73.85	99.07	Ok
177	5-9% of mass 176	5.51	7.46	Ok

Injection Date: 09/21/95
Injection Time: 12:19
Data File: >G4607
Scan: 151

THIS IS THE RESULT OF AVERAGING 150.00 151.00 152.00
AND SUBTRACTING BACKGROUND SCAN 100



5A

VOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN27

Lab File ID: >G4890 BFB Injection Date: 10/03/95

Instrument ID: GMS BFB Injection Time: 22:42

ION ABUNDANCE CRITERIA for G4890 are reported on a separate sheet.

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
VSTD050	VSTD050	G4891	10/03/95	23:22
LSV1125	90186-055MS	G4901	10/04/95	06:40

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB) '88

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	26.58	26.58	Ok
75	30-60% of mass 95	58.51	58.51	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.63	7.63	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	73.20	73.20	Ok
175	5-9% of mass 174	5.35	7.31	Ok
176	95-101% of mass 174	70.50	96.31	Ok
177	5-9% of mass 176	4.57	6.48	Ok

Injection Date: 10/03/95
Injection Time: 22:42
Data File: >G4890
Scan: 899

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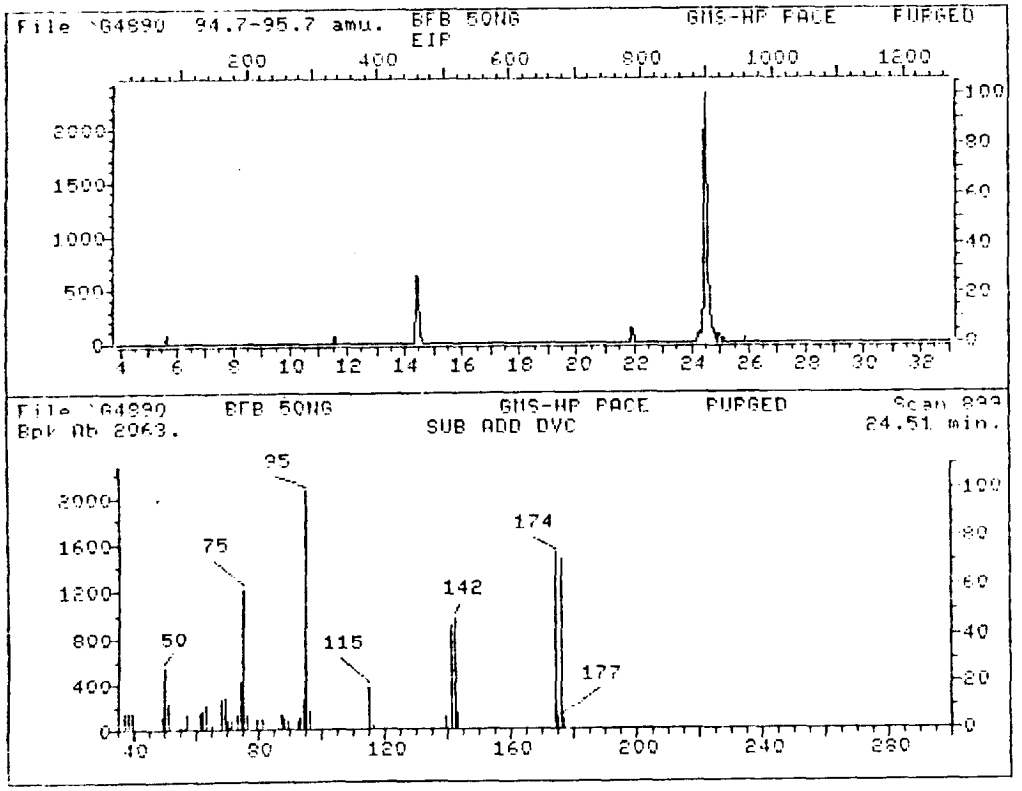
AND SUBTRACTING BACKGROUND SCAN 100



5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN27

Lab File ID: >G4934 BFB Injection Date: 10/05/95

Instrument ID: GMS BFB Injection Time: 10:10

ION ABUNDANCE CRITERIA for G4934 are reported on a separate sheet.

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
VSTD050	VSTD050	G4936	10/05/95	11:27
BG100595A1	90184-146	G4937	10/05/95	12:07
LCG100595A1	90184-146MS	G4974	10/06/95	14:21
CLJ44-CU-058	45563-009	G4939	10/05/95	14:05
CLJ44-CU-059	45563-010	G4940	10/05/95	14:46
CLJ44-CU-060	45563-011	G4941	10/05/95	15:26
CLJ44-CC-062	45563-012	G4942	10/05/95	16:06
CLJ44-CC-067	45563-013	G4943	10/05/95	16:46
CLJ44-CC-067	45563-016	G4945	10/05/95	18:06
CLJ44-CC-068-RB	45563-020	G4946	10/05/95	18:46
CLJ44-CC-069-TB	45563-022	G4947	10/05/95	19:26

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB) '88

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	22.69	22.69	Ok
75	30-60% of mass 95	55.06	55.06	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.56	7.56	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	74.47	74.47	Ok
175	5-9% of mass 174	5.18	6.95	Ok
176	95-101% of mass 174	71.72	96.31	Ok
177	5-9% of mass 176	5.36	7.48	Ok

Injection Date: 10/05/95
Injection Time: 10:10
Data File: >G4934
Scan: 160

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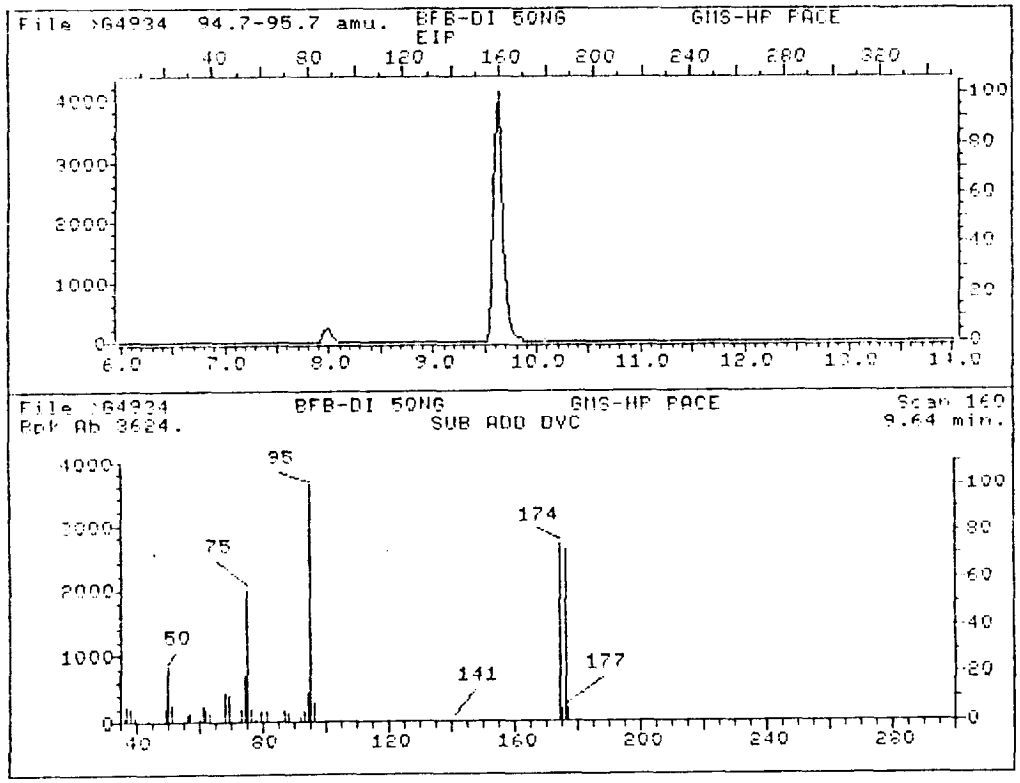
AND SUBTRACTING BACKGROUND SCAN 100



5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN27

Lab File ID: >G4969 BFB Injection Date: 10/06/95

Instrument ID: GMS BFB Injection Time: 10:44

ION ABUNDANCE CRITERIA for G4969 are reported on a separate sheet.

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
VSTD050	VSTD050	G4971	10/06/95	12:03
BG100695A1	90184-149	G4972	10/06/95	12:43
LCG100695A1	90184-149MS	G4974	10/06/95	14:21
TCLPBLK401 5ML	90184-150	G4975	10/06/95	15:01
BV1125C	90186-057	G4977	10/06/95	16:22

pace INCORPORATED THE ASSURANCE OF QUALITY

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB) '88

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	20.88	20.88	Ok
75	30-60% of mass 95	55.42	55.42	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	5.01	5.01	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	77.39	77.39	Ok
175	5-9% of mass 174	5.55	7.18	Ok
176	95-101% of mass 174	74.06	95.71	Ok
177	5-9% of mass 176	5.64	7.62	Ok

Injection Date: 10/06/95
Injection Time: 10:44
Data File: >G4969
Scan: 146

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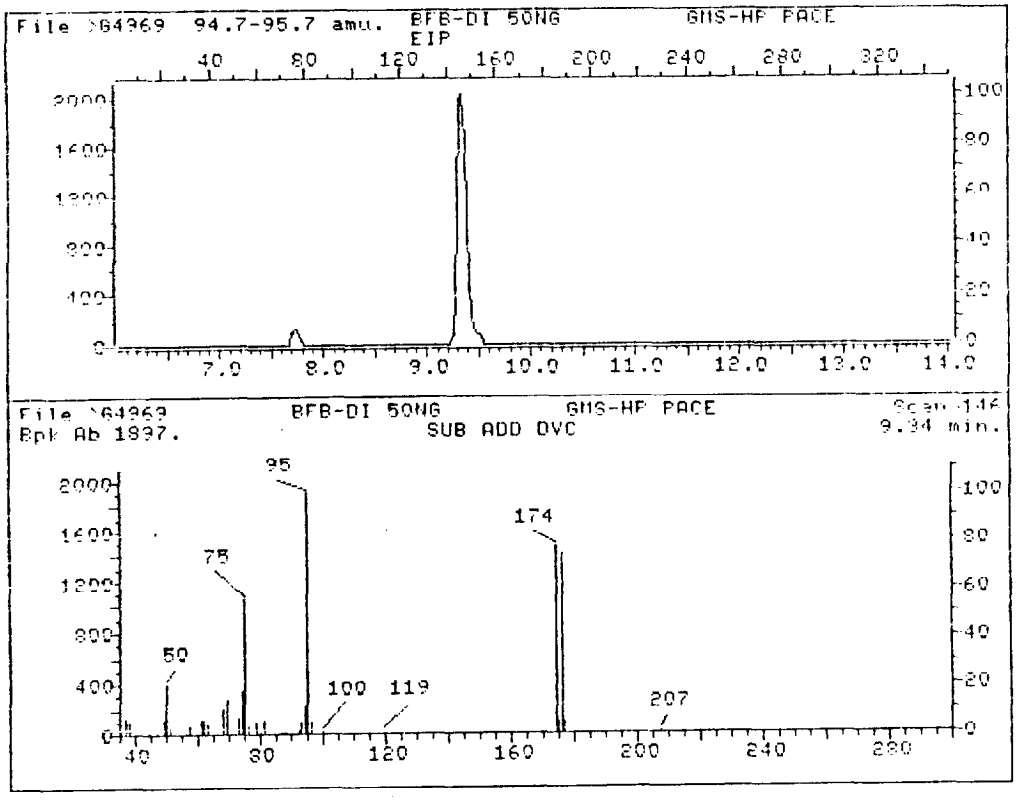
AND SUBTRACTING BACKGROUND SCAN 100



5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN27

Lab File ID: >G5120 BFB Injection Date: 10/13/95

Instrument ID: GMS BFB Injection Time: 14:37

ION ABUNDANCE CRITERIA for G5120 are reported on a separate sheet.

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
VSTD200	VSTD200	G5121	10/13/95	15:35
VSTD100	VSTD100	G5122	10/13/95	16:15
VSTD050	VSTD050	G5123	10/13/95	16:55
VSTD020	VSTD020	G5124	10/13/95	17:34
VSTD010	VSTD010	G5125	10/13/95	18:14
BG101395B1	90184-164	G5128	10/13/95	20:13
LCG101395A1	90184-164MS	G5129	10/13/95	20:53
CLJ44-CC-062	45563-014	G5130	10/13/95	21:33

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB) '88

10/16/95

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
50	15-40% of mass 95	23.00	23.00	Ok
75	30-60% of mass 95	53.82	53.82	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.02	7.02	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	78.01	78.01	Ok
175	5-9% of mass 174	5.84	7.48	Ok
176	95-101% of mass 174	77.81	99.74	Ok
177	5-9% of mass 176	4.98	6.40	Ok

Injection Date: 10/13/95
Injection Time: 14:37
Data File: >G5120
Scan: 158

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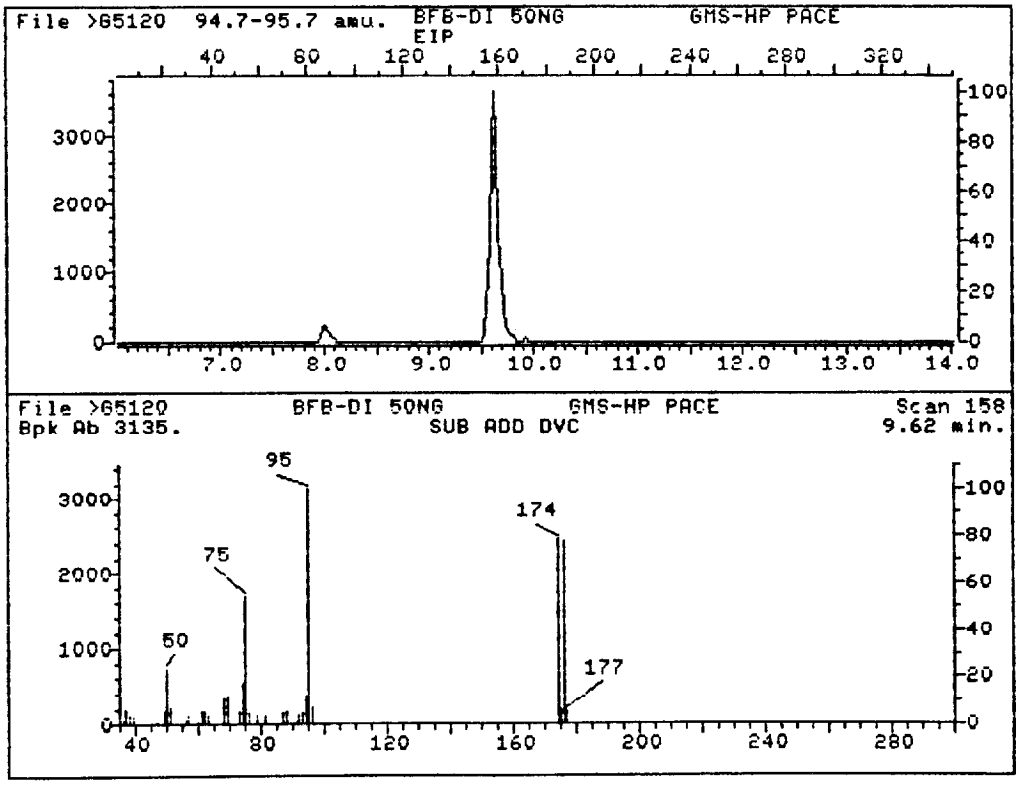
AND SUBTRACTING BACKGROUND SCAN 100



DMR
9/25/95

CG0921/IG0921

Initial Calibration Data
HSL Compounds

Case No: ---------- Instrument ID: GMS-HP ----------

Contractor: RESAN ---------- Calibration Date: 09/21/95 ----------

Contract No: 68020026 ----------

Minimum $\overline{RF}$ for SPCC is .3 Maximum % RSD for CCC is 30%

Laboratory ID:	>64614	>64612	>64611	>64610	>64609					
	RF	RF	RF	RF	RF					
Compound	10.00	20.00	50.00	100.00	200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C010 CHLOROMETHANE	.41361	.40033	.37849	.42241	.48325	.413	.41962	9.349		**
C015 BROMOMETHANE	1.02446	.93251	.81099	.75660	.58565	.491	.82204	20.488		
C020 VINYL CHLORIDE	.88894	.88646	.78811	.78153	.70716	.428	.81044	9.546	*	
C025 CHLOROETHANE	.46918	.46179	.44855	.43566	.40965	.502	.44497	5.290		
C030 METHYLENE CHLORIDE	1.69945	1.40097	1.16931	1.23239	1.05574	.709	1.31157	19.076		
C035 ACETONE	.41842	.27526	.34567	.23978	.30224	.614	.31627	21.807		
C040 CARBON DISULFIDE	2.38264	2.48355	2.38169	2.61195	2.46201	.714	2.46437	3.832		
C042 TRICHLOROFLUOROMETHANE	3.79956	3.92046	3.60681	3.79935	3.60283	.541	3.74580	3.680		
C045 1,1-DICHLOROETHENE	1.12194	1.20189	1.10772	1.16962	1.14880	.633	1.15000	3.269	*	
C058 TETRAHYDROFURAN	.08243	.09611	.08315	.09481	.08684	1.012	.08867	7.260		
C050 1,1-DICHLOROETHANE	2.63042	2.71397	2.45854	2.47733	2.23082	.832	2.50222	7.408		**
C054 1,2-DICHLOROETHENE(cis)	1.33185	1.44896	1.30795	1.37474	1.26883	.941	1.34647	5.123		
C053 1,2-DICHLOROETHENE(trans)	1.39767	1.48760	1.36618	1.47956	1.32996	.761	1.41219	4.921		
MTBE	2.99003	3.21675	2.89267	3.19336	2.95510	.739	3.04958	4.800		
C060 CHLOROFORM	3.79708	4.11745	3.63981	3.87002	3.55077	.971	3.79503	5.793	*	
C110 2-BUTANONE	.47846	.50773	.49702	.46214	.49941	.910	.48895	3.766		
C065 1,2-DICHLOROETHANE	2.73443	2.90441	2.58106	2.67418	2.44763	1.123	2.66834	6.395		
CS15 1,2-DICHLOROETHANE-d4	1.91001	2.60514	2.18874	2.19154	2.03077	1.106	2.18524	12.020		
C115 1,1,1-TRICHLOROETHANE	.71280	.77892	.73081	.83348	.80766	.886	.77273	6.566		
C120 CARBON TETRACHLORIDE	.61113	.67561	.64928	.73605	.73213	.928	.68084	7.896		
C125 VINYL ACETATE	.37941	.41255	.27091	.36061	.23503	.704	.33170	22.706		
C130 BROMODICHLOROMETHANE	.75009	.83885	.78872	.89812	.87140	1.127	.82944	7.264		
C140 1,2-DICHLOROPROPANE	.33056	.35779	.31768	.34405	.32573	1.087	.33516	4.734	*	
C143 CIS-1,3-DICHLOROPROPENE	.45106	.52149	.47930	.53911	.48826	1.224	.49584	7.035		
C150 TRICHLOROETHENE	.40109	.43538	.40415	.43291	.43011	1.057	.42073	3.962		
C155 DIBROMOCHLOROMETHANE	.51900	.63157	.59115	.68815	.68611	1.439	.62319	11.384		
C160 1,1,2-TRICHLOROETHANE	.29703	.33067	.29432	.33242	.30544	1.344	.31198	5.878		
C165 BENZENE	.82793	.89305	.77934	.86723	.82468	.954	.83845	5.200		
C172 TRANS-1,3-DICHLOROPROPENE	.35296	.41909	.40161	.45422	.42685	1.316	.41095	9.139		
C176 2-CHLOROETHYLVINYLETHER	.07335	.14488	.13206	.15455	.15011	1.182	.13099	25.425		

RF - Response Factor (Subscript is amount in ug/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

NC
9/25/95

Initial Calibration Data
HSL Compounds

Case No: _____ Instrument ID: GMS-HP

Contractor: RESAN Calibration Date: 09/21/95

Contract No: 68020026

CCC921 / ICC921

Minimum $\overline{RF}$ for SPCC is .3 Maximum % RSD for CCC is 30%

Laboratory ID:	>64614	>64612	>64611	>64610	>64609					
	RF	RF	RF	RF	RF					
Compound	10.00	20.00	50.00	100.00	200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C180 BROMOFORM	.35662	.46464	.43177	.52724	.52793	1.741	.46164	15.556		**
CS05 TOLUENE-d8	.79215	1.08184	.95240	.99211	1.01977	.818	.96765	11.248		
C205 4-METHYL-2-PENTANONE	.37079	.48780	.45638	.51520	.51016	.766	.46807	12.631		
C210 2-HEXANONE	.14603	.20666	.21822	.22818	.24540	.870	.20890	18.147		
C220 TETRACHLOROETHENE	.47155	.48172	.45975	.49991	.49132	.905	.48085	3.297		
C225 1,1,2,2-TETRACHLOROETHANE	.65580	.74750	.62648	.72874	.64946	1.144	.68160	7.799		**
C230 TOLUENE	1.34456	1.33040	1.24836	1.34928	1.31809	.827	1.31814	3.102	*	
C235 CHLOROBENZENE	.93519	.99896	.90164	.97057	.95008	1.004	.95129	3.852		**
C240 ETHYLBENZENE	.42385	.48005	.41903	.46303	.45311	1.012	.44781	5.804	*	
C245 STYRENE	.85125	.95021	.83312	.91321	.90317	1.081	.89019	5.350		
C251 XYLENE (O)	.49732	.54467	.49441	.51292	.50892	1.077	.51165	3.911		
C250 XYLENE (total)	.50330	.53761	.49237	.52226	.50056	1.022	.51122	3.593		(Conc=20.0,40.0,100.0,200
CS10 BROMOFLUOROBENZENE	.74651	1.01852	.84251	.88090	.86047	1.154	.86978	11.247		

RF - Response Factor (Subscript is amount in ug/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No:

Instrument ID: HP-GMS

Contractor: RESAN

Calibration Date: 10/16/95 10/13/95

Contract No: 68D20026

ASR 10/15/95

SG1013/LG1013

Minimum $\overline{RF}$ for SPCC is .30

Maximum % RSD for CCC is 30%

Laboratory ID:	>G5125	>G5124	>G5123	>G5122	>G5121					
Compound	RF 10.00	RF 20.00	RF 50.00	RF 100.00	RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C010 CHLOROMETHANE	.67329	.54387	.56320	.58226	.57735	.412	.58799	8.496		**
C015 BROMOMETHANE	1.56719	1.25801	1.21613	1.07765	.85410	.490	1.19462	21.866		
C020 VINYL CHLORIDE	1.07485	.94161	.95802	.88614	.87431	.428	.94699	8.429	*	
C025 CHLOROETHANE	.65412	.45946	.53877	.45844	.39069	.502	.50030	20.132		
C030 METHYLENE CHLORIDE	2.64849	1.80462	1.54941	1.29745	1.21956	.709	1.70391	33.791		
C035 ACETONE	1.03281	.50252	.38535	.34399	.51731	.616	.55640	49.692		
C040 CARBON DISULFIDE	2.58502	2.20158	2.43718	2.43972	2.51870	.714	2.43644	5.948		
C042 TRICHLOROFLUOROMETHANE	3.40941	2.88311	3.05338	2.95132	2.97117	.541	3.05368	6.809		
C045 1,1-DICHLOROETHENE	1.38560	1.51176	1.25964	1.25684	1.25619	.634	1.33400	8.530	*	
C058 TETRAHYDROFURAN	.24901	.21603	.19901	.19223	.15064	1.012	.20139	17.812		
C050 1,1-DICHLOROETHANE	2.96295	2.57388	2.55928	2.38952	2.22522	.833	2.54217	10.811		**
C054 1,2-DICHLOROETHENE(cis)	1.92491	1.72832	1.74319	1.62217	1.60482	.941	1.72468	7.410		
C053 1,2-DICHLOROETHENE(trans)	1.63229	1.47565	1.55760	1.50118	1.54159	.761	1.54166	3.901		
C060 CHLOROFORM	3.89413	3.39852	3.45595	3.32634	3.26458	.971	3.46791	7.180	*	
C110 2-BUTANONE	1.42613	.95093	.82264	.83831	.74784	.910	.95717	28.421		
C065 1,2-DICHLOROETHANE	2.79681	2.45366	2.44165	2.28302	2.12051	1.124	2.41913	10.376		
CS15 1,2-DICHLOROETHANE-d4	2.30360	2.39224	1.94706	1.78476	1.64585	1.105	2.01470	16.074		
C115 1,1,1-TRICHLOROETHANE	.68316	.59798	.64630	.64966	.67633	.886	.65069	5.160		
C120 CARBON TETRACHLORIDE	.58060	.51834	.54945	.57064	.58219	.928	.56024	4.787		
C125 VINYL ACETATE	.61408	.56788	.56733	.52816	.30528	.705	.51655	23.610		
C130 BROMODICHLOROMETHANE	.73048	.66490	.70248	.71836	.75973	1.127	.71519	4.903		
C140 1,2-DICHLOROPROPANE	.39855	.35383	.35541	.34697	.34569	1.087	.36009	6.085	*	
C143 CIS-1,3-DICHLOROPROPENE	.52515	.48131	.49987	.50172	.50244	1.225	.50210	3.100		
C150 TRICHLOROETHENE	.45758	.48012	.40549	.42637	.41381	1.058	.43668	7.174		
C155 DIBROMOCHLOROMETHANE	.61189	.56969	.60192	.60924	.65625	1.439	.60980	5.077		
C160 1,1,2-TRICHLOROETHANE	.38931	.33809	.35373	.34611	.34488	1.344	.35443	5.721		
C165 BENZENE	.99966	1.04113	.86039	.87167	.87654	.955	.92988	9.047		
C172 TRANS-1,3-DICHLOROPROPENE	.47633	.42903	.46039	.45376	.47078	1.316	.45806	4.029		
C176 2-CHLOROETHYLVINYLETHER	.20982	.18612	.19258	.19986	.12722	1.183	.18312	17.729		
C180 BROMOFORM	.48031	.44977	.49218	.50838	.52676	1.740	.49148	5.928		**

RF - Response Factor (Subscript is amount in ug/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No: _____ Instrument ID: HP-GMS

Contractor: RESAN Calibration Date: 10/16/95 10/13/95

Contract No: 68D20026

AVG - 10/13/95 - 3

5G1013 / L.G1013

Minimum $\overline{RF}$ for SPCC is .30 Maximum % RSD for CCC is 30%

Laboratory ID: >G5125 >G5124 >G5123 >G5122 >G5121

Compound	RF 10.00	RF 20.00	RF 50.00	RF 100.00	RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC	
CS05 TOLUENE-d8	1.11712	1.19142	.99361	.98048	.96983	.818	1.05049	9.393			
CZ05 4-METHYL-2-PENTANONE	.98443	.83105	.79869	.79561	.64105	.767	.81017	15.086			
CZ10 2-HEXANONE	.54447	.42815	.41755	.40498	.42021	.870	.44307	12.930			
CZ20 TETRACHLOROETHENE	.49381	.43179	.45846	.46398	.47550	.905	.46471	4.915			
CZ25 1,1,2,2-TETRACHLOROETHANE	1.05290	.92984	.90910	.86726	.79858	1.144	.91154	10.269		**	
CZ30 TOLUENE	1.70569	1.71070	1.40877	1.37773	1.38215	.827	1.51701	11.532	*		
CZ35 CHLOROBENZENE	1.06960	1.17054	.96029	.94803	.97131	1.005	1.02395	9.285		**	
CZ40 ETHYLBENZENE	.50163	.43573	.45684	.44598	.45076	1.012	.45819	5.561	*		
CZ45 STYRENE	.99392	.92552	.90609	.91601	.95833	1.081	.93998	3.828			
CZ51 XYLENE (O)	.56421	.51691	.52653	.49366	.51075	1.077	.52241	5.026			
CZ50 XYLENE (total)	.62909	.56065	.56825	.58602	.58444	1.022	.58569	4.531			(Conc=20.0,40.0,100.0,200
CS10 BROMOFLUOROBENZENE	.96198	.95767	.79301	.76297	.74917	1.154	.84496	12.552			

RF - Response Factor (Subscript is amount in ug/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: | Calibration Date: 10/03/95

Contractor: RESAN | Time: 23:22

Contract No: 68020026 | Laboratory ID: >G4891

Instrument ID: GMS-HP | Initial Calibration Date: 09/21/95

Minimum RF for SPCC is .3 | Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C010 CHLOROMETHANE	.41962	.48801	16.30		**
C015 BROMOMETHANE	.82204	1.26497	53.88		
C020 VINYL CHLORIDE	.81044	.89108	9.95	*	
C025 CHLOROETHANE	.44497	.60832	36.71		
C030 METHYLENE CHLORIDE	1.31157	1.52546	16.31		
C035 ACETONE	.31627	.20168	36.23		
C040 CARBON DISULFIDE	2.46437	1.89649	23.04		
C042 TRICHLOROFLUOROMETHANE	3.74580	3.42866	8.47		
C045 1,1-DICHLOROETHENE	1.15000	1.12085	2.53	*	
C058 TETRAHYDROFURAN	.08867	.09895	11.60		
C050 1,1-DICHLOROETHANE	2.50222	2.62835	5.04		**
C054 1,2-DICHLOROETHENE(cis)	1.34647	1.72722	28.28		
C053 1,2-DICHLOROETHENE(trans)	1.41219	1.42864	1.16		
MTBE	3.04958	3.14279	3.06		
C060 CHLOROFORM	3.79503	3.81811	.61	*	
C110 2-BUTANONE	.48895	.40810	16.54		
C065 1,2-DICHLOROETHANE	2.66834	2.72964	2.30		
CS15 1,2-DICHLOROETHANE-d4	2.18524	2.22590	1.86		
C115 1,1,1-TRICHLOROETHANE	.77273	.71081	8.01		
C120 CARBON TETRACHLORIDE	.68084	.62708	7.90		
C125 VINYL ACETATE	.33170	.38289	15.43		
C130 BROMODICHLOROMETHANE	.82944	.72950	12.05		
C140 1,2-DICHLOROPROPANE	.33516	.34089	1.71	*	
C143 CIS-1,3-DICHLOROPROPENE	.49584	.47178	4.85		
C150 TRICHLOROETHENE	.42073	.40579	3.55		
C155 DIBROMOCHLOROMETHANE	.62319	.57776	7.29		
C160 1,1,2-TRICHLOROETHANE	.31198	.31850	2.09		
C165 BENZENE	.83845	.84609	.91		
C172 TRANS-1,3-DICHLOROPROPENE	.41095	.41438	.84		
C176 2-CHLOROETHYLVINYLETHER	.13099	.14137	7.92		
C180 BROMOFORM	.46164	.41329	10.47		**
CS05 TOLUENE-d8	.96765	.98586	1.88		

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/03/95

Contractor: RESAN Time: 23:22

Contract No: 68020026 Laboratory ID: >G4891

Instrument ID: GMS-HP Initial Calibration Date: 09/21/95

Minimum $\overline{RF}$ for SPCC is .3 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
C205 4-METHYL-2-PENTANONE	.46807	.47335	1.13			
C210 2-HEXANONE	.20890	.18995	9.07			
C220 TETRACHLOROETHENE	.48085	.46966	2.33			
C225 1,1,2,2-TETRACHLOROETHANE	.68160	.65883	3.34		**	
C230 TOLUENE	1.31814	1.36038	3.20	*		
C235 CHLOROBENZENE	.95129	.95283	.16		**	
C240 ETHYLBENZENE	.44781	.44369	.92	*		
C245 STYRENE	.89019	.93960	5.55			
C251 XYLENE (O)	.51165	.55315	8.11			
C250 XYLENE (total)	.51122	.58988	15.39			(Conc=100.00)
CS10 BROMOFLUOROBENZENE	.86978	.88761	2.05			

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/05/95

Contractor: RESAN Time: 11:27

Contract No: 68020026 Laboratory ID: >G4936

Instrument ID: GMS-HP Initial Calibration Date: 09/21/95

Minimum $\overline{RF}$ for SPCC is .3 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C010 CHLOROMETHANE	.41962	.46348	10.45		**
C015 BROMOMETHANE	.82204	1.14218	38.94		
C020 VINYL CHLORIDE	.81044	.81095	.06	*	
C025 CHLOROETHANE	.44497	.58777	32.09		
C030 METHYLENE CHLORIDE	1.31157	1.29205	1.49		
C035 ACETONE	.31627	.27195	14.01		
C040 CARBON DISULFIDE	2.46437	1.80301	26.84		
C042 TRICHLOROFLUOROMETHANE	3.74580	3.25289	13.16		
C045 1,1-DICHLOROETHENE	1.15000	1.07419	6.59	*	
C058 TETRAHYDROFURAN	.08867	.09555	7.77		
C050 1,1-DICHLOROETHANE	2.50222	2.43320	2.76		**
C054 1,2-DICHLOROETHENE(cis)	1.34647	1.66988	24.02		
C053 1,2-DICHLOROETHENE(trans)	1.41219	1.35988	3.70		
MTBE	3.04958	3.10436	1.80		
C060 CHLOROFORM	3.79503	3.57979	5.67	*	
C110 2-BUTANONE	.48895	.42838	12.39		
C065 1,2-DICHLOROETHANE	2.66834	2.47167	7.37		
CS15 1,2-DICHLOROETHANE-d4	2.18524	2.09337	4.20		
C115 1,1,1-TRICHLOROETHANE	.77273	.66405	14.06		
C120 CARBON TETRACHLORIDE	.68084	.57871	15.00		
C125 VINYL ACETATE	.33170	.37288	12.42		
C130 BROMODICHLOROMETHANE	.82944	.68536	17.37		
C140 1,2-DICHLOROPROPANE	.33516	.31821	5.06	*	
C143 CIS-1,3-DICHLOROPROPENE	.49584	.45266	8.71		
C150 TRICHLOROETHENE	.42073	.37740	10.30		
C155 DIBROMOCHLOROMETHANE	.62319	.53521	14.12		
C160 1,1,2-TRICHLOROETHANE	.31198	.28213	9.57		
C165 BENZENE	.83845	.80994	3.40		
C172 TRANS-1,3-DICHLOROPROPENE	.41095	.40403	1.68		
C176 2-CHLOROETHYLVINYLETHER	.13099	.13051	.36		
C180 BROMOFORM	.46164	.36917	20.03		**
CS05 TOLUENE-d8	.96765	.99733	3.07		

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/05/95

Contractor: RESAN Time: 11:27

Contract No: 68020026 Laboratory ID: >G4936

Instrument ID: GMS-HP Initial Calibration Date: 09/21/95

Minimum $\overline{RF}$ for SPCC is .3 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
C205 4-METHYL-2-PENTANONE	.46807	.41714	10.88			
C210 2-HEXANONE	.20890	.17152	17.89			
C220 TETRACHLORDETHENE	.48085	.43383	9.78			
C225 1,1,2,2-TETRACHLORDETHANE	.68160	.60679	10.97		**	
C230 TOLUENE	1.31814	1.25526	4.77	*		
C235 CHLORDBENZENE	.95129	.88936	6.51		**	
C240 ETHYLBENZENE	.44781	.41255	7.87	*		
C245 STYRENE	.89019	.87832	1.33			
C251 XYLENE (O)	.51165	.50038	2.20			
C250 XYLENE (total)	.51122	.54689	6.98			(Conc=100.00)
CS10 BROMOFLUORDBENZENE	.86978	.85100	2.16			

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/06/95

Contractor: RESAN Time: 12:03

Contract No: 68D20026 Laboratory ID: >G4971

Instrument ID: GMS-HP Initial Calibration Date: 09/21/95

Minimum RF for SPCC is .3 Maximum % Diff for CCC is 25%

IC's (NL)

Compound	RF	RF	%Diff	CCC	SPCC
C010 CHLOROMETHANE	.41962	.43739	4.24		**
C015 BROMOMETHANE	.82204	1.15513	40.52	.	
C020 VINYL CHLORIDE	.81044	.78396	3.27	*	
C025 CHLOROETHANE	.44497	.53414	20.04		
C030 METHYLENE CHLORIDE	1.31157	1.28631	1.93		
C035 ACETONE	.31627	.23688	25.10		
C040 CARBON DISULFIDE	2.46437	1.80946	26.58		
C042 TRICHLOROFLUOROMETHANE	3.74580	3.06981	18.05		
C045 1,1-DICHLOROETHENE	1.15000	1.11276	3.24	*	
C058 TETRAHYDROFURAN	.08867	.09987	12.64		
C050 1,1-DICHLOROETHANE	2.50222	2.47091	1.25		**
C054 1,2-DICHLOROETHENE(cis)	1.34647	1.68497	25.14		
C053 1,2-DICHLOROETHENE(trans)	1.41219	1.34788	4.55		
MTBE	3.04958	3.32505	9.03		
C060 CHLOROFORM	3.79503	3.66875	3.33	*	
C110 2-BUTANONE	.48895	.53519	9.46		
C065 1,2-DICHLOROETHANE	2.66834	2.51523	5.74		
CS15 1,2-DICHLOROETHANE-d4	2.18524	2.08492	4.59		
C115 1,1,1-TRICHLOROETHANE	.77273	.65258	15.55		
C120 CARBON TETRACHLORIDE	.68084	.57598	15.40		
C125 VINYL ACETATE	.33170	.42685	28.69		
C130 BROMODICHLOROMETHANE	.82944	.71553	13.73		
C140 1,2-DICHLOROPROPANE	.33516	.33450	.20	*	
C143 CIS-1,3-DICHLOROPROPENE	.49584	.46396	6.43		
C150 TRICHLOROETHENE	.42073	.40825	2.97		
C155 DIBROMOCHLOROMETHANE	.62319	.60364	3.14		
C160 1,1,2-TRICHLOROETHANE	.31198	.31848	2.08		
C165 BENZENE	.83845	.80057	4.52		
C172 TRANS-1,3-DICHLOROPROPENE	.41095	.41630	1.30		
C176 2-CHLOROETHYLVINYLETHER	.13099	.13522	3.23		
C180 BROMOFORM	.46164	.43629	5.49		**
CS05 TOLUENE-d8	.96765	1.00454	3.81		

RF - Response Factor from daily standard file at 50.00 ug/L

RF - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/06/95

Contractor: RESAN Time: 12:03

Contract No: 68D20026 Laboratory ID: >G4971

Instrument ID: GMS-HP Initial Calibration Date: 09/21/95

Minimum $\overline{RF}$ for SPCC is .3 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
C205 4-METHYL-2-PENTANONE	.46807	.48132	2.83			
C210 2-HEXANONE	.20890	.20622	1.28			
C220 TETRACHLOROETHENE	.48085	.42608	11.39			
C225 1,1,2,2-TETRACHLOROETHANE	.68160	.64353	5.58		**	
C230 TOLUENE	1.31814	1.25711	4.63	*		
C235 CHLOROBENZENE	.95129	.89967	5.43		**	
C240 ETHYLBENZENE	.44781	.42179	5.81	*		
C245 STYRENE	.89019	.90561	1.73			
C251 XYLENE (O)	.51165	.49468	3.32			
C250 XYLENE (total)	.51122	.54065	5.76			(Conc=100.00)
C510 BROMOFLUOROBENZENE	.86978	.83114	4.44			

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/13/95

Contractor: RESAN Time: 16:55

Contract No: 68D20026 Laboratory ID: >G5123

Instrument ID: HP-GMS Initial Calibration Date: ~~10/16/95~~ 10/5/95

Minimum $\overline{RF}$ for SPCC is .30 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
C010 CHLOROMETHANE	.58799	.56320	4.22		**	
C015 BROMOMETHANE	1.19462	1.21613	1.80			
C020 VINYL CHLORIDE	.94699	.95802	1.17	*		
C025 CHLOROETHANE	.50030	.53877	7.69			
C030 METHYLENE CHLORIDE	1.70391	1.54941	9.07			
C035 ACETONE	.55640	.38535	30.74			
C040 CARBON DISULFIDE	2.43644	2.43718	.03			
C042 TRICHLOROFLUOROMETHANE	3.05368	3.05338	.01			
C045 1,1-DICHLOROETHENE	1.33400	1.25964	5.57	*		
C058 TETRAHYDROFURAN	.20139	.19901	1.18			
C050 1,1-DICHLOROETHANE	2.54217	2.55928	.67		**	
C054 1,2-DICHLOROETHENE(cis)	1.72468	1.74319	1.07			
C053 1,2-DICHLOROETHENE(trans)	1.54166	1.55760	1.03			
C060 CHLOROFORM	3.46791	3.45595	.34	*		
C110 2-BUTANONE	.95717	.82264	14.05			
C065 1,2-DICHLOROETHANE	2.41913	2.44165	.93			
CS15 1,2-DICHLOROETHANE-d4	2.01470	1.94706	3.36			
C115 1,1,1-TRICHLOROETHANE	.65069	.64630	.67			
C120 CARBON TETRACHLORIDE	.56024	.54945	1.93			
C125 VINYL ACETATE	.51655	.56733	9.83			
C130 BROMODICHLOROMETHANE	.71519	.70248	1.78			
C140 1,2-DICHLOROPROPANE	.36009	.35541	1.30	*		
C143 CIS-1,3-DICHLOROPROPENE	.50210	.49987	.44			(Conc=50.00)
C150 TRICHLOROETHENE	.43668	.40549	7.14			
C155 DIBROMOCHLOROMETHANE	.60980	.60192	1.29			
C160 1,1,2-TRICHLOROETHANE	.35443	.35373	.20			
C165 BENZENE	.92988	.86039	7.47			
C172 TRANS-1,3-DICHLOROPROPENE	.45806	.46039	.51			(Conc=50.00)
C176 2-CHLOROETHYLVINYLETHER	.18312	.19258	5.17			
C180 BROMOFORM	.49148	.49218	.14		**	
CS05 TOLUENE-d8	1.05049	.99361	5.41			
C205 4-METHYL-2-PENTANONE	.81017	.79869	1.42			

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No:

Calibration Date: 10/13/95

Contractor: RESAN

Time: 16:55

Contract No: 68D20026

Laboratory ID: >G5123

L6803

Instrument ID: HP-GMS

Initial Calibration Date: 10/~~16/95~~ 10/13/95

10/13/95

Minimum RF for SPCC is .30

Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
C210 2-HEXANONE	.44307	.41755	5.76			
C220 TETRACHLOROETHENE	.46471	.45846	1.34			
C225 1.1.2.2-TETRACHLOROETHANE	.91154	.90910	.27		**	
C230 TOLUENE	1.51701	1.40877	7.14	*		
C235 CHLOROBENZENE	1.02395	.96029	6.22		**	
C240 ETHYLBENZENE	.45819	.45684	.29	*		
C245 STYRENE	.93998	.90609	3.60			
C251 XYLENE (O)	.52241	.52653	.79			
C250 XYLENE (total)	.58569	.56825	2.98			(Conc=100.00)
CS10 BROMOFLUOROBENZENE	.84496	.79301	6.15			

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN27

Lab File ID (Standard): >G4891 Date Analyzed: 10/03/95

Instrument ID: GMS Time Analyzed: 23:22

	IS1(BCM)		IS2(DFB)		IS3(CBZ)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	91307	11.50	458362	13.64	342366	21.19
UPPER LIMIT	182614	12.00	916724	14.14	684732	21.69
LOWER LIMIT	45654	11.00	229181	13.14	171183	20.69
CLIENT I.D.						
LSV1125	85432	11.50	452150	13.61	356937	21.18

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50%

Column used to flag internal standard area values outside of UPPER and LOWER LIMIT with an asterisk

pace INCORPORATED THE ASSURANCE OF QUALITY

8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN27

Lab File ID (Standard): >G4936 Date Analyzed: 10/05/95

Instrument ID: GMS Time Analyzed: 11:27

	IS1(BCM)		IS2(DFB)		IS3(CBZ)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	102580	11.50	525314	13.62	395821	21.17
UPPER LIMIT	205160	12.00	1050628	14.12	791642	21.67
LOWER LIMIT	51290	11.00	262657	13.12	197911	20.67
CLIENT I.D.						
BG100595A1	95134	11.54	496314	13.65	366312	21.17
LCG100595A1	61293	11.52	316748	13.63	251705	21.18
CLJ44-CU-058	92202	11.51	507543	13.62	394631	21.19
CLJ44-CU-059	94429	11.51	495131	13.62	376981	21.17
CLJ44-CU-060	91804	11.52	500814	13.63	380530	21.18
CLJ44-CC-062	94546	11.50	491343	13.63	380692	21.18
CLJ44-CC-067	87701	11.52	486892	13.65	379147	21.20
CLJ44-CC-067	98137	11.49	518689	13.60	415360	21.16
CLJ44-CC-068-RB	98632	11.50	531698	13.61	448596	21.16
CLJ44-CC-069-TB	96314	11.46	527056	13.60	402056	21.15

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50%

Column used to flag internal standard area values outside of UPPER and LOWER LIMIT with an asterisk

pace INCORPORATED THE ASSURANCE OF QUALITY

8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN27

Lab File ID (Standard): >G4971 Date Analyzed: 10/06/95

Instrument ID: GMS Time Analyzed: 12:03

	IS1(BCM)		IS2(DFB)		IS3(CBZ)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	67486	11.51	335517	13.60	262204	21.17
UPPER LIMIT	134972	12.01	671034	14.10	524408	21.67
LOWER LIMIT	33743	11.01	167759	13.10	131102	20.67
CLIENT I.D.						
BG100695A1	63944	11.50	334649	13.64	252220	21.18
LCG100695A1	61293	11.52	316748	13.63	251705	21.18
TCLPBLK401 5ML	71100	11.52	379885	13.64	299467	21.18
BV1125C	71689	11.48	376699	13.61	300330	21.18

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%

Column used to flag internal standard area values outside of UPPER and LOWER LIMIT with an asterisk

pace INCORPORATED THE ASSURANCE OF QUALITY

8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN27

Lab File ID (Standard): >G5121 Date Analyzed: 10/13/95

Instrument ID: GMS Time Analyzed: 15:35

	IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	97086	11.42	457082	13.56	351529	21.16
UPPER LIMIT	194172	11.92	914164	14.06	703058	21.66
LOWER LIMIT	48543	10.92	228541	13.06	175765	20.66
CLIENT I.D.						
BG101395B1	77070	11.55	376314	13.69	287696	21.26
LCG101395A1	78686	11.57	401411	13.69	302133	21.26
CLJ44-CC-062	54724	11.56	246564	13.70	148196*	21.24

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50%

Column used to flag internal standard area values outside of UPPER and LOWER LIMIT with an asterisk

pace INCORPORATED THE ASSURANCE OF QUALITY

6 54 spt

MSD-5A.M

Voltage = 2075

PACE New England

GCMS/VOA Instr G **MS-HP** Analyst/Date NR 9/21/95 STD Lot # V-6117B

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
G4606	#	—	—	BFB-DI	50ng	MTHR 11/695 =		N	
G4607	#340	—	—	BFB-DI	50ng	MTHR 11/695 = 29K		N	
				Scan 150+151+152-100		OK 1.2V, 191			
				time 12:19		V-6058			
4608		I60521	1	VSHD30	5mls	CG0521/I60521			
09			2	VSHD25				N	
10			3	VSHD20				N	
11			4	VSHD15				N	
12			5	VSHD12				N	
13			6	VSHD10	↓	RE ↑ SURR RF's		N	
14			7	VSHD10	5mls	C-2 C-3a (M2)		Y	
				START OF 2nd WINDOW					
G4615	#	—	—	BFB-DI	50ng			N	
16		—	—	DFB-DI	50ng	BASE IND TARGET		N	
17		—	—	BFB-DI	50ng	BNAR CC		N	
18		—	—	BFB-DI	50ng	IND 23 AT m/z BASE PEAK 100		N	
19	#340	—	—	BFB-DI	50ng	V-6058 M/695 = 22K		N	
				TIME 20:00		53 .91			
				SCAN 149+150+151-100					
G4620		I60521	8	VSHD10 @	5mls			N	
21		I60521	9	BG0521 95A 21	↓	VBLKCR		N	
22			10	BG0921 95B1	↓	VBLKCS		N	✓
23			11	LCG0921 95A1	5mls			N	✓
24			12	45,347-1C	3mls	[illegible] CH3CN 9/23		N	
25			13	45,346-6B	3mls	[illegible]		N	
26			14	45,347-4C	3mls	[illegible]		N	
27			15	-4115D		[illegible]		N	
28			2	-4115DE		V		N	
29			3	45,371-5	5mls	(RTIV2A) [illegible]		N	✓
30			4	-4-	↓	[illegible]		N	✓
31			5	-1	200uls	MB=C47 ↑ NTC [illegible]		N	✓
32			6	-32115	1	1 [illegible]		N	✓

MS5SAm
Voltage: 2075

PACE New England

GCMS/VOA Instr G MS-HP Analyst/Date KM 10/3/95 STD Lot # V-6451B

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
>64872	#342	—	—	BFB-DI	50ng	m+r1 m/e95 = 28K		y	
				Scan: 156 157 158 = 100		V-6055 ok '55 + '91			
				time: 1008					
>64873	#343	IG0921	1	VSTD050	5mls	Not used			
75 74	#343	↓	2	VSTD050	↓			y	
76 75	#340	IG1003	3	BG100395A1	↓	VBLKGO ms=c7		y	
>64877		IG1003	4	LCG10035541	5mls			y	
78			5	TCLPBLK399	5mls	TCE		y	
79			6	45,403-2	100mls	(R624MSCan) CHSSO		y	✓
80			7	-4	2.5mls	IPA ms=c7		y	✓
81			8	45,420-1	5mls	(R624MSCan) ms=c7 RE 2.5mls CHSSO	>2	N	
82			9	-2	5mls	ms=c7	>2	y	✓
83			10	-2MS	5mls	ms=c7	>2	y	✓
84			11	-2MSD	5mls	ms=c7	>2	y	✓
85			12	-13	5mls		>2	y	
86			13	TCLPBLK397	5mls			y	✓
87			14	45,429-1	100ml	(R8240MS) (report 64902) confirm TCE- minus 1 DW section in 2nd run		y	
88			15	45,485-1	100ml	(R8240MS) V10/4		y	✓
89			16	BFB 50ng	5mls				
90			1	BFB 50ng	↓	V-6055 scan: 156 157 158 100-100 time: 23:42 ok '55+'91		y	
91		IG0921	2	VSTD050				y	
92		IG1003	3	BG100395A2		VBLKGOP NR 1,2,3 MS 3		y	
93			4	BG100395B2	↓	VBLKGRQ		y	✓
94			5	45,542-5	5mls	(R624TCLP) LJN24 V14		y	✓
95			6	-6	5mls	400		y	✓
96			7	-7	5mls	LR ↓		y	✓
97			8	-8	100ml	(R624MSLR3) LR (R8240)		y	✓
98			9	-9	5mls	↓ (R624MSCan) ✓	<2	y	✓
99			10	LCG10039SA2	5mls			y	
>64900			11	BV1125A	100ml			y	✓

MS≠SAMC -
Voltage: 2075

PACE New England

GCMS/VOA Instr ≠ **MS-HP** Analyst/Date ACP 10/5/95 STD Lot # V-6088

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
			14						
			15						
64934	9343	—	—	BFB-SI	50ng	MAR 11/6/95			
				scan: 159+160+161 -100		V-6088 OK '88 + '91			
				time 10:10					
64735		IG0521	1	VSTD050	5mls	Not used			
36		↓	2	VSTD050	↓	tfreon			
37		IG1005	3	BG1005SSA1	↓	VBLKGL			
64738		IG1005	4	LCG1005SSA1	5mls				
39			5	45,563-9	5mls	(RGMTCLP) VOA 401 WATER			
40			6	-10	↓	↓			
41			7	-11	↓	↓			
42			8	-12	5mls	(RGMTCLP)			
43			9	-13	↓	↓			
44			10	-14	100ml	STD DE 1,4-DIOXANE Project Vendors			
45			11	-16	100ML	NTC			
46			12	-20	5mls	TCLP/ST			
47			13	-22	↓	(RGMMeOH)			
48			14	45,589-8	5mls	(RGMMeOH) WATER			
49			15	TCLPBLK401	↓				
~~50~~			~~16~~	~~TCLPBLK401~~	~~NP-10/5/95~~	~~ST~~			
50			16	BFB 50ng	5mls	Purge Solvent Here			
51			21	BFB 50ng	↓	↓			
52		IG0521	22	VSTD050					
53		IG1005	23	BG1005SSA2		VBLKGV			
54			24	LCG1005SSA2	↓				
55			5	TCLPBLK401	5mls				
56			6	BV1125B	100ml				
57			7	BV1125C	↓				
58			8	45,553-1	5mls	(RGMMeOH) WATER			
59			9	45,463-8	5mls	(RGMMeOH) CHSSI	<2		
60			10	-9	↓		>2		

PACE New England Voltage - 2175

GCMS/VOA Instr G **MS-HP** Analyst/Date ACK 10/6/95 STD Lot #V-G-1013

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
64967	9h	—	—	BFB - DI	50ng	Actual 10/6/95 = 14K		✓	
64968	3	—	—	BFB - DI	50ng	Voltage = 2175 manual 10/6/95 19K		N	
Manual manual tune									
64969	1343	—	—	BFB - DI	50ng	Actual 10/6/95 = 13K		✓	
				Scan 145+146 / 141-100		OK 132 + 191 1.0038			
				Time: 10:44					
64970		LG0921	1	VSTD050	5mls	Not used			
71		↓	2	VSTD050	↓			✓	
72		LG1006	3	BG10069SA1		VPLSGW 90184-149 10/13/95		✓	
						Ave 10/6/95 3)			
64973		LG100X	5	45,253-1	5ME	(RB240MS)		N	✓
74			4	LCG10069SA1	5mls	90184-149MS		✓	
75			6	TCEPBLK401	5mls	90184-150		✓	✓
76			7	BV1125B	10ml			✓	✓
77	344		8	BV1125C	↓	90186-57		✓	✓
78			9	45,463-8	5mls	(RB240MS) CHSST MS = 67	42	✓	✓
79			10	-9	↓		42	✓	✓
80			11	-10		MS 67	42	✓	✓
81			12	-11	↓		42	✓	✓
82			13	-5	1ml		42	✓	✓
83			14	45,538-1	10ml	(RB240MS)	42	✓	✓
84			15	VSTD005	5mls			✓	
85			16	BFB - 50ng	↓	Canceled			
86			1	BFB - 50ng	↓	Voltage 1934 Time 10:44 Rerun		✓	
87		LG0921	2	VSTD050	5mls			✓	
88		LG1006	3	BG10069SA2	↓	VPLKGX		✓	
89			4	LCG10069SA2	↓			✓	
90			5	45,489-1	2.5mls	(RB24)	42	✓	✓
91			6	45,475-1	5mls	(RB240MS) CHSST MS = 67	42	✓	✓
92			7	-2	↓		42	✓	✓
93			8	-3	↓		42	✓	
94			9	Dry pellets -4	↓		42	✓	✓

MS-5AM

Voltage = 2080

PACE New England

GCMS/VOA Instr G **MS-HP** Analyst/Date MR 10/13/95 STD Lot # V-6171A

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
>65115	#345	—	—	BFB - DI	50ng	MHRI m/e95=		Y	
				scan: 151+152 +153-100		V-6058			
				time: 10:05		OK '58 + '91			
>65118		60930	1	VSTD050	5mls	Headed Purge - not used			
18+7		↓	2	VSTD050	↓	↓		N	
19+8		61013	3	BG101395A1	↓	VBLKGI		N	
~~65120~~	~~#~~	~~BLK~~	~~10/13/95 (3)~~	~~#5 BFB - DI~~	~~50ng 5mls~~				
>65120	#345	—	—	BFB - DI	50ng	MHRI m/e95=		Y	✓
				scan: 157+158 +159-100		OK '58 + '91 V-6058			
				time: 1437					
>65121		61013	1	VSTD200	5mls	BG1013 / LG-1013 MS-45		Y	✓
22			2	VSTD100				Y	✓
23			3	VSTD050				Y	✓
24			4	VSTD020				Y	✓
25			5	VSTD010				Y	✓
26			6	VSTD010	↓	not needed		Y	
27		60013	7	BG101395A1	5mls	VBLKGI		Y	
28			8	BG101395B1	↓	VBLKGK		Y	✓
29			9	LCG101395A1	↓			Y	✓
30			10	45,563-14	5.0g	(RB240L) J1343		N	✓
31			11	45,594-10	4.9g	↓		Y	✓
32			12	BFB 50ng	5mls	Purged Helium		N	
33			13	BFB ↓	↓	↓ out of sequence			
34		IG1010	14	VSTD050	5mls	No peaks in			
35		IG1013	15	BG101395A2	↓	any runs			
36			16	LCG101395A2	↓	BCR 10/16/95			
37			1	BV1126C	100ml				
38			2	45,600-5	5mls				
39			3	45,554-2	↓			V	
40			/	BAKE					

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR NON-VOLATILE CONSTITUENTS

Laboratory Number : 45563-009
Field Identification : CLJ44-CU-058
Extraction Date : 10/03/95
TCLP Blank : 90,001-282

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

A 5.0 gm portion of the sample was stirred with 96.5 mL deionized water. The pH at the end of 5 minutes was 5.33. 3.5 mL 1.0N HCl was added and the mixture was then heated to 50C for ten minutes. Upon cooling the pH was 1.76, therefore Extraction Fluid #1 was used.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 100 gm of sample was added to the extractor with 2000 mL Extraction Fluid #1.

Extraction Time : 19.00 hrs

Final pH : 4.98

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

pace INCORPORATED THE ASSURANCE OF QUALITY

Laboratory number: 45563-009
Sample Designation: CLJ44-CU-058
Date Extracted: 10/04/95
Date Analyzed: 10/05/95 17:15
QC Batch: BA2478
TCLP Batch: 282
Matrix: TCLP EXTRACT

Instrument File Name: >F2716

SEMIVOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Pyridine	BDL	5.0	0.05
1,4-Dichlorobenzene	BDL	7.5	0.05
2,4-Dinitrotoluene	BDL	0.13	0.05
2-Methylphenol	BDL	200	0.05
3,4-Methylphenols	BDL	200	0.05
Hexachloroethane	BDL	3.0	0.05
Nitrobenzene	BDL	2.0	0.05
Hexachlorobenzene	BDL	0.13	0.05
Pentachlorophenol	BDL	100	0.05
Hexachlorobutadiene	BDL	0.5	0.05
2,4,6-Trichlorophenol	BDL	2.0	0.05
2,4,5-Trichlorophenol	BDL	400	0.05

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8270

BDL = Below reporting limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR NON-VOLATILE CONSTITUENTS

Laboratory Number : 45563-010
Field Identification : CLJ44-CU-059
Extraction Date : 10/03/95
TCLP Blank : 90,001-282

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

A 5.0 gm portion of the sample was stirred with 96.5 mL deionized water. The pH at the end of 5 minutes was 5.60. 3.5 mL 1.0N HCl was added and the mixture was then heated to 50C for ten minutes. Upon cooling the pH was 1.73, therefore Extraction Fluid #1 was used.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 100 gm of sample was added to the extractor with 2000 mL Extraction Fluid #1.

Extraction Time : 19.00 hrs

Final pH : 4.99

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

pace INCORPORATED THE ASSURANCE OF QUALITY

Laboratory number: 45563-010
Sample Designation: CLJ44-CU-059
Date Extracted: 10/04/95
Date Analyzed: 10/05/95 17:52
QC Batch: BA2478
TCLP Batch: 282
Matrix: TCLP EXTRACT

Instrument File Name: >F2717

SEMIVOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Pyridine	BDL	5.0	0.05
1,4-Dichlorobenzene	BDL	7.5	0.05
2,4-Dinitrotoluene	BDL	0.13	0.05
2-Methylphenol	BDL	200	0.05
3,4-Methylphenols	BDL	200	0.05
Hexachloroethane	BDL	3.0	0.05
Nitrobenzene	BDL	2.0	0.05
Hexachlorobenzene	BDL	0.13	0.05
Pentachlorophenol	BDL	100	0.05
Hexachlorobutadiene	BDL	0.5	0.05
2,4,6-Trichlorophenol	BDL	2.0	0.05
2,4,5-Trichlorophenol	BDL	400	0.05

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8270

BDL = Below reporting limit

pace INCORPORATED THE ASSURANCE OF QUALITY

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR NON-VOLATILE CONSTITUENTS

Laboratory Number : 45563-011
Field Identification : CLJ44-CU-060
Extraction Date : 10/03/95
TCLP Blank : 90,001-282

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

A 5.0 gm portion of the sample was stirred with 96.5 mL deionized water. The pH at the end of 5 minutes was 5.37. 3.5 mL 1.0N HCl was added and the mixture was then heated to 50C for ten minutes. Upon cooling the pH was 1.73, therefore Extraction Fluid #1 was used.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 100 gm of sample was added to the extractor with 2000 mL Extraction Fluid #1.

Extraction Time : 19.00 hrs

Final pH : 4.98

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: 45563-011
Sample Designation: CLJ44-CU-060
Date Extracted: 10/04/95
Date Analyzed: 10/05/95 18:30
QC Batch: BA2478
TCLP Batch: 282
Matrix: TCLP EXTRACT

Instrument File Name: >F2718

SEMIVOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Pyridine	BDL	5.0	0.05
1,4-Dichlorobenzene	BDL	7.5	0.05
2,4-Dinitrotoluene	BDL	0.13	0.05
2-Methylphenol	BDL	200	0.05
3,4-Methylphenols	BDL	200	0.05
Hexachloroethane	BDL	3.0	0.05
Nitrobenzene	BDL	2.0	0.05
Hexachlorobenzene	BDL	0.13	0.05
Pentachlorophenol	BDL	100	0.05
Hexachlorobutadiene	BDL	0.5	0.05
2,4,6-Trichlorophenol	BDL	2.0	0.05
2,4,5-Trichlorophenol	BDL	400	0.05

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8270

BDL = Below reporting limit

pace INCORPORATED THE ASSURANCE OF QUALITY

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR NON-VOLATILE CONSTITUENTS

Laboratory Number : 45563-012
Field Identification : CLJ44-CC-062
Extraction Date : 10/03/95
TCLP Blank : 90,001-282

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

A 5.0 gm portion of the sample was stirred with 96.5 mL deionized water. The pH at the end of 5 minutes was 6.07. 3.5 mL 1.0N HCl was added and the mixture was then heated to 50C for ten minutes. Upon cooling the pH was 1.79, therefore Extraction Fluid #1 was used.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 100 gm of sample was added to the extractor with 2000 mL Extraction Fluid #1.

Extraction Time : 19.00 hrs

Final pH : 4.98

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: 45563-012
Sample Designation: CLJ44-CC-062
Date Extracted: 10/04/95
Date Analyzed: 10/05/95 19:07
QC Batch: BA2478
TCLP Batch: 282
Matrix: TCLP EXTRACT

Instrument File Name: >F2719

SEMIVOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Pyridine	BDL	5.0	0.05
1,4-Dichlorobenzene	BDL	7.5	0.05
2,4-Dinitrotoluene	BDL	0.13	0.05
2-Methylphenol	BDL	200	0.05
3,4-Methylphenols	BDL	200	0.05
Hexachloroethane	BDL	3.0	0.05
Nitrobenzene	BDL	2.0	0.05
Hexachlorobenzene	BDL	0.13	0.05
Pentachlorophenol	BDL	100	0.05
Hexachlorobutadiene	BDL	0.5	0.05
2,4,6-Trichlorophenol	BDL	2.0	0.05
2,4,5-Trichlorophenol	BDL	400	0.05

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8270

BDL = Below reporting limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR NON-VOLATILE CONSTITUENTS

Laboratory Number : 45563-013
Field Identification : CLJ44-CC-067
Extraction Date : 10/03/95
TCLP Blank : 90,001-282

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

A 5.0 gm portion of the sample was stirred with 96.5 mL deionized water. The pH at the end of 5 minutes was 5.74. 3.5 mL 1.0N HCl was added and the mixture was then heated to 50C for ten minutes. Upon cooling the pH was 1.74, therefore Extraction Fluid #1 was used.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 100 gm of sample was added to the extractor with 2000 mL Extraction Fluid #1.

Extraction Time : 19.00 hrs

Final pH : 4.99

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

pace INCORPORATED THE ASSURANCE OF QUALITY

Laboratory number: 45563-013
Sample Designation: CLJ44-CC-067
Date Extracted: 10/04/95
Date Analyzed: 10/05/95 19:45
QC Batch: BA2478
TCLP Batch: 282
Matrix: TCLP EXTRACT

Instrument File Name: >F2720

SEMIVOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Pyridine	BDL	5.0	0.05
1,4-Dichlorobenzene	BDL	7.5	0.05
2,4-Dinitrotoluene	BDL	0.13	0.05
2-Methylphenol	BDL	200	0.05
3,4-Methylphenols	BDL	200	0.05
Hexachloroethane	BDL	3.0	0.05
Nitrobenzene	BDL	2.0	0.05
Hexachlorobenzene	BDL	0.13	0.05
Pentachlorophenol	BDL	100	0.05
Hexachlorobutadiene	BDL	0.5	0.05
2,4,6-Trichlorophenol	BDL	2.0	0.05
2,4,5-Trichlorophenol	BDL	400	0.05

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8270

BDL = Below reporting limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: 45563-019RE
Sample Designation: CLJ44-CC-068-RB
Date Extracted: 10/10/95
Date Analyzed: 10/10/95 14:40
QC Batch: BA2488

Instrument File Name: >F2745

SEMIVOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Pyridine	BDL	5.0	0.05
1,4-Dichlorobenzene	BDL	7.5	0.05
2,4-Dinitrotoluene	BDL	0.13	0.05
2-Methylphenol	BDL	200	0.05
3,4-Methylphenols	BDL	200	0.05
Hexachloroethane	BDL	3.0	0.05
Nitrobenzene	BDL	2.0	0.05
Hexachlorobenzene	BDL	0.13	0.05
Pentachlorophenol	BDL	100	0.05
Hexachlorobutadiene	BDL	0.5	0.05
2,4,6-Trichlorophenol	BDL	2.0	0.05
2,4,5-Trichlorophenol	BDL	400	0.05

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8270

BDL = Below reporting limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

WATER SEMIVOLATILES SURROGATE RECOVERY

Client: OHM REMEDIATION SERVICES CORP. Lab No.: 45563
Project: CAMP GEIGER/LJN27

CLIENT SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	OTHER	TOT OUT
CLJ44-CU-058	90	86	54	58	59	60		0
CLJ44-CU-059	90	85	60	64	64	61		0
CLJ44-CU-060	90	86	62	63	67	59		0
CLJ44-CC-062	81	74	50	56	56	52		0
CLJ44-CC-067	87	87	54	59	60	62		0
CLJ44-CC-068-RB	77	83	70	51	49	60		0
B-A2478	66	65	51	33	40	49		0
BA2488	73	78	64	26	33	54		0
LSA2488MS	83	90	67	33	41	60		0
TCLP BLANK #282	82	78	60	50	55	56		0

		QC LIMITS
S1	(NBZ) = Nitrobenzene-d5	35 - 114
S2	(FBP) = 2-Fluorobiphenyl	43 - 116
S3	(TPH) = Terphenyl-d14	33 - 141
S4	(PHL) = Phenol-d5	10 - 110
S5	(2FP) = 2-Fluorophenol	21 - 110
S6	(TBP) = 2,4,6-Tribromophenol	10 - 123

Column to be used to flag recovery values with an asterisk
* Values outside of designated QC limits
D Surrogates diluted out

pace INCORPORATED THE ASSURANCE OF QUALITY

Laboratory number: TCLP BLANK #282
Sample Designation: TCLP BLANK
Date Analyzed: 10/05/95
Matrix: TCLP EXTRACT

Parameter	Result (ug/L)	Regulatory Limit (ug/L)	Detection Limit (ug/L)
Pyridine	BDL	5000	56
1,4-Dichlorobenzene	BDL	7500	56
2,4-Dinitrotoluene	BDL	130	56
2-Methylphenol	BDL	200000	56
3,4-Methylphenols	BDL	200000	56
Hexachloroethane	BDL	3000	56
Nitrobenzene	BDL	2000	56
Hexachlorobenzene	BDL	130	56
Pentachlorophenol	BDL	100000	56
Hexachlorobutadiene	BDL	500	56
2,4,6-Trichlorophenol	BDL	2000	56
2,4,5-Trichlorophenol	BDL	400000	56

METHOD REFERENCE: EPA SW 846, 3RD EDITION
METHOD 8270

BDL = Below detection limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: BA2488
Sample Designation: LAB BLANK
Date Extracted: 10/10/95
Date Analyzed: 10/10/95 15:17
QC Batch: BA2488
TCLP Batch:
Matrix: TCLP EXTRACT

Instrument File Name: >F2746

SEMIVOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Pyridine	BDL	5.0	0.01
1,4-Dichlorobenzene	BDL	7.5	0.01
2,4-Dinitrotoluene	BDL	0.13	0.01
2-Methylphenol	BDL	200	0.01
3,4-Methylphenols	BDL	200	0.01
Hexachloroethane	BDL	3.0	0.01
Nitrobenzene	BDL	2.0	0.01
Hexachlorobenzene	BDL	0.13	0.01
Pentachlorophenol	BDL	100	0.01
Hexachlorobutadiene	BDL	0.5	0.01
2,4,6-Trichlorophenol	BDL	2.0	0.01
2,4,5-Trichlorophenol	BDL	400	0.01

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8270

BDL = Below reporting limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: B-A2478
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/05/95
Matrix: WATER

ACID/BASE/NEUTRAL EXTRACTABLES	CONCENTRATION (ug/L)	DETECTION LIMIT (ug/L)
N-Nitrosodimethylamine	BDL	10
Phenol	BDL	10
Aniline	BDL	10
Bis(2-chloroethyl)ether	BDL	10
2-Chlorophenol	BDL	10
1,3-Dichlorobenzene	BDL	10
1,4-Dichlorobenzene	BDL	10
Benzylalcohol	BDL	10
1,2-Dichlorobenzene	BDL	10
2-Methylphenol	BDL	10
Bis(2-chloroisopropyl)ether	BDL	10
4-Methylphenol	BDL	10
N-Nitroso-di-N-propylamine	BDL	10
Hexachloroethane	BDL	10
Nitrobenzene	BDL	10
Isophorone	BDL	10
2-Nitrophenol	BDL	10
2,4-Dimethylphenol	BDL	10
Benzoic acid	BDL	50
Bis(2-chloroethoxy)methane	BDL	10
2,4-Dichlorophenol	BDL	10
1,2,4-Trichlorobenzene	BDL	10
Naphthalene	BDL	10
4-Chloroaniline	BDL	10
Hexachlorobutadiene	BDL	10
4-Chloro-3-methylphenol	BDL	10
2-Methylnaphthalene	BDL	10
Hexachlorocyclopentadiene	BDL	10
2,4,6-Trichlorophenol	BDL	10
2,4,5-Trichlorophenol	BDL	50
2-Chloronaphthalene	BDL	10
2-Nitroaniline	BDL	50
Dimethylpthalate	BDL	10
Acenaphthylene	BDL	10
2,6-Dinitrotoluene	BDL	10

ACID/BASE/NEUTRAL EXTRACTABLES	CONCENTRATION (ug/L)	DETECTION LIMIT (ug/L)
3-Nitroaniline	BDL	50
Acenaphthene	BDL	10
2,4-Dintrophenol	BDL	50
4-Nitrophenol	BDL	50
Dibenzofuran	BDL	10
2,4-Dinitrotoluene	BDL	10
Diethylphthalate	BDL	10
4-Chlorophenyl-phenylether	BDL	10
Fluorene	BDL	10
4-Nitroaniline	BDL	50
4,6-Dinitro-2-methylphenol	BDL	50
N-Nitrosodiphenylamine	BDL	10
Azobenzene	BDL	10
4-Bromophenyl-phenylether	BDL	10
Hexachlorobenzene	BDL	10
Pentachlorophenol	BDL	10
Phenanthrene	BDL	10
Anthracene	BDL	10
Di-N-butylphthalate	BDL	10
Fluoranthene	BDL	10
Benzidine	BDL	50
Pyrene	BDL	10
Butylbenzylpthalate	BDL	10
3,3'-Dichlorobenzidine	BDL	20
Benzo(A)anthracene	BDL	10
Chrysene	BDL	10
Bis(2-ethylhexyl)phthalate	BDL	10
Di-N-octylphthalate	BDL	10
Benzo(B)fluoranthene	BDL	10
Benzo(K)fluoranthene	BDL	10
Benzo(A)pyrene	BDL	10
Ideno(1,2,3,-CD)pyrene	BDL	10
Dibenz(A,H)anthracene	BDL	10
Benzo(G,H,I)perylene	BDL	10

METHOD REFERENCE: EPA SW 846, 3RD EDITION
METHOD 8270

BDL = Below detection limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

MATRIX SPIKE RECOVERY
ACID/BASE/NEUTRAL EXTRACTABLE ORGANIC COMPOUNDS

Laboratory Number: LS-A2478
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/05/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
PHENOL	0	200	82	41
2-CHLOROPHENOL	0	200	142	71
1,4-DICHLOROBENZENE	0	100	76	76
N-NITROSO-DI-N-PROPYLAMINE	0	100	90	90
1,2,4-TRICHLOROBENZENE	0	100	69	69
4-CHLORO-3-METHYLPHENOL	0	200	150	75
ACENAPHTHENE	0	100	77	77
4-NITROPHENOL	0	200	74	37
2,4-DINITROTOLUENE	0	100	77	77
PENTACHLOROPHENOL	0	200	122	61
PYRENE	0	100	58	58

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8270

pace INCORPORATED
THE ASSURANCE OF QUALITY

MATRIX SPIKE RECOVERY
ACID/BASE/NEUTRAL EXTRACTABLE ORGANIC COMPOUNDS

Laboratory Number: LS-A2488
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/10/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
PHENOL	0	200	62	31
2-CHLOROPHENOL	0	200	132	66
1,4-DICHLOROBENZENE	0	100	70	70
N-NITROSO-DI-N-PROPYLAMINE	0	100	75	75
1,2,4-TRICHLOROBENZENE	0	100	66	66
4-CHLORO-3-METHYLPHENOL	0	200	136	68
ACENAPHTHENE	0	100	74	74
4-NITROPHENOL	0	200	59	30
2,4-DINITROTOLUENE	0	100	71	71
PENTACHLOROPHENOL	0	200	119	59
PYRENE	0	100	59	59

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8270

pace INCORPORATED
THE ASSURANCE OF QUALITY

TCLP.

PACE INCORPORATED
Organics Extraction
AQUEOUS PREP LOG

PROTOCOL: EPA SW846

LOG BOOK NO: 4

SOP #: QA5514

STEAMBATH TEMP: 87 (Range 80-90°C)

METHOD: CONT/3520 /SEPF/3510

MATRIX: AQUEOUS

Reviewed By/Date: JEA 10/05/15

TEST/LEVEL: ABN /

COUNT	DATE/INIT	BLANK/SPIKES SAMPLE #	INIT VOL (L)	LCS MS/MSD	SURR # AMT/CONC	SPIKE # AMT/CONC	INTER VOL (ml)	ALIQ VOL (ml)	FINAL VOL (mL)	* SPECIAL CLEAN-UP (F,G,S,SA)	QUATTRO DATE/INIT
-	JEA	BA 2478	1.0		EN19 (20ug)		10.0	10.0	1.0	N14	JEA
-	10/06/15	LSA24788	1.0		ABN 30ug/mL	E197					10/06/15
1		45563-9	.2								
2		-10									
3		-11									
4		-12									
5		-13									
-		90001-282									

NJ QC YET

JEA

NJS

10/10=KJ

JEA

COMMENTS: * F = Florisil; G = GPC; S = Sulfur using copper powder, SA = Sulfuric acid

NJ QC ASSIGNED YET

TCLP

PACE INCORPORATED
Organics Extraction
AQUEOUS PREP LOG

PROTOCOL: EPA SW846

LOG BOOK NO: 4

SOP #: QA5514

STEAMBATH TEMP: 90 (Range 80-90°C)

METHOD: CONT/3520 SEPF/3510

MATRIX: AQUEOUS

Reviewed By/Date: JEA 10/10/95

TEST/LEVEL: ABN 1

COUNT	DATE/INIT	BLANK/SPIKES SAMPLE #	INIT VOL (L)	LCS MS/MSD	SURR # AMT/CONC	SPIKE # AMT/CONC	INTER VOL (ml)	ALIQ VOL (ml)	FINAL VOL (mL)	* SPECIAL CLEAN-UP (F,G,S,SA)	QUATTRO DATE/INIT
—	JEA	BLK2488	1.0	LCS2488	E1419	N/A	10	10	1.0	N/A	JEA
—	10/6/95	LCS2488	1.0	45576	0.5 mL E1386 1.0 mL						10/6/95
11		45576-1MS	1.200	1 MS 1 MSD	2.00	PAH (6.10)					
12		-1MSD			ppi						
13		45594-12				N/A					
14		45563-19RE									

JEA 10/10/95

COMMENTS: * F = Florisil; G = GPC; S = Sulfur using copper powder, SA = Sulfuric acid

(10) Added 250 uL E1233 to 45576 1MS/MSD only. pm 10-10-95

F:\APPS\UP51\MANCY\EVLBUA

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN27

Lab File ID: >F2644 DFTPP Injection Date: 10/02/95

Instrument ID: FMS DFTPP Injection Time: 10:11

ION ABUNDANCE CRITERIA for F2644 are reported on a separate sheet.

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
ABNSTD050	ABNSTD050	F2646	10/02/95	10:28
ABNSTD160	ABNSTD160	F2647	10/02/95	11:08
ABNSTD120	ABNSTD120	F2648	10/02/95	11:46
ABNSTD080	ABNSTD080	F2649	10/02/95	12:24
ABNSTD020	ABNSTD020	F2650	10/02/95	13:02

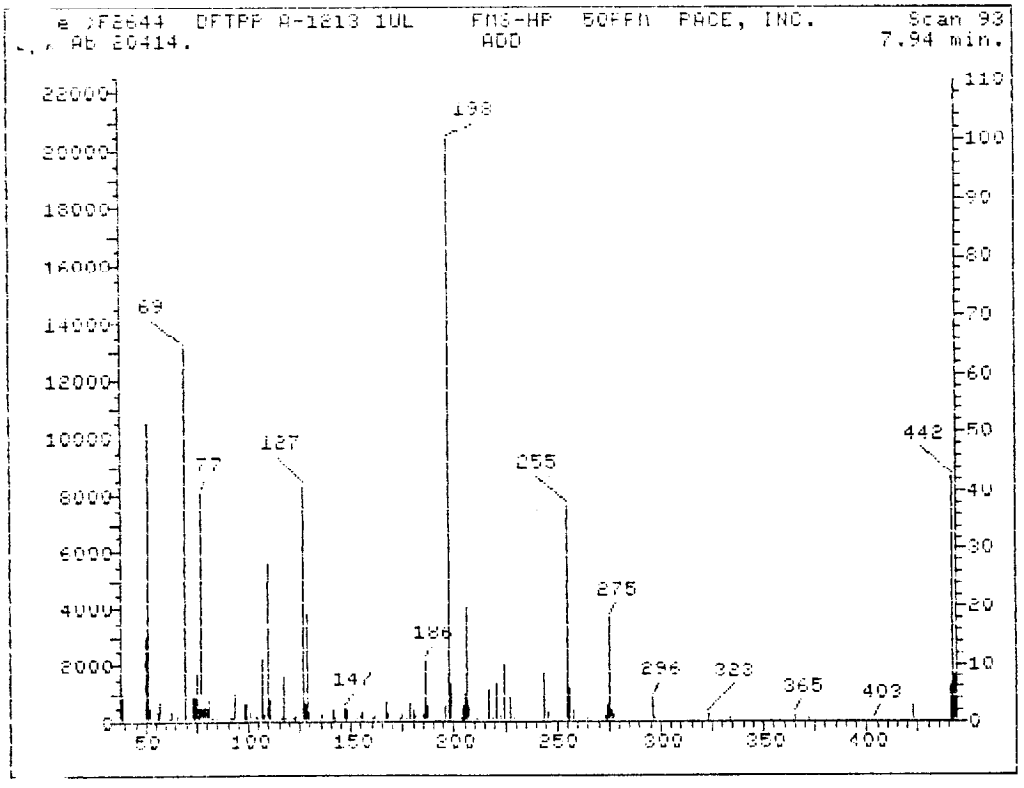
GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphosphine (DFTPP)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	51.57	51.57	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	64.22	64.22	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	40.70	40.70	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.39	6.39	Ok
275	10-30% of mass 198	17.91	17.91	Ok
365	Greater than 1% of mass 198	1.22	1.22	Ok
441	0-100% of mass 443	6.09	77.99	Ok
442	Greater than 40% of mass 198	42.29	42.29	Ok
443	17-23% of mass 442	7.81	18.48	Ok

Injection Date: 10/02/95
Injection Time: 10:11
Data File: >F2644
Scan: 93

10/2/95



5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN27

Lab File ID: >F2707 DFTPP Injection Date: 10/05/95

Instrument ID: FMS DFTPP Injection Time: 12:34

ION ABUNDANCE CRITERIA for F2707 are reported on a separate sheet.

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

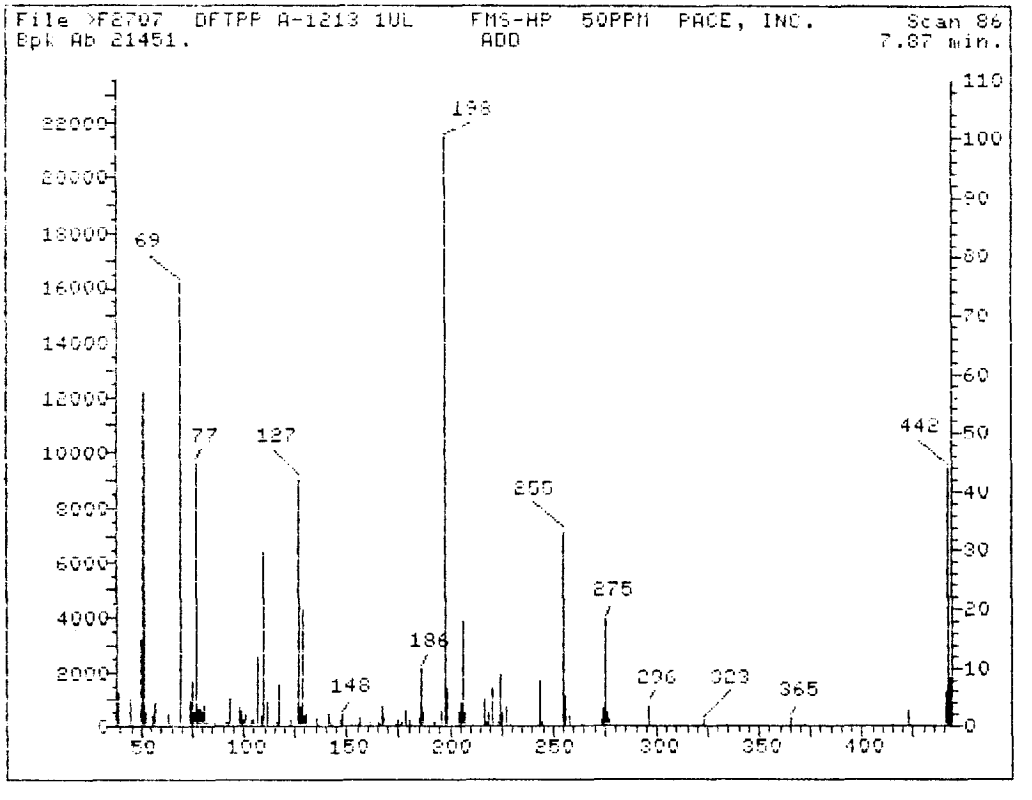
CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
ABNSTD050	ABNSTD050	F2709	10/05/95	12:51
BA2478	90176-146	F2714	10/05/95	16:00
LSA2478	90176-146MS	F2715	10/05/95	16:37
CLJ44-CU-058	45563-009	F2716	10/05/95	17:15
CLJ44-CU-059	45563-010	F2717	10/05/95	17:52
CLJ44-CU-060	45563-011	F2718	10/05/95	18:30
CLJ44-CC-062	45563-012	F2719	10/05/95	19:07
CLJ44-CC-067	45563-013	F2720	10/05/95	19:45
90001-282	90001-282	F2721	10/05/95	20:22

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphosphine (DFTPP)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	57.01	57.01	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	75.38	75.38	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	42.11	42.11	Ok
197	Less than 1% of mass 198	.15	.15	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.56	6.56	Ok
275	10-30% of mass 198	18.25	18.25	Ok
365	Greater than 1% of mass 198	1.31	1.31	Ok
441	0-100% of mass 443	5.75	69.80	Ok
442	Greater than 40% of mass 198	43.94	43.94	Ok
443	17-23% of mass 442	8.24	18.76	Ok

Injection Date: 10/05/95
Injection Time: 12:34
Data File: >F2707
Scan: 86



5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN27

Lab File ID: >F2741 DFTPP Injection Date: 10/10/95

Instrument ID: FMS DFTPP Injection Time: 10:40

ION ABUNDANCE CRITERIA for F2741 are reported on a separate sheet.

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

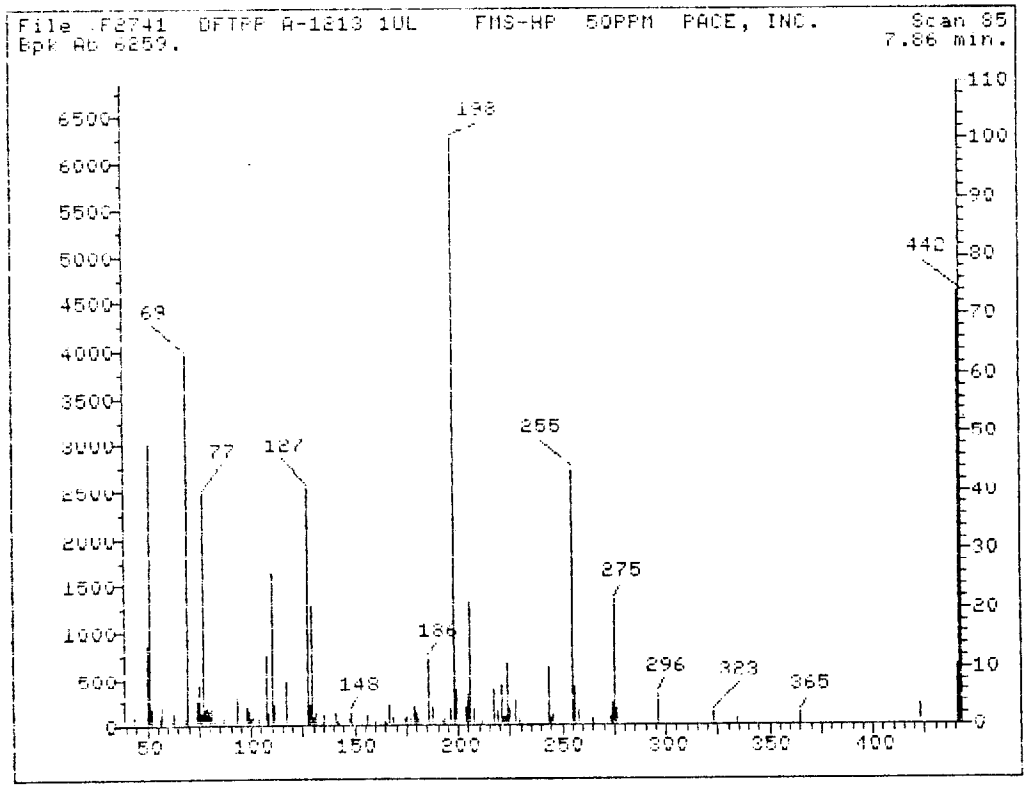
CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
ABNSTD050	ABNSTD050	F2743	10/10/95	10:56
CLJ44-CC-068-RBRE	45563-019RE	F2745	10/10/95	14:40
BA2488	90176-155	F2746	10/10/95	15:17
LSA2488	90176-155MS	F2747	10/10/95	15:54

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphosphine (DFTPP)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	48.20	48.20	Ok
68	Less than 2% of mass 69	1.12	1.77	Ok
69	(reference only)	63.16	63.16	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	40.60	40.60	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.25	6.25	Ok
275	10-30% of mass 198	21.28	21.28	Ok
365	Greater than 1% of mass 198	2.03	2.03	Ok
441	0-100% of mass 443	10.10	78.22	Ok
442	Greater than 40% of mass 198	73.78	73.78	Ok
443	17-23% of mass 442	12.91	17.50	Ok

Injection Date: 10/10/95
Injection Time: 10:40
Data File: >F2741
Scan: 85



Initial Calibration Data
HSL Compounds

Case No: Instrument ID: FMS-HP

tractor: KESAN PACE, INC. Calibration Date: 10/02/95

Contract No:

10/2/95
K

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % RSD for CCC is 30%

Compound	Laboratory ID: >F2650 RF 20.00	>F2646 RF 50.00	>F2649 RF 80.00	>F2648 RF 120.00	>F2647 RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C310 N-NITROSODIMETHYLAMINE	.85101	.87174	.94544	1.04810	1.12684	.438	.96863	12.118		
C550 2-FLUOROPHENOL	1.30134	1.31492	1.44842	1.47645	1.54845	.718	1.41792	7.530		
C545 PHENOL-d5	1.62307	1.55502	1.55470	1.48353	1.51802	.933	1.54687	3.356		
C570 2-CHLOROPHENOL-d4	1.40826	1.39605	1.37536	1.31097	1.34781	.957	1.36769	2.860		
C575 1,2-DICHLOROBENZENE-d4	.89580	.85058	.77577	.65587	.61237	1.046	.75768	16.090		
C515 PHENOL	1.84389	1.71334	1.75253	1.63694	1.70075	.936	1.72949	4.410	*	
C520 ANILINE	1.42437	1.33356	1.28399	1.14276	1.05223	.932	1.24738	11.967		
C525 BIS(2-CHLOROETHYL)ETHER	1.62462	1.53828	1.76113	1.87441	2.08574	.948	1.77684	12.112		
C530 2-CHLOROPHENOL	1.44949	1.39792	1.37063	1.29151	1.33330	.961	1.36857	4.414		
C535 1,3-DICHLOROBENZENE	1.61310	1.60279	1.58248	1.53797	1.52607	.992	1.57245	2.466		
C540 1,4-DICHLOROBENZENE	1.49770	1.50281	1.42277	1.36661	1.34492	1.004	1.42696	5.096	*	
C545 BENZYL ALCOHOL	.76623	.74560	.80042	.74069	.68063	1.042	.74671	5.864		
C550 1,2-DICHLOROBENZENE	1.51078	1.41915	1.27985	1.12568	1.02277	1.050	1.27164	15.838		
C555 2-METHYLPHENOL	1.16581	1.10065	1.14172	1.05715	1.02222	1.074	1.10151	5.915		
C560 BIS(2-CHLOROISOPROPYL)ETH	2.09954	1.75624	2.29288	2.25267	2.25030	1.079	2.12632	10.826		
3 4-METHYLPHENOL	1.24814	1.18351	1.15286	1.09923	1.14312	1.113	1.16537	4.740		
C570 N-NITROSO-DI-N-PROPYLAMIN	1.01592	.94012	1.03585	1.01215	.93426	1.118	.98767	4.757		**
C575 HEXACHLOROETHANE	.68649	.68844	.66097	.61737	.53715	1.125	.63809	9.918		
C410 NITROBENZENE	.45256	.43078	.42487	.42728	.43282	.870	.43366	2.537		
C415 ISOPHORONE	.93620	.90170	.92262	.96427	1.00016	.916	.94539	4.040		
C520 NITROBENZENE-d5	.43421	.41447	.42240	.42065	.43599	.866	.42554	2.169		
C420 2-NITROPHENOL	.25808	.25165	.25554	.24567	.24889	.930	.25197	1.979	*	
C425 2,4-DIMETHYLPHENOL	.41207	.38664	.37923	.37309	.38793	.942	.38779	3.826		
C430 BENZOIC ACID	.15888	.15419	.19074	.19467	.18801	.979	.17730	10.814		
C435 BIS(2-CHLOROETHOXY)METHAN	.56694	.51971	.54135	.51911	.55086	.958	.53960	3.813		
C440 2,4-DICHLOROPHENOL	.37156	.34457	.31645	.30468	.29854	.978	.32720	9.301	*	
C445 1,2,4-TRICHLOROBENZENE	.41551	.39073	.34894	.34157	.32431	.992	.36421	10.340		
C450 NAPHTHALENE	1.09732	.99183	.92624	.88866	.86587	1.004	.95398	9.774		
C455 4-CHLOROANILINE	.45239	.43116	.42942	.42338	.42543	1.018	.43235	2.687		
C460 HEXACHLOROBUTADIENE	.26570	.24207	.20780	.18892	.17055	1.039	.21501	18.030	*	

RF - Response Factor (Subscript is amount in ug/mL)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

- Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No: Instrument ID: FMS-HP

tractor: RESAN PACE, INC. Calibration Date: 10/02/95

Contract No:

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % RSD for CCC is 30%

Laboratory ID:		>F2650	>F2646	>F2649	>F2648	>F2647					
	Compound	RF 20.00	RF 50.00	RF 80.00	RF 120.00	RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C465	4-CHLORO-3-METHYLPHENOL	.38677	.37228	.34036	.35600	.35358	1.115	.36180	4.972	*	
C470	2-METHYLNAPHTHALENE	.72687	.66331	.56821	.56605	.54995	1.138	.61488	12.509		
C555	2,4,6-TRIBROMOPHENOL	.31739	.29989	.29616	.29468	.28703	1.117	.29903	3.771		
C525	2-FLUOROBIPHENYL	1.42846	1.25372	1.14628	1.07248	1.00615	.901	1.18142	14.042		
C510	HEXACHLOROCYCLOPENTADIENE	.20807	.35087	.31905	.33071	.36299	.878	.31434	19.665		**
C515	2,4,6-TRICHLOROPHENOL	.50124	.47984	.45034	.46134	.47276	.891	.47311	4.085	*	
C520	2,4,5-TRICHLOROPHENOL	.55523	.52090	.47910	.46534	.44984	.898	.49408	8.744		
C525	2-CHLORONAPHTHALENE	1.27827	1.16346	1.06980	1.07409	1.06500	.916	1.13012	8.167		
C530	2-NITROANILINE	.51748	.49610	.52227	.56791	.60277	.936	.54131	7.978		
C535	DIMETHYLPHTHALATE	1.70539	1.57418	1.51091	1.56178	1.63821	.967	1.59809	4.705		
C540	ACENAPHTHYLENE	2.00340	1.75355	1.52721	1.43911	1.44130	.978	1.63291	14.915		
C545	3-NITROANILINE	.42572	.41052	.39938	.42198	.42578	.998	.41668	2.762		
C550	ACENAPHTHENE	1.21980	1.10486	1.00806	.97921	.97738	1.006	1.05786	9.867	*	
C555	2,4-DINITROPHENOL	.17686	.24004	.27576	.30056	.32438	1.012	.26352	21.871		**
C560	4-NITROPHENOL	.18461	.22623	.20784	.20453	.20303	1.026	.20525	7.221		**
5	DIBENZOFURAN	1.84229	1.62096	1.50382	1.42368	1.34856	1.029	1.54786	12.474		
C563	2,6-DINITROTOLUENE	.41487	.38619	.33290	.30217	.29466	.977	.34616	15.208		
C570	2,4-DINITROTOLUENE	.57908	.56446	.56428	.57940	.58034	1.034	.57352	1.457		
C580	DIETHYLPHTHALATE	1.78078	1.63403	1.51804	1.51250	1.51520	1.071	1.59211	7.372		
C585	4-CHLOROPHENYL-PHENYLETHE	.71716	.62831	.48128	.40976	.36808	1.076	.52091	28.365		
C590	FLUORENE	1.37242	1.15040	.97149	.90042	.87289	1.080	1.05352	19.790		
C595	4-NITROANILINE	.43255	.41586	.44154	.47287	.44460	1.092	.44148	4.712		
C610	4,6-DINITRO-2-METHYLPHENO	.20021	.22047	.20216	.16785	.14041	.902	.18622	17.107		
C615	N-NITROSODIPHENYLAMINE	.60791	.54858	.45796	.41103	.37750	.903	.48060	19.961	*	
C620	AZOBENZENE	.26088	.16091	.23319	.20550	.18731	.906	.20956	18.589		
C625	4-BROMOPHENYL-PHENYLETHER	.26649	.24437	.22424	.19951	.19061	.944	.22504	13.927		
C630	HEXACHLOROBENZENE	.41453	.37317	.34107	.31286	.29980	.964	.34829	13.364		
C635	PENTACHLOROPHENOL	.21151	.23728	.24664	.24410	.24580	.985	.23706	6.224	*	
C640	PHENANTHRENE	1.21629	1.13125	1.01979	.91828	.96369	1.003	1.04986	11.662		
C645	ANTHRACENE	1.25508	1.13069	1.01345	.89538	.83220	1.009	1.02536	16.766		

RF - Response Factor (Subscript is amount in ug/mL)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

- Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No: Instrument ID: FM5-HP

tractor: RESAN PACE, INC. Calibration Date: 10/02/95

Contract No:

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % RSD for CCC is 30%

Laboratory ID:	>FZ650	>FZ646	>FZ649	>FZ648	>FZ647					
	RF	RF	RF	RF	RF					
Compound	20.00	50.00	80.00	120.00	160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C650 DI-N-BUTYLPHTHALATE	1.87936	1.63533	1.55114	1.42709	1.40625	1.074	1.57983	12.138		
C655 FLUORANTHENE	1.45032	1.34964	1.19649	1.09307	1.08040	1.148	1.23398	13.132	*	
C660 BENZIDINE	.07892	.06510	.10995	.11510	.10817	1.161	.09544	23.149		
C530 TERPHENYL-d14	1.05708	1.07111	1.09911	1.20852	1.28100	.900	1.14336	8.503		
C715 PYRENE	1.58859	1.64759	1.76357	1.98554	2.17730	.887	1.83252	13.388		
C720 BUTYLBENZYLPHTHALATE	1.01334	1.05355	1.17686	1.28474	1.43698	.947	1.19309	14.513		
C725 3,3'-DICHLOROBENZIDINE	.62485	.65055	.69647	.68982	.67352	.996	.66704	4.421		
C730 BENZO(A)ANTHRACENE	1.39429	1.46352	1.42564	1.37456	1.33144	.998	1.39789	3.586		
C745 BIS(2-ETHYLHEXYL)PHTHALAT	1.03681	1.07509	1.07977	1.06615	1.06325	1.000	1.06421	1.569		
C740 CHRYSENE	1.35964	1.35202	1.43098	1.48231	1.57025	1.003	1.43904	6.315		
C760 DI-N-OCTYLPHTHALATE	1.99784	1.83901	1.70021	1.55235	1.50484	.900	1.71485	12.132	*	
C765 BENZO(B)FLUORANTHENE	1.17952	1.27006	1.40803	1.02819	1.16566	.952	1.21029	11.595		
C770 BENZO(K)FLUORANTHENE	1.22957	.98036	.66547	.81143	.63707	.954	.86488	28.379		
C775 BENZO(A)PYRENE	1.08125	1.09468	1.02458	.95469	.93785	.993	1.01861	7.003	*	
C780 INDENO(1,2,3-CD)PYRENE	1.28468	1.30035	1.23850	1.20004	1.19433	1.192	1.24358	3.869		
5 DIBENZ(A,H)ANTHRACENE	1.05892	1.06536	1.01043	.98377	1.00299	1.192	1.02429	3.511		
C790 BENZO(G,H,I)PERYLENE	1.07462	1.09907	1.04669	1.03439	1.05885	1.246	1.06272	2.370		

RF - Response Factor (Subscript is amount in ug/mL)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

- Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No: _____ Instrument ID: FMS-HP

Contractor: RESAN Calibration Date: 10/02/95

Contract No: _____

10/2/95

Minimum $\overline{RF}$ for SPCC is .05 Maximum % RSD for CCC is 30%

Laboratory ID:	>F2650	>F2646	>F2649	>F2648	>F2647					
	RF	RF	RF	RF	RF					
Compound	20.00	50.00	80.00	120.00	160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C300 PYRIDINE	1.32192	1.26642	1.50060	1.48860	1.53455	.437	1.42242	8.429		
CS50 2-FLUOROPHENOL	1.30134	1.31492	1.44842	1.47645	1.54845	.718	1.41792	7.530		
CS45 PHENOL-d5	1.62307	1.55502	1.55470	1.48353	1.51802	.933	1.54687	3.356		
CS35 2-CHLOROPHENOL-d4	1.40826	1.39605	1.37536	1.31097	1.34781	.957	1.36769	2.860		
CS40 1,2-DICHLOROBENZENE-d4	.89580	.85058	.77377	.65587	.61237	1.046	.75768	16.090		
C340 1,4-DICHLOROBENZENE	1.49770	1.50281	1.42277	1.36661	1.34492	1.004	1.42696	5.096	*	
C355 2-METHYLPHENOL	1.18581	1.10063	1.14172	1.05715	1.02222	1.074	1.10151	5.915		
C367 3,4-METHYLPHENOLS	1.24814	1.18351	1.15286	1.09923	1.14312	1.113	1.16537	4.740		
C375 HEXACHLOROETHANE	.68649	.68844	.66097	.61737	.53715	1.125	.63809	9.918		
C410 NITROBENZENE	.45256	.43078	.42487	.42728	.43282	.870	.43366	2.537		
CS20 NITROBENZENE-d5	.43421	.41447	.42240	.42065	.43599	.866	.42554	2.169		
C460 HEXACHLOROBUTADIENE	.26570	.24207	.20780	.18892	.17055	1.039	.21501	18.030	*	
5 2,4,6-TRIBROMOPHENOL	.31739	.29989	.29616	.29468	.28703	1.117	.29903	3.771		
CS25 2-FLUOROBIPHENYL	1.42846	1.25372	1.14628	1.07248	1.00615	.901	1.18142	14.042		
C515 2,4,6-TRICHLOROPHENOL	.50124	.47984	.45034	.46134	.47276	.891	.47311	4.085	*	
C520 2,4,5-TRICHLOROPHENOL	.55523	.52090	.47910	.46534	.43844	.898	.49180	9.417		
C570 2,4-DINITROTOLUENE	.57908	.56446	.56428	.57940	.58034	1.034	.57352	1.457		
C630 HEXACHLOROBENZENE	.41453	.37317	.34107	.31286	.29980	.964	.34829	13.364		
C635 PENTACHLOROPHENOL	.21151	.23728	.24664	.24410	.24560	.985	.23706	6.224	*	
CS30 TERPHENYL-d14	1.05708	1.07111	1.09911	1.20852	1.28100	.900	1.14336	8.503		

RF - Response Factor (Subscript is amount in ug/mL)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%D - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/05/95

Contractor: RESAN PACE, INC. Time: 12:51

Contract No: Laboratory ID: >F2709

Instrument ID: FMS-HP Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % Diff for CCC is 20%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C310 N-NITROSODIMETHYLAMINE	.96863	.96102	.78		
CS50 2-FLUOROPHENOL	1.41792	1.38163	2.56		
CS45 PHENOL-d5	1.54687	1.73002	11.84		
CS70 2-CHLOROPHENOL-d4	1.36769	1.43033	4.58		
CS75 1,2-DICHLOROBENZENE-d4	.75768	.82884	9.39		
C315 PHENOL	1.72949	1.97731	14.33	*	
C320 ANILINE	1.24738	1.49915	20.18		
C325 BIS(2-CHLOROETHYL)ETHER	1.77684	1.74487	1.80		
C330 2-CHLOROPHENOL	1.36857	1.45256	6.14		
C335 1,3-DICHLOROBENZENE	1.57248	1.58147	.57		
C340 1,4-DICHLOROBENZENE	1.42696	1.49996	5.12	*	
C345 BENZYL ALCOHOL	.74671	.85116	13.99		
C350 1,2-DICHLOROBENZENE	1.27164	1.38941	9.26		
C355 2-METHYLPHENOL	1.10151	1.21540	10.34		
C360 BIS(2-CHLOROISOPROPYL)ETH	2.12632	2.23867	5.28		
C365 4-METHYLPHENOL	1.16537	1.26569	8.61		
C370 N-NITROSO-DI-N-PROPYLAMIN	.98767	1.01454	2.72		**
C375 HEXACHLOROETHANE	.63809	.72307	13.32		
C410 NITROBENZENE	.43366	.48283	11.34		
C415 ISOPHORONE	.94539	.99207	4.94		
CS20 NITROBENZENE-d5	.42554	.47075	10.62		
C420 2-NITROPHENOL	.25197	.25950	2.99	*	
C425 2,4-DIMETHYLPHENOL	.38779	.41067	5.90		
C430 BENZOIC ACID	.17730	.14666	17.28		
C435 BIS(2-CHLOROETHOXY)METHAN	.53960	.56985	5.61		
C440 2,4-DICHLOROPHENOL	.32720	.34251	4.68	*	
C445 1,2,4-TRICHLOROBENZENE	.36421	.36683	.72		
C450 NAPHTHALENE	.95398	1.03689	8.69		
C455 4-CHLOROANILINE	.43235	.43821	1.36		
C460 HEXACHLOROBUTADIENE	.21501	.21967	2.17	*	
C465 4-CHLORO-3-METHYLPHENOL	.36180	.39491	9.15	*	
C470 2-METHYLNAPHTHALENE	.61488	.66175	7.62		

RF - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/05/95

Contractor: RESAN PACE, INC. Time: 12:51

Contract No: Laboratory ID: >F2709

Instrument ID: FMS-HP Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % Diff for CCC is 20%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
CS55 2,4,6-TRIBROMOPHENOL	.29903	.26167	12.50		
CS25 2-FLUOROBIPHENYL	1.18142	1.21982	3.25		
C510 HEXACHLOROCYCLOPENTADIENE	.31434	.26647	15.23		**
C515 2,4,6-TRICHLOROPHENOL	.47311	.46215	2.32	*	
C520 2,4,5-TRICHLOROPHENOL	.49408	.48570	1.70		
C525 2-CHLORONAPHTHALENE	1.13012	1.16274	2.89		
C530 2-NITROANILINE	.54131	.60333	11.46		
C535 DIMETHYLPHTHALATE	1.59809	1.55552	2.68		
C540 ACENAPHTHYLENE	1.63291	1.77650	8.79		
C545 3-NITROANILINE	.41668	.43588	4.61		
C550 ACENAPHTHENE	1.05786	1.12518	6.36	*	
C555 2,4-DINITROPHENOL	.26352	.21107	19.90		**
C560 4-NITROPHENOL	.20525	.20309	1.05		**
C565 DIBENZOFURAN	1.54786	1.60302	3.56		
C543 2,6-DINITROTOLUENE	.34616	.37693	8.89		
C570 2,4-DINITROTOLUENE	.57352	.57735	.67		
C580 DIETHYLPHTHALATE	1.59211	1.62564	2.11		
C585 4-CHLOROPHENYL-PHENYLETHE	.52091	.57629	10.63		
C590 FLUORENE	1.05352	1.15043	9.20		
C595 4-NITROANILINE	.44148	.44366	.49		
C610 4,6-DINITRO-2-METHYLPHENO	.18622	.21362	14.72		
C615 N-NITROSODIPHENYLAMINE	.48060	.55608	15.71	*	
C620 AZOBENZENE	.20956	.19699	6.00		
C625 4-BROMOPHENYL-PHENYLETHER	.22504	.22902	1.77		
C630 HEXACHLOROBENZENE	.34829	.33977	2.45		
C635 PENTACHLOROPHENOL	.23706	.19707	16.87	*	
C640 PHENANTHRENE	1.04986	1.12864	7.50		
C645 ANTHRACENE	1.02536	1.13340	10.54		
C650 DI-N-BUTYLPHTHALATE	1.57983	1.77947	12.64		
C655 FLUORANTHENE	1.23398	1.30278	5.58	*	
C660 BENZIDINE	.09544	.04797	49.74		
CS30 TERPHENYL-d14	1.14336	1.00507	12.10		

RF - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/05/95

Contractor: RESAN PACE, INC. Time: 12:51

Contract No: Laboratory ID: >F2709

Instrument ID: FMS-HP Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % Diff for CCC is 20%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C715 PYRENE	1.83252	1.66128	9.34		
C720 BUTYLBENZYLPHTHALATE	1.19309	1.12947	5.33		
C725 3,3'-DICHLOROBENZIDINE	.66704	.61847	7.28		
C730 BENZO(A)ANTHRACENE	1.39789	1.48373	6.14		
C745 BIS(2-ETHYLHEXYL)PHTHALAT	1.06421	1.16292	9.27		
C740 CHRYSENE	1.43904	1.27547	11.37		
C760 DI-N-OCTYLPHTHALATE	1.71485	2.09180	21.98	*	
C765 BENZO(B)FLUORANTHENE	1.21029	1.27456	5.31		
C770 BENZO(K)FLUORANTHENE	.86488	.96862	11.99		
C775 BENZO(A)PYRENE	1.01861	1.05909	3.97	*	
C780 INDENO(1,2,3-CD)PYRENE	1.24358	1.27531	2.55		
C785 DIBENZ(A,H)ANTHRACENE	1.02429	1.02522	.09		
C790 BENZO(G,H,I)PERYLENE	1.06272	1.07585	1.23		

RF - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: | Calibration Date: 10/05/95

Contractor: RESAN | Time: 12:51

Contract No: | Laboratory ID: >F2709

Instrument ID: FMS-HP | Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is .05 Maximum % Diff for CCC is 20%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C300 PYRIDINE	1.42242	1.57855	10.98		
C550 2-FLUOROPHENOL	1.41792	1.38163	2.56		
C545 PHENOL-d5	1.54687	1.73002	11.84		
C535 2-CHLOROPHENOL-d4	1.36769	1.43033	4.58		
C540 1,2-DICHLOROBENZENE-d4	.75768	.82884	9.39		
C340 1,4-DICHLOROBENZENE	1.42696	1.49996	5.12	*	
C355 2-METHYLPHENOL	1.10151	1.21540	10.34		
C367 3,4-METHYLPHENOLS	1.16537	1.26569	8.61		
C375 HEXACHLOROETHANE	.63809	.72307	13.32		
C410 NITROBENZENE	.43366	.48283	11.34		
C520 NITROBENZENE-d5	.42554	.47075	10.62		
C460 HEXACHLOROBUTADIENE	.21501	.21967	2.17	*	
C555 2,4,6-TRIBROMOPHENOL	.29903	.26167	12.50		
C525 2-FLUOROBIPHENYL	1.18142	1.21982	3.25		
C515 2,4,6-TRICHLOROPHENOL	.47311	.46215	2.32	*	
C520 2,4,5-TRICHLOROPHENOL	.49180	.48570	1.24		
C570 2,4-DINITROTOLUENE	.57352	.57735	.67		
C630 HEXACHLOROBENZENE	.34829	.33977	2.45		
C635 PENTACHLOROPHENOL	.23706	.19707	16.87	*	
C530 TERPHENYL-d14	1.14336	1.00507	12.10		

RF - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: | Calibration Date: 10/10/95

Contractor: RESAN PACE, INC. | Time: 10:56

Contract No: | Laboratory ID: >F2743

Instrument ID: FMS-HP | Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is 0.05 | Maximum % Diff for CCC is 20%

	Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C310	N-NITROSODIMETHYLAMINE	.96863	.78715	18.74		
C550	2-FLUOROPHENOL	1.41792	1.21988	13.97		
C545	PHENOL-d5	1.54687	1.56617	1.25		
C570	2-CHLOROPHENOL-d4	1.36769	1.35460	.96		
C575	1,2-DICHLOROBENZENE-d4	.75768	.82090	8.34		
C315	PHENOL	1.72949	1.80025	4.09	*	
C320	ANILINE	1.24738	1.37510	10.24		
C325	BIS(2-CHLOROETHYL)ETHER	1.77684	1.52327	14.27		
C330	2-CHLOROPHENOL	1.36857	1.33088	2.75		
C335	1,3-DICHLOROBENZENE	1.57248	1.50044	4.58		
C340	1,4-DICHLOROBENZENE	1.42696	1.47249	3.19	*	
C345	BENZYL ALCOHOL	.74671	.73532	1.53		
C350	1,2-DICHLOROBENZENE	1.27164	1.39733	9.88		
C355	2-METHYLPHENOL	1.10151	1.06473	3.34		
C360	BIS(2-CHLOROISOPROPYL)ETH	2.12632	1.77081	16.72		
C365	4-METHYLPHENOL	1.16537	1.14573	1.69		
C370	N-NITROSO-DI-N-PROPYLAMIN	.98767	.90017	8.86		**
C375	HEXACHLOROETHANE	.63809	.70910	11.13		
C410	NITROBENZENE	.43366	.45536	5.00		
C415	ISOPHORONE	.94539	.91528	3.19		
C520	NITROBENZENE-d5	.42554	.44477	4.52		
C420	2-NITROPHENOL	.25197	.23977	4.84	*	
C425	2,4-DIMETHYLPHENOL	.38779	.38715	.16		
C430	BENZOIC ACID	.17730	.14164	20.11		
C435	BIS(2-CHLOROETHOXY)METHAN	.53960	.53064	1.66		
C440	2,4-DICHLOROPHENOL	.32720	.32204	1.58	*	
C445	1,2,4-TRICHLOROBENZENE	.36421	.36558	.38		
C450	NAPHTHALENE	.95398	.98428	3.18		
C455	4-CHLOROANILINE	.43235	.39445	8.77		
C460	HEXACHLOROBUTADIENE	.21501	.22334	3.88	*	
C465	4-CHLORO-3-METHYLPHENOL	.36180	.36703	1.45	*	
C470	2-METHYLNAPHTHALENE	.61488	.64113	4.27		

RF - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/10/95

Contractor: RESAN PACE, INC. Time: 10:56

Contract No: Laboratory ID: >F2743

Instrument ID: FMS-HP Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % Diff for CCC is 20%

	Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
CS55	2,4,6-TRIBROMOPHENOL	.29903	.25076	16.14		
CS25	2-FLUOROBIPHENYL	1.18142	1.26552	7.12		
C510	HEXACHLOROCYCLOPENTADIENE	.31434	.32255	2.61		**
C515	2,4,6-TRICHLOROPHENOL	.47311	.44216	6.54	*	
C520	2,4,5-TRICHLOROPHENOL	.49408	.44949	9.03		
C525	2-CHLORONAPHTHALENE	1.13012	1.15788	2.46		
C530	2-NITROANILINE	.54131	.51374	5.09		
C535	DIMETHYLPHTHALATE	1.59809	1.52037	4.86		
C540	ACENAPHTHYLENE	1.63291	1.76559	8.13		
C545	3-NITROANILINE	.41668	.36784	11.72		
C550	ACENAPHTHENE	1.05786	1.08339	2.41	*	
C555	2,4-DINITROPHENOL	.26352	.21435	18.66		**
C560	4-NITROPHENOL	.20525	.20296	1.11		**
C565	DIBENZOFURAN	1.54786	1.59271	2.90		
C543	2,6-DINITROTOLUENE	.34616	.37558	8.50		
C570	2,4-DINITROTOLUENE	.57352	.53179	7.28		
C580	DIETHYLPHTHALATE	1.59211	1.59214	.00		
C585	4-CHLOROPHENYL-PHENYLETHE	.52091	.58042	11.42		
C590	FLUORENE	1.05352	1.15829	9.94		
C595	4-NITROANILINE	.44148	.35332	19.97		
C610	4,6-DINITRO-2-METHYLPHENO	.18622	.21977	18.02		
C615	N-NITROSODIPHENYLAMINE	.48060	.54684	13.78	*	
C620	AZOBENZENE	.20956	.18006	14.08		
C625	4-BROMOPHENYL-PHENYLETHER	.22504	.24063	6.93		
C630	HEXACHLOROBENZENE	.34829	.34434	1.13		
C635	PENTACHLOROPHENOL	.23706	.20277	14.47	*	
C640	PHENANTHRENE	1.04986	1.14879	9.42		
C645	ANTHRACENE	1.02536	1.10368	7.64		
C650	DI-N-BUTYLPHTHALATE	1.57983	1.72037	8.90		
C655	FLUORANTHENE	1.23398	1.28473	4.11	*	
C660	BENZIDINE	.09544	.02462	74.21		
CS30	TERPHENYL-d14	1.14336	.97900	14.38		

RF - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/10/95

Contractor: RESAN PACE, INC. Time: 10:56

Contract No: Laboratory ID: >F2743

Instrument ID: FMS-HP Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % Diff for CCC is 20%

	Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C715	PYRENE	1.83252	1.56295	14.71		
C720	BUTYLBENZYLPHTHALATE	1.19309	1.00846	15.48		
C725	3,3'-DICHLOROBENZIDINE	.66704	.49385	25.96		
C730	BENZO(A)ANTHRACENE	1.39789	1.33417	4.56		
C745	BIS(2-ETHYLHEXYL)PHTHALAT	1.06421	1.09730	3.11		
C740	CHRYSENE	1.43904	1.17484	18.36		
C760	DI-N-OCTYLPHTHALATE	1.71485	2.10773	22.91	*	
C765	BENZO(B)FLUORANTHENE	1.21029	1.29562	7.05		
C770	BENZO(K)FLUORANTHENE	.86488	1.02800	18.86		
C775	BENZO(A)PYRENE	1.01861	1.08369	6.39	*	
C780	INDENO(1,2,3-CD)PYRENE	1.24358	1.12797	9.30		
C785	DIBENZ(A,H)ANTHRACENE	1.02429	.90436	11.71		
C790	BENZO(G,H,I)PERYLENE	1.06272	.93197	12.30		

RF - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/10/95

Contractor: RESAN Time: 10:56

Contract No: Laboratory ID: >F2743

Instrument ID: FMS-HP Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is .05 Maximum % Diff for CCC is 20%

	Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C300	PYRIDINE	1.42242	1.25351	11.87		
CS50	2-FLUOROPHENOL	1.41792	1.21988	13.97		
CS45	PHENOL-d5	1.54687	1.56617	1.25		
CS35	2-CHLOROPHENOL-d4	1.36769	1.35460	.96		
CS40	1,2-DICHLOROBENZENE-d4	.75768	.82090	8.34		
C340	1,4-DICHLOROBENZENE	1.42696	1.47249	3.19	*	
C355	2-METHYLPHENOL	1.10151	1.06473	3.34		
C367	3,4-METHYLPHENOLS	1.16537	1.14573	1.69		
C375	HEXACHLOROETHANE	.63809	.70910	11.13		
C410	NITROBENZENE	.43366	.45536	5.00		
CS20	NITROBENZENE-d5	.42554	.44477	4.52		
C460	HEXACHLOROBUTADIENE	.21501	.22334	3.88	*	
CS55	2,4,6-TRIBROMOPHENOL	.29903	.25076	16.14		
CS25	2-FLUOROBIPHENYL	1.18142	1.26552	7.12		
C515	2,4,6-TRICHLOROPHENOL	.47311	.44216	6.54	*	
C520	2,4,5-TRICHLOROPHENOL	.49180	.44949	8.60		
C570	2,4-DINITROTOLUENE	.57352	.53179	7.28		
C630	HEXACHLOROBENZENE	.34829	.34434	1.13		
C635	PENTACHLOROPHENOL	.23706	.20277	14.47	*	
CS30	TERPHENYL-d14	1.14336	.97900	14.38		

RF - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN27

Lab File ID (Standard): >F2709 Date Analyzed: 10/05/95

Instrument ID: FMS Time Analyzed: 12:51

	IS1(DCB)		IS2(NPT)		IS3(ANT)		IS4(PHN)		IS5(CRY)		IS6(PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	26550	6.62	92373	8.75	51834	11.81	83099	14.37	65249	19.05	89572	22.54
UPPER LIMIT	53100	7.12	184746	9.25	103668	12.31	166198	14.87	130498	19.55	179144	23.04
LOWER LIMIT	13275	6.12	46187	8.25	25917	11.31	41550	13.87	32625	18.55	44786	22.04
CLIENT I.D.												
BA2478	25088	6.61	87264	8.74	47286	11.80	74059	14.36	67620	19.03	72235	22.50
LSA2478	22737	6.61	81977	8.73	46175	11.80	71914	14.37	64730	19.03	67458	22.50
CLJ44-CU-058	23685	6.61	79901	8.73	43350	11.80	68744	14.36	61045	19.03	64617	22.51
CLJ44-CU-059	24061	6.61	80757	8.73	44475	11.80	70022	14.37	64363	19.03	65483	22.51
CLJ44-CU-060	22586	6.61	79416	8.73	43798	11.80	69526	14.36	62670	19.03	63371	22.50
CLJ44-CC-062	25854	6.61	86037	8.73	48568	11.80	74624	14.37	66526	19.03	66165	22.51
CLJ44-CC-067	25536	6.61	87043	8.73	48372	11.80	73955	14.36	68510	19.04	68944	22.50
90001-282	24562	6.62	82033	8.74	44359	11.79	68254	14.37	63579	19.03	63167	22.50

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10
IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag internal standard area values outside of UPPER and LOWER LIMIT with an asterisk

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN27

Lab File ID (Standard): >F2743 Date Analyzed: 10/10/95

Instrument ID: FMS Time Analyzed: 10:56

	IS1(DCB)		IS2(NPT)		IS3(ANT)		IS4(PHN)		IS5(CRY)		IS6(PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	19863	6.61	69052	8.74	39282	11.80	60837	14.37	50658	19.05	57790	22.51
UPPER LIMIT	39726	7.11	138104	9.24	78564	12.30	121674	14.87	101316	19.55	115580	23.01
LOWER LIMIT	9932	6.11	34526	8.24	19641	11.30	30419	13.87	25329	18.55	28895	22.01
CLIENT I.D.												
CLJ44-CC-068-RBRE	18944	6.61	62215	8.73	34081	11.79	53291	14.35	43836	19.03	40526	22.49
BA2488	19584	6.61	65890	8.72	36389	11.79	57229	14.35	48745	19.02	48709	22.48
LSA2488	18485	6.61	65813	8.73	36271	11.79	56265	14.37	48711	19.03	47461	22.49

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10
IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag internal standard area values outside of UPPER and LOWER LIMIT with an asterisk

PACE New England

GCMS Semi Volatiles
RUN LOG

Voltage 1500 | Tune Meth MSFBFT | Initial Cal 10/2/95 | Date 10/2/95
Threshold 30 | Sample Meth MSFFST | Batch File Fac02A, B, C | Analyst M
QASOP 5200 | Volume Inj 1ul | Int Std A-1482 | Instr F MS-HP

Maintenance: Septum ✓ Liner ✓ Inlet Disk ✓ Column Clip ✓ Other

Bd #	File #	Sample	Matrix	ID File	Dil	SDG	Comments	MI	A	R	Arcv	P
-	>F2644	DFTPP50	A-1213				m/e198=17K inj 1011 scan 93+94		✓	✓	A1/3	
✓	46	ABW STD50	A-1488	IFac02			SSTD050	✓K	✓	✓		
✓	47	" 160	A-1485	↓			SSTD160	↓	✓	✓		
✓	48	" 120	A-1486				SSTD120		✓	✓		
✓	49	" 80	A-1487				SSTD080		✓	✓		
✓	50	" 20	A-1489	↓			SSTD020	↓	✓	✓		
	51	45461-1	ABWL	IFT002	1/1				✓	✓		
	52	-2	↓	↓	↓				✓	✓		1
	53	-3							✓	✓		
-	54	BA2467		IF1002		LIN22			✓	✓		
-	55	LSA2467					no surrs!		✓	✓		
✓	56	BA2468					phth 3ppb		✓	✓		
-	57	LSA2468		↓					✓	✓		
	58	45514-10		IFT002					✓	✓		
	59	-18							✓	✓		
	60	-12							✓	✓		
	61	-13							✓	✓		
	62	-14				↓			✓	✓		
	63	4546--7					Acsurr's fail - REX					
	64	-18	↓	↓	↓		Acsurr's low, but passing		✓	✓		
							TCLP spkcal - CFTCLP/IFTCLP (IF---- files)					
			10/3/95				CFPNA } - PNAtemplds - IFPNA } use A files					

PACE New England | **GCMS Semi Volatiles RUN LOG** | 0000015

Voltage 1500 | Tune Meth MSFDFT | Initial Cal 10/2/95 | Date 10/5/95
Threshold 30 | Sample Meth MSFFST | Batch File FOC#5A | Analyst NT
OASOP 5200 | Volume Inj 1ul | Int Std A-1490 | Instr F MS-HP

Maintenance: Septum ✓ | Liner ✓ | Inlet Disk ✓ | Column Clip ✓ | Other

Btl #	File #	Sample	Matrix	ID File	Dil	SDG	Comments	MI	A	R	Arcv	P
✓	>F2707	DFTPP 50	A-1213				m/e 198 = 15K inj 1234 Scan 85186187		✓	✓	A1/329	
✓	09	ABN STD 50	A-1488	IF0402 IFTCLP			compliant 8270	✓ WS	✓	✓		
✓	10	BA2473	ABNL	IF1005	1/1	Rust			✓	✓		
✓	11	LSA2473	↓	↓	↓	↓			✓	✓		
	12	45461-7RE		IFT005					✓	✓		
	13	-9		↓	1/5				✓	✓		
✓	14	BA2478		IF1005	1/1	LN27			✓	✓		
✓	15	LSA2478		↓	↓	↓			✓	✓		
	16	45563-9		IFT005					✓	✓		
	17	-10							✓	✓		
	18	-11							✓	✓		
	19	-12							✓	✓		
	20	-13							✓	✓		
✓	21	90001-282		↓	↓	↓			✓	✓		
	22	45547-2	↓	IF1005	1/5				✓	✓		
	23	$MeCl_2$ check	BK880		1/1				✓	✓		
	24	$MeCl_2$ check	BK873						✓	✓		
	25	surr check	E-1419	↓	↓				✓	✓		
10/6/95 MS	26	surr check	E-1419	↓	↓				✓	✓		

10/6/95

PACE New England — **GCMS Semi Volatiles** — **RUN LOG**

Voltage 1500 | Tune Meth MSFDFT | Initial Cal 10/2/95 | Date 10/10/95
Threshold 30 | Sample Meth MSFFST | Batch File FOC10A | Analyst MT
QASOP 5200 | Volume Inj 1ul | Int Std A-1490 | Instr F MS-HP

Maintenance: Septum _____ Liner _____ Inlet Disk _____ Column Clip _____ Other none

Bd #	File #	Sample	Matrix	ID File	Dil	SDG	Comments	MI	A	R	Arcv	P
✓	7F2741	DFTPP50	A-1213				m/e 198 E 111 - inj 1040 scan 85		✓	✓	11/357	
✓	43	ABN STD50	A-1462	IFOC02 IFTCLP			compliant 8270	MT	✓	✓		
	44	45594-12	ABNL	IFT007	1/1	LJN31			✓	✓		
	45	45563-19RE	↓	↓	↓	LJN27			✓	✓		
✓	46	BA2488		IF1010					✓	✓		
✓	47	LSA2488		↓					✓	✓		
	48	45576-1MS		IFT007					✓	✓		
	49	-1MSD	↓	↓					✓	✓		
✓	50	BA2484	ABNoil	IF1010					✓	✓		
✓	51	BA2485	ABNL						✓	✓		
✓	52	LSA2485			↓				✓	✓		
	53	45602-4			1/5				✓	✓		
	54	45586-2			1/5				✓	✓		
	55	45627-3			1/5				✓	✓		
	56	45601-2	↓		1/10				✓	✓		

10/10/95

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

4CC062

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

Matrix (soil/water): SOIL Lab Sample ID: 45563-014

Level (low/med): LOW Date Received: 10/03/95

% Solids: 85.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				
7440-70-2	Calcium				NR
7440-47-3	Chromium				
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	15.2			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
SOLID. FULL SAMPLE ID = CLJ44-CC-062

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

4CC067

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

Matrix (soil/water): SOIL Lab Sample ID: 45563-016

Level (low/med): LOW Date Received: 10/03/95

% Solids: 82.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				
7440-70-2	Calcium				NR
7440-47-3	Chromium				
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	2.8			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
SOLID. FULL SAMPLE ID = CLJ44-CC-067

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

4CU058

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

Matrix (soil/water): WATER Lab Sample ID: 45563-009

Level (low/med): LOW Date Received: 10/03/95

% 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				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	17.8	U		P
7440-39-3	Barium	109	B		P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium	1.8	B		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	4.4	B		P
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	132			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	23.7	U		P
7440-22-4	Silver	1.9	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
TCLP EXTRACT. FULL SAMPLE ID = CLJ44-CU-058

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR NON-VOLATILE CONSTITUENTS

Laboratory Number : 45563-009
Field Identification : CLJ44-CU-058
Extraction Date : 10/03/95
TCLP Blank : 90,001-282

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

A 5.0 gm portion of the sample was stirred with 96.5 mL deionized water. The pH at the end of 5 minutes was 5.33. 3.5 mL 1.0N HCl was added and the mixture was then heated to 50C for ten minutes. Upon cooling the pH was 1.76, therefore Extraction Fluid #1 was used.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 100 gm of sample was added to the extractor with 2000 mL Extraction Fluid #1.

Extraction Time : 19.00 hrs

Final pH : 4.98

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

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EPA SAMPLE NO.

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INORGANIC ANALYSIS DATA SHEET

4CU059

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

Matrix (soil/water): WATER Lab Sample ID: 45563-010

Level (low/med): LOW Date Received: 10/03/95

% 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				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	17.8	U		P
7440-39-3	Barium	42.4	B		P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	3.7	U		P
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	10.8	U		P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.25			CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	23.7	U		P
7440-22-4	Silver	1.9	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
TCLP EXTRACT. FULL SAMPLE ID = CLJ44-CU-059

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR NON-VOLATILE CONSTITUENTS

Laboratory Number : 45563-010
Field Identification : CLJ44-CU-059
Extraction Date : 10/03/95
TCLP Blank : 90,001-282

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

A 5.0 gm portion of the sample was stirred with 96.5 mL deionized water. The pH at the end of 5 minutes was 5.60. 3.5 mL 1.0N HCl was added and the mixture was then heated to 50C for ten minutes. Upon cooling the pH was 1.73, therefore Extraction Fluid #1 was used.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 100 gm of sample was added to the extractor with 2000 mL Extraction Fluid #1.

Extraction Time : 19.00 hrs

Final pH : 4.99

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

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EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

4CU060

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

Matrix (soil/water): WATER Lab Sample ID: 45563-011

Level (low/med): LOW Date Received: 10/03/95

% 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				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	17.8	U		P
7440-39-3	Barium	38.1	B		P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	3.7	U		P
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	10.8	U		P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.18	B		CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	23.7	U		P
7440-22-4	Silver	1.9	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
TCLP EXTRACT. FULL SAMPLE ID = CLJ44-CU-060

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR NON-VOLATILE CONSTITUENTS

Laboratory Number : 45563-011
Field Identification : CLJ44-CU-060
Extraction Date : 10/03/95
TCLP Blank : 90,001-282

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

A 5.0 gm portion of the sample was stirred with 96.5 mL deionized water. The pH at the end of 5 minutes was 5.37. 3.5 mL 1.0N HCl was added and the mixture was then heated to 50C for ten minutes. Upon cooling the pH was 1.73, therefore Extraction Fluid #1 was used.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 100 gm of sample was added to the extractor with 2000 mL Extraction Fluid #1.

Extraction Time : 19.00 hrs

Final pH : 4.98

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

C068RB

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

Matrix (soil/water): WATER Lab Sample ID: 45563-018

Level (low/med): LOW Date Received: 10/03/95

% 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				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	1.8	U		P
7440-39-3	Barium	2.7	U		P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	3.7	U		P
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	1.2	U		P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	2.3	U		P
7440-22-4	Silver	1.9	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
WATER. FULL SAMPLE ID = CLJ44-CC-068-RB

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

TCC062

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

Matrix (soil/water): WATER Lab Sample ID: 45563-012

Level (low/med): LOW Date Received: 10/03/95

% 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				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	17.8	U		P
7440-39-3	Barium	79.5	B		P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium	1.6	B		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	6.7	B		P
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	29.4			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	B		CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	23.7	U		P
7440-22-4	Silver	1.9	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
TCLP EXTRACT. FULL SAMPLE ID = CLJ44-CC-062

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR NON-VOLATILE CONSTITUENTS

Laboratory Number : 45563-012
Field Identification : CLJ44-CC-062
Extraction Date : 10/03/95
TCLP Blank : 90,001-282

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

A 5.0 gm portion of the sample was stirred with 96.5 mL deionized water. The pH at the end of 5 minutes was 6.07. 3.5 mL 1.0N HCl was added and the mixture was then heated to 50C for ten minutes. Upon cooling the pH was 1.79, therefore Extraction Fluid #1 was used.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 100 gm of sample was added to the extractor with 2000 mL Extraction Fluid #1.

Extraction Time : 19.00 hrs

Final pH : 4.98

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

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EPA SAMPLE NO.

1
INORGANIC ANALYSIS DATA SHEET

TCC067

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

Matrix (soil/water): WATER Lab Sample ID: 45563-013

Level (low/med): LOW Date Received: 10/03/95

% 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				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	17.8	U		P
7440-39-3	Barium	73.9	B		P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	4.9	B		P
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	11.2			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	B		CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	23.7	U		P
7440-22-4	Silver	1.9	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
TCLP EXTRACT. FULL SAMPLE ID = CLJ44-CC-067

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR NON-VOLATILE CONSTITUENTS

Laboratory Number : 45563-013
Field Identification : CLJ44-CC-067
Extraction Date : 10/03/95
TCLP Blank : 90,001-282

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

A 5.0 gm portion of the sample was stirred with 96.5 mL deionized water. The pH at the end of 5 minutes was 5.74. 3.5 mL 1.0N HCl was added and the mixture was then heated to 50C for ten minutes. Upon cooling the pH was 1.74, therefore Extraction Fluid #1 was used.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 100 gm of sample was added to the extractor with 2000 mL Extraction Fluid #1.

Extraction Time : 19.00 hrs

Final pH : 4.99

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

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2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

Initial Calibration Source: VHG\MAL\SPEX

Continuing Calibration Source: SOL+\VHG\MAL

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									NR
Antimony									NR
Arsenic									
Barium									
Beryllium									NR
Cadmium									
Calcium									NR
Chromium									
Cobalt									NR
Copper									NR
Iron									NR
Lead	1000.0	977.81	97.8	10000.0	9701.36	97.0	9608.11	96.1	P
Magnesium									NR
Manganese									NR
Mercury	4.0	3.86	96.5	5.0	4.78	95.6			CV
Nickel									NR
Potassium									NR
Selenium									
Silver									
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

Initial Calibration Source: VHG\MAL\SPEX

Continuing Calibration Source: SOL+\VHG\MAL

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									NR
Antimony									NR
Arsenic									
Barium									
Beryllium									NR
Cadmium									
Calcium									NR
Chromium									
Cobalt									NR
Copper									NR
Iron									NR
Lead				10000.0	9530.31	95.3	9956.78	99.6	P
Magnesium									NR
Manganese									NR
Mercury	4.0	4.24	106.0	5.0	4.12	82.4			CV
Nickel									NR
Potassium									NR
Selenium									
Silver									
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

Initial Calibration Source: VHG\MAL\SPEX

Continuing Calibration Source: SOL+\VHG\MAL

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									NR
Antimony									NR
Arsenic									
Barium									
Beryllium									NR
Cadmium									
Calcium									NR
Chromium									
Cobalt									NR
Copper									NR
Iron									NR
Lead				10000.0	9912.80	99.1	9894.81	98.9	P
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium									
Silver									
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

Initial Calibration Source: VHG\MAL\SPEX

Continuing Calibration Source: SOL+\VHG\MAL

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									NR
Antimony									NR
Arsenic									
Barium									
Beryllium									NR
Cadmium									
Calcium									NR
Chromium									
Cobalt									NR
Copper									NR
Iron									NR
Lead				10000.0	9801.04	98.0	9836.42	98.4	P
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium									
Silver									
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

Initial Calibration Source: VHG\MAL\SPEX

Continuing Calibration Source: SOL+\VHG\MAL

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									NR
Antimony									NR
Arsenic	1000.0	982.32	98.2	10000.0	9106.08	91.1	9235.01	92.4	P
Barium	1000.0	1003.07	100.3	40000.0	39199.37	98.0	39311.34	98.3	P
Beryllium									NR
Cadmium	500.0	489.11	97.8	1000.0	943.05	94.3	960.97	96.1	P
Calcium									NR
Chromium	1000.0	1040.51	104.1	4000.0	3989.13	99.7	4005.41	100.1	P
Cobalt									NR
Copper									NR
Iron									NR
Lead	1000.0	986.33	98.6	10000.0	9415.60	94.2	9418.23	94.2	P
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium	1000.0	998.12	99.8	10000.0	9431.28	94.3	9657.60	96.6	P
Silver	200.0	202.88	101.4	1000.0	1012.01	101.2	1016.78	101.7	P
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

Initial Calibration Source: VHG\MAL\SPEX

Continuing Calibration Source: SOL+\VHG\MAL

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									NR
Antimony									NR
Arsenic				10000.0	9178.85	91.8	9169.24	91.7	P
Barium				40000.0	39137.10	97.8	38705.81	96.8	P
Beryllium									NR
Cadmium				1000.0	960.64	96.1	960.52	96.1	P
Calcium									NR
Chromium				4000.0	3994.53	99.9	3974.33	99.4	P
Cobalt									NR
Copper									NR
Iron									NR
Lead				10000.0	9433.57	94.3	9402.16	94.0	P
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium				10000.0	9545.08	95.5	9495.50	95.0	P
Silver				1000.0	1009.93	101.0	1005.52	100.6	P
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

Initial Calibration Source: VHG\MAL\SPEX

Continuing Calibration Source: SOL+\VHG\MAL

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									NR
Antimony									NR
Arsenic				10000.0	9387.97	93.9	9443.33	94.4	P
Barium				40000.0	39838.58	99.6	39902.91	99.8	P
Beryllium									NR
Cadmium				1000.0	977.71	97.8	982.28	98.2	P
Calcium									NR
Chromium				4000.0	4081.82	102.0	4068.89	101.7	P
Cobalt									NR
Copper									NR
Iron									NR
Lead				10000.0	9595.94	96.0	9609.40	96.1	P
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium				10000.0	9824.07	98.2	9699.10	97.0	P
Silver				1000.0	1025.76	102.6	1029.62	103.0	P
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

Initial Calibration Source: VHG\MAL\SPEX

Continuing Calibration Source: SOL+\VHG\MAL

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									NR
Antimony									NR
Arsenic				10000.0	9878.44	98.8	9526.81	95.3	P
Barium				40000.0	41439.47	103.6	40493.54	101.2	P
Beryllium									NR
Cadmium				1000.0	1018.16	101.8	1002.28	100.2	P
Calcium									NR
Chromium				4000.0	4247.69	106.2	4152.51	103.8	P
Cobalt									NR
Copper									NR
Iron									NR
Lead				10000.0	9972.89	99.7	9789.25	97.9	P
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium				10000.0	10161.05	101.6	9986.97	99.9	P
Silver				1000.0	1061.94	106.2	1040.62	104.1	P
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

Initial Calibration Source: VHG\MAL\SPEX

Continuing Calibration Source: SOL+\VHG\MAL

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									NR
Antimony									NR
Arsenic	1000.0	974.48	97.4	1000.0	997.12	99.7	1014.81	101.5	P
Barium									
Beryllium									NR
Cadmium									
Calcium									NR
Chromium									
Cobalt									NR
Copper									NR
Iron									NR
Lead	1000.0	964.06	96.4	1000.0	981.23	98.1	1010.96	101.1	P
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium	1000.0	980.19	98.0	1000.0	1000.84	100.1	1019.60	102.0	P
Silver									
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

Initial Calibration Source: VHG\MAL\SPEX

Continuing Calibration Source: SOL+\VHG\MAL

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									NR
Antimony									NR
Arsenic				1000.0	1006.91	100.7	1007.76	100.8	P
Barium									
Beryllium									NR
Cadmium									
Calcium									NR
Chromium									
Cobalt									NR
Copper									NR
Iron									NR
Lead				1000.0	1000.70	100.1	999.51	100.0	P
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium				1000.0	1007.65	100.8	1013.31	101.3	P
Silver									
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

Initial Calibration Source: VHG\MAL\SPEX

Continuing Calibration Source: SOL+\VHG\MAL

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									NR
Antimony									NR
Arsenic				1000.0	986.18	98.6	1067.49	106.7	P
Barium									
Beryllium									NR
Cadmium									
Calcium									NR
Chromium									
Cobalt									NR
Copper									NR
Iron									NR
Lead				1000.0	973.52	97.4	1060.91	106.1	P
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium				1000.0	994.22	99.4	1072.96	107.3	P
Silver									
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

Initial Calibration Source: VHG\MAL\SPEX

Continuing Calibration Source: SOL+\VHG\MAL

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									NR
Antimony									NR
Arsenic				1000.0	1086.38	108.6			P
Barium									
Beryllium									NR
Cadmium									
Calcium									NR
Chromium									
Cobalt									NR
Copper									NR
Iron									NR
Lead				1000.0	1073.73	107.4			P
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium				1000.0	1089.51	109.0			P
Silver									
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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3
BLANKS

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic											
Barium											
Beryllium											NR
Cadmium											
Calcium											NR
Chromium											
Cobalt											NR
Copper											NR
Iron											NR
Lead	10.8	U	-13.2		10.8	U	10.8	U	1.080	U	P
Magnesium											NR
Manganese											NR
Mercury	0.1	B	0.2								CV
Nickel											NR
Potassium											NR
Selenium											
Silver											
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

U.S. EPA - CLP

3
BLANKS

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic											
Barium											
Beryllium											NR
Cadmium											
Calcium											NR
Chromium											
Cobalt											NR
Copper											NR
Iron											NR
Lead			10.8	U	10.8	U	10.8	U			P
Magnesium											NR
Manganese											NR
Mercury	0.2		0.2								CV
Nickel											NR
Potassium											NR
Selenium											
Silver											
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

3
BLANKS

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic											
Barium											
Beryllium											NR
Cadmium											
Calcium											NR
Chromium											
Cobalt											NR
Copper											NR
Iron											NR
Lead			10.8	U	10.8	U					P
Magnesium											NR
Manganese											NR
Mercury											
Nickel											NR
Potassium											NR
Selenium											
Silver											
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

3
BLANKS

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic	17.8	U	17.8	U	17.8	U	20.7				P
Barium	2.7	U	5.5	B	11.2	B	11.1	B			P
Beryllium											NR
Cadmium	1.5	U	1.5	U	1.5	U	1.5	U			P
Calcium											NR
Chromium	3.7	U	3.7	U	3.7	U	3.7	U			P
Cobalt											NR
Copper											NR
Iron											NR
Lead	10.8	U	10.8	U	12.1		10.8	U			P
Magnesium											NR
Manganese											NR
Mercury											
Nickel											NR
Potassium											NR
Selenium	23.7	U	23.7	U	23.7	U	23.7	U			P
Silver	1.9	U	-2.6	B	1.9	U	1.9	U			P
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

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3
BLANKS

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic			24.8		17.8	U	17.8	U			P
Barium			11.5	B	7.4	B	13.2	B			P
Beryllium											NR
Cadmium			1.5	U	1.5	U	1.5	U			P
Calcium											NR
Chromium			3.7	U	3.7	U	3.7	U			P
Cobalt											NR
Copper											NR
Iron											NR
Lead			10.8	U	10.8	U	10.8	U			P
Magnesium											NR
Manganese											NR
Mercury											
Nickel											NR
Potassium											NR
Selenium			23.7	U	23.7	U	23.7	U			P
Silver			1.9	U	1.9	B	1.9	U			P
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

3
BLANKS

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic			17.8	U	27.6						P
Barium			14.2	B	15.0	B					P
Beryllium											NR
Cadmium			1.5	U	1.5	U					P
Calcium											NR
Chromium			3.7	U	3.7	U					P
Cobalt											NR
Copper											NR
Iron											NR
Lead			10.8	U	10.8	U					P
Magnesium											NR
Manganese											NR
Mercury											
Nickel											NR
Potassium											NR
Selenium			23.7	U	23.7	U					P
Silver			-2.1	B	-2.6	B					P
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

U.S. EPA - CLP

3
BLANKS

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic	1.8	U	1.8	U	1.8	U	1.8	U	1.800	U	P
Barium									2.700	U	P
Beryllium											NR
Cadmium									1.500	U	P
Calcium											NR
Chromium									3.700	U	P
Cobalt											NR
Copper											NR
Iron											NR
Lead	1.2	U	19.2		19.9		1.2	U	1.200	U	P
Magnesium											NR
Manganese											NR
Mercury									0.100	U	CV
Nickel											NR
Potassium											NR
Selenium	2.3	U	2.3	U	2.3	U	2.3	U	2.300	U	P
Silver									1.900	U	P
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

3
BLANKS

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic			1.8	U	1.8	U	1.8	U			P
Barium											
Beryllium											NR
Cadmium											
Calcium											NR
Chromium											
Cobalt											NR
Copper											NR
Iron											NR
Lead			1.2	U	1.2	U	1.2	U			P
Magnesium											NR
Manganese											NR
Mercury											
Nickel											NR
Potassium											NR
Selenium			2.3	U	2.3	U	2.3	U			P
Silver											
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

3
BLANKS

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic			1.8	U							P
Barium											
Beryllium											NR
Cadmium											
Calcium											NR
Chromium											
Cobalt											NR
Copper											NR
Iron											NR
Lead			1.2	U							P
Magnesium											NR
Manganese											NR
Mercury											
Nickel											NR
Potassium											NR
Selenium			2.3	U							P
Silver											
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

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4
ICP INTERFERENCE CHECK SAMPLE

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

ICP ID Number: TJA01 ICS Source: VHG

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum	500000	500000	514320	504501.3	100.9	514949	496159.2	99.2
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium	500000	500000	504434	496333.6	99.3	505114	487947.4	97.6
Chromium								
Cobalt								
Copper								
Iron	200000	200000	190775	188384.8	94.2	189828	184549.2	92.3
Lead		1000	18	934.0	93.4	20	918.1	91.8
Magnesium	500000	500000	503895	495839.2	99.2	504090	486802.2	97.4
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

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4
ICP INTERFERENCE CHECK SAMPLE

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

ICP ID Number: TJA01 ICS Source: VHG

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum	500000	500000	502195	495378.2	99.1	518934	511753.5	102.4
Antimony								
Arsenic			-194	-120.1		-138	-88.0	
Barium		500	-4	471.2	94.2	-4	488.4	97.7
Beryllium								
Cadmium		1000	4	891.2	89.1	4	925.9	92.6
Calcium	500000	500000	491639	481412.5	96.3	502503	497925.6	99.6
Chromium		500	-1	458.2	91.6	0	477.4	95.5
Cobalt								
Copper								
Iron	200000	200000	187433	183769.6	91.9	194076	193111.5	96.6
Lead		1000	34	909.4	90.9	48	969.8	97.0
Magnesium	500000	500000	494025	487523.7	97.5	511354	505478.3	101.1
Manganese								
Mercury								
Nickel								
Potassium								
Selenium			-16	-16.6		-12	-56.1	
Silver		1000	-3	942.0	94.2	0	978.2	97.8
Sodium								
Thallium								
Vanadium								
Zinc								

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4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

ICP ID Number: TJA02 ICS Source: VHG

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum	500000	500000	470890	466596.7	93.3	474340	471476.2	94.3
Antimony								
Arsenic			1	5.2		-2	-1.3	
Barium								
Beryllium								
Cadmium								
Calcium	500000	500000	440531	439771.6	88.0	469721	467145.6	93.4
Chromium								
Cobalt								
Copper								
Iron	200000	200000	182456	182549.4	91.3	191786	191037.2	95.5
Lead		1000	1	865.9	86.6	-3	928.7	92.9
Magnesium	500000	500000	477986	477032.3	95.4	508382	505875.4	101.2
Manganese								
Mercury								
Nickel								
Potassium								
Selenium			-1	-5.8		-6	-2.6	
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

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7
LABORATORY CONTROL SAMPLE

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

Solid LCS Source: SOL+\SPX\MAL

Aqueous LCS Source: SOL+\SPX\MAL

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic	2000.0	1927.75	96.4						
Barium	2000.0	2031.05	101.6						
Beryllium									
Cadmium	50.0	55.91	111.8						
Calcium									
Chromium	200.0	214.84	107.4						
Cobalt									
Copper									
Iron									
Lead	500.0	496.36	99.3	50.0	43.8		40.0	60.0	87.6
Magnesium									
Manganese									
Mercury	8.0	7.71	96.4						
Nickel									
Potassium									
Selenium	2000.0	1823.94	91.2						
Silver	50.0	46.07	92.1						
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

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10
INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

ICP ID Number: TJA01 Date: 07/25/95

Flame AA ID Number:

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum	308.22		200.0	10.5	P
Antimony	206.84		60.0	10.5	P
Arsenic	193.70		10.0	17.8	
Barium	493.41		200.0	2.7	P
Beryllium	313.04		5.0	0.3	P
Cadmium	228.80		5.0	1.5	P
Calcium	317.93		5000.0	10.7	P
Chromium	267.72		10.0	3.7	P
Cobalt	228.62		50.0	1.2	P
Copper	324.75		25.0	2.5	P
Iron	259.94		100.0	9.4	P
Lead	220.35		3.0	10.8	
Magnesium	279.08		5000.0	15.5	P
Manganese	257.61		15.0	0.8	P
Mercury			0.2		
Nickel	231.60		40.0	6.1	P
Potassium	766.49		5000.0	365.9	P
Selenium	196.03		5.0	23.7	
Silver	328.07		10.0	1.9	P
Sodium	589.00		5000.0	6.4	P
Thallium			10.0		
Vanadium	292.40		50.0	3.5	P
Zinc	213.86		20.0	3.2	P

Comments:

U.S. EPA - CLP

10
INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

ICP ID Number: TJA02 Date: 09/28/95

Flame AA ID Number:

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony			60.0		
Arsenic	189.04		10.0	1.8	P
Barium			200.0		
Beryllium			5.0		
Cadmium			5.0		
Calcium			5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper			25.0		
Iron			100.0		
Lead	220.35		3.0	1.2	P
Magnesium			5000.0		
Manganese			15.0		
Mercury			0.2		
Nickel			40.0		
Potassium			5000.0		
Selenium	196.02		5.0	2.3	P
Silver			10.0		
Sodium			5000.0		
Thallium	190.86		10.0	2.5	P
Vanadium			50.0		
Zinc			20.0		

Comments:

U.S. EPA - CLP

10
INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN27

ICP ID Number: Date: 08/30/95

Flame AA ID Number: PE02

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony			60.0		
Arsenic			10.0		
Barium			200.0		
Beryllium			5.0		
Cadmium			5.0		
Calcium			5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper			25.0		
Iron			100.0		
Lead			3.0		
Magnesium			5000.0		
Manganese			15.0		
Mercury	253.70		0.2	0.1	CV
Nickel			40.0		
Potassium			5000.0		
Selenium			5.0		
Silver			10.0		
Sodium			5000.0		
Thallium			10.0		
Vanadium			50.0		
Zinc			20.0		

Comments:
PE02 IS A MERCURY COLD VAPOR INSTRUMENT.

PACE New England, Inc.

Metals Results for TCLP Blank 282

ELEMENT	BLANK RESULT	
Arsenic	< 0.20	mg/L
Barium	< 0.10	mg/L
Cadmium	< 0.005	mg/L
Chromium	< 0.01	mg/L
Lead	< 0.05	mg/L
Mercury	< 0.0003	mg/L
Selenium	< 0.20	mg/L
Silver	< 0.02	mg/L

All results are methods 3010 and 6010,
except mercury (method 7470).

Laboratory number: 45563-014
Sample Designation: CLJ44-CC-062
Date Extracted: 10/05/95
Date Analyzed: 10/05/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis.
Moisture content was 14 % , elevating the reporting limits
by a factor of 1.16 .

PCB'S	CONCENTRATION (ug/g)	REPORTING LIMIT (ug/g)
PCB-1242 (Arochlor 1242)	BDL	0.1
PCB-1254 (Arochlor 1254)	BDL	0.1
PCB-1221 (Arochlor 1221)	BDL	0.1
PCB-1232 (Arochlor 1232)	BDL	0.1
PCB-1248 (Arochlor 1248)	BDL	0.1
PCB-1260 (Arochlor 1260)	BDL	0.1
PCB-1016 (Arochlor 1016)	BDL	0.1

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHODS 3550 AND 8080

BDL = Below reporting limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: 45563-016
Sample Designation: CLJ44-CC-067
Date Extracted: 10/05/95
Date Analyzed: 10/05/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis.
Moisture content was 18 % , elevating the reporting limits
by a factor of 1.21 .

PCB'S	CONCENTRATION (ug/g)	REPORTING LIMIT (ug/g)
PCB-1242 (Arochlor 1242)	BDL	0.1
PCB-1254 (Arochlor 1254)	BDL	0.1
PCB-1221 (Arochlor 1221)	BDL	0.1
PCB-1232 (Arochlor 1232)	BDL	0.1
PCB-1248 (Arochlor 1248)	BDL	0.1
PCB-1260 (Arochlor 1260)	BDL	0.1
PCB-1016 (Arochlor 1016)	BDL	0.1

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHODS 3550 AND 8080

BDL = Below reporting limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

2F

SOIL PESTICIDE SURROGATE RECOVERY

Client: OHM REMEDIATION SERVICES CORP. Lab No.: 45563
Project: CAMP GEIGER/LJN27
Level: Soil

CLIENT SAMPLE NO.	S1 (TCX) #	S2 (DCB) #	OTHER	TOT OUT
CLJ44-CC-062	92	82		0
CLJ44-CC-067	77	85		0
BP4498	109	84		0
LSP4498MS	109	92		0

	QC LIMITS
S1 (TCX) = Tetrachloro-m-xylene	20 - 150
S2 (DCB) = Decachlorobiphenyl	20 - 150

Column to be used to flag recovery values with an asterisk
* Values outside of designated QC limits
D Surrogates diluted out

pace INCORPORATED THE ASSURANCE OF QUALITY

Laboratory number: BP4498
Sample Designation: LAB BLANK
Date Extracted: 10/05/95
Date Analyzed: 10/05/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis.

PCB'S	CONCENTRATION (ug/g)	REPORTING LIMIT (ug/g)
PCB-1242 (Arochlor 1242)	BDL	0.1
PCB-1254 (Arochlor 1254)	BDL	0.1
PCB-1221 (Arochlor 1221)	BDL	0.1
PCB-1232 (Arochlor 1232)	BDL	0.1
PCB-1248 (Arochlor 1248)	BDL	0.1
PCB-1260 (Arochlor 1260)	BDL	0.1
PCB-1016 (Arochlor 1016)	BDL	0.1

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHODS 3550 AND 8080

BDL = Below reporting limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

PCB'S

MATRIX SPIKE RECOVERY

Laboratory Number: LS-P4498
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/05/95
Matrix: SOLID

COMPOUND	ug/g IN SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
AR-1254	0	1.01	0.83	82

METHOD REFERENCE: EPA SW846, 3RD EDITION
METHODS 3550 AND 8080

pace INCORPORATED
THE ASSURANCE OF QUALITY

PACE, INC. NEW ENGLAND - NEW HAMPSHIRE LAB
Organics Extraction
SOLIDS PREP LOG

PROTOCOL: EPA SW846 LOG BOOK NO: 4

SOP #: QA5517,QA5526,QA5500,QA5520 STEAMBATH TEMP: N/A (Range 80-90°C) METHOD: SONC/3550

MATRIX: SOLIDS REVIEWED BY/DATE: JEW 10/10/95 TEST/LEVEL: PCB/med-Solid

EJK 10/6/95

COUNT	DATE/INIT	BLANK/SPIKES SAMPLE #	INIT WT (g)	Na_2SO_4 (g)	LCS MS/MSD	SURR # AMT/CONC INITIALS	SPIKE # AMT/CONC.	INTER VOL (ml)	ALIQUOT VOL (ml)	FINAL VOL (ml)	SPECIAL CLEANUP (F,G,S,SA)	QUATTRO init/ date
—	MC	BP44498	5.0	10.0		E1319 50ml 2.0ppm	E1320	10.0	2.0	1.0	N/A	JK
—	10/5/95	LSP44498	5.0		LSP 4498		E1318 E3 100ml 50 ppm					10/5/95
14		45563-14	5.03		45563-7 MS/MSD		N/A					
15		-16	5.07									

COMMENTS: F = Florisil, G = GPC, S = Sulfur using copper powder, SA = Sulfuric acid

F:\APPS\WP51\NANCY\EXLBSPCB

PACE, Incorporated

INITIAL CALIBRATION SUMMARY

for /DATA/GC11/METHOD/PCB1254062.MTH
Method created: 09/26/95 10:30:13
Method updated: 09/27/95 08:08:34

Result files used for Calibration data:
Level 1 /DATA/GC11/RESULT/G11W18781.RES
Level 2 /DATA/GC11/RESULT/G11W18782.RES
Level 3 /DATA/GC11/RESULT/G11W18783.RES
Level 4 /DATA/GC11/RESULT/G11W18784.RES
Level 5 /DATA/GC11/RESULT/G11W18785.RES

#	Time	Analyte	Correlation	B_0 Intercept	B1 Slope	B2 Quadratic
1	5.68	TCX	.99991	-1315.66	1443106.80	-860085.80
2	13.56	AR1254	.99979	723.63	51132.84	-4246.22
3	15.06	AR1254	.99988	648.34	66064.52	-2991.03
4	15.57	AR1254	.99995	183.64	34141.38	-3238.84
5	15.83	AR1254	.99987	445.61	46267.32	-1986.35
6	16.93	AR1254	.99998	-101.40	26320.37	-375.70
7	25.52	DCB	.99982	1379.11	588576.37	-262622.50

$$R = B0 + B1X + B2X^2$$

PACE, Incorporated
Continuing Calibration Report Tue Oct 10, 1995 10:19:21 am

/DATA/GC01/RESULT/G1W19038.RES
/DATA/GC01/METHOD/PCB1254062_1.MTH

Sample: AR1254 0.5PPM P8867
Injected: Thu Oct 5, 1995 4:50:06 pm

RetTime	Analyte	Found	Nominal	%D	Recovery
6.24	TCX	.104	.100	4.4	104.4
14.66	AR1254	.400	.500	20.0	80.0
16.35	AR1254	.368	.500	26.4	73.6
16.90	AR1254	.394	.500	21.1	78.9
17.43	AR1254	.380	.500	23.9	76.1
18.81	AR1254	.400	.500	20.0	80.0
30.05	DCB	.085	.100	15.2	84.8

PACE, Incorporated
Continuing Calibration Report Tue Oct 10, 1995 10:19:59 am

/DATA/GC11/RESULT/G11W19038.RES
/DATA/GC11/METHOD/PCB1254062_1.MTH

Sample: AR1254 0.5PPM P8867
Injected: Thu Oct 5, 1995 4:50:06 pm

RetTime	Analyte	Found	Nominal	%D	Recovery
5.67	TCX	.109	.100	8.7	108.7
13.56	AR1254	.433	.500	13.3	86.7
15.05	AR1254	.428	.500	14.4	85.6
15.57	AR1254	.405	.500	19.1	80.9
15.82	AR1254	.434	.500	13.2	86.8
16.93	AR1254	.435	.500	13.0	87.0
25.53	DCB	.089	.100	11.3	88.7

PACE, INCORPORATED
GC Instrument Run Log

Circle one: CLP/PHC/OPP/HERB/P-P

Reviewed by _____ Date _____

Date	init	result file	Sample	MI	V	Method	column	Sequence
9/14/95		changed ramp	to TCP Ramp => 120°(0) 5°/min 200°(6) 60°/min			260°(5')		=> RT = 28 min
9/14/95	RW	G1/11W18757	TCP 0.1 ppm P8559	N	Y	TCP001	112/110	G1/110914
↓	↓	752	J09588A Pre-Florisil Check	↓	↓	↓	↓	↓
↓	↓	753	J09568B, Post-Florisil Check					
9/15/95	→	changed back to Pest Ramp => 160°(0)		5°/min		260°(12 min)		=> 32 min RT.
9/19/95	RW	G1/11W18754	2 Test Samples AR1660 0.5 ppm P8823	N	Y	PCB1660026	112/110	G1/110919
↓	↓	755	44906-9 PIP-S Quick Shake Test	N	Y			
↓	↓	756	↓ -10 ↓ ↓					
↓	↓	757				↓		↓
9/20/95	RW	G1/11S18758	Pre-GPC 9/20195			GPC001 Pest136		SS
↓	↓	759	Post-GPC			↓		↓
↓	↓	760	Pre-GPC (2nd)			↓		↓
↓	↓	761	Post-GPC			↓		↓
↓	↓	762	Pre-GPC ↓			↓		↓
↓	↓	763	44908-9 PIP-S Concentrated Sample	N	Y	PCB1660026		S.S
↓	↓	764	↓ -10 ↓ ↓	↓	↓	↓		↓
9/22/95	RW	765	45305-9 PIP-W Sulfur Check			PEST136		
↓	↓	766	45302-9 ↓ ↓	↓	↓	↓	↓	↓
↓	↓	767	45302-9 PIP-W Re-clean					
9/22/95 → changed liner & septa due to Evidnt DOT Breakdown								
9/25/95		Also, we need to re-calibrate instrument with new PCB's						
9/25/95	RW	G1/11S18 768	EVAL 0.5PPM Equivalents P8556	N	Y	Pest136	112/110	SS
↓	↓	769	↓	↓	↓	↓	↓	↓
↓	↓	770						
9/25/95	Signal 1 = 18.0		Signal 2 = 13.9	-	-	-	-	-
9/25/95	RW	G1/11W18771	AR1242 0.05ppm P8802	N	Y	PCB1242038	112/110	G1/110925
↓	↓	772	0.2PPM P8804	↓	↓	↓	↓	↓
↓	↓	773	0.5PPM P8805					
↓	↓	774	1.0 PPM P8806					
↓	↓	775	↓ 2.0 PPM P8818					
↓	↓	776	AR1248 0.05PPM P8807	N	Y	PCB1248055		

PACE, INCORPORATED
GC Instrument Run Log

0000072

Circle one:
CLP/PHC/OPP/HERB (P-P)

Reviewed by _____ Date _____

Date	init	result file	Sample	MI	V	Method	column	Sequence
9/25/95	[redacted]	G1/11W18777	AR1248 0.2PPM P8809	N	Y	PCB1248055	112/110	G1/110925
		778	0.5PPM P8810					
		779	1.0PPM P8811					
		780	2.0PPM P8819					
		781	AR1254 0.05PPM P8812	N	Y	PCB1254062		
		782	0.2PPM P8814					
		783	0.5PPM P8815					
		784	1.0PPM P8816					
9/26/95		785	2.0PPM P8817					
		786	AR1660 0.05PPM P8820	N	Y	PCB1660027		
		787	0.2PPM P8822					
		788	0.5PPM P8823					
		789	1.0PPM P8824					
		790	2.0PPM P8825					
		791	P8858 0.1PPM Eval	N	Y	PEST137		
		792	P8859 IND 0.5AB MTH 508	N	Y	PEST508004		
		793	P8860 1AB					
		794	P8861 2AB					
		795	P8862 3AB					
		796	P8863 5AB	N	N			
		797	P8835 IND 0.5AB	N	Y	PEST137		
		798	P8836 1AB					
		799	P8837 2AB					
		800	P8838 3AB					
		801	P8839 5AB					
		802	P8804 IND 5AB MTH 508	N	Y	Pest508004		
			P8967 0.5PPM 10X	N	Y	PEST137		
		803	—	-	-	-		
		804	BP4473 P/P-W MTH 508	N	N	PEST508004		C1/110926
		805	LSP4473 P/P-W MTH 508					
		806	4538-1 P/P-W TPP/508/BAC/V ASAP					
		807	↓ -9 ↓ ↓ ↓					

Squirt Bottle Contamination

PACE, INCORPORATED
GC Instrument Run Log

0000080

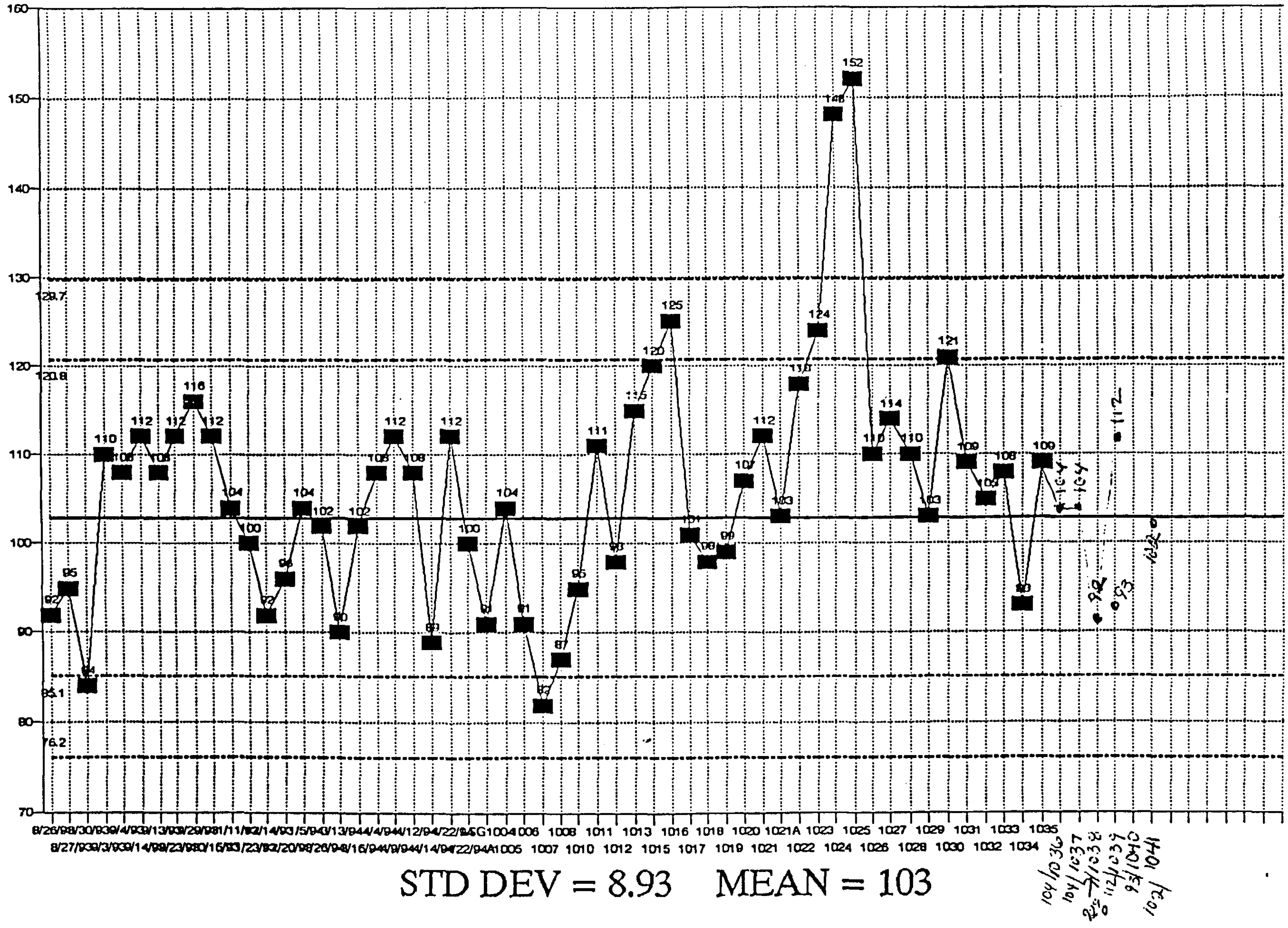
Circle one:
CLP/PHC/OPP/HERB/P-P

Reviewed by _____ Date _____

Date	init	result file	Sample	MI	V	Method	column	Sequence
10/4/95	BN	G1111W19025	45559-9 PCB-LS Bechtel/V1016				112/110	G601/111004
		026	AR1242 0.5ppm P8865	N	N	PCB1242038		
		027	AR1248 P8866			PCB1248055		
		028	AR1254 P8867			PCB1254062		
		029	AR1660 P8868			PCB1660027		
		030	45559-10 PCB-LS Bechtel/V1016	N	N			
		031	-11					
		032	-12					
		033	-13					
		034	-14					
		035	-15					
		036	AR1242 0.5ppm P8865	N	Y	PCB1242038		
		037	AR1248 P8866 P8868		Y*	PCB1248055		
		038	AR1254 P8867	N	Y*	PCB1254062		
		039	AR1660 P8868	N	Y*	PCB1660027		G601/111005
		040	BP4498 PCB-MS	N	Y	PCB1254062		
		041	LSP4498 PCB-MS					
		042	45563-14 PCB-MS OHM/Nessic/V1016					
		043	45563-16 PCB-MS OHM/Nessic/V1016					
		044	Hexane	N	Y			
		045						
		046						
10/6/95 → Signal 1 = 19.0 Signal 2 = 14.1				-	-	-	-	-
10/6/95 → Changed liner due to dirtiness.				-	-	-	-	-
10/6/95	BN	G1111W19047	Hexane	N	Y	PCB1254062		G1/111006
		048						
		049						
		050						
		051	AR1254 0.5ppm P8867	N	N			
		052	AR1660 0.5ppm P8868	N	N			
		—	—	—	—	—	—	—

Samples are clean, but they need to be re-run through passing calibrations.

TOTAL GAS LCS RECOVERIES
LIMITS SET 4/13/94

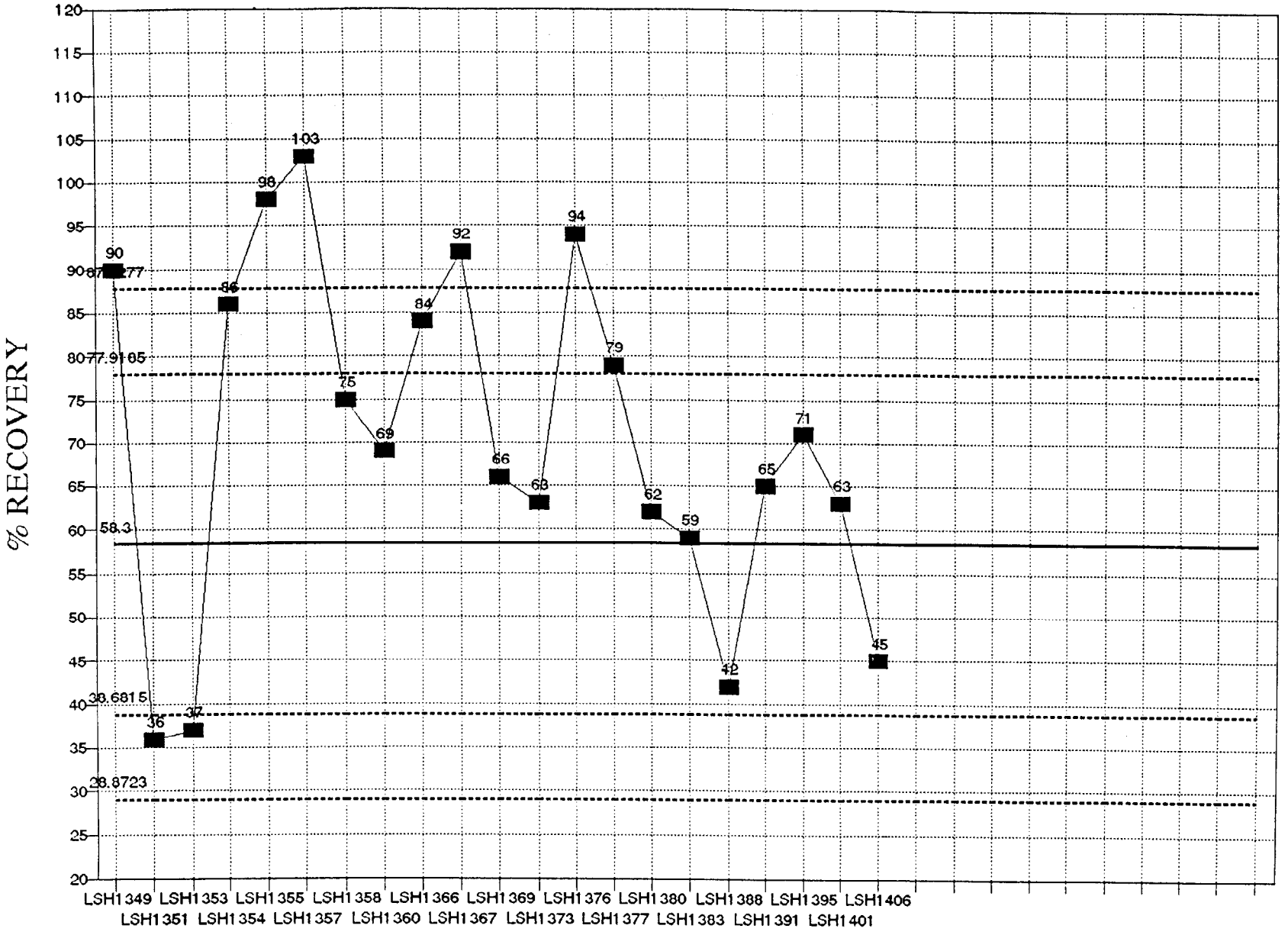


STD DEV = 8.93 MEAN = 103

0000196

PHC LOW SOLIDS - DIESEL

SPK REC LIMS SET6/6/95-PPCBCHT\PHCS1294

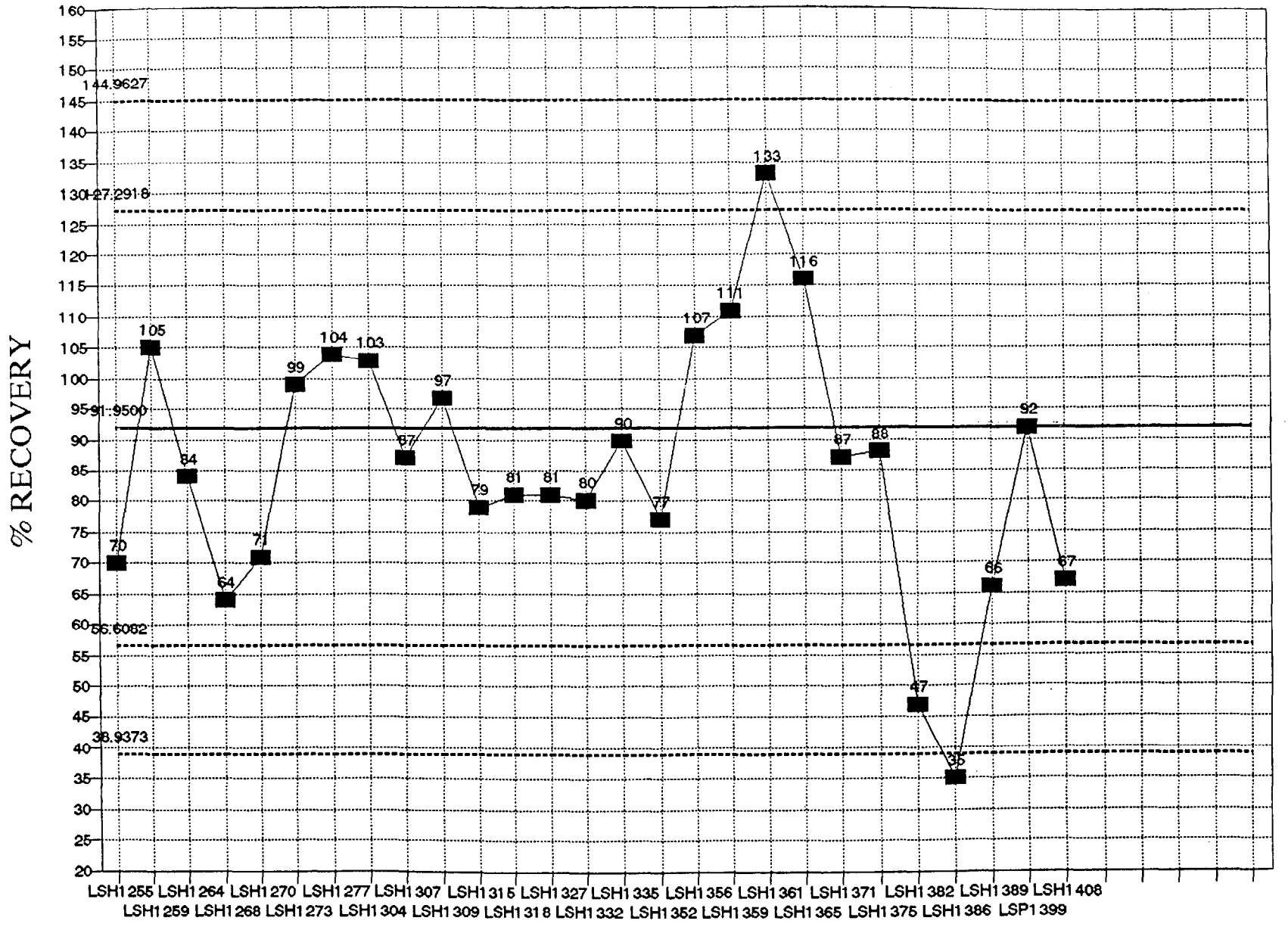


MEAN = 58.30 STD DEV =9.81

00001997

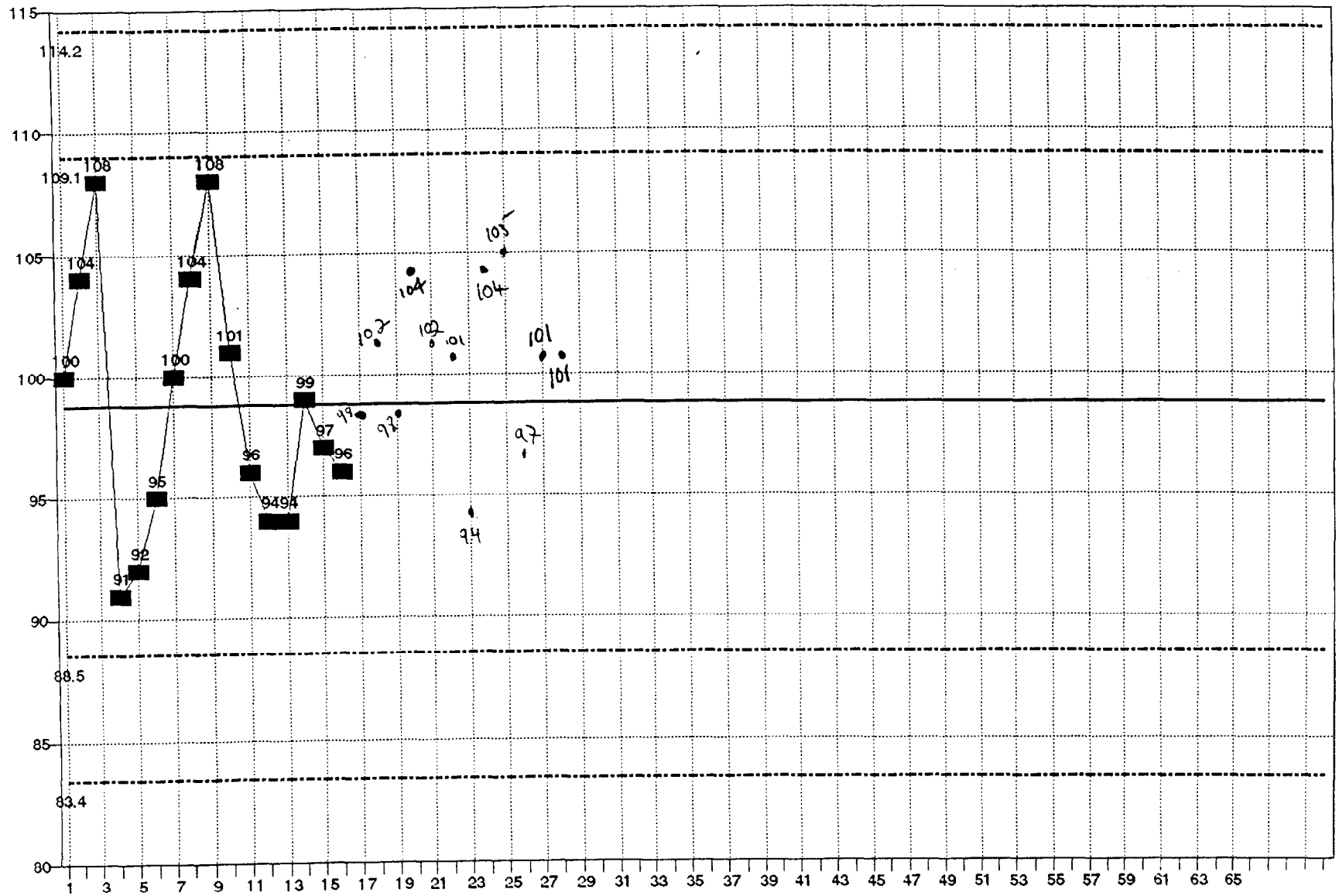
PHC WATERS BY SEPF - DIESEL

SPK REC LIMS SET0795-PPCBCHT\PHCWSF94



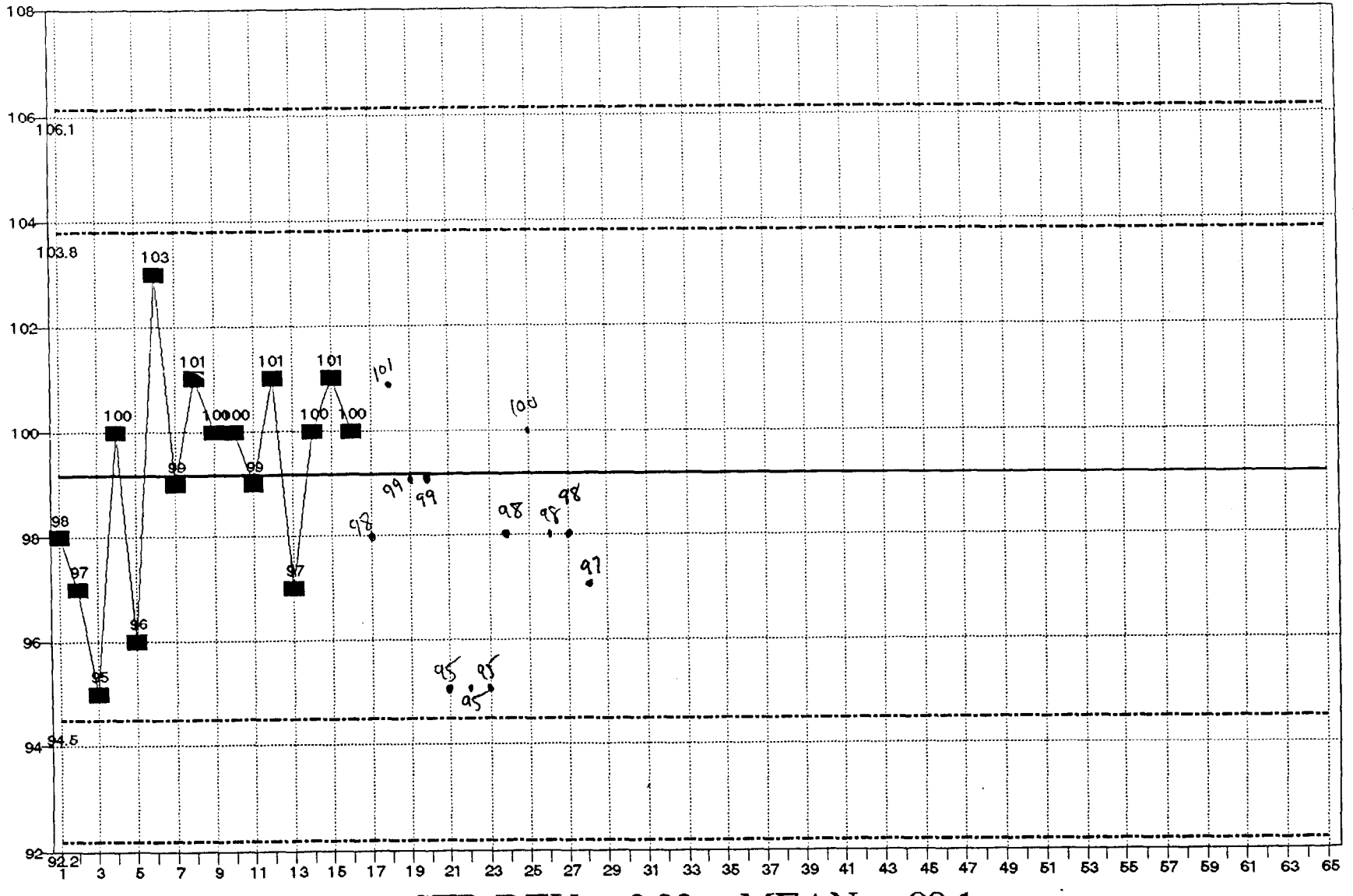
MEAN = 91.95 STD DEV = 17.67

VOA TCLP - SURR DCE
LIMIT SET 7/93



STD DEV = 5.13 MEAN = 98.8

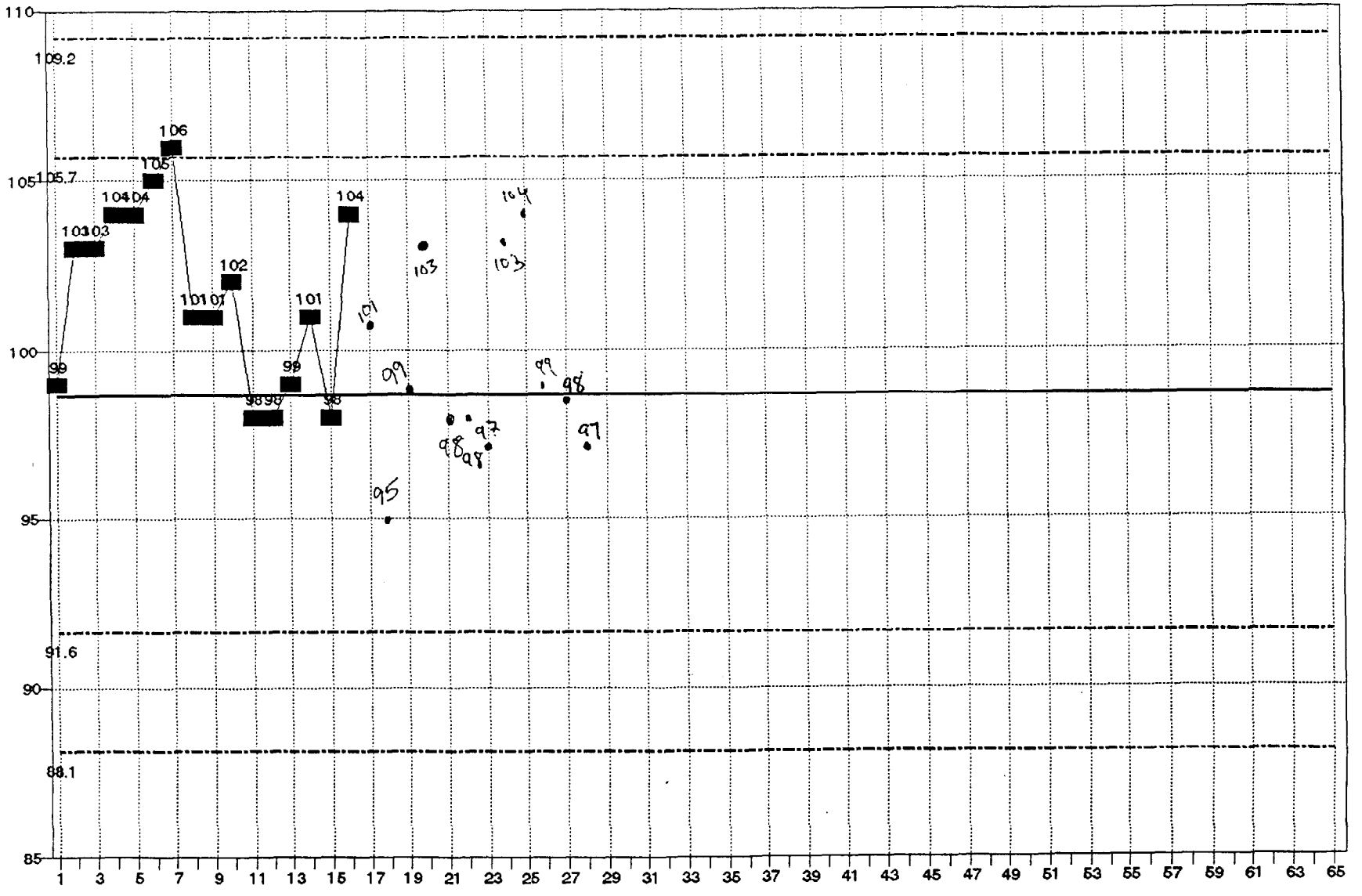
VOA TCLP - SURR TOL
LIMIT SET 7/93



STD DEV = 2.32 MEAN = 99.1

0000200

VOA TCLP - SURR BFB
LIMIT SET 7/93

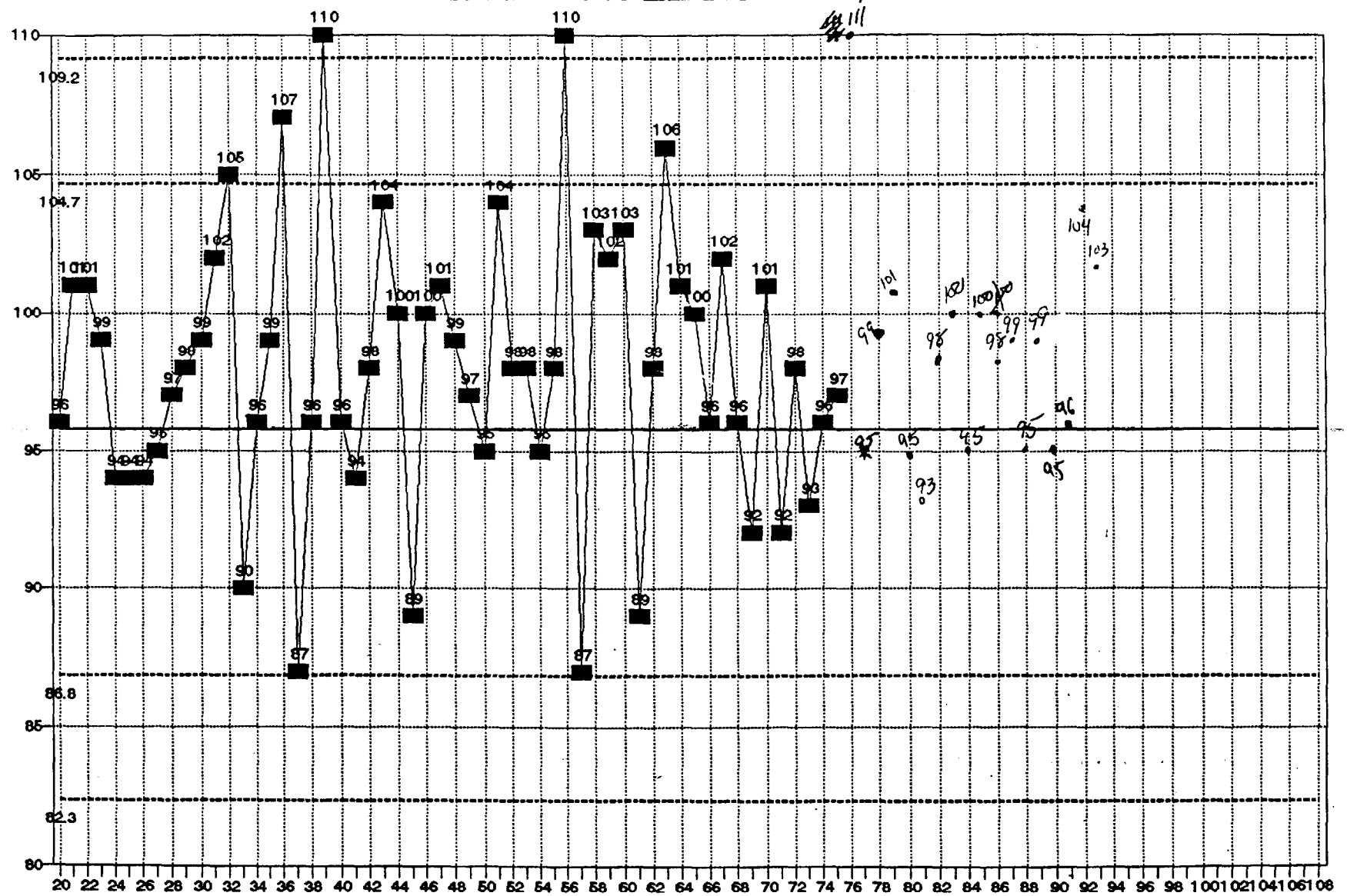


STD DEV =3.51 MEAN = 98.6

0000201

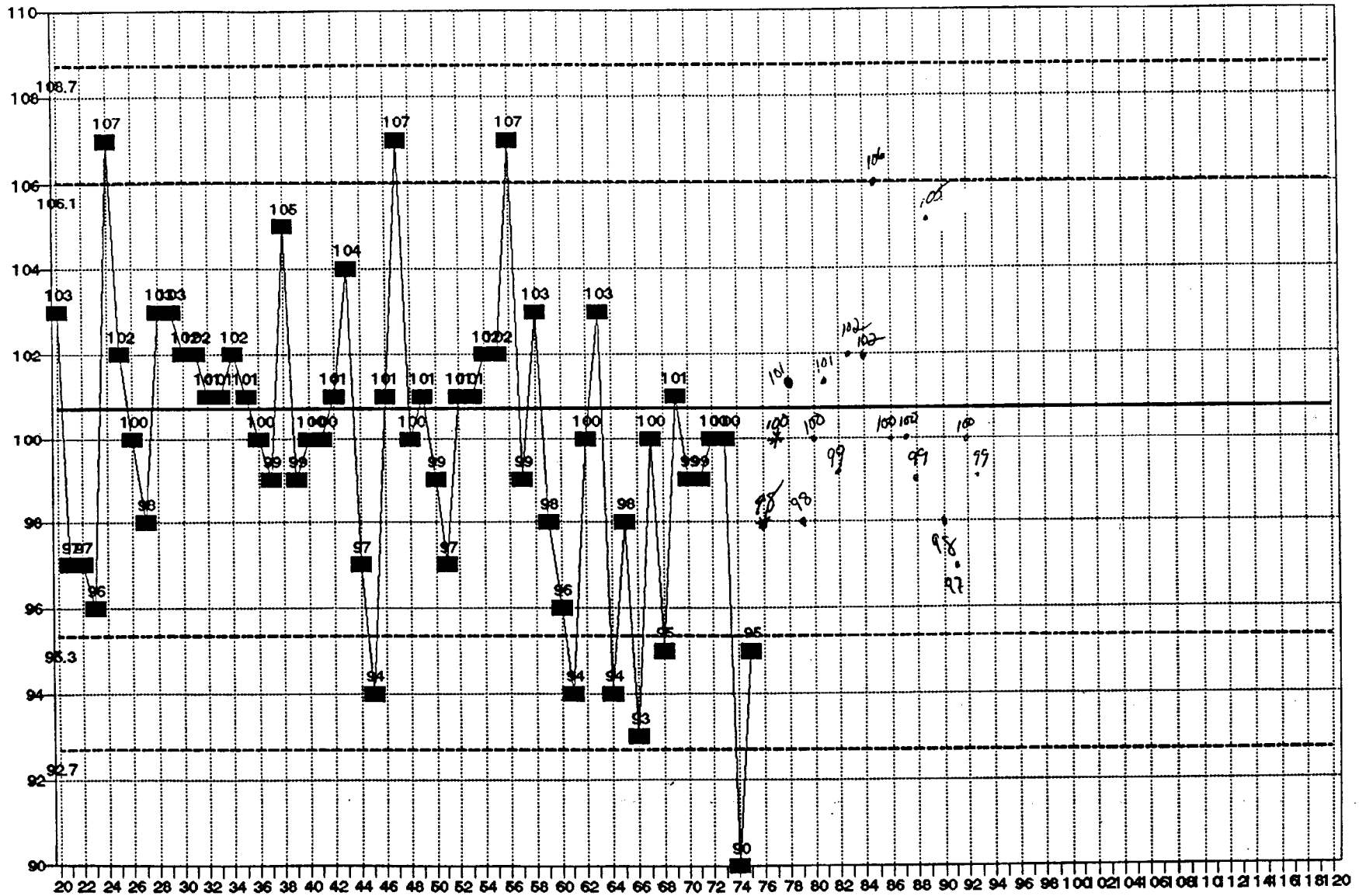
1	TCLP BLANK	340	03/16/94
2	TCLP BLANK	340	03/17/94
3	TCLP BLANK	341	03/17/94
4	TCLP BLANK	341	03/18/94
5	TCLP BLANK	342	03/18/94
6	TCLP BLANK	341	03/22/94
7	TCLP BLANK	343	03/25/94
8	TCLP BLANK	343	03/28/94
9	TCLP BLANK	344	03/28/94
10	TCLP BLANK	345	03/28/94
11	TCLP BLANK	346	04/07/94
12	TCLP BLANK	347	04/19/94
13	TCLP BLANK	349	05/11/94
14	TCLP BLANK	350	05/16/94
15	TCLP BLANK	352	05/17/94
16	TCLP BLANK	354	06/06/94
17	TCLP BLANK	357	7/12/94
18	TCLP BLANK	358	7/15/94
19	TCLP BLANK	360	7/27/94
20	TCLP BLANK	369	11/10/94
21	TCLP BLANK	386	
22	TCLP BLANK	388	
23	TCLP BLANK	389	
24	TCLP BLANK	390	
25	TCLP BLANK	397	
26	TCLP BLANK	399	
27	TCLPBLK	400	10/5/95
28	TCLPBLK	401	10/6/95

VOA LOW SOLIDS - SURR DCE
EPA SW846 LIMIT SET 9/94



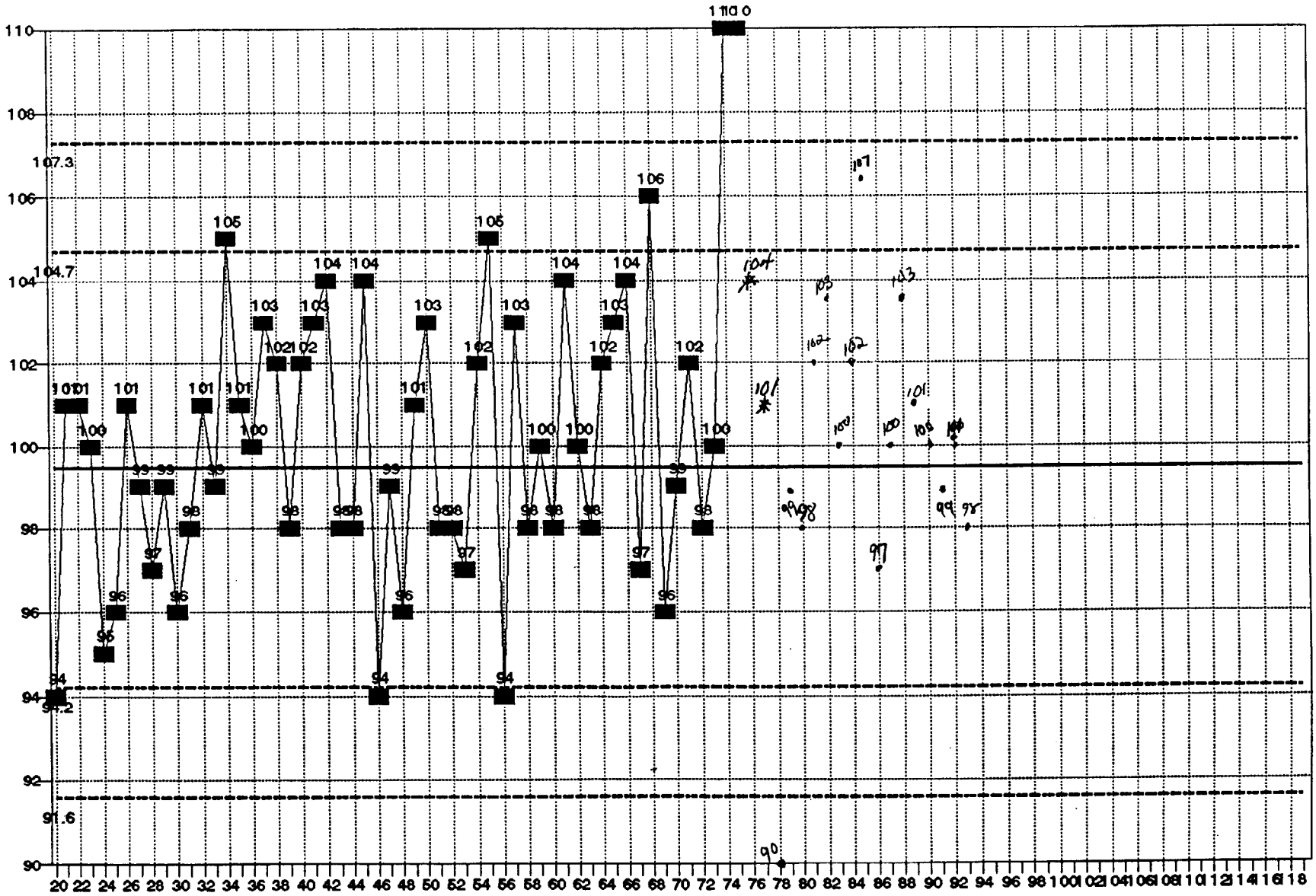
STD DEV = 4.47 MEAN = 95.8

VOA LOW SOLIDS - SURR TOL-D8
EPA SW846 LIMITS SET 9/94



STD DEV = 2.68 MEAN = 100.7

VOA LOW SOLIDS - SURR BFB
EPA SW846 LIMITS SET 9/94

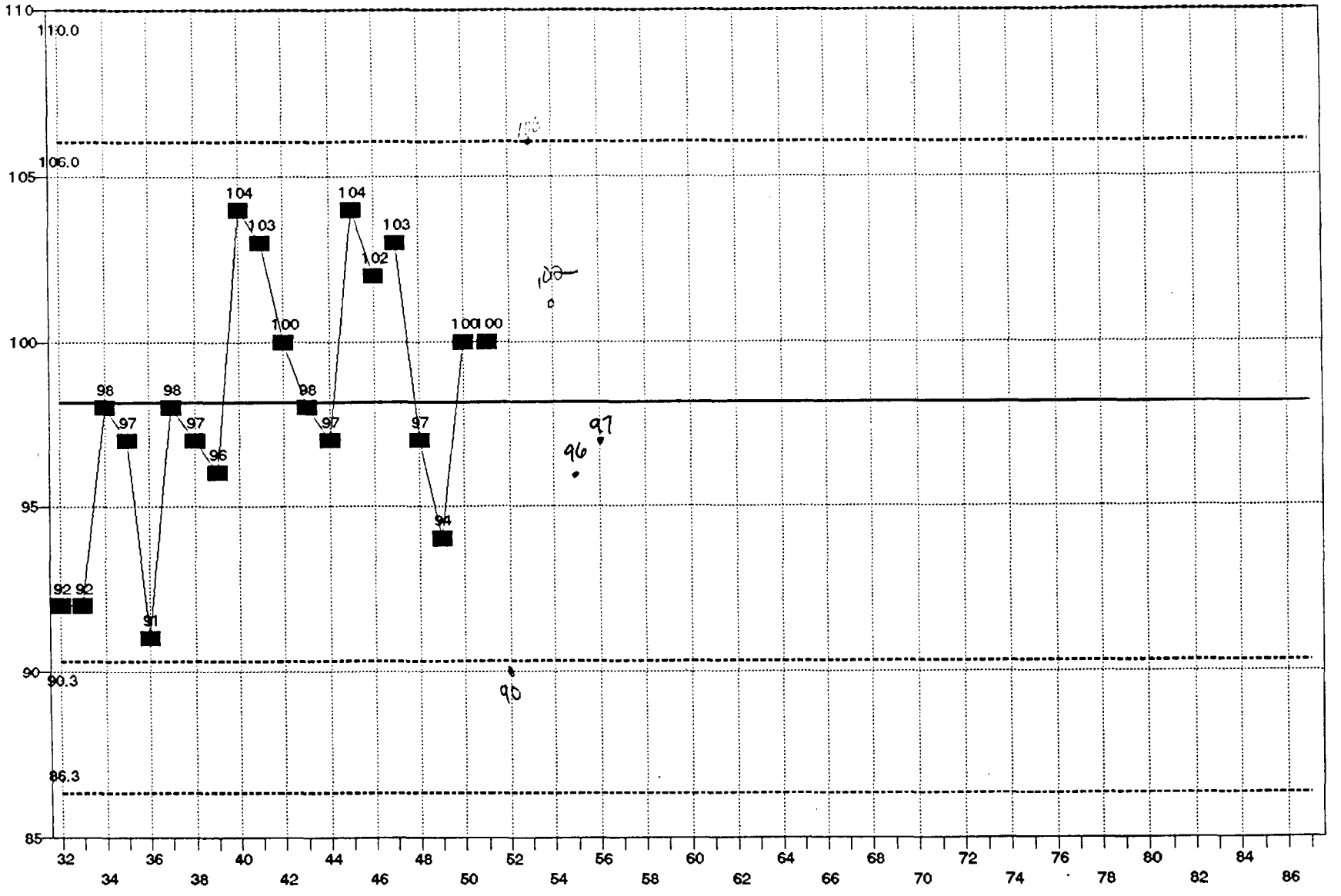


STD DEV = 2.62 MEAN = 99.4

SW846 8240 LOW LEVEL SOLIDS

1	BC081794A	51	BC101894A
2	BC081894A	52	BC101994A
3	BC082594A	53	BG102094A
4	BC082694A	54	BG102194A
5	BC083094A	55	BG102494A
6	BG081994A	56	BG100594D
7	BG082394B	57	BG100794A
8	BG082494A	58	BG101194A
9	BG082594A	59	BG102594A
10	BG082694C	60	BE101794A
11	BG082994A	61	BG101294B
12	BC083194A	62	BG112394C
13	BC090194A	63	BG120694C
14	BC090294A	64	BG120794B
15	BG083094A	65	BG120894B
16	BG083194A	66	BG120994B
17	BG090194A	67	BG121494A
18	BG090294A	68	BG121594A
19	BG090694A	69	BG121694A
20	BG090894A	70	BG121994A
21	BC090694A	71	BG122094B
22	BC090894B	72	BG122394A
23	BC090994A	73	BG122794A
24	BG090994A	74	BG123094B
25	BG091294A	75	
26	BG091394A	76	BC021095B
27	BG091494B	77	BC021395A
28	BG091594A	78	BG040695B
29	BG091694A	79	BG040795B
30	BG091994A	80	BG040995A
31	BE092094A	81	BC061395C (93, 101, 102)
32	BE092194A	82	BC061495C (98, 99, 103)
33	BC092194B	83	BC061595A (100, 102, 100)
34	BC092294B	84	BC061695A (95, 102, 102)
35	BC092394B	85	BC062795A (100, 106, 107)
36	BC092694B	86	BC062895B2 (98, 100, 97)
37	BG100794A	87	BC062995A1 (99, 100, 100)
38	BE092294A	88	BC072595A1 (95, 99, 103)
39	BE092394A	89	BE081495A1 (99, 105, 101)
40	BC092794B	90	BC090595A1 (95, 98, 100)
41	BC101094A	91	BC090695A1 (96, 97, 99)
42	BC101194A	92	BG101395B1 (104, 100, 106) BE101495 (3)
43	BG101194A	93	BG101695A1 (103, 99, 98)
44	BC101294A	94	
45	BG101294A	95	
46	BG101394A	96	
47	BE101894A	97	
48	BE101994A	98	
49	BG101994C	99	
50	BC101794A	100	

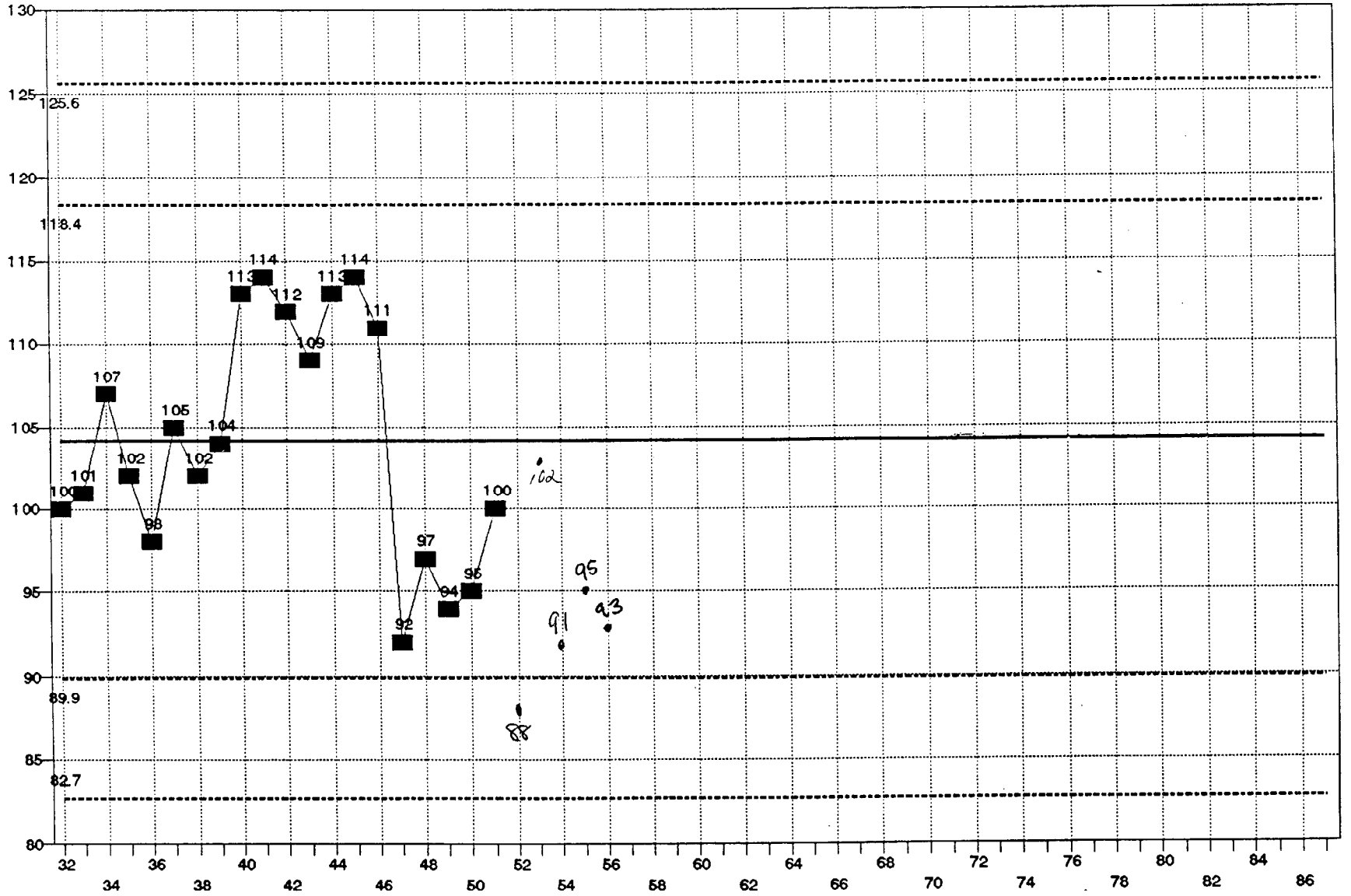
VOA MED SOLIDS - SURR DCE
LIMIT SET 8/95



STD DEV = 3.94 MEAN = 98.2

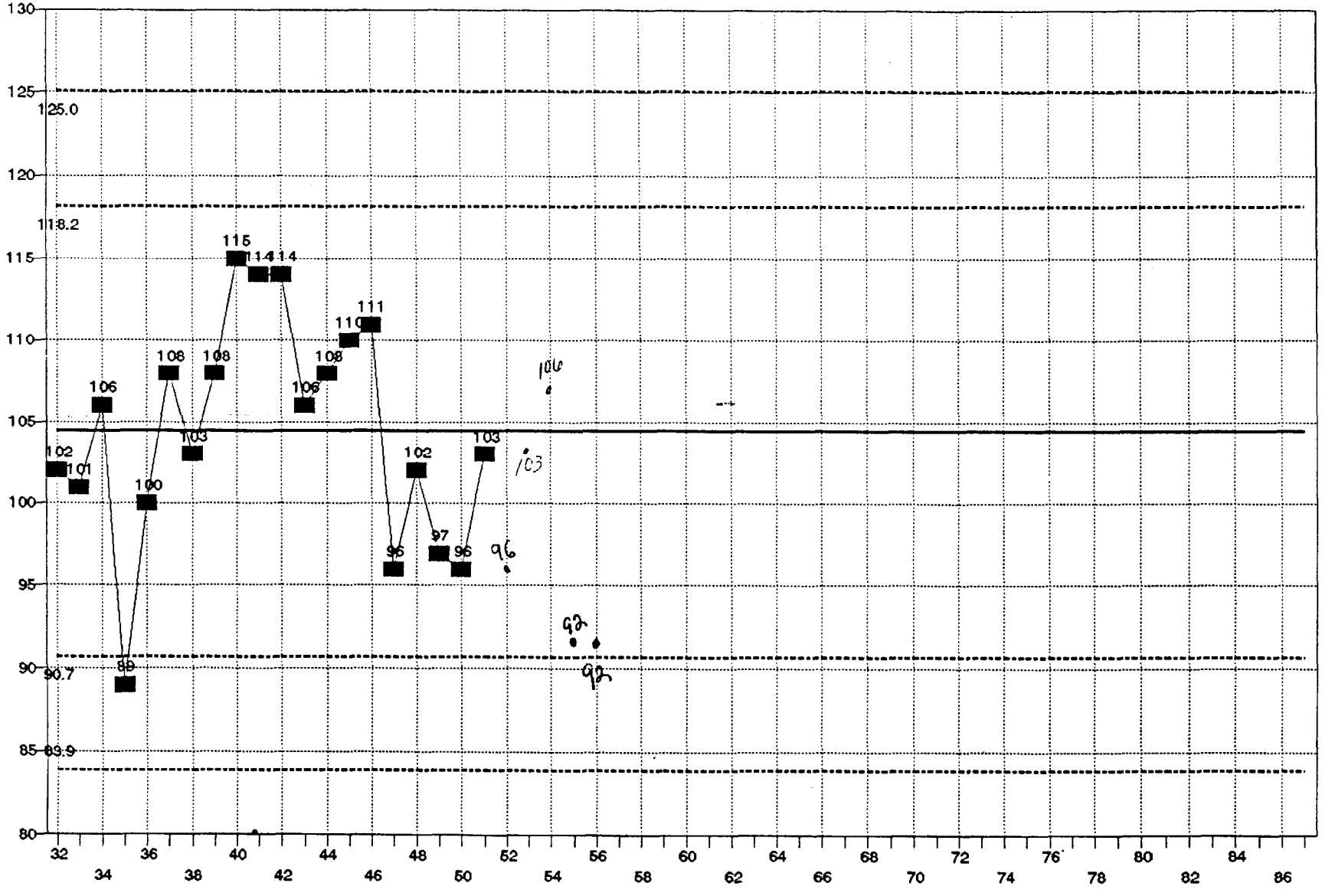
0000207

VOA MED SOLIDS - SURR TOL
LIMIT SET 8/95



STD DEV = 7.14 MEAN = 104.2

VOA MED SOLIDS - SURR BFB
LIMIT SET 8/95

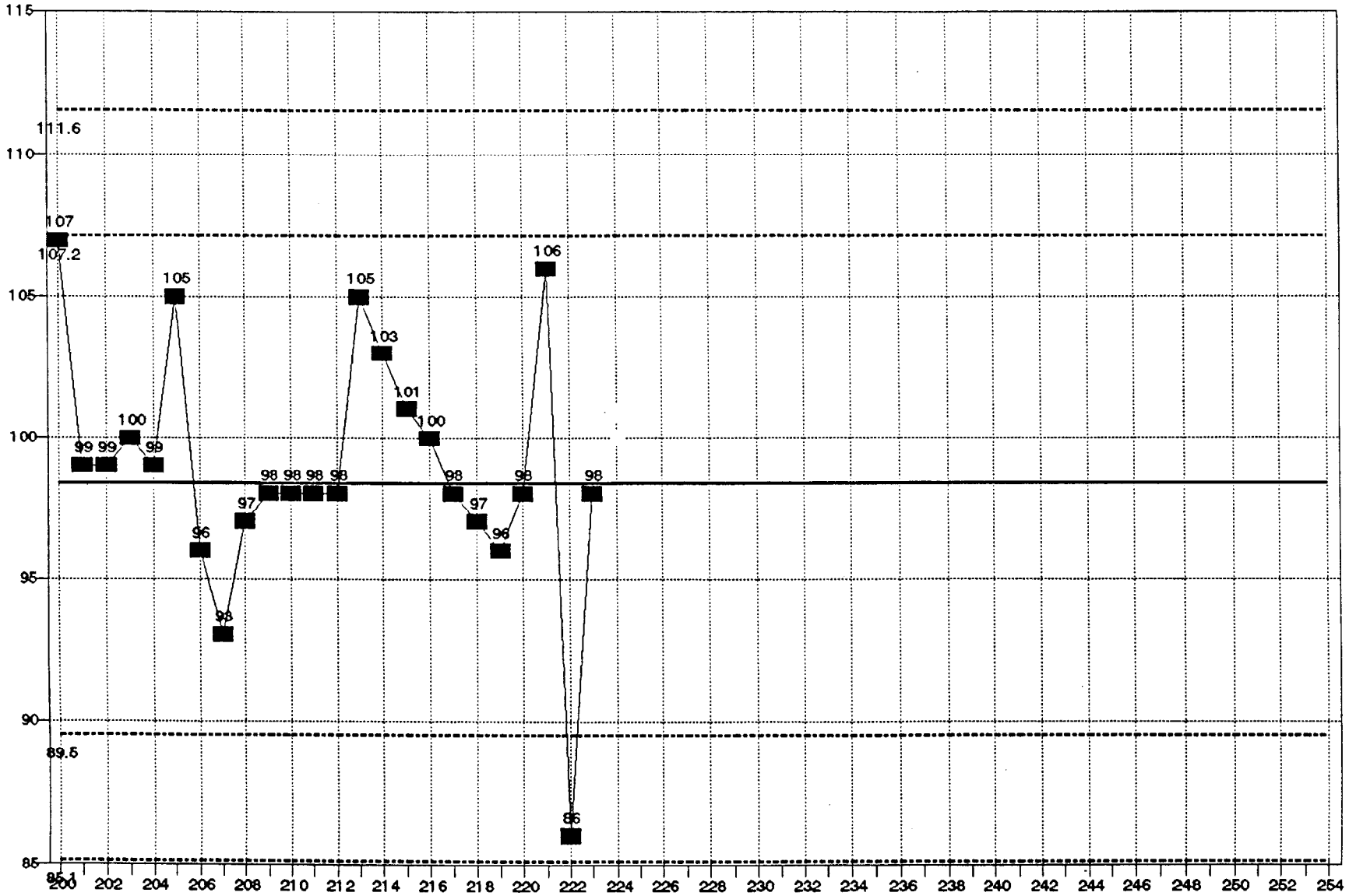


STD DEV = 6.86 MEAN = 104.4

MED SOIL BLANK # LIST

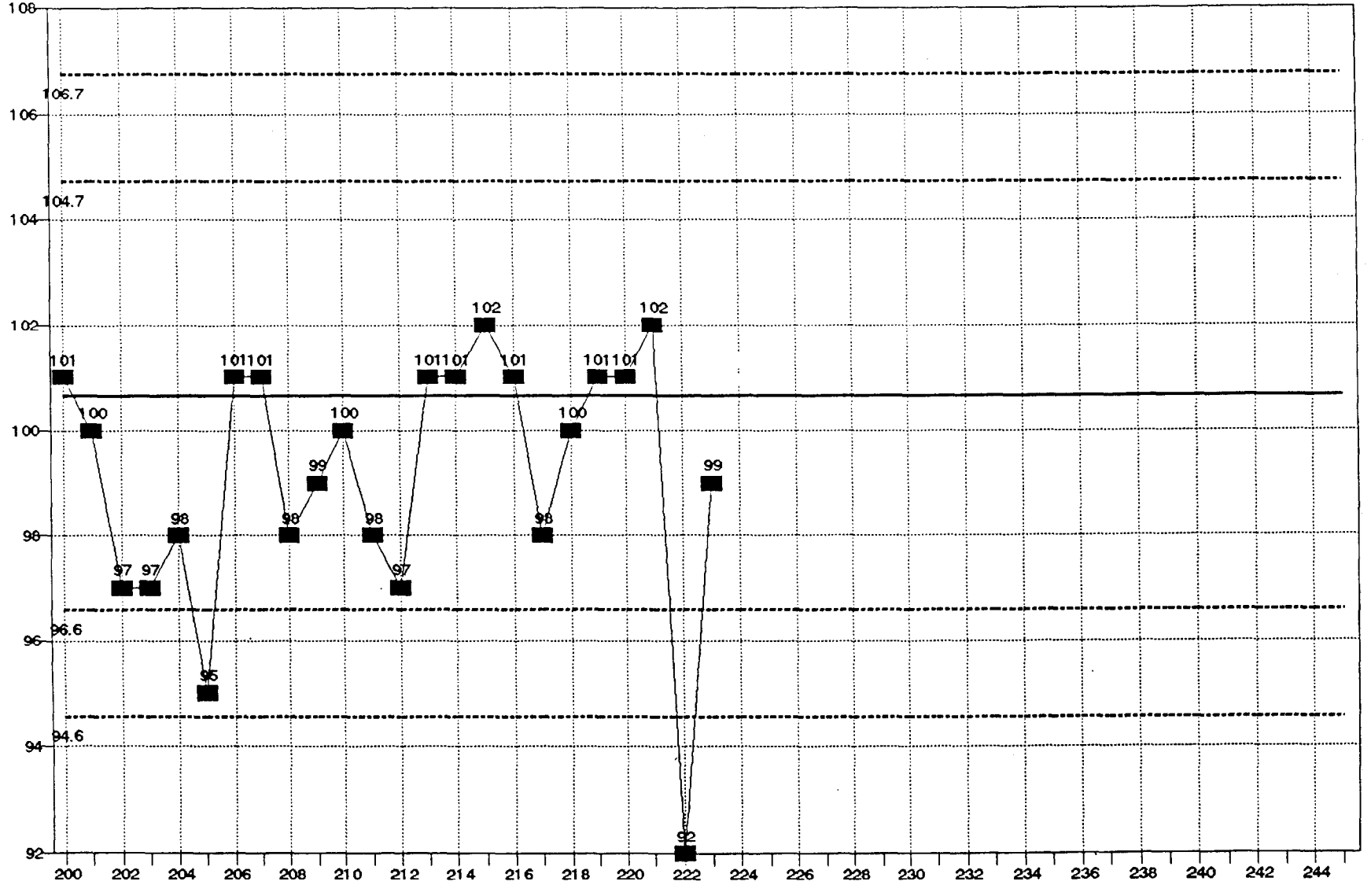
POINT	/ BLANK
1	MB021693A
2	MB022193B
3	MB022993B
4	MB030193A
5	MB040293A
6	MB050493A
7	MB050493A
8	MB050593A
9	MB050693A
10	MB052793B
11	MB052593A
12	MB101293A
13	MB100993A
14	MB111793A
15	MB121393A
16	MB121393A
17	MB020694A
18	MB021094A
19	MB021594A
20	MB021594A
21	MB021594A
22	MB042994B
23	MB050494A
24	MB050494A
25	B-V1005A
26	B-V1021A
27	B-V1027B
28	B-V1027C
29	B-V1034C
30	B-V1039
31	B-V1044A
32	B-V1045A
33	B-V1044B
34	B-V1050
35	B-V1066 EMS
36	B-V1066 CMS
37	B-V1070 12/30/94
38	B-V1070 1/3/95
39	B-V1085
40	B-V1084
41	B-V1085
42	B-V1084
43	B-V1087
44	B-V1085
45	B-V1084
46	B-V1084
47	B-V1117A
48	B-V1117B
49	B-V1118A
50	B-V1118D
51	B-V1118B
52	B-V1118A CMS
53	B-V1119A
54	B V1123
55	B.V1125A
56	BV1125C

VOA WATERS - SURR DCE
LIMITS SET 4/95



STD DEV = 4.40 MEAN = 98.4

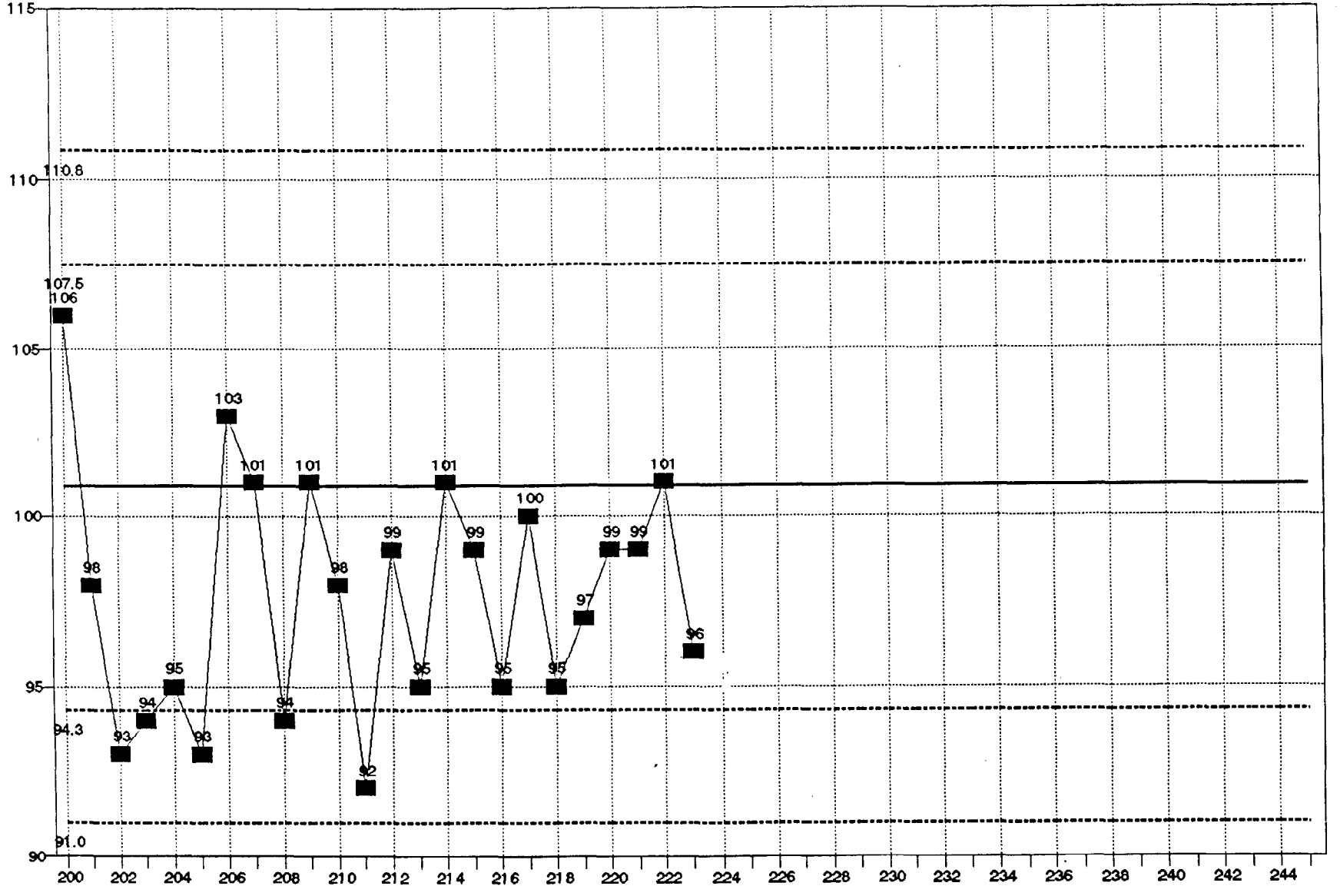
VOA WATERS - SURR TOL
LIMIT SET 4/95



STD DEV = 2.03 MEAN = 100.6

0000212

VOA WATERS - SURR BFB
LIMIT SET 4/95



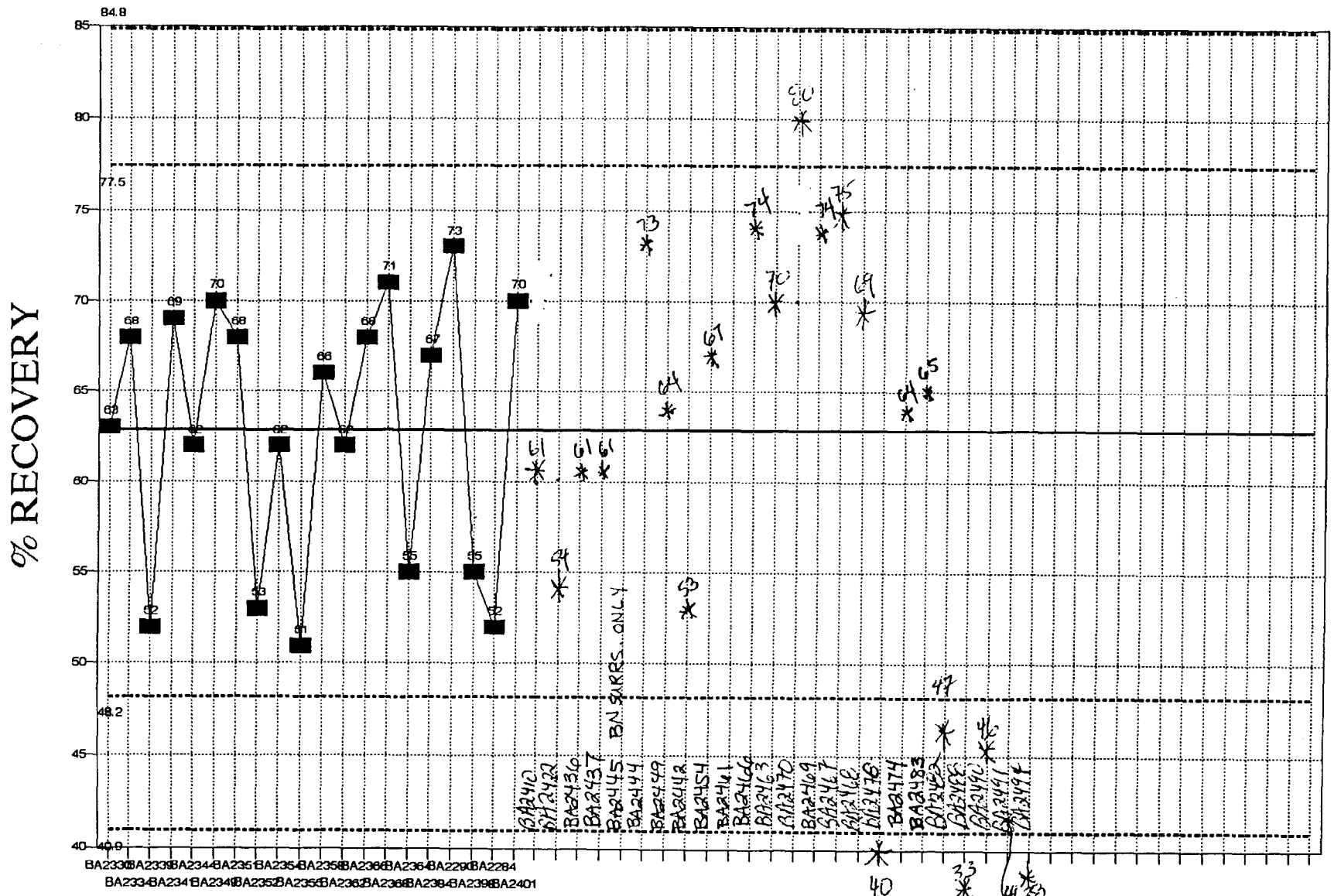
STD DEV =3.31 MEAN = 100.9

00000213

VOLATILES -- WATER SURROGATE CONTROL CHARTS
POINT / BLANK

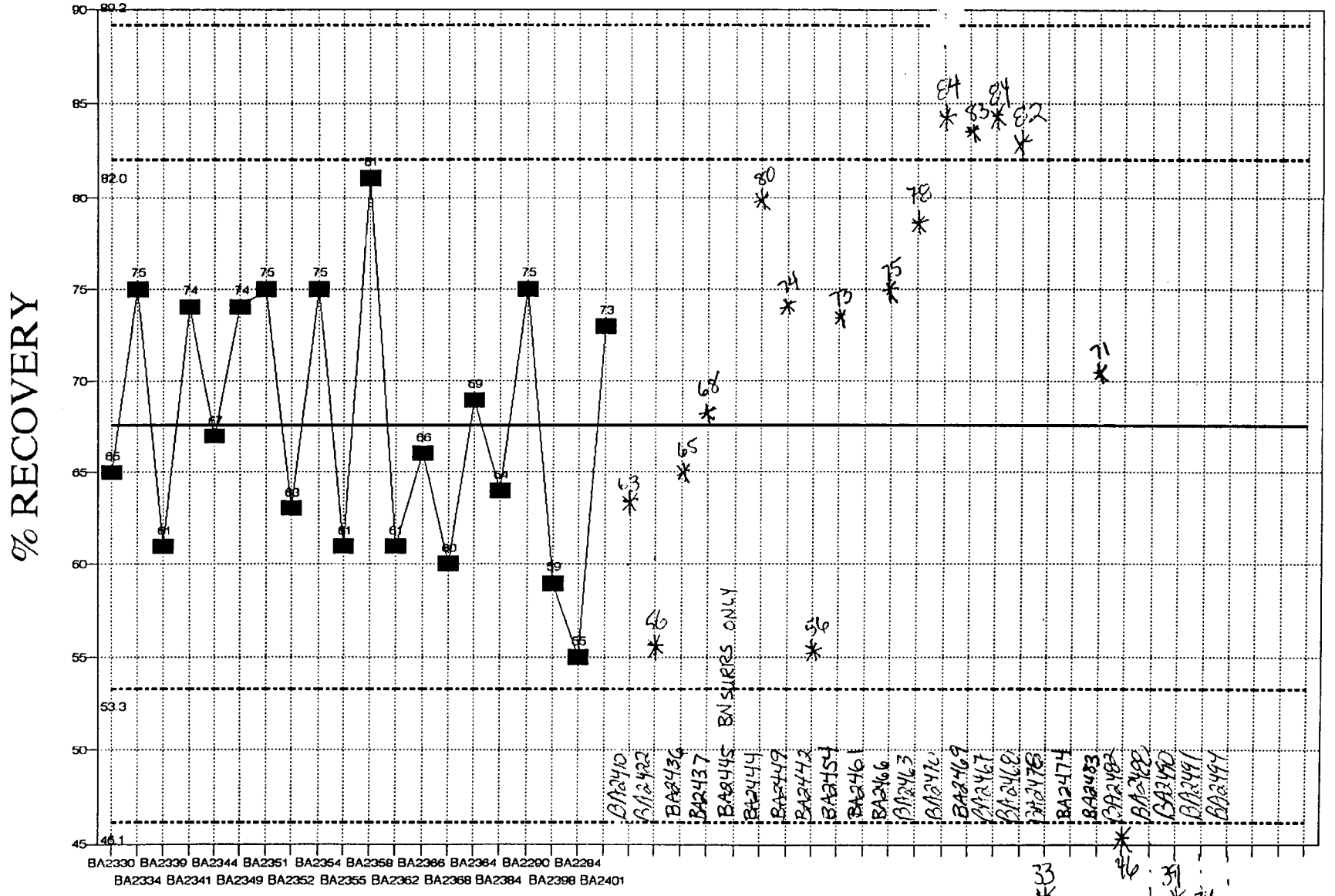
69	BC041493A	117	BE070794A	165	BC041295A	213	BG100395A1
70	BE052593B	118	BE070894A	166	BI042095B	214	BG100495B2
71	BE060193A	119	BC063094A	167	BI042195A	215	BG100595A1
72	BE060393A	120	BC072794A	168	BI042495A	216	BG100695A1
73	BC062193A	121	BD072794A	169	BC042595B	217	BG100695A2
74	BE051393A	122	BD072894A	170	BI042595A	218	BG100995A1
75	BC062493A	123	BD072994A	171	BI042795A	219	BG101095D2
76	BD051993A	124	BE081194A	172	BI050195A	220	BG100495A1
77	BD052093B	125	BC081994A	173	BC050595A	221	BD101195A2
78	BC063093A	126	BE101194A	174	BC050695A	222	BG100295B2
79	BC061093A	127	BE101294B	175	BG050295B	223	BG100395B2
80	BE051393A	128	BG101494A	176	BC062995B1	224	
81	BD072293A	129	BC110294B	177	BC063095B1	225	
82	BD072393A	130	BC110394B	178	BC072495A1	226	
83	BD072693A	131	BC110794B	179	BC072695A1	227	
84	BD072793A	132	BC110894B	180	BI080895A1	228	
85	BD073093A	133	BC110994A	181	BI080995A1	229	
86	BC080493A	134	BC111594B	182	BC080295A1	230	
87	BC080593A	135	BC111794B	183	BC080495A1	231	
88	BE091793A	136	BC111894B	184	BC080795A1	232	
89	BC092093B	137	BG111094A	185	BC080895A1	233	
90	BC093093B	138	BC120194B	186	BI081095A1	234	
91	BG093093A	139	BC120294B	187	BI081195A1	235	
92	BE120693A	140	BC120594B	188	BI080995A1	236	
93	BE120793A	141	BC120694B	189	BC081195A1	237	
94	BE121793A	142	BC120794B	190	BC081495A1	238	
95	BC122793B	143	BC121594B	191	BI081495A1	239	
96	BC122893A	144	BG120394B	192	BI081595A1	240	
97	BG021094A	145	BC122294B	193	BI081695A1	241	
98	BG021194A	146	BC122994B	194	BI081795A1	242	
99	BG021494A	147	BE121694A	195	BI081895A1	243	
100	BG021594A	148	BE020995B	196	BI082195A1	244	
101	BC022394B	149	BE021395A	197	BC081695A1	245	
102	BC022494C	150	BE021595A	198	BI082295A1	246	
103	BC022594B	151	BE021695A	199	BC081595A1	247	
104	BG022594B	152	BC032295A	200	BC082595A1	248	
105	BG022894A	153	BC032395A	201	BG091495A1	249	
106	BG030394A	154	BC032495A	202	BG091595A1	250	
107	BD022194A	155	BC032795A	203	BG091895A1	251	
108	BC031194A	156	BC040695A	204	BG091995A1	252	
109	BC031594B	157	BC041195B	205	BG092095A2	253	
110	BG040794A	158	BC041395A	206	BC092195A1	254	
111	BC041294B	159	BC041495A	207	BC092095A1	255	
112	BG042894A	160	BG041095B	208	BG092795A1	256	
113	BG042994A	161	BG041495B	209	BG092795B2	257	
114	BC050994C	162	BI041395A	210	BG092895B2	258	
115	BG060394A	163	BI041895B	211	BG092995A1	259	
116	BC050394B	164	BI041995A	212	BG100195B2	260	

ABN WATER 3520/8270B, 2-FLUOROPHENOL SURR, LIMITS SET 8/95



STD DEV = 7.31 MEAN = 62.8

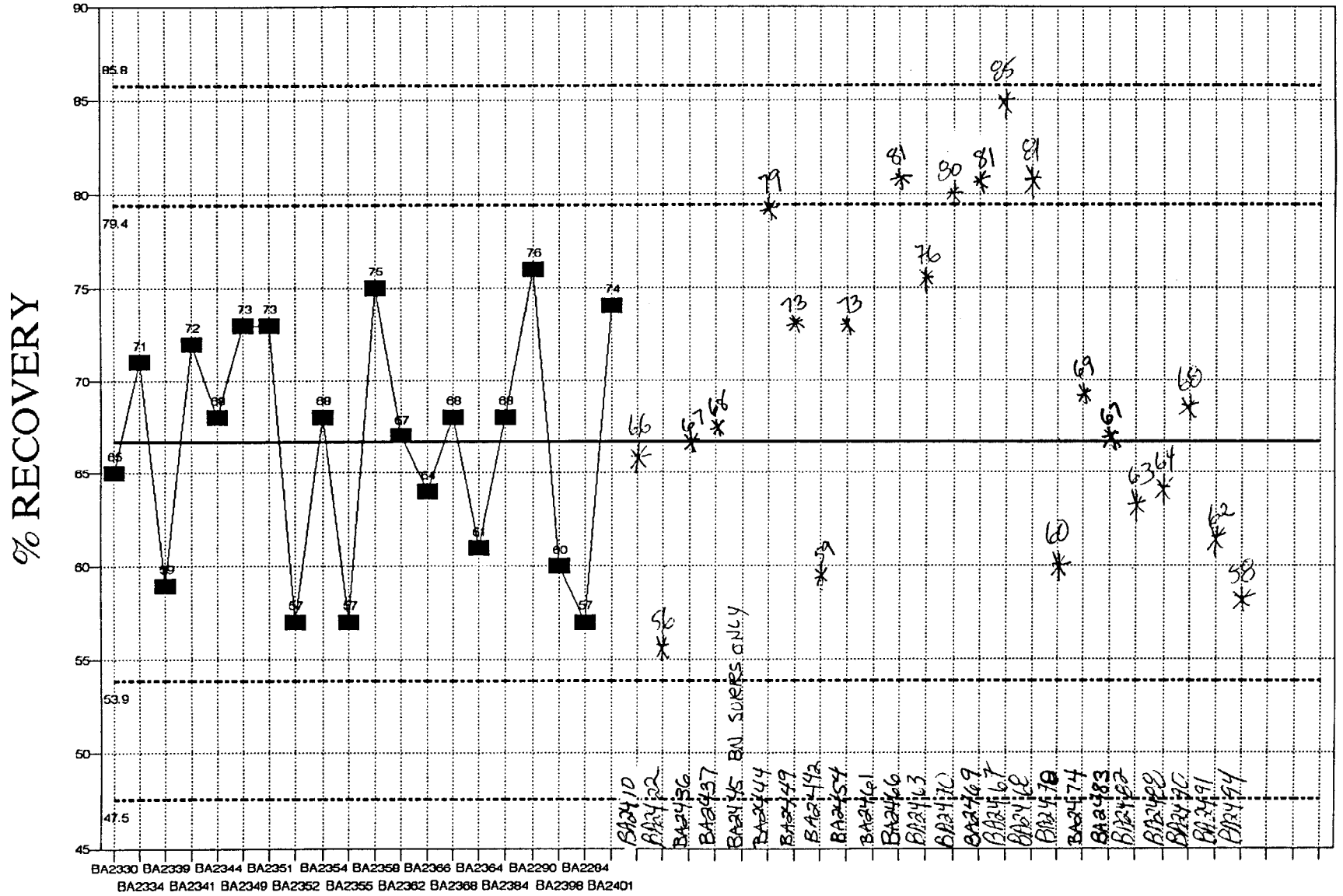
ABN WATER 3520/8270B, PHENOL-D5
SURR, LIMITS SET 8/95



STD DEV = 7.17 MEAN = 67.6

0000216

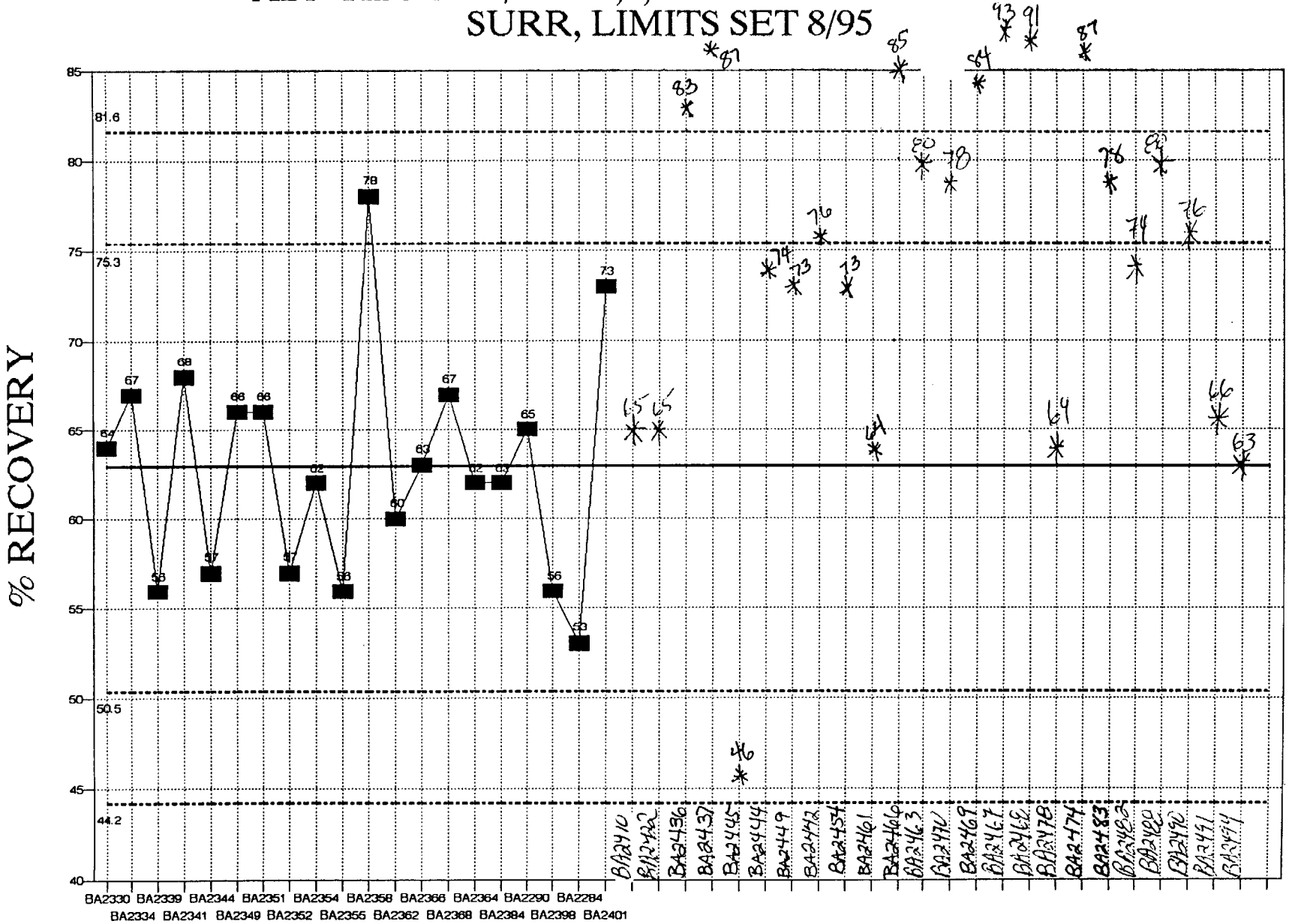
ABN WATER 3520/8270B, 2-CHLOROPHENOL-D4
SURR, LIMITS SET 8/95



STD DEV = 6.37 MEAN = 66.6

38

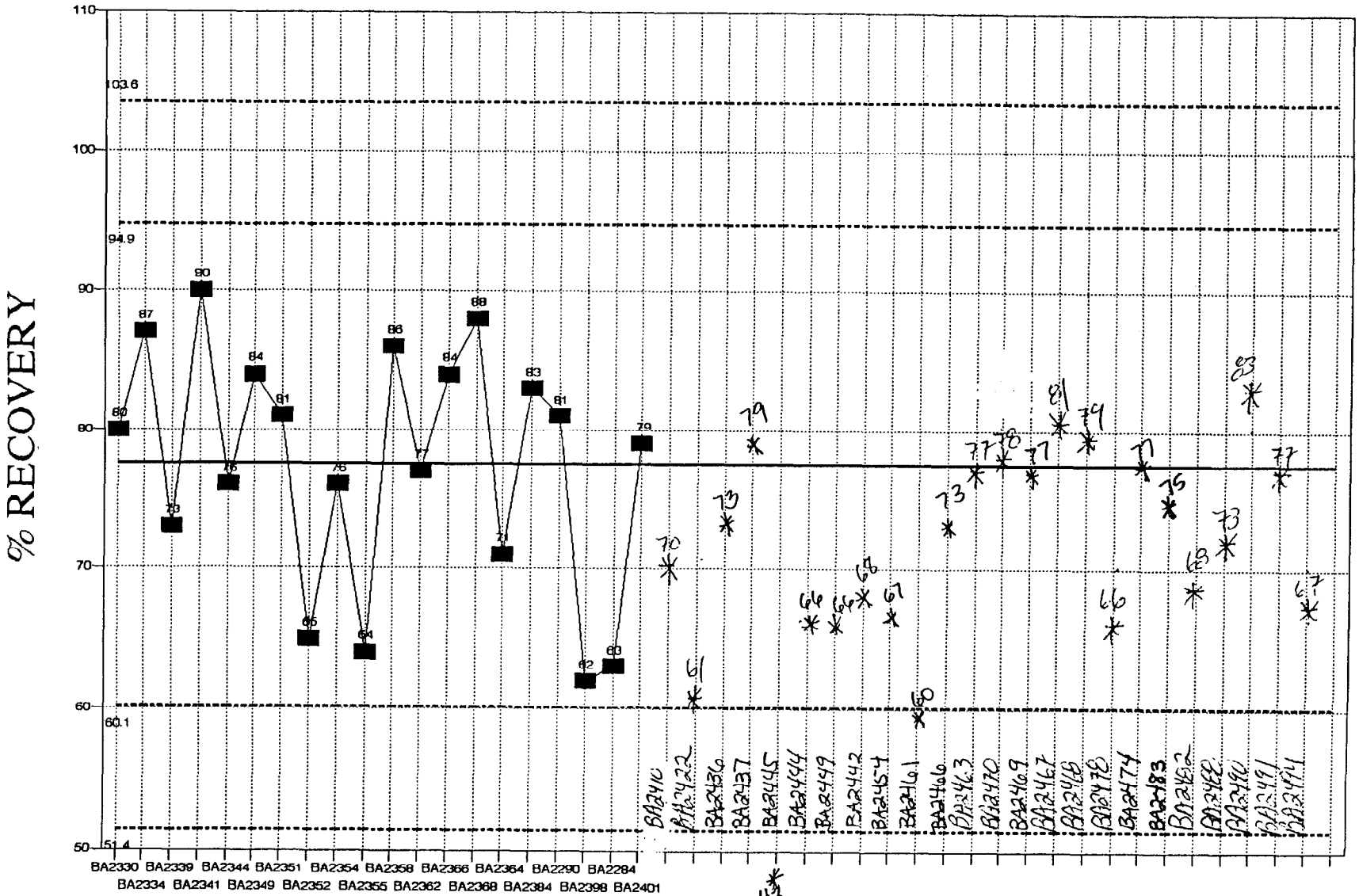
ABN H2O 3520/8270B,1,2-DICHLOROBENZENE-SURR, LIMITS SET 8/95



STD DEV = 6.22 MEAN = 62.9

0000218

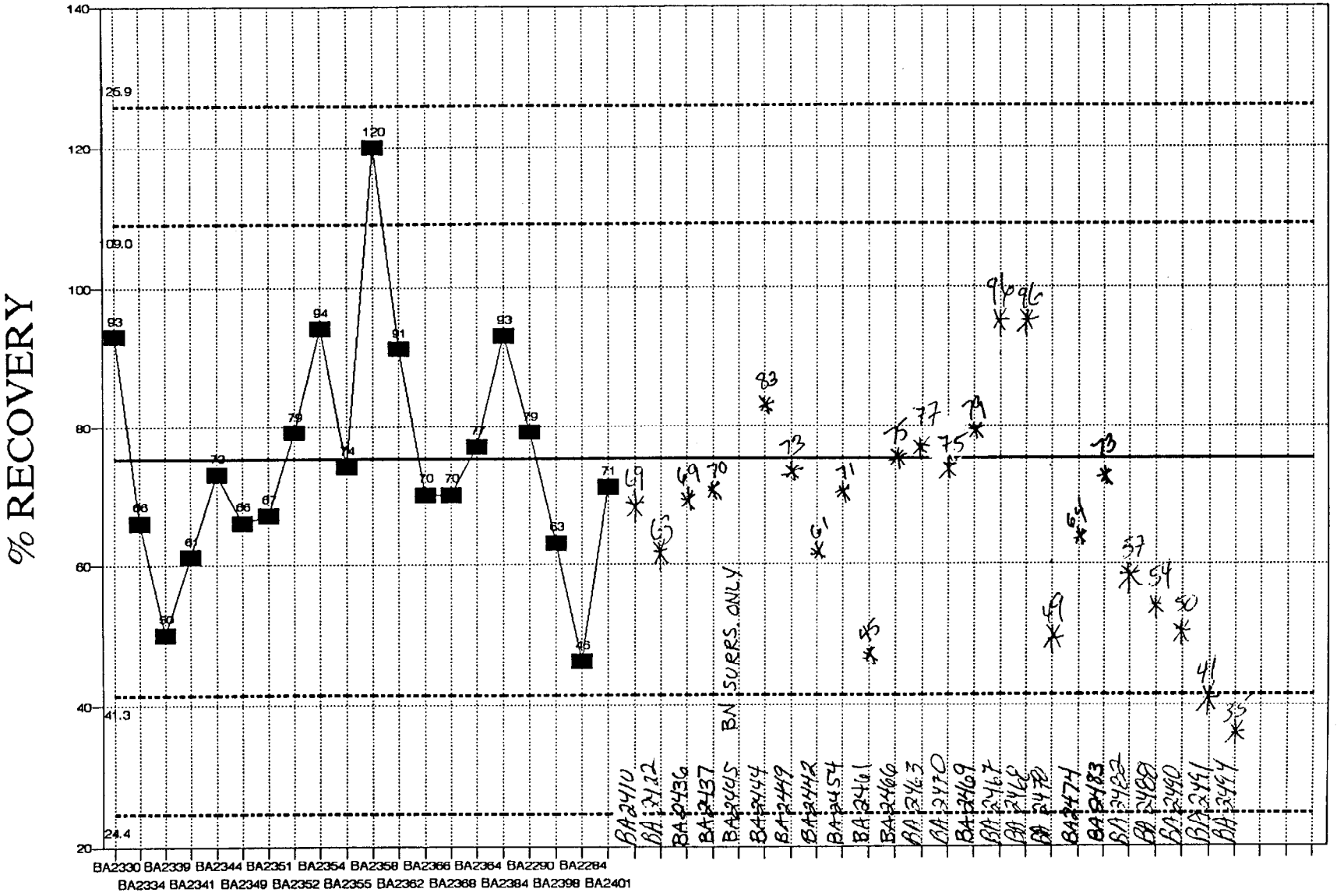
ABN H2O 3520/8270B, NITROBENZENE-D5
SURR, LIMITS SET 8/95



STD DEV = 8.68 MEAN = 77.5

0000219

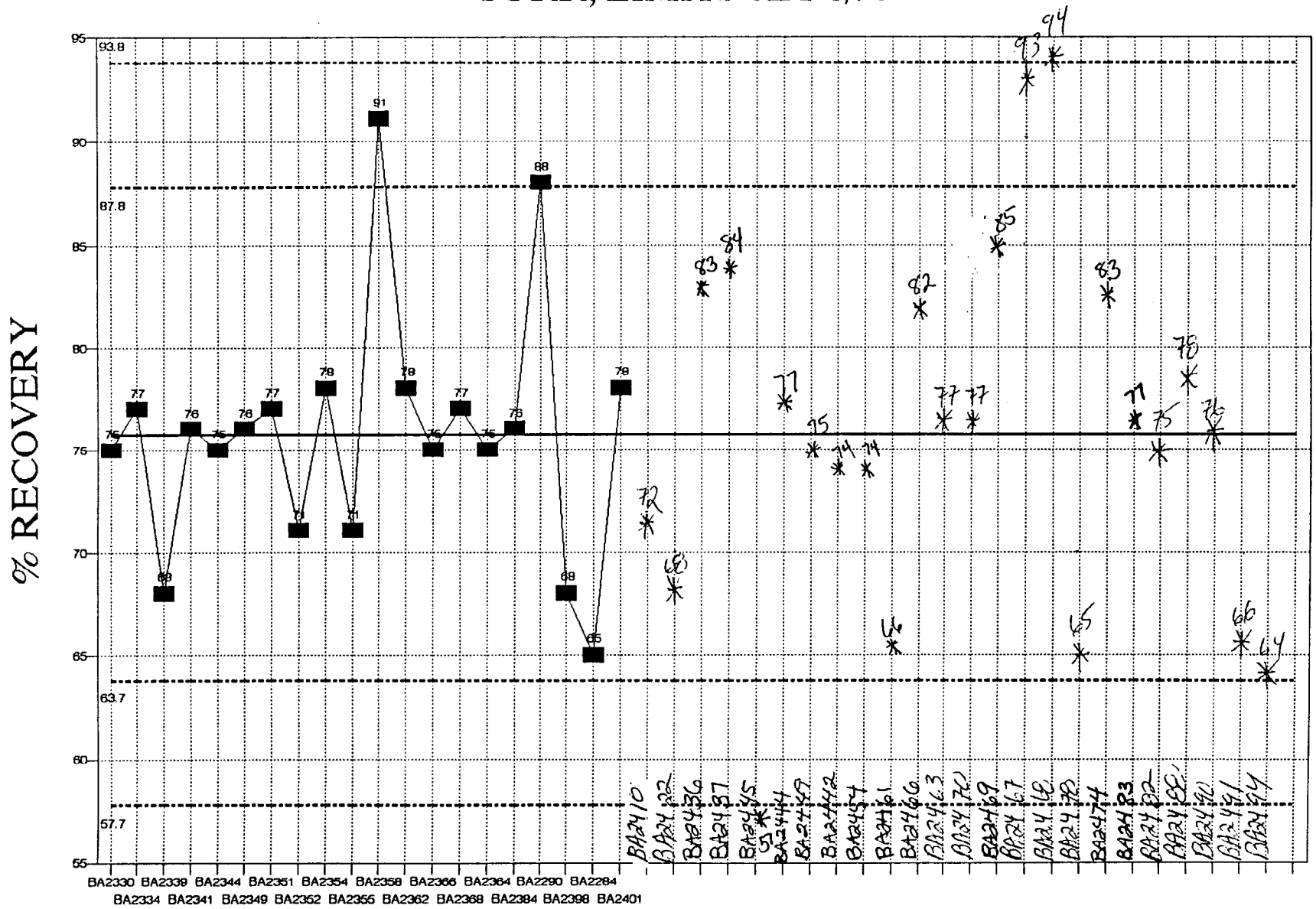
ABN H2O 3520/8270B,2,4,6-TRIBROMOPHENOL SURR, LIMITS SET 8/95



STD DEV = 16.9 MEAN = 75.2

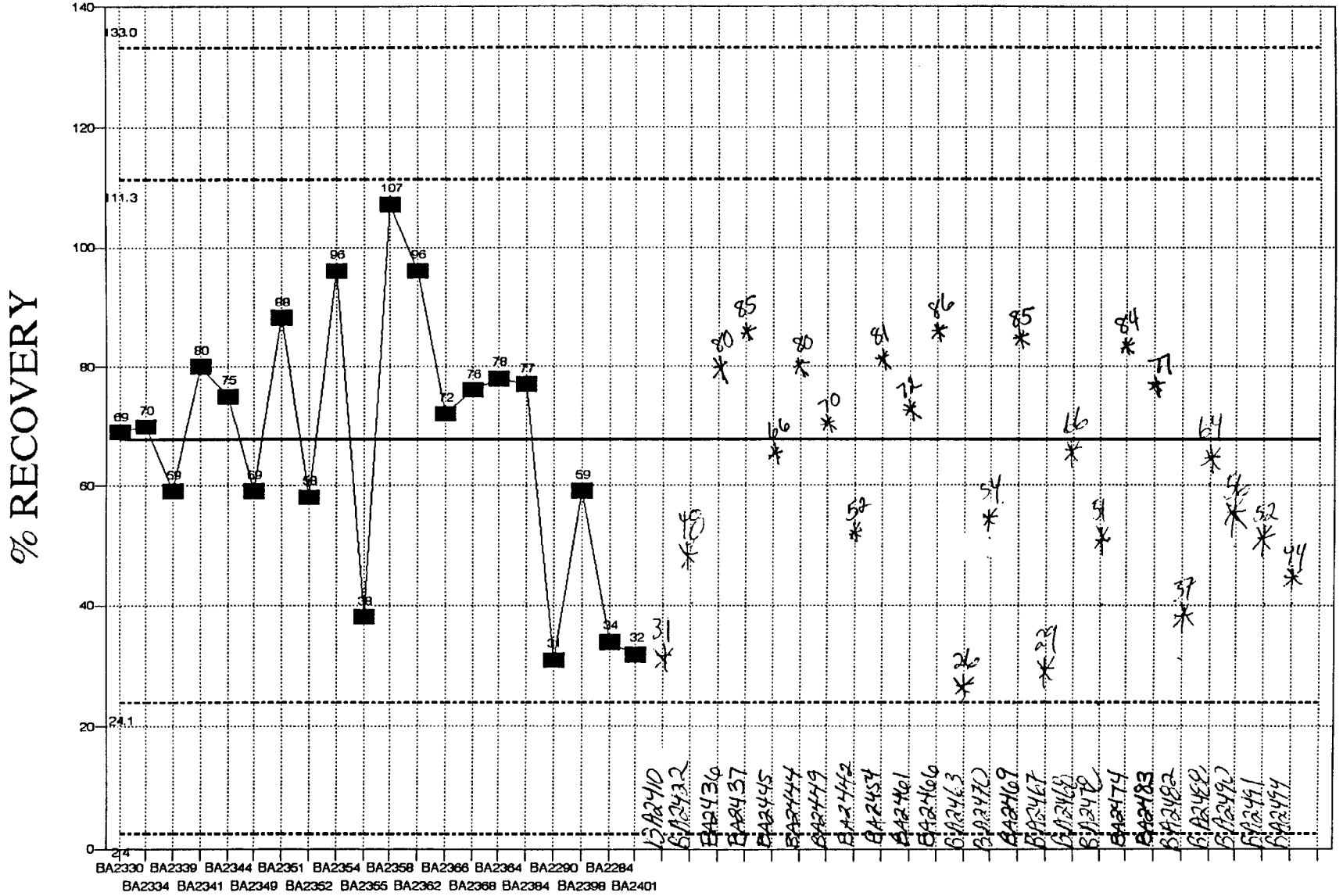
0000220

ABN H2O 3520/8270B, 2-FLUOROBIPHENYL SURR, LIMITS SET 8/95



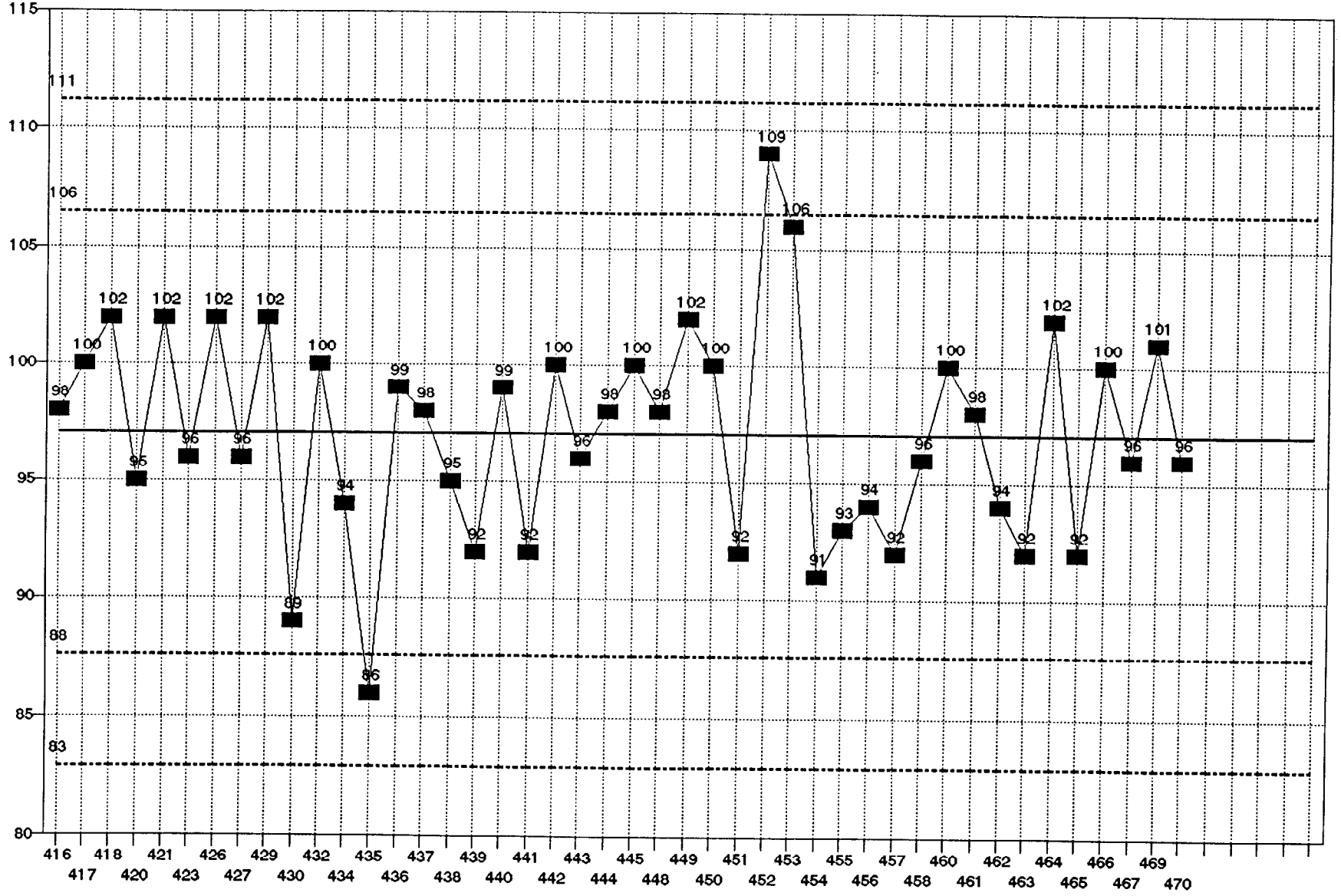
STD DEV = 6.01 MEAN = 75.8

ABN H2O 3520/8270B, TERPHENYL-D14
SURR, LIMITS SET 8/95



STD DEV = 21.8 MEAN = 67.7

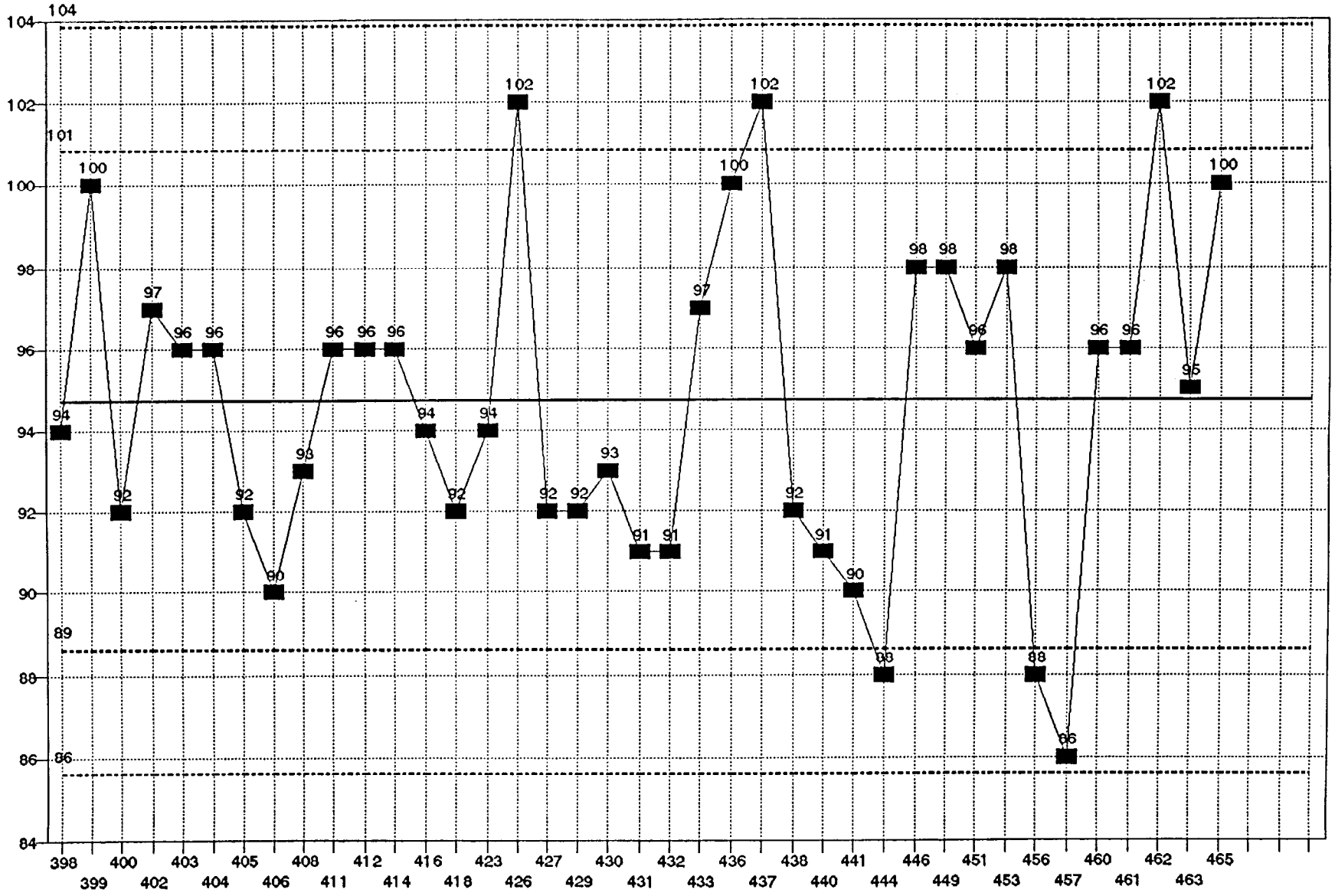
As COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



STD DEV = 5 MEAN = 97

0000223

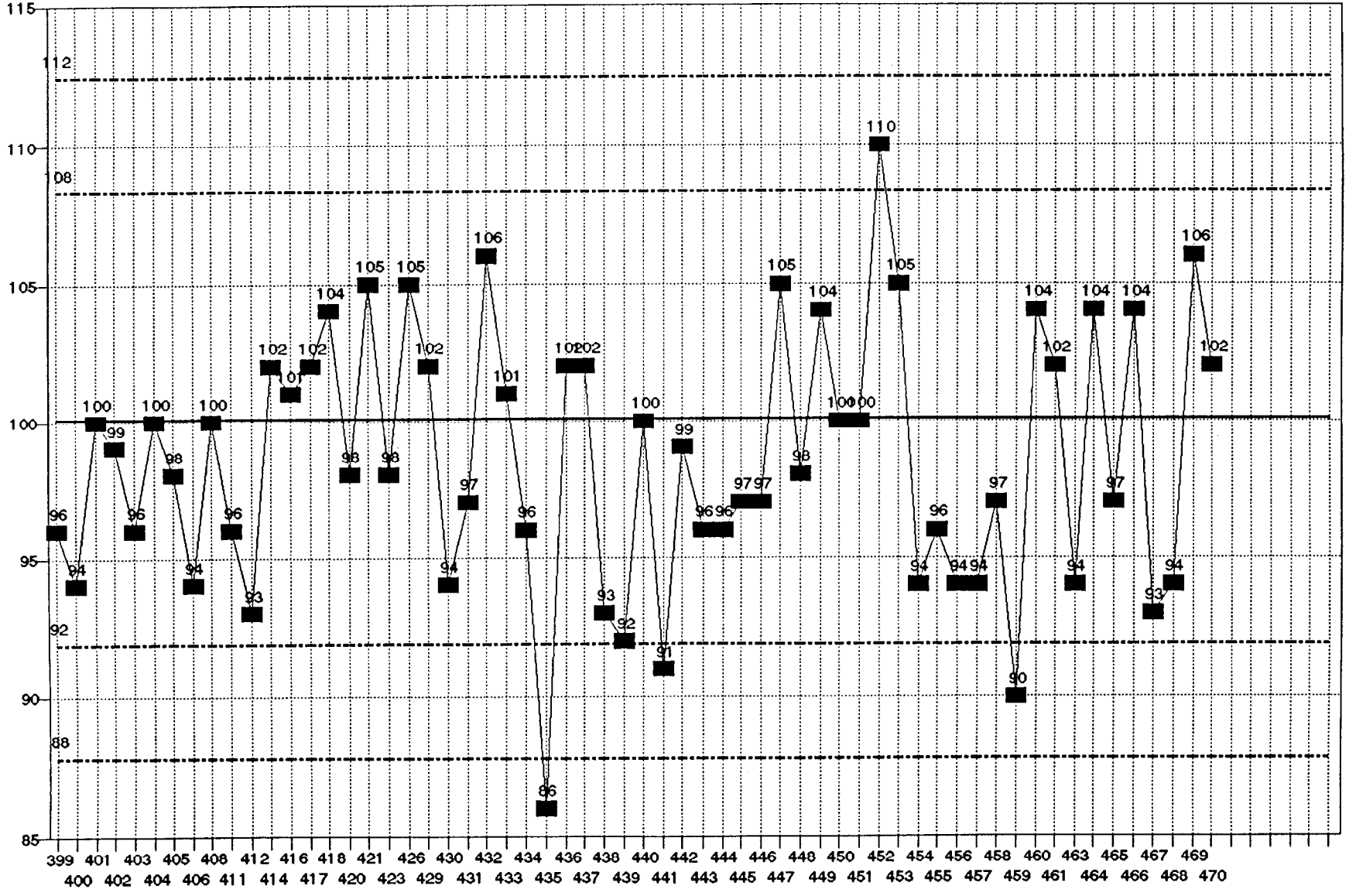
AS TRACECOMMERCIAL LCS WATER RECOVERIES
LIMITS SET 8/95



STD DEV = 3 MEAN = 95

0000224

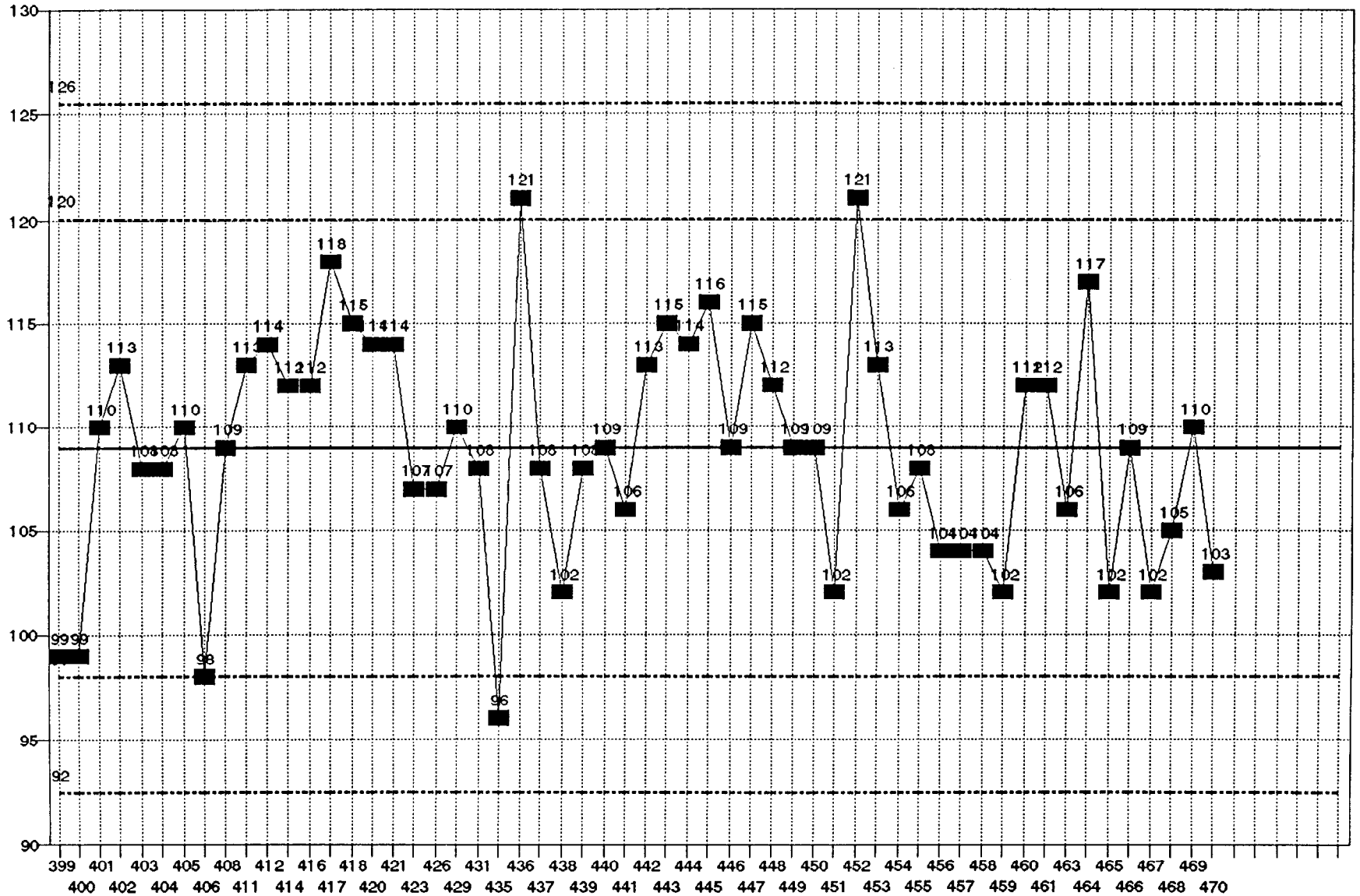
Ba COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 9/95



STD DEV = 4 MEAN = 100

0000225

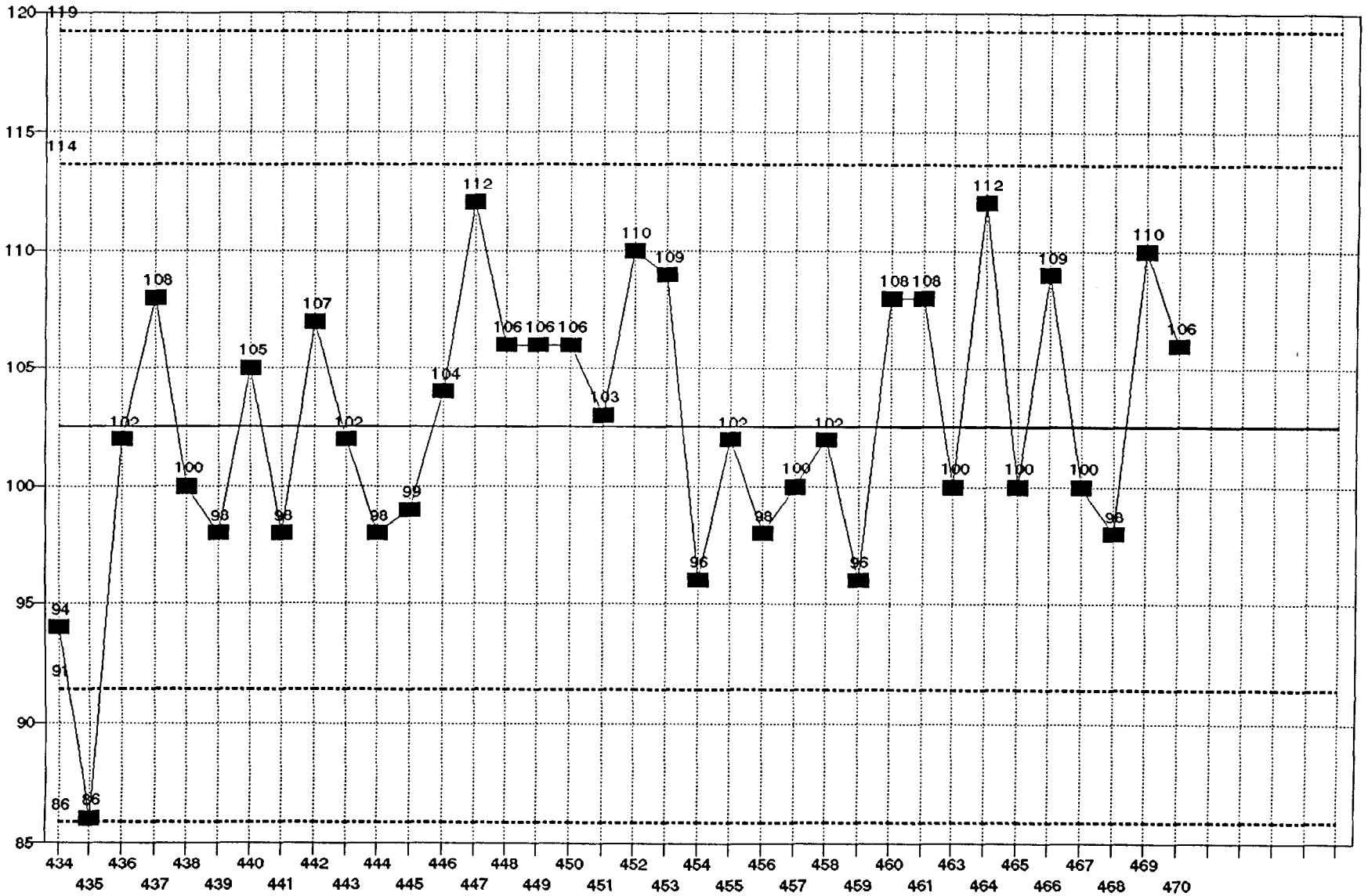
Cd COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 7/95



STD DEV = 5.51 MEAN = 109

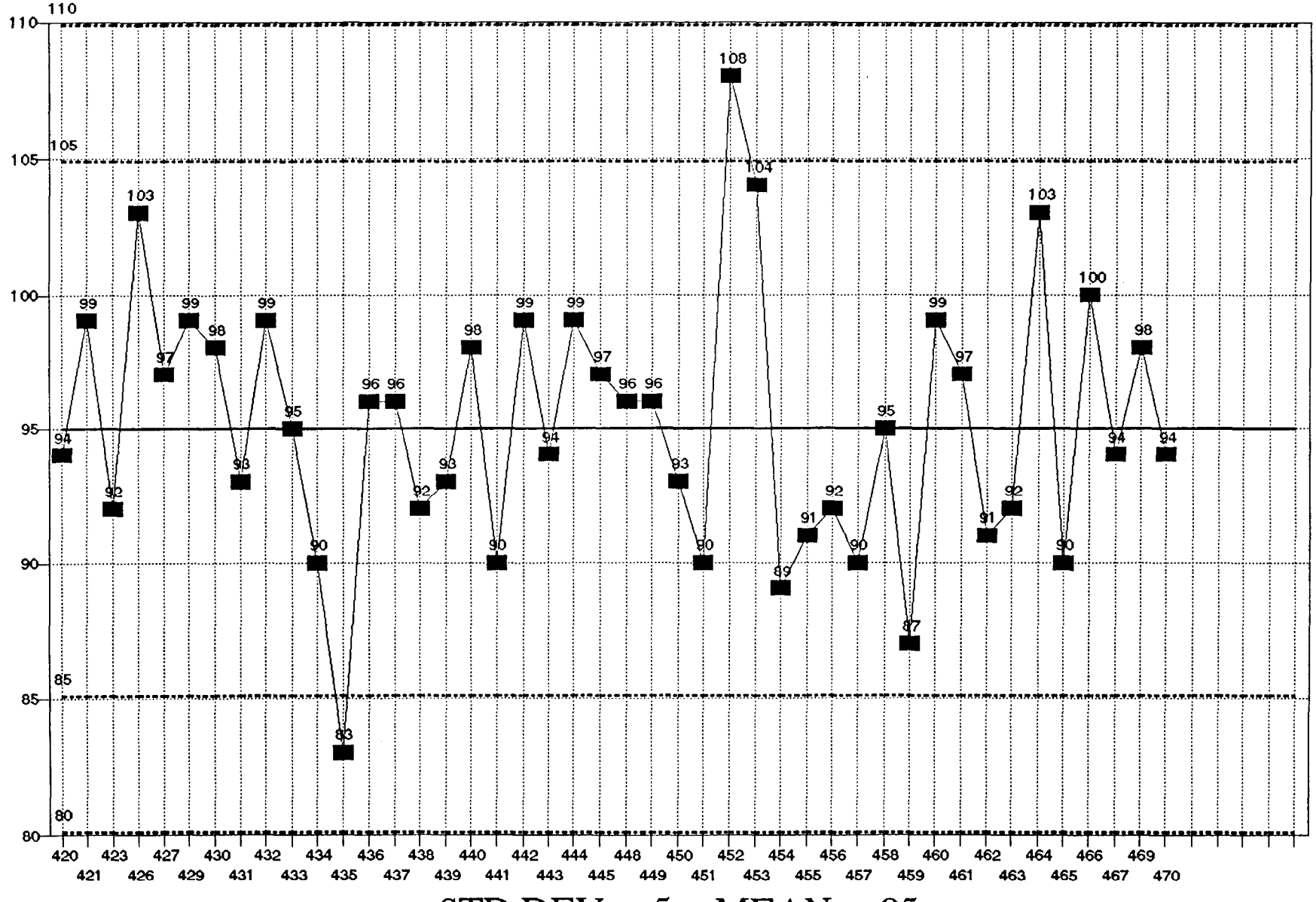
0000226

Cr COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



STD DEV = 6 MEAN = 103

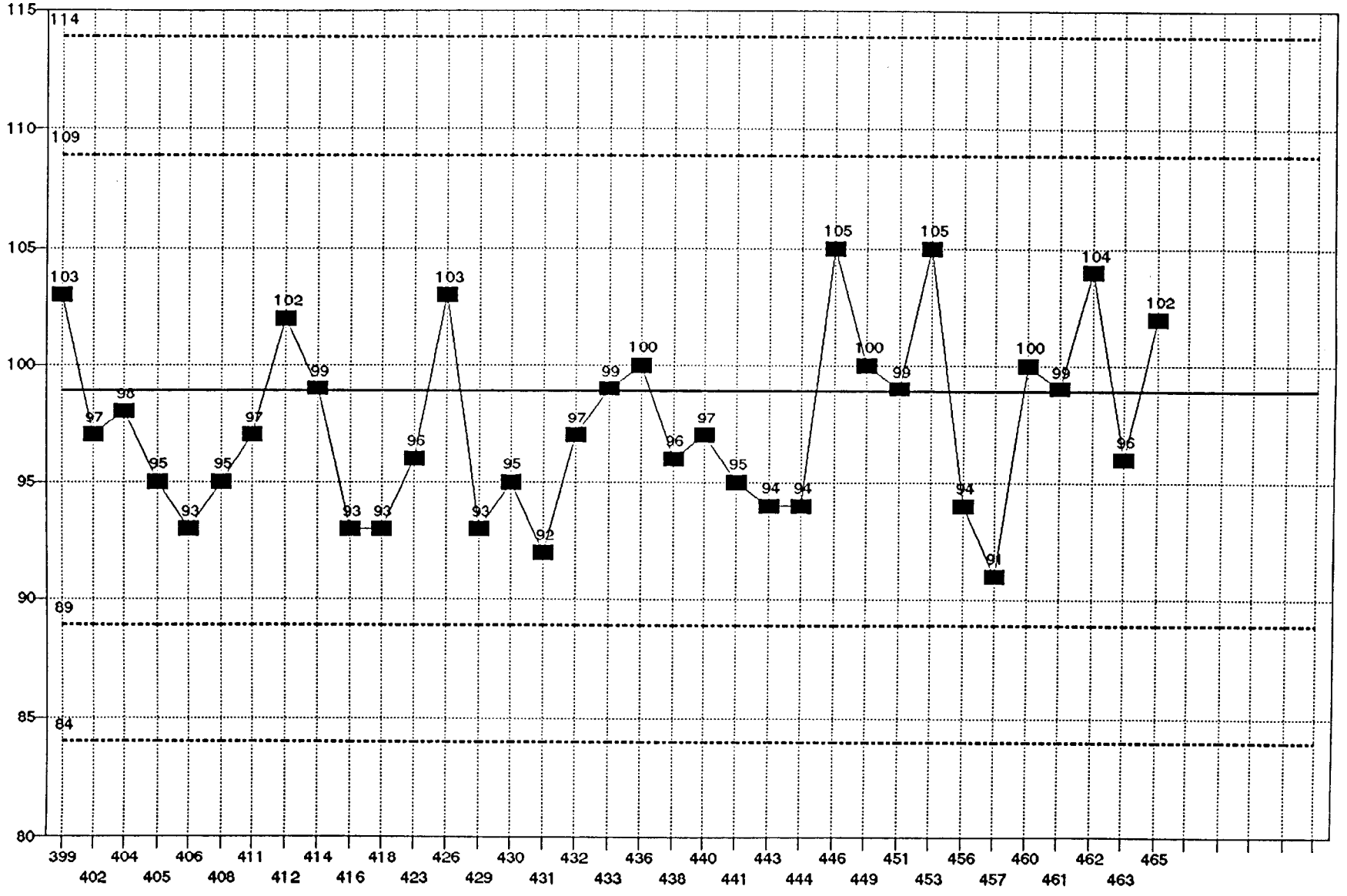
Pb COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



STD DEV = 5 MEAN = 95

0000228

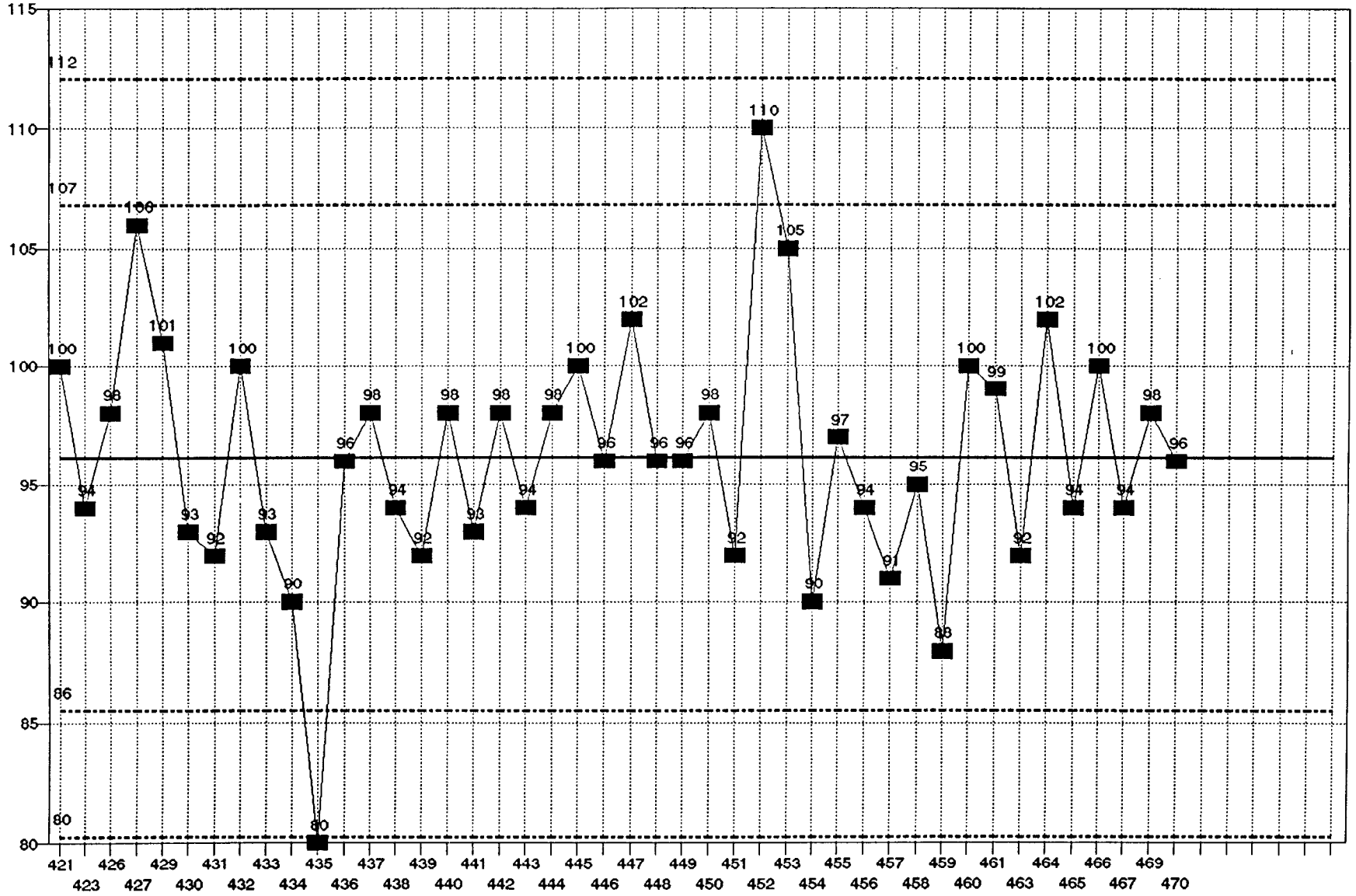
Pb TRACECOMMERCIAL LCS WATER RECOVERIES
LIMITS SET 7/95



STD DEV = 5 MEAN = 99

0000229

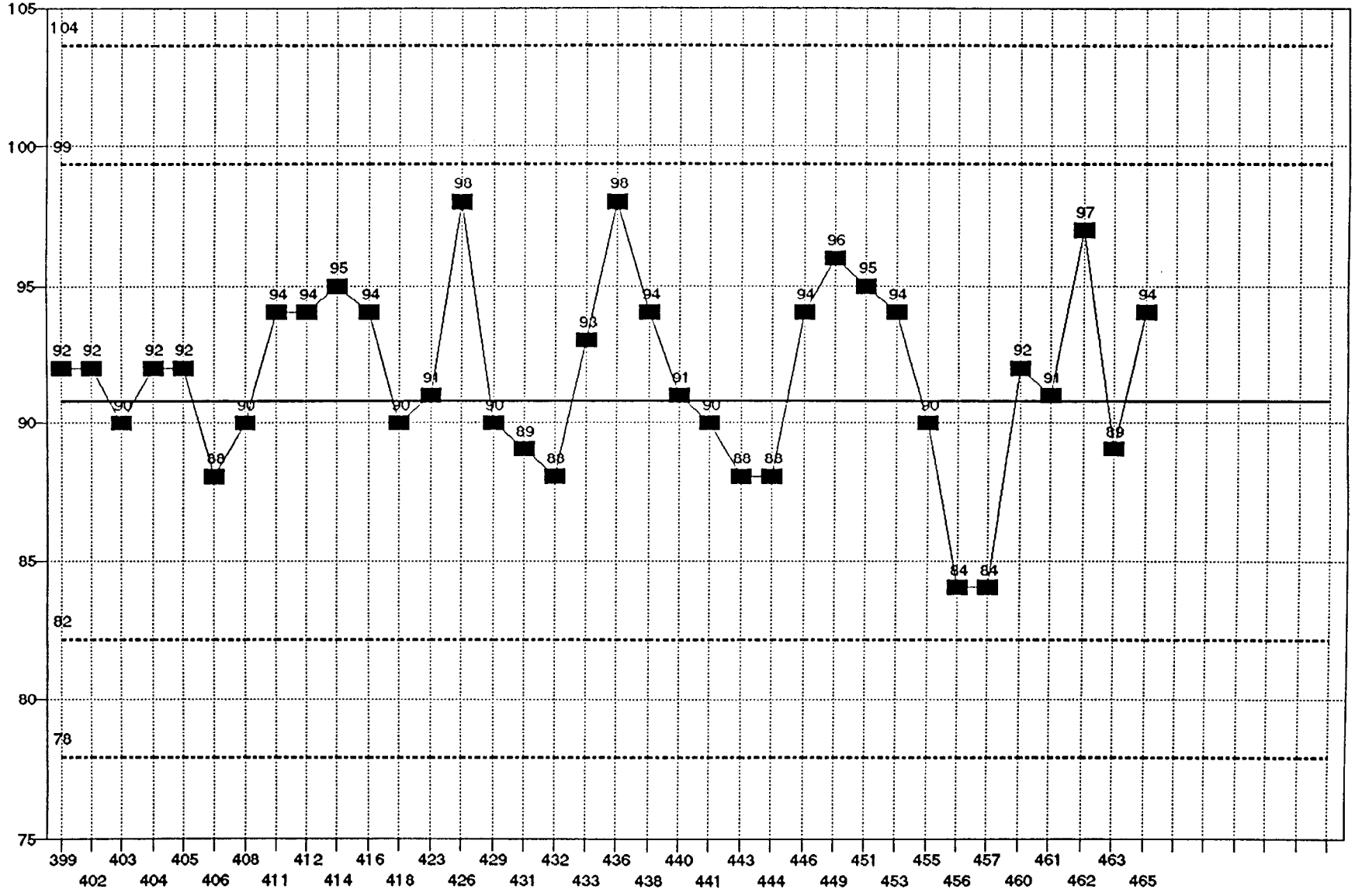
Se COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



STD DEV = 5 MEAN = 96

0000230

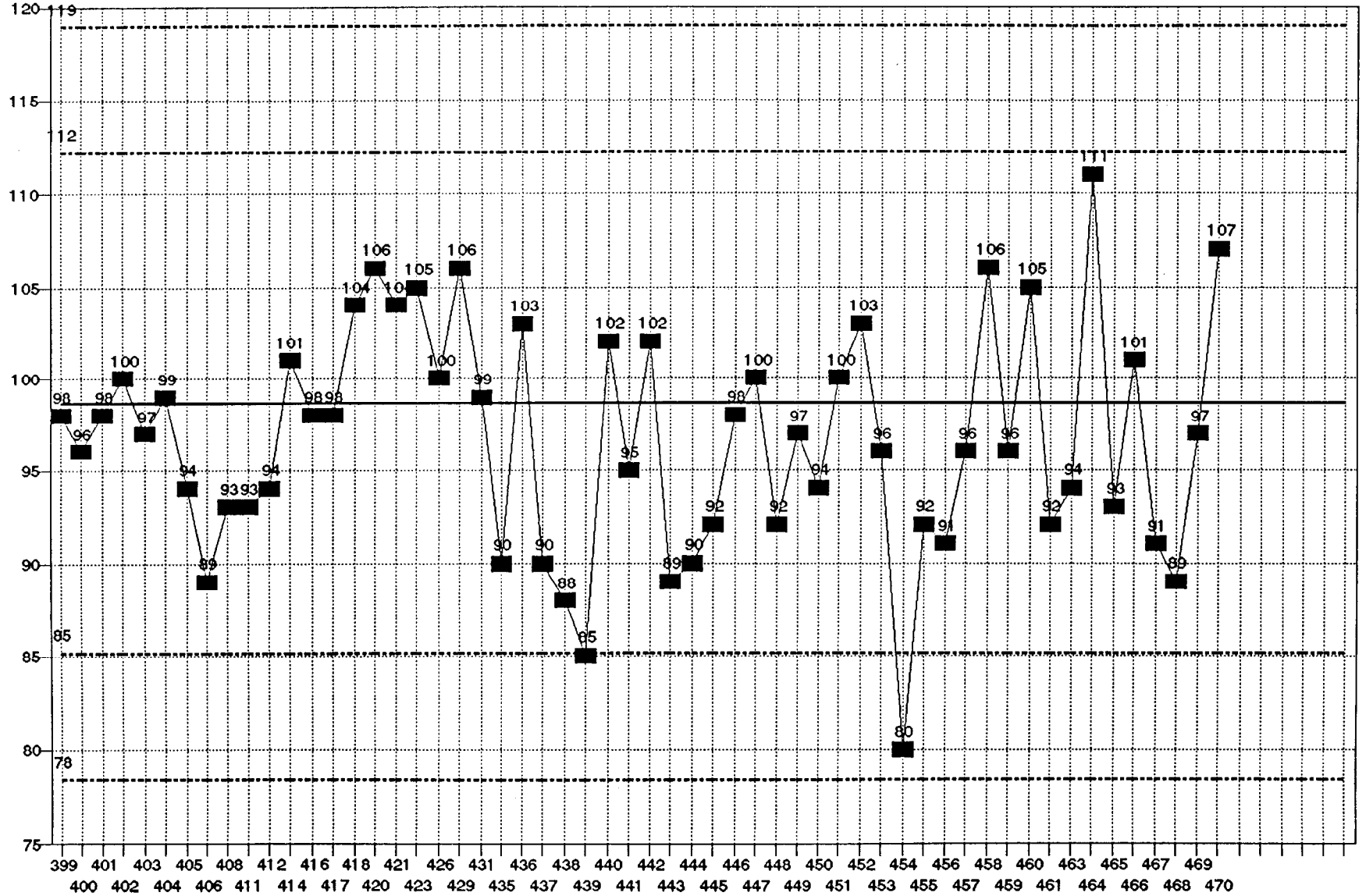
Se TRACECOMMERCIAL LCS WATER RECOVERIES
LIMITS SET 7/95



STD DEV = 4 MEAN = 91

0000231

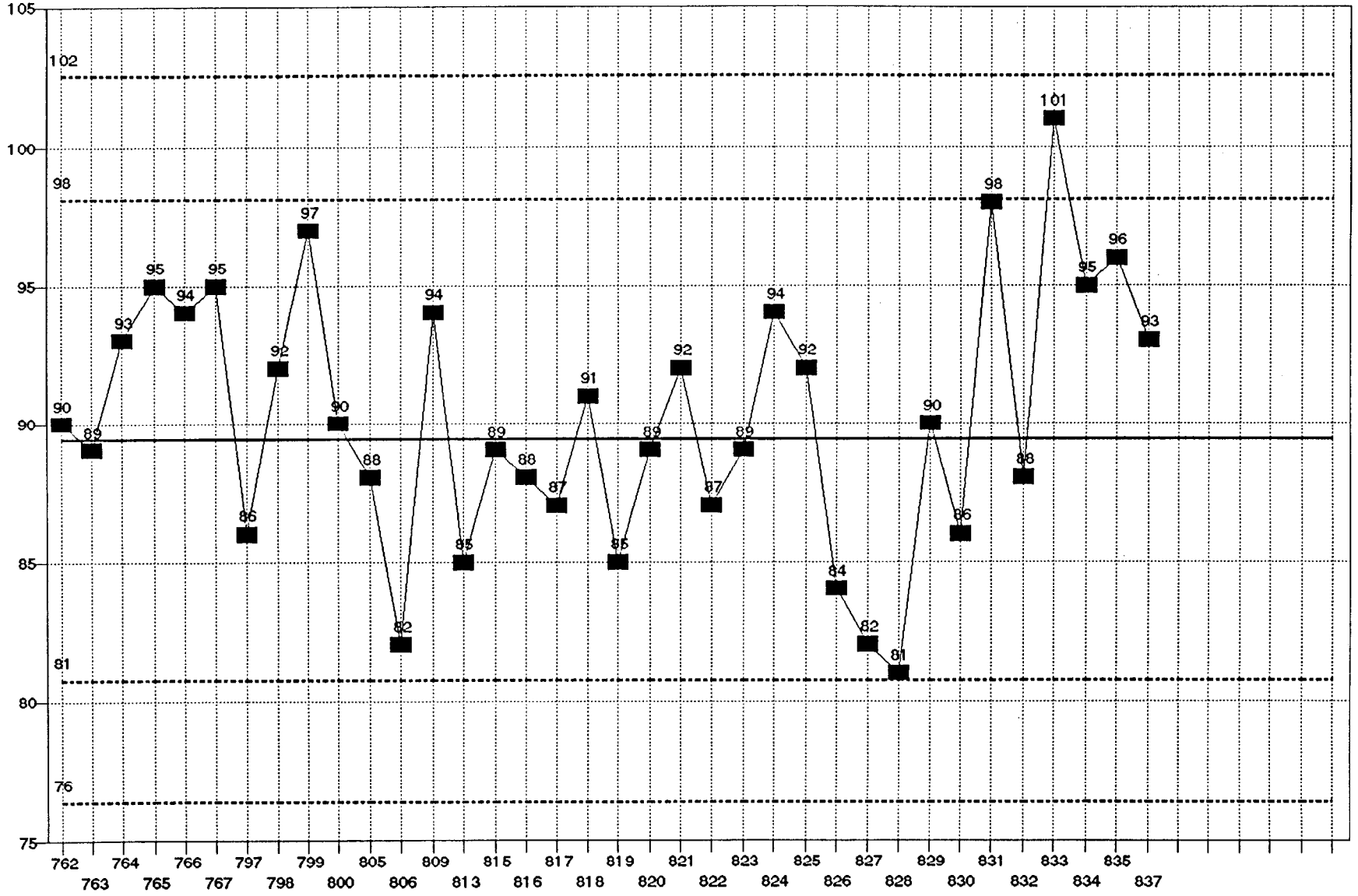
Ag COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 8/95



STD DEV = 7 MEAN = 99

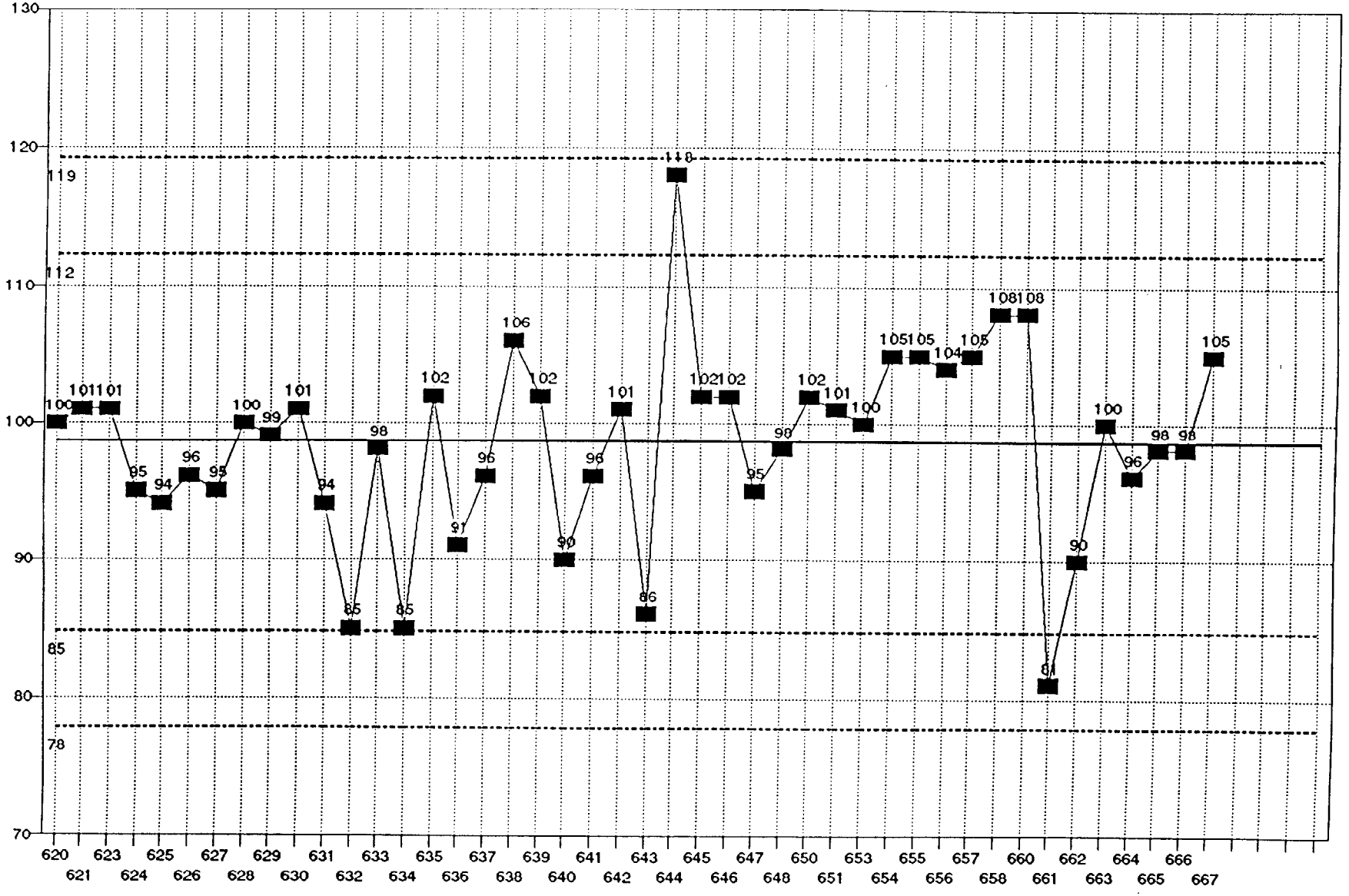
0000232

Pb COMMERCIAL LCS SOLID RECOVERIES
LIMITS SET 10/95



STD DEV = 4 MEAN = 89

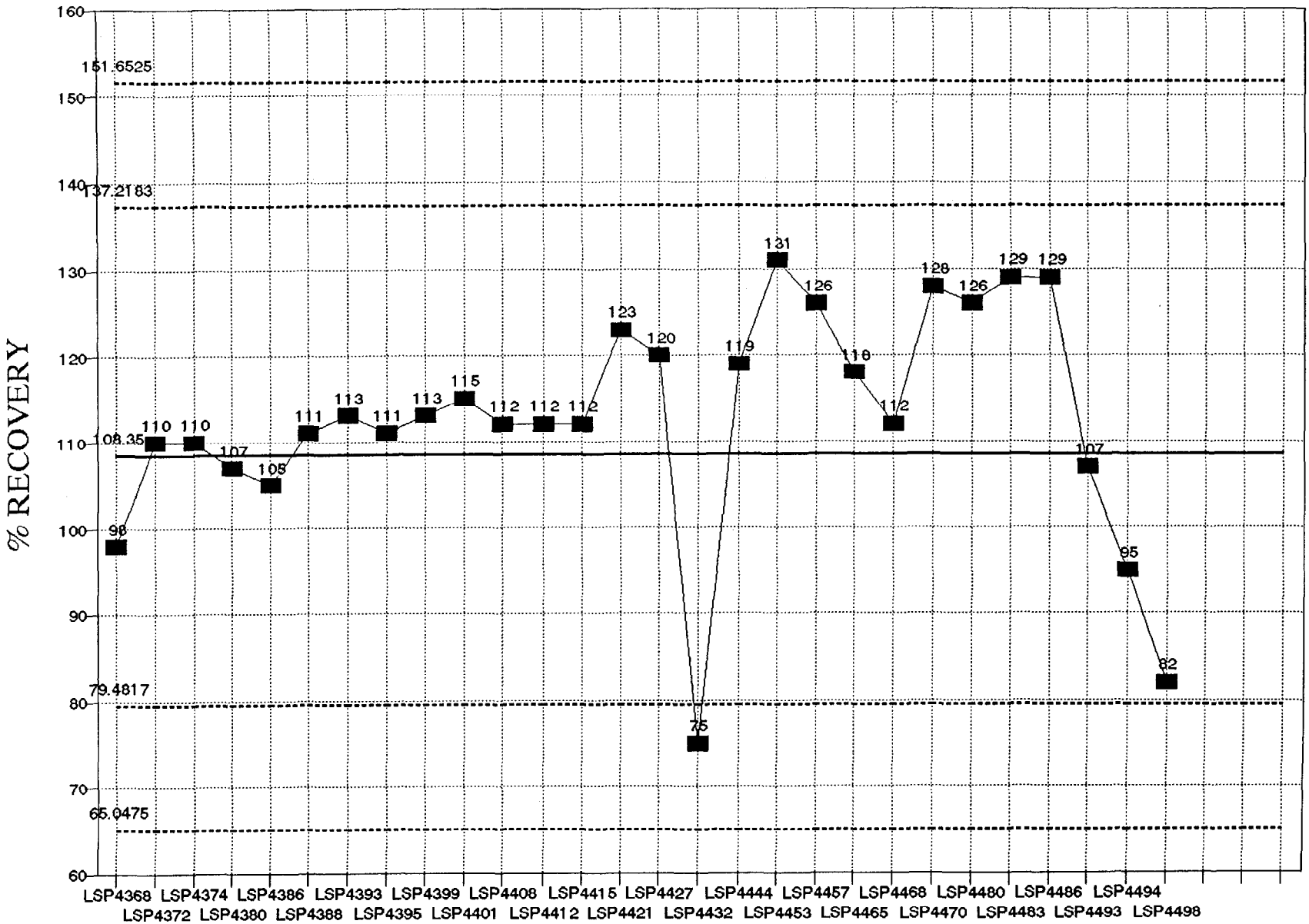
Hg COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



STD DEV = 7 MEAN = 99

PCB MEDIUM SOLIDS AROCHLOR 1254

SPK LIMITS SET 8/95-PPCBCHT\AR1254S



MEAN = 108.35 STD DEV = 14.43

OHM Remediation Services Corp.

CHAIN-OF-CUSTODY RECORD

LAB COPY

Form 0019
Field Technical Services
Rev. 08/83

166687

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526

PROJECT NAME: Camp Lejeune DO44	PROJECT LOCATION: Camp Geiger, NC
PROJ. NO.: 16487	PROJECT CONTACT: Rakesh Mishra
PROJECT TELEPHONE NO.: 910-451-2599	
CLIENT'S REPRESENTATIVE	PROJECT MANAGER/SUPERVISOR: Jim Dunn / Randy Smyth

45563

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	TPH-GRO	TPH-DRO	TCLP Metals, TCLP Semi-Volatile	TCLP Volatile	RCRA Haz Waste Char.	DEG	PCB, Total Lead	Volatile + BTEX (8240)	REMARKS
1	CLJ44-CC-058	10/2	0645	X		Clean Soil from Pile 14 of Area A	4	-1 X	-6 X	-9 X	-9 X	-9 X				
2	CLJ44-CC-059	10/2	0650	X		Clean Soil from Pile 15 of Area A	4	-2 X	-7 X	-10 X	-10 X	-10 X				
3	CLJ44-CC-060	10/2	0700	X		Clean Soil from Pile 16 of Area A	4	-3 X	-8 X	-11 X	-11 X	-11 X				
4	CLJ44-CC-061	10/2	0715	X		Contaminated Soil from Pile 34	4	X	X				X			
5	CLJ44-CC-062	10/2	0720	X		Contaminated Soil from Pile 35	4	X	X	-12 X	-12 X	-12 X	X	-14 X	-14 X	
6	CLJ44-CC-063	10/2	0725	X		Contaminated soil from Pile 36	4	X	X				X			
7	CLJ44-CC-064	10/2	0730	X		Contaminated soil from Pile 37	4	X	X				X			
8	CLJ44-CC-065	10/2	0735	X		Contaminated Soil from Pile 38	4	X	X				X			
9	CLJ44-CC-066	10/2	0740	X		Contaminated Soil from Pile 39	4	X	X				X			
10	CLJ44-CC-067	10/2	0745	X		Contaminated soil from Pile 40	4	X	X	-13 X	-13 X	-13 X	X	-16 X	-16 X	

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-10	[signature]	Fed Ex	10/2	1330
2		Fed Ex	Gretchen Fronheim PAce	10/3/95	0915
3					
4					

REMARKS: Send Samples to Pace Lab
Item # 1-3 3days TAT
Item # 4-10 24 hr. TAT (except TCLP analysis)

SAMPLER'S SIGNATURE: [signature]

0000236

OHM Remediation Services Corp.

CHAIN-OF-CUSTODY RECORD

LAB COPY

Form 0019
Field Technical Services
Rev. 08/89

166688

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526

PROJECT NAME: Camp Lejeune D.O.44
PROJECT LOCATION: Camp Geiger, NC
PROJ. NO.: 16457
PROJECT CONTACT: Rakesh Mishra
PROJECT TELEPHONE NO.: 910-451-2599
CLIENT'S REPRESENTATIVE:
PROJECT MANAGER/SUPERVISOR: Jim Dunn / Randy Smith

45563

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS) TPH-GRO	TPH-DRO	TCLP Metals, TCLP Semi-Volatile	TCLP Volatile	RCRA Haz Waste Char.	OSG	PCB, Total Lead	Volatile + BTEX (8240)	REMARKS
1	CLJ44-CC-068-RB	10/2	0805	X		Rinsate Blank	5	-4 X	-23 X	X	X	X				Metals -18, BNA-19, VOA-20 RCRA -21
2	CLJ44-CC-069-TB					Trip Blank	3	-5 X			-22 X				-22 X	
3																
4																
5																
6																
7																
8																
9																
10																

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-2	[signature]	Fed Ex Gretchen Franzheim Pace	10/2	1330
2		Fed Ex	Gretchen Franzheim Pace	10/3/15	0915
3					
4					

REMARKS: Send Samples to Pace Lab
Item # 1-2 3 days TAT

SAMPLER'S SIGNATURE: [signature]

00002237

OHM Remediation Services Corp.

CHAIN-OF-CUSTODY RECORD

LAB COPY

Form 0019
Field Technical Services
Rev. 08/89

166687

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526

PROJECT NAME	PROJECT LOCATION
Camp Lejeune DO44	Camp Geiger, NC

PROJ. NO.	PROJECT CONTACT	PROJECT TELEPHONE NO.
16437	Rakesh Mishra	910-451-2597

CLIENT'S REPRESENTATIVE	PROJECT MANAGER/SUPERVISOR
	Jim Dienn / Randy Smith

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS) TPH-GRO	TPH-DRO	TCLP Metals, TCLP Semi-Volatile	TCLP Volatile	RCRA Haz Waste Char.	O&G	PCB, Total Lead	Volatile + BTEX (8240)	REMARKS
1	CLJ44-CA-058	10/2	0645	X		Clean Soil from Pile 14 of Area A	4	X	X	X	X	X				
2	CLJ44-CA-059	10/2	0650	X		Clean Soil from Pile 15 of Area A	4	X	X	X	X	X				
3	CLJ44-CA-060	10/2	0700	X		Clean Soil from Pile 16 of Area A.	4	X	X	X	X	X				
4	CLJ44-CC-061	10/2	0715	X		Contaminated Soil from Pile 34	4	X	X				X			
5	CLJ44-CC-062	10/2	0720	X		Contaminated Soil from Pile 35	4	X	X	X	X	X	X	X	X	
6	CLJ44-CC-063	10/2	0725	X		Contaminated soil from Pile 36	4	X	X				X			
7	CLJ44-CC-064	10/2	0730	X		Contaminated soil from Pile 37	4	X	X				X			
8	CLJ44-CC-065	10/2	0735	X		Contaminated Soil from Pile 38	4	X	X				X			
9	CLJ44-CC-066	10/2	0740	X		Contaminated soil from Pile 39	4	X	X				X			
10	CLJ44-CC-067	10/2	0745	X		Contaminated soil from Pile 40	4	X	X	X	X	X	X	X	X	

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-10	[signature]	Fed Ex	10/2	1330
2		Fed Ex	Gretchen Trowbridge PACE	10/3/95	0915
3					
4					

REMARKS Send Samples to Pace Lab
Item # 1-3 3days TAT
Item # 4-10 24 hr. TAT (except TCLP analysis)

SAMPLER'S SIGNATURE [signature]

0000238

OHM Remediation Services Corp.

CHAIN-OF-CUSTODY RECORD

LAB COPY

Form 0019
Field Technical Services
Rev. 08/89

166688

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526

PROJECT NAME: Camp Lejeune D.O.44	PROJECT LOCATION: Camp Geiger, NC
PROJ. NO.: 16457	PROJECT CONTACT: Rakesh Mishra
PROJECT TELEPHONE NO.: 910-451-2579	
CLIENT'S REPRESENTATIVE:	PROJECT MANAGER/SUPERVISOR: Jim Dunn / Randy Smith

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS): TPH - GRO	TPH - DRO	TCLP Metals, TCLP Semi-Volatile	TCLP Volatile	RCRA Haz Waste Char.	O&G	PCB, Total Lead	Volatile + BTEX (8240)	REMARKS
1	CLJ44-CC-068-RB	10/2	0805	X		Rinsate Blank	5	X	X	X	X	X				
2	CLJ44-CC-069-TB					Trip Blank	3	X			X				X	
3																
4																
5																
6																
7																
8																
9																
10																

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-2	[signature]	Fed Ex. ~~Gretchen Frankham PACE~~	10/2	1330
2		Fed Ex	Gretchen Frankham PACE	10/3/05	0915
3					
4					

REMARKS: Send Samples to Pace Lab
Item # 1-2 3 days TAT

SAMPLER'S SIGNATURE: [signature]

0000239

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

October 24, 1995

OHM Remediation Services Corporation
5335 Triangle Parkway
Suite 450
Norcross, GA 30092

SAMPLE DELIVERY GROUP NARRATIVE

Case: OHMRC
SDG: LJN28
Laboratory: PACE New England - New Hampshire of Hampton, NH
Lab Numbers: 45589
Protocol: SW846 Methods. NEESA E deliverables. No diskette.

Sample Receipt: These samples were received at PACE, Inc. on October 4, 1995. Laboratory sample numbers were assigned for test parameters as listed on the Sample Table which follows this narrative. The sample shipment was checked for custody seal integrity and cooler temperature. Samples were checked for appropriate preservation and accuracy against the Chains-of-Custody provided. Other than the exceptions noted below, samples were received between 2-6° C and in good condition. PACE Sample Receipt Condition Reports can be found with the Chains-of-Custody.

Shipment received 10/4/95 (45589): Samples were received in one cooler and were assigned PACE# 45589 and 45590. A temperature blank was not included with the shipment, therefore the cooler temperature could not be verified upon receipt of samples at PACE. The samples were received cool, and had been packed on ice. Samples assigned PACE Lab# 45590 were logged in for a 3-day turnaround per the request on the COC. Samples assigned PACE Lab# 45589 were logged in for 24-hour turnaround per the request on the COC. Gretchen Franzheim (PACE) was notified by Federal Express that the shipment was misplaced and would be delivered after noon. The cooler was received at PACE at 3:15PM. Verbal due dates were calculated from 10/5/95 rather than 10/4/95 since the samples were not able to be logged in until late in the day on 10/4/95.

GRO Analysis: Laboratory number 45589-1 had high recovery in the matrix spike/spike duplicate. This is likely due to matrix interference.

DRO Analysis: Laboratory number 45589-5 matrix spike duplicate had non-calculable recovery for the analyte diesel and non-calculable %RPD. This was a probable matrix effect.

Oil and Grease Analysis: Analyses proceeded without difficulty. Matrix spikes and duplicates met all acceptance criteria.

Volatiles Analysis: The method 8240 blank "BG100595A1" contained low levels of methylene chloride. The sample results for this analyte should be used with due consideration.

Statement of Compliancy and Data Authorization

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Richard K Wellman — 10/24/95

PACE Incorporated, New England-New Hampshire — October 24, 1995

P.O. Box 2130
1 Lafayette Road
Hampton, NH 03842
TEL: 603-926-7777
800-992-0724
FAX: 603-926-7939

Case: _____

SDG: _____

TABLE 1: MANUAL INTEGRATIONS PERFORMED

EPA ID	LAB ID	FILE NUMBER	COMPOUNDS MANUALLY INTEGRATED
	VSTD010	A64614	2-chloroethylvinylether Chloromethane

Manual Integrations were performed as required to correct faulty integrations made by the automated software. The manual integrations began and ended at the points where the peak intersected the baseline, in order that the entire peak and only the peak would be integrated. Hardcopies of the manually-integrated peaks have been provided with the data.

Analyst Signature
PACE Incorporated

Date

...\document\manint.frm

pace INCORPORATED
ENVIRONMENTAL LABORATORIES

NEW ENGLAND - NEW HAMPSHIRE LABORATORY
SAMPLE RECEIPT CONDITION REPORT
Tel. (603) 926-7777
FAX (603) 926-7939

LAB# 45589
PAGE 1 of 1
COOLER ____ of ____
COC# ____
SDG# LJN28
CASE# OHMRC

CLIENT OHM Remediation Services Corp.
DATE/TIME RECEIVED 10/4/95 1515
DELIVERED BY FedEx
RECEIVED BY Dina Ford
LIMS ENTRY BY GMF
TRANSCRIPTION REVIEW BY GMF
LIMS REVIEW BY/PM GMF

		NA	YES	EXCEPTION	COMMENT	RESOLUTION
1.	CUSTODY SEALS PRESENT/INTACT	☐	☐	☑	No Custody Seals	
2.	CHAIN OF CUSTODY PRESENT IN THIS COOLER	☐	☑	☐		
3.	CHAIN OF CUSTODY SIGNED	☐	☑	☐		
4.	CHAIN OF CUSTODY MATCHES SAMPLES	☐	☑	☐		
5.	SAMPLES RECEIVED AT 2° - 6° C (Ice) Ice Packs Present? (Y) or N	☐	☐	☑	N. Temp Blank	
6.	VOLATILES FREE OF HEAD SPACE	☐	☑	☐		
7.	TRIP BLANK PRESENT IN THIS COOLER	☐	☑	☐		
8.	PROPER SAMPLE CONTAINERS AND VOLUME	☐	☑	☐		
9.	SAMPLES WITHIN HOLD TIME	☐	☑	☐		
10.	SAMPLES PROPERLY PRESERVED	☐	☑	☐		

11. ANALYTICAL PROGRAMS (circle one) COMMERCIAL CLP EPA-CLP NYASP NJ ISRA (NEESA E) AFCEE Other ____
12. NUMBER OF PACE FILTRATIONS: ____
13. CORRECTIVE ACTIONS REPORT # ____

Log-in Notes: FedEx delivered cooler at 3:15 P.M
Verbis Rec 10/4

CLIENT AUTHORIZATION SIGNATURE ____ DATE ____

SAMPLE TABLE

CLIENT ID.	MATRIX	PACE #	PARAMETERS
CLJ44-CC-071	SOLID	45589-001	TOTAL GASOLINE
SQC		45589-005	OIL & GREASE BY GRAVIMETRY
			TOTAL DIESEL
CLJ44-CC-072	SOLID	45589-002	TOTAL GASOLINE
		45589-006	OIL & GREASE BY GRAVIMETRY
			TOTAL DIESEL
CLJ44-CC-073	SOLID	45589-003	TOTAL GASOLINE
		45589-007	OIL & GREASE BY GRAVIMETRY
			TOTAL DIESEL
CLJ44-CC-075-TB	WATER	45589-004	TOTAL GASOLINE
		45589-008	GC/MS VOA

pace INCORPORATED THE ASSURANCE OF QUALITY

Field Identification: CLJ44-CC-071 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	240	25	45589-001	10/05/95	BG1042A	8015(mod)/2
Total Diesel (ug/g)	7100	110	45589-005	10/05/95		8015(mod),3350/2
Oil and Grease by Gravimetry (ug/g)	5900	280	45589-005	10/06/95	BG1387	9071,503D/2,3

Field Identification: CLJ44-CC-072 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	320	27	45589-002	10/05/95	BG1042A	8015(mod)/2
Total Diesel (ug/g)	5000	110	45589-006	10/05/95		8015(mod),3350/2
Oil and Grease by Gravimetry (ug/g)	5700	280	45589-006	10/06/95	BG1387	9071,503D/2,3

Field Identification: CLJ44-CC-073 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	310	26	45589-003	10/05/95	BG1042A	8015(mod)/2
Total Diesel (ug/g)	6100	110	45589-007	10/05/95		8015(mod),3350/2
Oil and Grease by Gravimetry (ug/g)	5900	270	45589-007	10/06/95	BG1387	9071,503D/2,3

Field Identification: CLJ44-CC-075-TB Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/L)	BDL	100	45589-004	10/06/95	BG1042A	8015(mod)/2

Results for solid samples expressed on a dry weight basis.

References: 2) EPA SW 846, 3rd Edition
3) Standard Methods, 16th Edition

pace INCORPORATED
THE ASSURANCE OF QUALITY

QUALITY CONTROL DATA
TOTAL GASOLINE

MATRIX SPIKE RECOVERY

Laboratory Number: 45589-1 MS/MSD
Sample Designation: CLJ44-CC-071 MS/MSD
Date Analyzed 10/05/95
Matrix: SOLID

COMPOUND	ug/g IN SAMPLE	ug/g SPIKE	REPLICATE 1 ug/g FOUND	%REC-OVERY	REPLICATE 2 ug/g FOUND	%REC-OVERY	% REL. DIFF.
GASOLINE	213	50	308	189	436	445	81.0

METHOD REFERENCE: METHOD 8015 (MODIFIED)

pace INCORPORATED THE ASSURANCE OF QUALITY

QUALITY CONTROL DATA
TOTAL GASOLINE

BLANK DATA

Laboratory Number: BG1042A
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/05/95
Matrix: SOLID

COMPOUND	CONCENTRATION ug/g	DETECTION LIMIT ug/g
GASOLINE	BDL	12

MATRIX SPIKE RECOVERY

Laboratory Number: LS-G1042
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/05/95
Matrix: SOLID

COMPOUND	ug/g IN SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
GASOLINE	0	50	48	96

METHOD REFERENCE: METHOD 8015 (MODIFIED)

pace INCORPORATED
THE ASSURANCE OF QUALITY

QUALITY CONTROL DATA
TOTAL GASOLINE

BLANK DATA

Laboratory Number: BG100695TGA
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/06/95
Matrix: WATER

COMPOUND	CONCENTRATION ug/L	DETECTION LIMIT ug/L
GASOLINE	BDL	100

MATRIX SPIKE DUPLICATE RECOVERY

Laboratory Number: LW100695TGA
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/06/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
GASOLINE	0	500	537	107

METHOD REFERENCE: METHOD 8015 (MODIFIED)

pace INCORPORATED
THE ASSURANCE OF QUALITY

QUALITY CONTROL
OIL & GREASE

MATRIX SPIKE RECOVERY

Laboratory Number: 45589-5 MS/MSD
Sample Designation: CLJ44-CC-071 MS/MSD
Date Analyzed: 10/06/95
Matrix: SOLID

			REPLICATE 1	
PARAMETER	ug/g IN SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
OIL & GREASE	590C	1395	7200	93

			REPLICATE 2		
PARAMETER	ug/g IN SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY	% REL. DIFF.
OIL & GREASE	5900	1408	7100	85	9.0

METHOD REFERENCE: EPA SW846, 3RD EDITION
METHOD 9071
STANDARD METHODS, 16TH EDITION, METHOD 503D

pace INCORPORATED
THE ASSURANCE OF QUALITY

QUALITY CONTROL
OIL & GREASE

BLANK DATA

Laboratory Number: B-G1387
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/06/95
Matrix: SOLID

PARAMETER	CONCENTRATION ug/g	DETECTION LIMIT ug/g
OIL & GREASE	BDL	250

MATRIX SPIKE RECOVERY

Laboratory Number: LS-G1387
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/06/95
Matrix: SOLID

PARAMETER	ug/g IN SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
OIL & GREASE	0	1275	1200	94

METHOD REFERENCE: EPA SW846, 3RD EDITION
METHOD 9071
STANDARD METHODS, 16TH EDITION, METHOD 503D

pace INCORPORATED
THE ASSURANCE OF QUALITY

QUALITY CONTROL DATA
PETROLEUM HYDROCARBONS BY GCFID

MATRIX SPIKE RECOVERY

Laboratory Number: 45589-5 MS/MSD
Sample Designation: CLJ44-CC-071 MS/MSD
Date Analyzed 10/05/95
Matrix: SOLID

COMPOUND	ug/g SAMPLE	ug/g SPIKE	REPLICATE 1 ug/g FOUND	%REC-OVERY
DIESEL	7073	111	7111	34

COMPOUND	ug/g SAMPLE	ug/g SPIKE	REPLICATE 2 ug/g FOUND	%REC-OVERY	% REL. DIFF.
DIESEL	7073	1104	6114	NC	NC

NC=Not Calculable

METHOD REFERENCE: EPA SW 846, 3RD EDITION METHOD 8015 (MODIFIED) AND 3350

pace INCORPORATED THE ASSURANCE OF QUALITY

QUALITY CONTROL DATA
PETROLEUM HYDROCARBONS BY GCFID

BLANK DATA

Laboratory Number: B-H1405
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/05/95
Matrix: SOLID

HYDROCARBON TYPE	CONCENTRATION ug/g	DETECTION LIMIT ug/g
DIESEL	BDL	10

MATRIX SPIKE RECOVERY

Laboratory Number: LSH1405
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/05/95
Matrix: SOLID

COMPOUND	ug/g SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
DIESEL	0	101	69.4	69

METHOD REFERENCE: EPA SW 846, 3RD EDITION METHOD 8015 (MODIFIED) AND 3350

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: 45589-008
Sample Designation: CLJ44-CC-075-TB
Date Analyzed: 10/05/95
Matrix: WATER

Instrument File Name: >G4948

VOLATILE ORGANICS	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Chloromethane	BDL	10
Bromomethane	BDL	10
Vinyl chloride	BDL	10
Chloroethane	BDL	5
Methylene chloride	BDL	10
Acetone	BDL	25
Carbon disulfide	BDL	5
Tetrahydrofuran	BDL	25
Trichlorofluoromethane	BDL	5
1,1-Dichloroethene	BDL	5
1,1-Dichloroethane	BDL	5
1,2-Dichloroethene (total)	BDL	5
Chloroform	BDL	5
1,2-Dichloroethane	BDL	5
2-Butanone	BDL	25
1,1,1-Trichloroethane	BDL	5
Carbon Tetrachloride	BDL	5
Vinyl acetate	BDL	10
Bromodichloromethane	BDL	5
1,2-Dichloropropane	BDL	5
cis-1,3-Dichloropropene	BDL	5
trans-1,3-Dichloropropene	BDL	5
Trichloroethene	BDL	5
Dibromochloromethane	BDL	5
1,1,2-Trichloroethane	BDL	5
Benzene	BDL	5
Bromoform	BDL	5
4-Methyl-2-Pentanone	BDL	25
2-Hexanone	BDL	25
Tetrachloroethene	6	5
1,1,2,2-Tetrachloroethane	BDL	5
Toluene	BDL	5
Chlorobenzene	BDL	5
Ethylbenzene	BDL	5
Styrene	BDL	5
Xylene (total)	BDL	5

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8240

BDL = Below reporting limit
J = Probable presence below listed detection limit

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THE ASSURANCE OF QUALITY

WATER VOLATILES SURROGATE RECOVERY

Client: OHM REMEDIATION SERVICES CORP. Lab No.: 45589
Project: CAMP GEIGER/LJN28

CLIENT SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
CLJ44-CC-075-TB	102	103	101		0
BG100595A1	102	99	101		0

	QC LIMITS
S1 (TOL) = Toluene-d8	86 - 114
S2 (BFB) = Bromofluorobenzene	72 - 132
S3 (DCE) = 1,2-Dichloroethane-d4	70 - 138

Column to be used to flag recovery values with an asterisk
* Values outside of designated QC limits
D Surrogates diluted out

pace INCORPORATED THE ASSURANCE OF QUALITY

Laboratory number: BG100595A1
Sample Designation: LAB BLANK
Date Analyzed: 10/05/95
Matrix: WATER

Instrument File Name: >G4937

VOLATILE ORGANICS	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Chloromethane	BDL	10
Bromomethane	BDL	10
Vinyl chloride	BDL	10
Chloroethane	BDL	5
Methylene chloride	3.3 J	10
Acetone	BDL	25
Carbon disulfide	BDL	5
Tetrahydrofuran	BDL	25
Trichlorofluoromethane	BDL	5
1,1-Dichloroethene	BDL	5
1,1-Dichloroethane	BDL	5
1,2-Dichloroethene (total)	BDL	5
Chloroform	BDL	5
1,2-Dichloroethane	BDL	5
2-Butanone	BDL	25
1,1,1-Trichloroethane	BDL	5
Carbon Tetrachloride	BDL	5
Vinyl acetate	BDL	10
Bromodichloromethane	BDL	5
1,2-Dichloropropane	BDL	5
cis-1,3-Dichloropropene	BDL	5
trans-1,3-Dichloropropene	BDL	5
Trichloroethene	BDL	5
Dibromochloromethane	BDL	5
1,1,2-Trichloroethane	BDL	5
Benzene	BDL	5
Bromoform	BDL	5
4-Methyl-2-Pentanone	BDL	25
2-Hexanone	BDL	25
Tetrachloroethene	BDL	5
1,1,2,2-Tetrachloroethane	BDL	5
Toluene	BDL	5
Chlorobenzene	BDL	5
Ethylbenzene	BDL	5
Styrene	BDL	5
Xylene (total)	BDL	5

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8240

BDL = Below reporting limit
J = Probable presence below listed detection limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

MATRIX SPIKE RECOVERY
VOLATILE ORGANIC COMPOUNDS

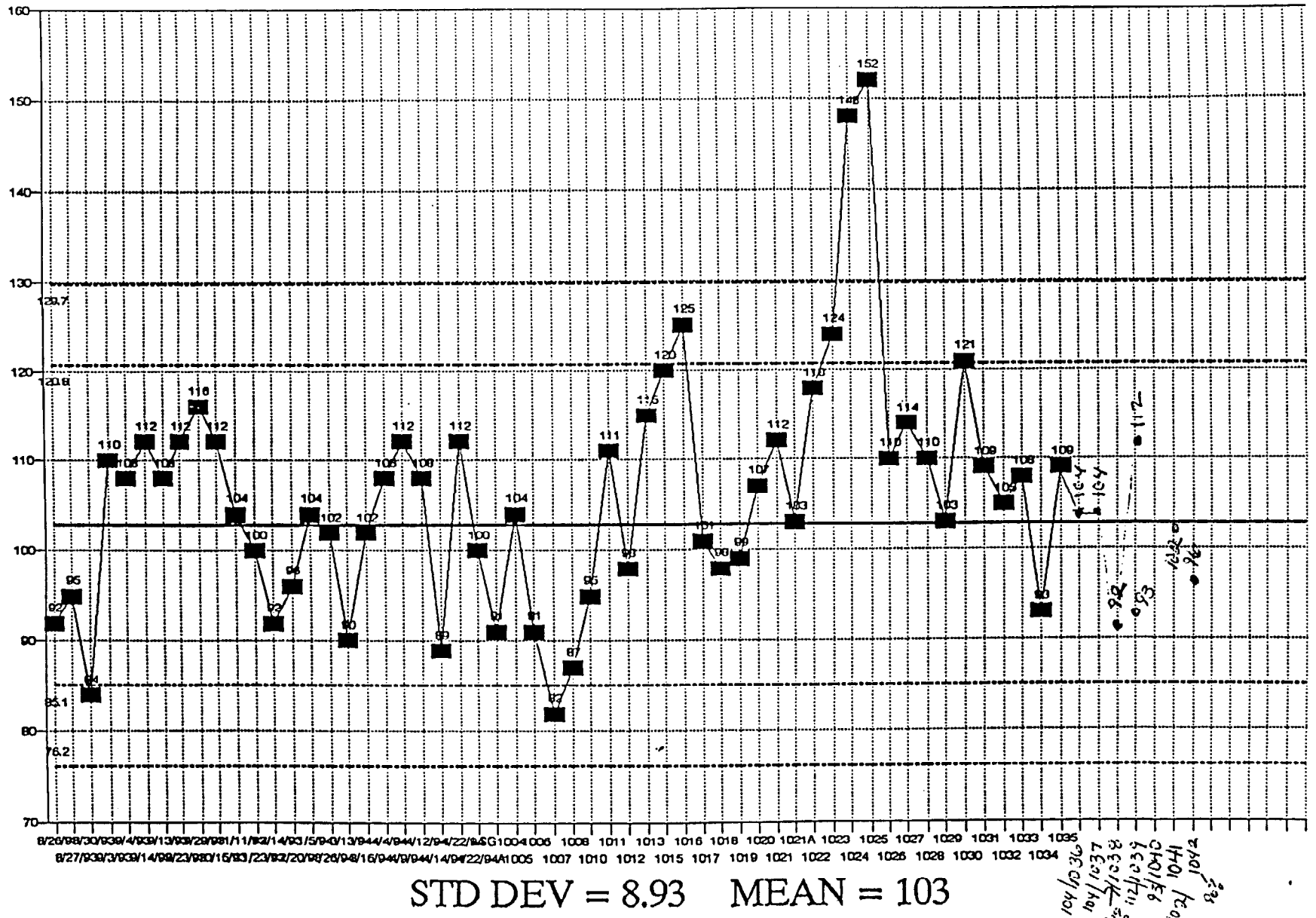
Laboratory Number: LCG100595A1
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/05/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
1,1-DICHLOROETHENE	0	50	53	105
TRICHLOROETHYLENE	0	50	54	107
BENZENE	0	50	50	100
TOLUENE	0	50	51	101
CHLOROBENZENE	0	50	55	109

METHOD REFERENCE: EPA SW 846, 3RD EDITION
METHOD 8240

pace INCORPORATED
THE ASSURANCE OF QUALITY

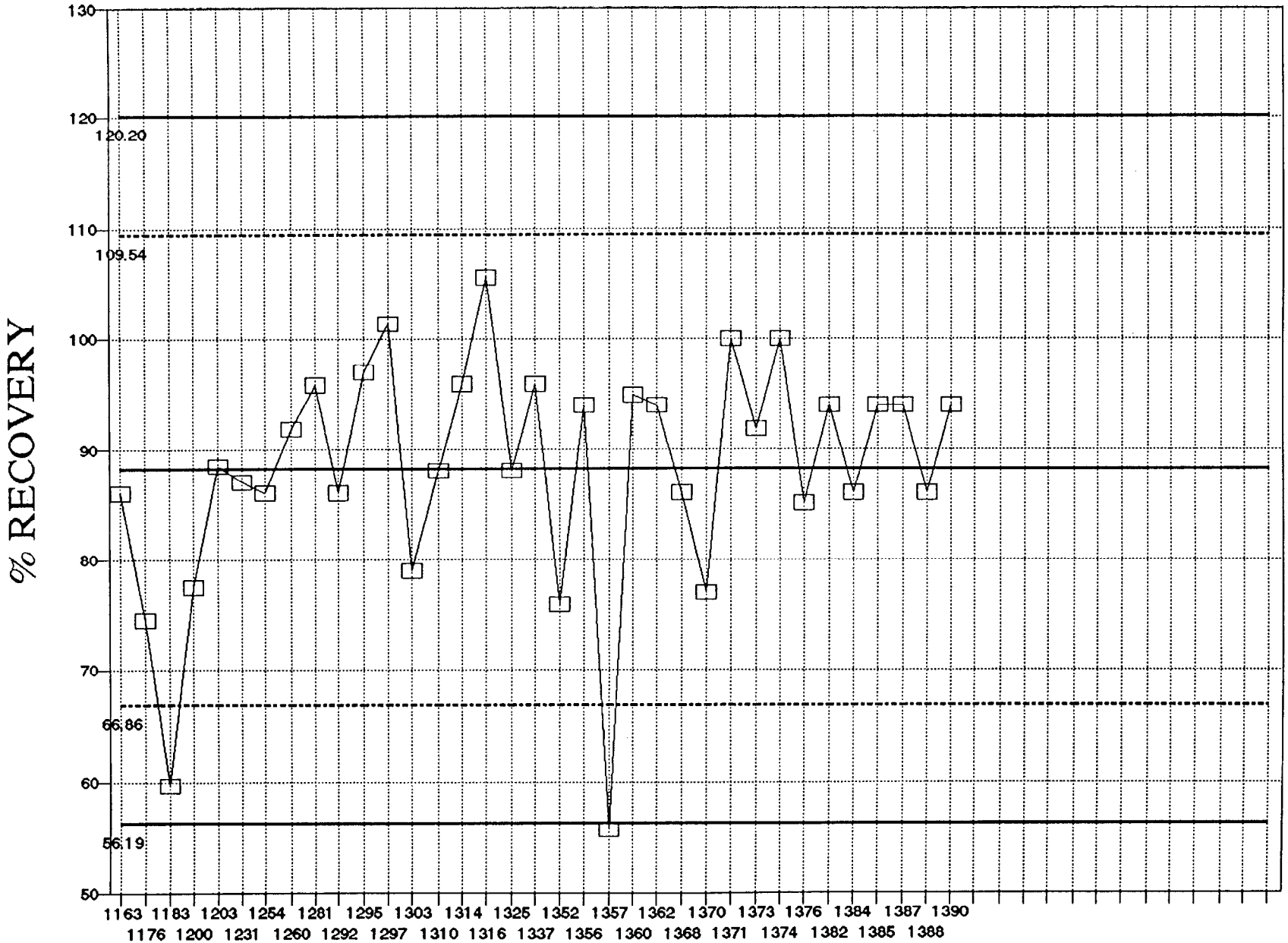
TOTAL GAS LCS RECOVERIES
LIMITS SET 4/13/94



STD DEV = 8.93 MEAN = 103

00000017

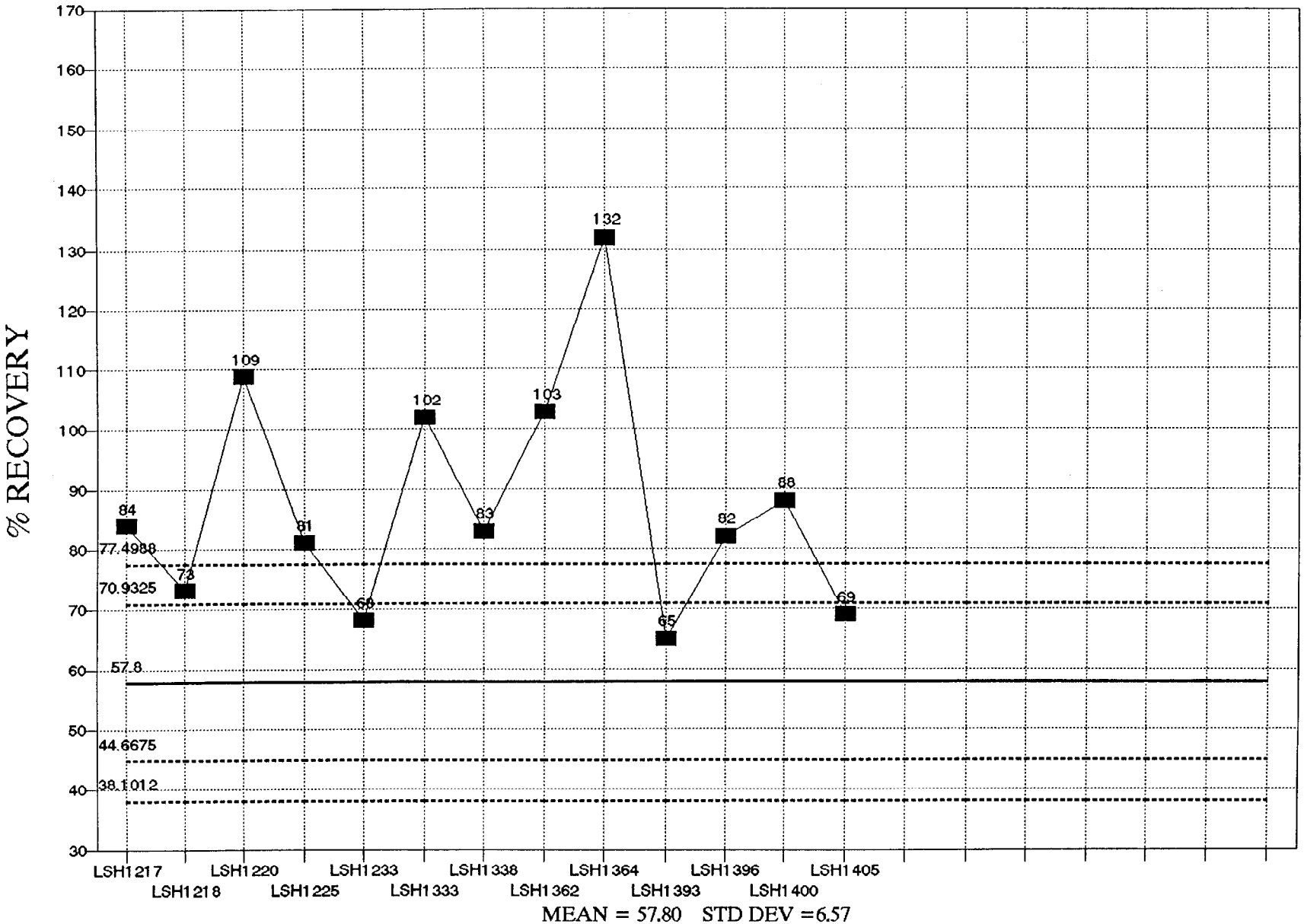
O&G GRAV-S LCS RECOVERIES



MEAN = 87.5 STD DEV = 11.3

PHC MEDIUM SOLIDS - DIESEL

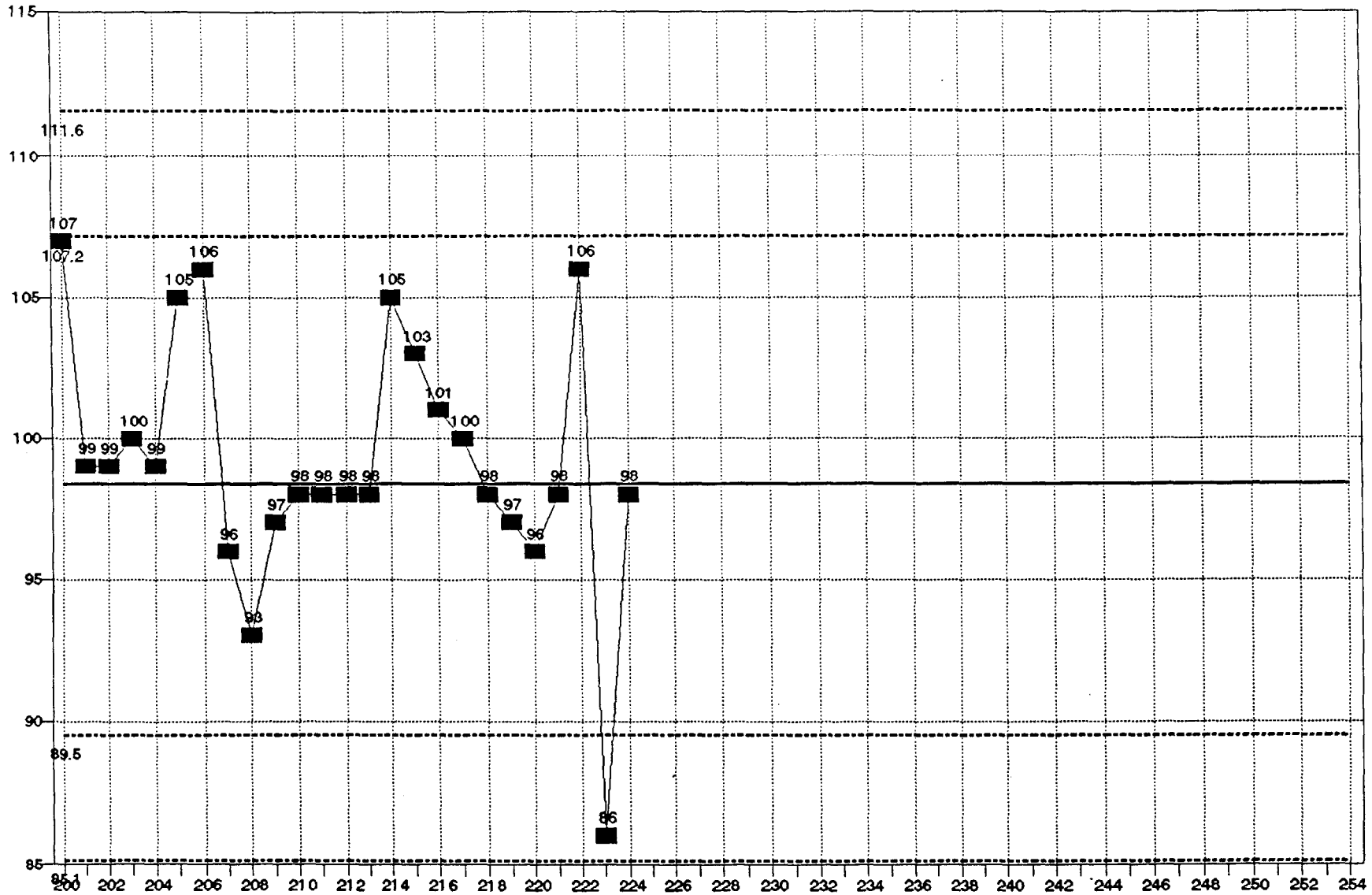
SPK REC LIMS SET195-PPCBCHT\PHCMS195



MEAN = 57.80 STD DEV =6.57

00000019

VOA WATERS - SURR DCE
LIMITS SET 4/95



STD DEV = 4.40 MEAN = 98.4

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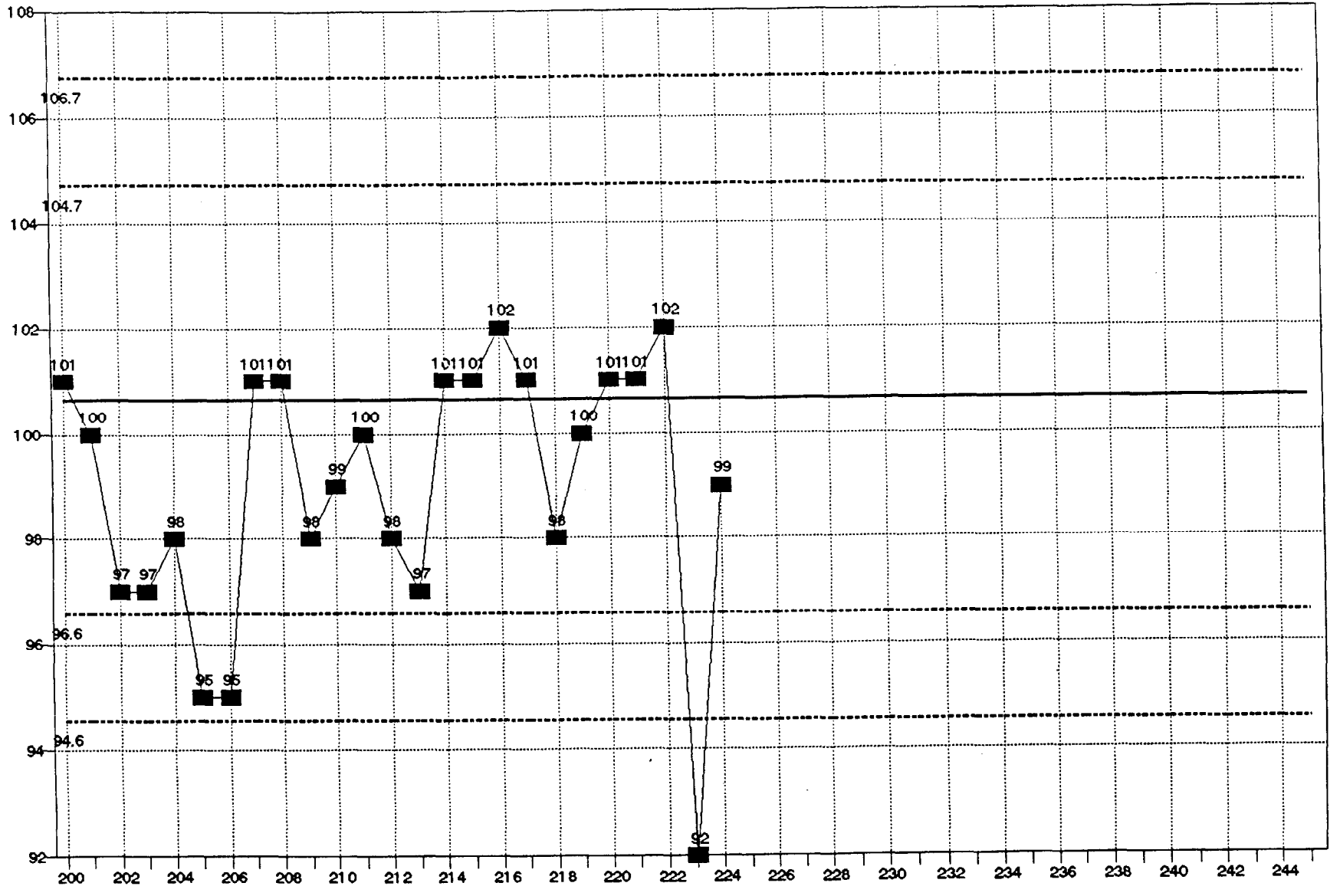
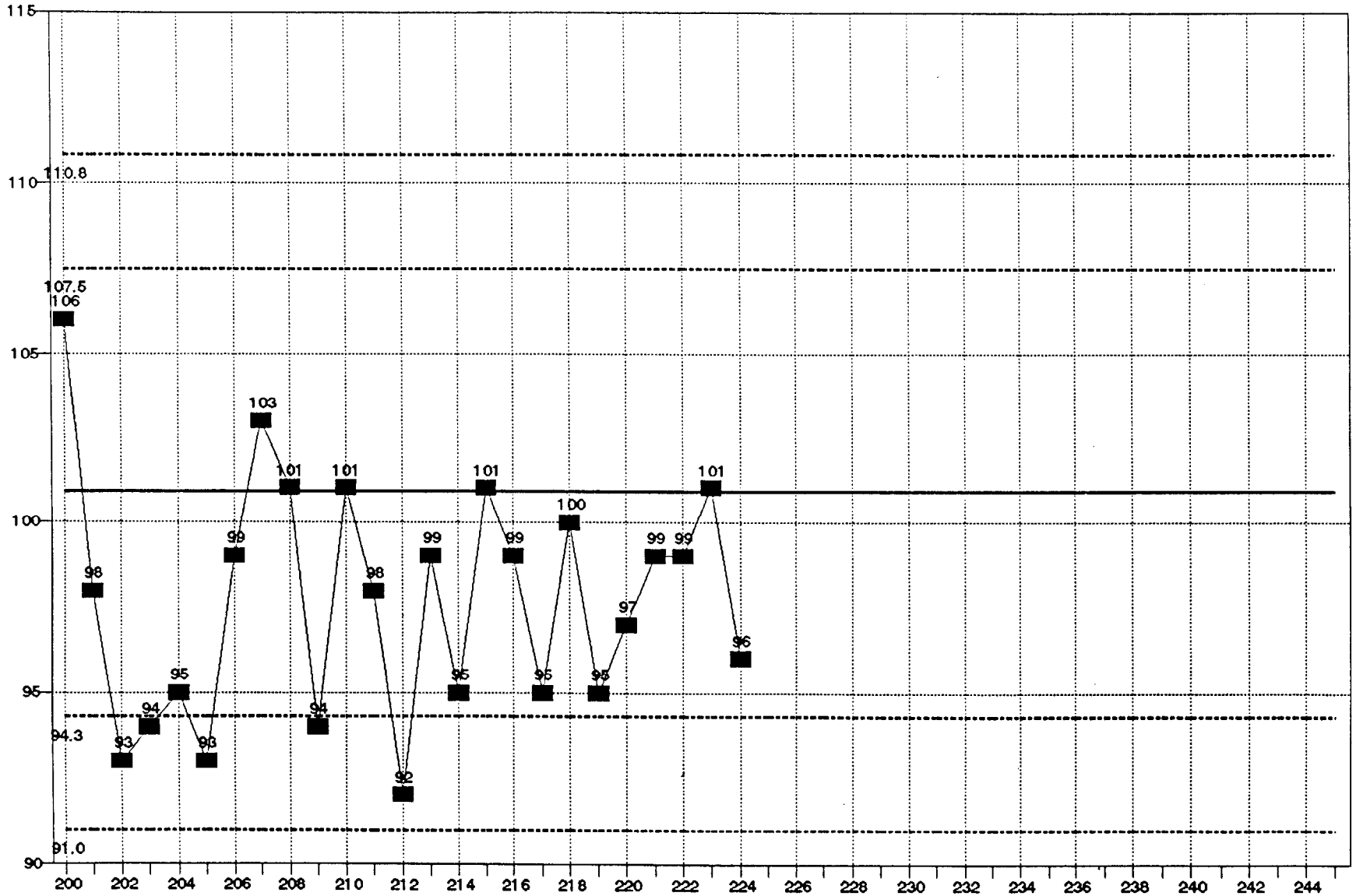
VOA WATERS - SURR TOL
LIMIT SET 4/95



STD DEV = 2.03 MEAN = 100.6

VOA WATERS - SURR BFB
LIMIT SET 4/95



STD DEV =3.31 MEAN = 100.9

00000022

VOLATILES -- WATER SURROGATE CONTROL CHARTS

POINT / BLANK

69	BC041493A	117	BE070794A	165	BC041295A	213	BG100195B2
70	BE052593B	118	BE070894A	166	BI042095B	214	BG100395A1
71	BE060193A	119	BC063094A	167	BI042195A	215	BG100495B2
72	BE060393A	120	BC072794A	168	BI042495A	216	BG100595A1
73	BC062193A	121	BD072794A	169	BC042595B	217	BG100695A1
74	BE051393A	122	BD072894A	170	BI042595A	218	BG100695A2
75	BC062493A	123	BD072994A	171	BI042795A	219	BG100995A1
76	BD051993A	124	BE081194A	172	BI050195A	220	BG101095D2
77	BD052093B	125	BC081994A	173	BC050595A	221	BG100495A1
78	BC063093A	126	BE101194A	174	BC050695A	222	BD101195A2
79	BC061093A	127	BE101294B	175	BG050295B	223	BG100295B2
80	BE051393A	128	BG101494A	176	BC062995B1	224	BG100395B2
81	BD072293A	129	BC110294B	177	BC063095B1	225	
82	BD072393A	130	BC110394B	178	BC072495A1	226	
83	BD072693A	131	BC110794B	179	BC072695A1	227	
84	BD072793A	132	BC110894B	180	BI080895A1	228	
85	BD073093A	133	BC110994A	181	BI080995A1	229	
86	BC080493A	134	BC111594B	182	BC080295A1	230	
87	BC080593A	135	BC111794B	183	BC080495A1	231	
88	BE091793A	136	BC111894B	184	BC080795A1	232	
89	BC092093B	137	BG111094A	185	BC080895A1	233	
90	BC093093B	138	BC120194B	186	BI081095A1	234	
91	BG093093A	139	BC120294B	187	BI081195A1	235	
92	BE120693A	140	BC120594B	188	BI080995A1	236	
93	BE120793A	141	BC120694B	189	BC081195A1	237	
94	BE121793A	142	BC120794B	190	BC081495A1	238	
95	BC122793B	143	BC121594B	191	BI081495A1	239	
96	BC122893A	144	BG120394B	192	BI081595A1	240	
97	BG021094A	145	BC122294B	193	BI081695A1	241	
98	BG021194A	146	BC122994B	194	BI081795A1	242	
99	BG021494A	147	BE121694A	195	BI081895A1	243	
100	BG021594A	148	BE020995B	196	BI082195A1	244	
101	BC022394B	149	BE021395A	197	BC081695A1	245	
102	BC022494C	150	BE021595A	198	BI082295A1	246	
103	BC022594B	151	BE021695A	199	BC081595A1	247	
104	BG022594B	152	BC032295A	200	BC082595A1	248	
105	BG022894A	153	BC032395A	201	BG091495A1	249	
106	BG030394A	154	BC032495A	202	BG091595A1	250	
107	BD022194A	155	BC032795A	203	BG091895A1	251	
108	BC031194A	156	BC040695A	204	BG091995A1	252	
109	BC031594B	157	BC041195B	205	BG092095A2	253	
110	BG040794A	158	BC041395A	206	BG092195B1	254	
111	BC041294B	159	BC041495A	207	BC092195A1	255	
112	BG042894A	160	BG041095B	208	BC092095A1	256	
113	BG042994A	161	BG041495B	209	BG092795A1	257	
114	BC050994C	162	BI041395A	210	BG092795B2	258	
115	BG060394A	163	BI041895B	211	BG092895B2	259	
116	BC050394B	164	BI041995A	212	BG092995A1	260	

OHM Remediation Services Corp.

CHAIN-OF-CUSTODY RECORD

LAB COPY

Form 0019
Field Technical Services
Rev 08/89

105412

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526

PROJECT NAME	PROJECT LOCATION
Camp Lejeune D.O. 44	Camp Geiger, NC

PROJ. NO.	PROJECT CONTACT	PROJECT TELEPHONE NO.
16487	Rakesh Mishra	910-451-2599

CLIENT'S REPRESENTATIVE	PROJECT MANAGER/SUPERVISOR
	Jim Dunn / Randy Smith

45589

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS) TPH-GRO	TPH-DRO	TCLP Metals, TCLP Semi-Volatile	TCLP Volatile	RCRA Haz Waste Char.	DEG	PCB, Total Lead	Volatile + BTEX (8240)	REMARKS
1	CLJ44-CC-070	10/3	0640	X		Clean Soil from Pile 17 of Area A	4	X	X	X	X	X				Please do not Analyze
2	CLJ44-CC-071	10/3	0650	X		Contaminated Soil from Pile 41 of Area A	4	X-1	X-2				X-3			Rinsate Blank.
3	CLJ44-CC-072	10/3	0655	X		Contaminated Soil from Pile 42 of Area A.	4	X-1	X-2				X-3			
4	CLJ44-CC-073	10/3	0700	X		Contaminated Soil from Pile 43 of Area A.	4	X-1	X-2				X-3			
5	CLJ44-CC-074-RB	10/3	0715	X		Rinsate Blank	5	X	X	X	X	X				
6	CLJ44-CC-075-TB					Trip Blank	3	X-4			X-5				X-6	
7																
8																
9																
10																

Final Page

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-6			10/3	1100
2			Dina Ford	10/4/95	1550
3					
4					

REMARKS Send Samples to Rec Lab
Sample 1 3 days TAT
Sample 2-6 24 hr. TAT

SAMPLER'S SIGNATURE

00000024

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THE ASSURANCE OF QUALITY

October 24, 1995

OHM Remediation Services Corporation
5335 Triangle Parkway
Suite 450
Norcross, GA 30092

SAMPLE DELIVERY GROUP NARRATIVE

Case: OHMRC
SDG: LJN29
Laboratory: PACE New England - New Hampshire of Hampton, NH
Lab Numbers: 45590
Protocol: SW846 Methods. NEESA C deliverables. No diskette.

Sample Receipt: These samples were received at PACE, Inc. on October 4, 1995. Laboratory sample numbers were assigned for test parameters as listed on the Sample Table which follows this narrative. The sample shipment was checked for custody seal integrity and cooler temperature. Samples were checked for appropriate preservation and accuracy against the Chains-of-Custody provided. Other than the exceptions noted below, samples were received between 2-6° C and in good condition. PACE Sample Receipt Condition Reports can be found with the Chains-of-Custody.

Shipment received 10/4/95 (45590): Samples were received in one cooler and were assigned PACE# 45589 and 45590. A temperature blank was not included with the shipment, therefore the cooler temperature could not be verified upon receipt of samples at PACE. The samples were received cool, and had been packed on ice. Samples assigned PACE Lab# 45590 were logged in for a 3-day turnaround per the request on the COC. Samples assigned PACE Lab# 45589 were logged in for 24-hour turnaround per the request on the COC. Gretchen Franzheim (PACE) was notified by Federal Express that the shipment was misplaced and would be delivered after noon. The cooler was received at PACE at 3:15PM. Verbal due dates were calculated from 10/5/95 rather than 10/4/95 since the samples were not able to be logged in until late in the day on 10/4/95.

GRO Analysis: Analyses proceeded without difficulty. Matrix spikes and duplicates met all acceptance criteria.

DRO Analysis: Samples were analyzed within holding time and in accordance with SW846 methods. The method blank contained nontarget interferences which may have caused a high bias in sample quantitation. Sample 45590-2 contained petroleum hydrocarbons with a pattern that did not match diesel. The hydrocarbons were quantitated because they were within the diesel range. Results should be used with due consideration.

Oil and Grease Analysis: Analyses proceeded without difficulty. Matrix spikes and duplicates met all acceptance criteria.

TCLP Volatiles Analysis: The method 8240 blanks contained low levels of methylene chloride. The sample results for this analyte should be used with due consideration.

TCLP Semivolatiles Analysis: Samples were analyzed within holding time and in accordance with SW846 methods. NEESA control charts revealed low recoveries for surrogates 2-fluorophenol and phenol-d5. This was a consequence of using the separatory funnel extraction method in order to meet rapid turnaround times. Separatory funnels do not extract these two surrogates as well as continuous extractors do, as shown by the control charts. However, data quality was maintained.

P.O. Box 2130
One Lafayette Road
Hampton, NH 03842
TEL: 603-926-7777
FAX: 603-926-7939

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TCLP Metals Analysis: The TCLP sample was analyzed within holding time and in accordance with SW846 methods for the TCLP list of eight metals (Ag, As, Ba, Cd, Cr, Hg, Pb, Se). Sample QC analyses were not requested for this SDG. Due to software restrictions, the sample field identification was shortened to six characters. The correct full identification has been included as a comment on the Form I sample data. NEESA control charts showed acceptable recoveries for laboratory control samples.

The sample was prepared in one ICP batch and one mercury batch. Analyses were conducted in two sequences on two instruments:

TJA01 10/06/95 for As, Ba, Cd, Cr, Pb, Se, Ag.
PE02 10/09/95 for Hg.

Standards met all compliance criteria. Method blanks were free of contaminants but a few instrument blanks (CCB's) contained low levels of lead or arsenic. Because TCLP regulatory limits are so much higher than CLP reporting limits, the blank contamination was not believed to affect sample results. The laboratory control samples showed acceptable analyte recoveries. No difficulties were encountered during metals analysis.

Statement of Compliancy and Data Authorization

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Richard L Ullman — 10/24/95

PACE Incorporated, New England-New Hampshire — October 24, 1995

P.O. Box 2130
One Lafayette Road
Hampton, NH 03842
TEL: 603-926-7777
FAX: 603-926-7939

Case: _____

SDG: LJN29

TABLE 1: MANUAL INTEGRATIONS PERFORMED

EPA ID	LAB ID	FILE NUMBER	COMPOUNDS MANUALLY INTEGRATED
	VSTD010	AG4614	2-chloroethylvinylether Chloromethane
	VSTD200	^G5033	xylene (total)
	BG1011951A1	^G5063	methylene chloride

Manual Integrations were performed as required to correct faulty integrations made by the automated software. The manual integrations began and ended at the points where the peak intersected the baseline, in order that the entire peak and only the peak would be integrated. Hardcopies of the manually-integrated peaks have been provided with the data.

Analyst Signature
PACE Incorporated

Date

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ENVIRONMENTAL LABORATORIES

NEW ENGLAND - NEW HAMPSHIRE LABORATORY
SAMPLE RECEIPT CONDITION REPORT
Tel. (603) 926-7777
FAX (603) 926-7939

LAB# 45590
PAGE 1 of 1
COOLER ____ of ____
COC# ____
SDG# LJN29
CASE# CHMRC

CLIENT CHM Remediation Services Corp.
DATE/TIME RECEIVED 10/4/95 1515
DELIVERED BY Fed Ex
RECEIVED BY Dina Ford
LIMS ENTRY BY GNF
TRANSCRIPTION REVIEW BY GNF
LIMS REVIEW BY/PM GNF

	NA	YES	EXCEPTION	COMMENT	RESOLUTION
1. CUSTODY SEALS PRESENT/INTACT	☐	☐	☑	N. custody seals	
2. CHAIN OF CUSTODY PRESENT IN THIS COOLER	☐	☑	☐		
3. CHAIN OF CUSTODY SIGNED	☐	☑	☐		
4. CHAIN OF CUSTODY MATCHES SAMPLES	☐	☑	☐		
5. SAMPLES RECEIVED AT 2° - 6° C (Ice/Ice Packs Present? (Y) or N)	☐	☐	☑	N. Temp Blank	
6. VOLATILES FREE OF HEAD SPACE	☐	☑	☐		
7. TRIP BLANK PRESENT IN THIS COOLER	☐	☑	☐	Logged in as 45589-4, -8	
8. PROPER SAMPLE CONTAINERS AND VOLUME	☐	☑	☐		
9. SAMPLES WITHIN HOLD TIME	☐	☑	☐		
10. SAMPLES PROPERLY PRESERVED	☐	☑	☐		

11. ANALYTICAL PROGRAMS (circle one) COMMERCIAL CLP EPA-CLP NYASP NJ ISRA (NEESA C) AFCEE Other ____
12. NUMBER OF PACE FILTRATIONS: ____
13. CORRECTIVE ACTIONS REPORT # ____

Log-in Notes: FedEx delivered cooler at 3:15 PM
Verbals due 10/10

CLIENT AUTHORIZATION SIGNATURE ____ DATE ____

SAMPLE TABLE

CLIENT ID.	MATRIX	PACE #	PARAMETERS
CLJ44-CU-070	SOLID	45590-001	TOTAL GASOLINE
		45590-002	TOTAL DIESEL
		45590-003	GC/MS VOA
			ACID EXTRACTABLES
			BASE/NEUTRAL EXTRACTABLES
			TCLP VOA EXTRACT
			TCLP ORGANICS EXTRACT
			CORROSIVITY
			FLASH POINT
			RELEASABLE CYANIDE
			RELEASABLE SULFIDE
			TCLP METALS EXTRACTION
			Ba, Cd, Cr, Pb, Hg, Ag, As, Se

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Field Identification: CLJ44-CU-070 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	13	45590-001	10/05/95	BG1042A	8015(mod)/2
Total Diesel (ug/g)	140	3.7	45590-002	10/06/95		8015(mod),3350/2
Corrosivity (pH, units)	5.2		45590-003	10/05/95	366	2.1.2/2
Releasable Sulfide (mg/Kg)	BDL	50	45590-003	10/05/95	309	7.3.4.2/2
Releasable Cyanide (mg/Kg)	BDL	1	45590-003	10/05/95	309	7.3.3.2/2
Flash Point (degrees F)	>150	50	45590-003	10/05/95	341	1010/2

Results expressed on a dry weight basis with the exception of releasables, which are expressed on a weight as received basis.

References: 2) EPA SW 846, 3rd Edition

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QUALITY CONTROL DATA
TOTAL GASOLINE

BLANK DATA

Laboratory Number: BG1042A
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/05/95
Matrix: SOLID

COMPOUND	CONCENTRATION ug/g	DETECTION LIMIT ug/g
GASOLINE	BDL	12

MATRIX SPIKE RECOVERY

Laboratory Number: LS-G1042
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/05/95
Matrix: SOLID

COMPOUND	ug/g IN SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
GASOLINE	0	50	48	96

METHOD REFERENCE: METHOD 8015 (MODIFIED)

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PACE New England
VOA SOILS PREP

TOTAL GASOLINE

Date/Init	Smpl Ct.	SAMPLE #	Prep Wt. (g)	Pan #	Pan Wt. (g)	Wet Wt. + Pan (g)	Dry Wt. + Pan (g)	% Solid	COMMENTS
CF 10/6/95		BV1042	4.0						MeOH Lot#
		LS1042	4.0						
		45589-1	4.6						
		-1ms	4.4						
		-1msD	4.3						
		-2	4.2						
		-3	4.3						
		45590-1	4.2						
		45593-1	4.5						
		2	4.0						
		3	4.5						
		45594-1	4.0						
		-2	4.3						
CF 10/6/95		BV1043	4.0						
		LS1043	4.0						
		~~45563-4~~ H_2O	—						
		~~45563~~ done	—						
		45613-1	4.2 4.1						
		2	4.2						
		45614-1	4.1						
		2	4.4						
		3	4.3						
		-4	4.3						

CF 10/10/95

Spike V6462
surrogate V6461

Calibration Curve for T6A5

Titles

Test: T6A5

Date: 09/26/95

X-Axis: CONC.

Y-Axis: AREA

	Conc.	Abs.	Calc-Abs.
1	100	3570006	3556227
2	200	6027823	6710531
3	500	14045613	15273642
4	1000	33382006	31845409
5	2000	63883383	58983943
6	3000	87145738	86072430

Regression Output:

Constant	1001874
Std Err of Y Est	2466208
R Squared	0.995491
No. of Observations	6
Degrees of Freedom	4
X Coefficient(s)	28543.54
Std Err of Coef.	960.4533

Slope = 28543.54

Y-Intercept = 1001874

Calibration Curve for BFB SURR

Titles
Test: BFB SURR
Date: 09/26/95
X-Axis: CONC
Y-Axis: AREA

	Conc.	Abs.	Calc-Abs.
1	10	223616	204423.4
2	20	402761	401291.7
3	50	786999	991896.7
4	100	2018474	1978238

Regression Output:

Constant	7555.031
Std Err of Y Est	69779.55
R Squared	0.994998
No. of Observations	4
Degrees of Freedom	2
X Coefficient(s)	19686.83
Std Err of Coef.	576.8508

Slope = 19686.83
Y-Intercept = 7555.031

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CARBON SIX-CARBON TEN
Sample Name : VSTD1000 5ML

Report No :354.01

Instrument : GC05

Subseq/Sample/Bottle: 1/ 4/ 4

Sequence File: /DATA/GC05/SEQUENCE/051005.SEQ
Method File : /DATA/GC05/METHOD/TR450926A.MTH
Result File : /DATA/GC05/RESULT/05CF115915.RES

Run Time : 37.83 Minutes Injected on 1230 05Oct1995
Report Time : 0830 06Oct1995
Run Status : RunStatusOk
EndOffBaseline
NoReference

Timed Events	Time	Event	Logic	Value	EventUpdate
1	.8c0	EndIntegrateAtB	NoLogic	-1	True
2	5.24F	SetBLandIntegra	NoLogic	-1	True
3	29.590	EndIntegrateAtB	NoLogic	-1	True
4	3o.651	SetBLandIntegra	NoLogic	-1	True

Dil-Fact : 100.00% Sample Amt: 0.0000 Standard Amt: 1.0000

Pk	RT	ID-tm	Factor	Area	Code	UG/L	Name
1	9.33			2495208	VV	74.8562	
2	9.87			1638748	VV	49.1624	
3	10.42			1368939	VV	41.0682	
4	10.94			521966	VV	82.3361	C7 N-HEPTANE
5	11.4:			974855	VV	29.2457	
6	12.21			207802	VV	6.2341	
8	13.18			748574	VV	22.4572	
9	13.51			2352174	VV	70.5652	
10	14.22			1515623	VV	45.4 87	
11	14.62			333439	VV	10.0038	
12	14.84			807817	VV	24.2345	
13	15.::			524764	VV	15.7429	
14	15.48			224487	VV	6.7346	
15	15.87			1:1355	VV	5.7407	
16	16.33			173548	VV	5.2064	
17	16.55			305641	VV	9.1692	
18	17.17			450146	VV	13.5044	
19	17.84			729413	VV	21.8824	
20	18.31			1028042	VV	30.8412	
21	18.89			719408	VV	21.5823	
22	19.73			35160	PV	1.0554	
23	20.10			149017	VV	4.4705	
24	20.32			399784	VV	11.9935	
25	20.67			163195	VV	4.8958	
26	20.92			2243869	VV	67.3161	
27	21.33			95148	VV	2.8544	
28	21.73			194144	VV	5.8243	
29	22.09			83443	VV	2.5033	
30	22.4:			22254	VV	.667:	

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Pk#	RT	IO-tm	Factor	Area	Code	Conc	Name
31	22.86			58660	PV	1.7598	
32	23.17			173372	VV	5.2012	
33	23.39			235410	VV	7.0623	
34	23.77			204976	VV	6.1493	
35	24.20			45407	VV	1.3622	
36	24.45			14913	VV	.4474	
37	24.89			236737	VV	7.1021	
38	25.30			614197	VV	18.4259	
39	25.52			2152638	VV	64.5791	
40	25.75			52168	VV	1.5650	
41	26.12			64180	VV	1.9254	
42	26.64			797834	PV	23.9350	
43	27.08			288302	VV	8.6490	
44	27.41			160005	VV	4.8002	
45	27.76			11885	VV	.3565	
46	28.04			1179354	PV	35.3806	BFD 59/50
47	28.20			131084	VV	3.9325	
48	28.38			216264	VV	6.4879	
49	28.58			1372701	VV	41.1810	
50	29.04			23487	VV	.7046	
51	29.18			262317	VV	7.8695	
52	29.44			1071102	VB	32.1331	
53	36.81			25473	BV	.7642	
54	36.96			30208	VV	.9062	
55	37.23			123647	PB	3.7154	

Total Area DRO only : 30242728

983/1000 ~~100~~ CF(E3) 10/12/95

VSTD1000 5ml
G51005
TG-A50926A
G5CF-115915

PACE New England
VOA Screening Analyst/Date CF 10/5/95

GC05		SCRNA			GC04		SCRNB		
FRN	tube	Sample#	Vol.	Comments	FRN	tube	Sample#	Vol.	Comments
GSCF115912	1	BL100595TBA	5ml	BDV	04CF114238	1	Blank	5ml	
13	2	45563-14	20ml	100ml 20ml	39	1	424 std	5ml	
14	3	45563-16	20ml	20ml 100ml	40	2	45524 45591-2		25ml
15	4	√STD1000	5ml	983/ug 987/ug	41	3	3		25ml
16	5	BV1042		√	42	4	4		25ml
17	6	45589-1	50ml	√	43	1	45565-1	50ml	5ml
18	7	2	50ml	√	44	2	2		5ml
19	8	3	50ml	√	45	3	3		5ml
20	9	45590-1	100ml	√	46	4	4		5ml
21	10	45593-1	50ml	Re 100ml	47	5	5		5ml
22	1	2	50ml	Re 100ml	48	6	45586-1		5ml
23	2	3	50ml	Re 100ml	49	7	45561-4		5ml
24	3	45594-1	100ml	√	50	8	45527-1		5ml
25	4	2	100ml	√	51	9	45475-1		5ml
26	5	LS1042	100ml	48/50	52	10	2		5ml
27	6	45589-1MS	20ml	104% Rec	53	11	3		5ml
28	7	-1MSD	20ml	104% Rec	54	12	45490-1		5ml
					55	13	45550-1		5ml
					56	14	2		5ml
					57	15	3		3.3ml
					58	16	4		5ml
					59	17	5		5ml
					60	18	6		5ml
					61	19	45553-1		5ml
					62	20	2		
					63	21	3		
					64	22	4		
					65	23	5		
					66	24	6		
					67	25	7		

F C
Run time at 37.83 every other sample

QUALITY CONTROL DATA
PETROLEUM HYDROCARBONS BY GCFID

BLANK DATA

Laboratory Number: B-H1406
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/06/95
Matrix: SOLID

HYDROCARBON TYPE	CONCENTRATION ug/g	DETECTION LIMIT ug/g
DIESEL	7	3

MATRIX SPIKE RECOVERY

Laboratory Number: LSH1406
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/06/95
Matrix: SOLID

COMPOUND	ug/g SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
DIESEL	0	33.6	18.1	54

METHOD REFERENCE: EPA SW 846, 3RD EDITION METHOD 8015 (MODIFIED) AND 3350

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REVIEWED BY
JSH 10/05/95

PACE INCORPORATED
Organics Extraction
SOLIDS PREP LOG

PROTOCOL: EPA SW846

SOP #: _____

METHOD: SONC/3550

MATRIX: SOLID

TEST / LEVEL: PHC / low

COUNT	DATE/INIT	BLANK/SPIKES SAMPLE #	INIT WT (g)	SURR # AMT/CONC.	LCS MS/MSD	SPIKE # AMT/CONC.	NA2SO4 (g)	INTER VOL (ml)	ALIQUOT VOL (ml)	FINAL VOL (ml)
C	MF 10/5/95	BH1406	30.0	2416 500-1		N/A	60.0	10.0	10.0	1.0
—		LSH1406	30.0	10 ppm		2134 200-1				
1		45484-1	30.50		No QC	50 ppm N/A	50 gm			
2		-2	30.41		assigned #1					
3		45590-2	30.91							
4		45594-4	30.82							
5		-5	30.00							

Spl MF 10/6/95

MF 10/6/95

COMMENTS: _____

PACE, Incorporated

INITIAL CALIBRATION SUMMARY

for /DATA/GC06/METHOD/DIESEL016.MTH
Method created: 09/28/95 09:17:56
Method updated: 09/29/95 15:21:21

Result files used for Calibration data:
Level 1 /DATA/GC06/RESULT/G6H18073.RES
Level 2 /DATA/GC06/RESULT/G6H18072.RES
Level 3 /DATA/GC06/RESULT/G6H18071.RES
Level 4 /DATA/GC06/RESULT/G6H18070.RES
Level 5 /DATA/GC06/RESULT/G6H18069.RES

#	Time	Analyte	Correlation	B_0 Intercept	B1 Slope	B2 Quadratic
1	3.73	SOLVENT PEAK	.00000	0.00	**********	**********
2	20.45	DIESEL FUEL	.99990	-225552.00	4495.09	.01

$$R = B0 + B1X + B2X^2$$

PACE, Incorporated
Continuing Calibration Report

Mon Oct 23, 1995 11:59:01 am

/DATA/GC06/RESULT/G6H18179.RES
/DATA/GC06/METHOD/DIESEL016A.MTH

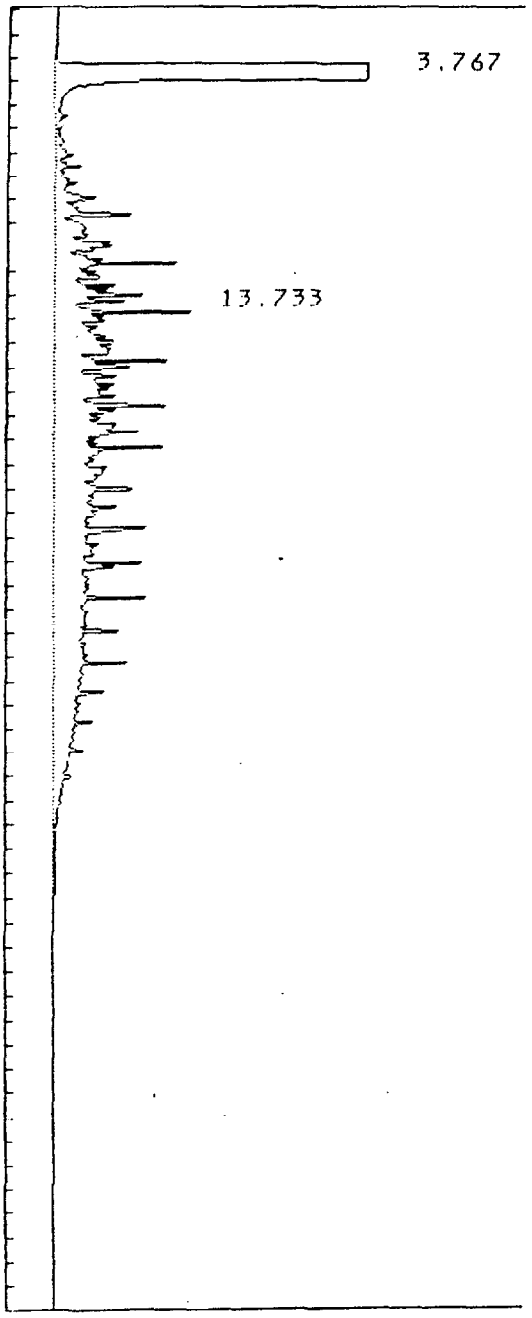
Sample: 2013PPM DIESEL P8870
Injected: Fri Oct 6, 1995 6:14:26 pm

RetTime	Analyte	Found	Nominal	%D	Recovery
13.90	DIESEL FUEL	1649.99	2013.000	18.0	82.0

PACE INCORPORATED

PHC GC-FID : SPB-5 COLUMN # 130, RANGE 3000 - 100000 Page 1
Sample Name : DRO 2013PPM P8843 Report No : 40.01

Instrument : GC06 Subseq/Sample/Bottle: 1/ 4/ 4



Sequence File: /DATA/GC06/SEQUENCE/G60929.SEQ
Method File : /DATA/GC06/METHOD/DIESEL016.MTH
Result File : /DATA/GC06/RESULT/G6H18071.RES

Run Time : 55.00 Minutes Injected on 1202 29Sep1995
Report Time : 1519 29Sep1995
Run Status : EndOffBaseline
SignalOverload
SpecialInteg

Timed Events	Time	Events	Logic	Value	EventUpdate
1	1.700	ResetBL	NoLogic	-1	True
2	4.963	SumPeaks	EventOn	-1	True
3	35.000	SumPeaks	EventOff	-1	True
4	36.000	ResetBL	NoLogic	-1	True

Dil-Fact : 100.00% Sample Amt: 0.0000 Standard Amt: 1.0000

Pk#	RT	ID-tm	Factor	Area	Code	UG/ML	Name
1	3.77	#3.73		36747336	FF	0.0000	SOLVENT PEAK
2	13.73	#20.45		7849440	FF	1793.3690	DIESEL FUEL

PACE, INCORPORATED
GC Instrument Run Log

0000078

Reviewed by _____ Date _____

Circle one:
CLP/PHC/OPP/HERB/P-P

Date	init	result file	Sample	MI	V	Method	column	Sequence
			Injection	N	N	Diesel 016		
		G9 059	45480-44 Bechtel DRO-S 010/3	Y	Y		154	G9
		G6 059	No injection	N	N		157	G6
		G9 060	45480-45 Bechtel DRO-S 010/3	Y	Y		154	G9
		G6 060	No injection	N	N		157	G6
		G9 061	BH 1393 DRO-S OHM	Y	Y		154	G9
		G6 061	No injection	N	N		157	G6
		G9 062	LSH 1393 DRO-S OHM	Y	Y		154	G9
		G6 062	No injection #3	N	N		157	G6
		G9 063	45515-4 DRO-S OHM V9/29 1210	Y	Y		154	G9
		G6 063	No injection	N	N		157	G6
		G9 064	DRO 2013 ppm P8843	Y	Y		154	G9
		G6 064	No injection	N	N		157	G6
		G9 065	45515-5 DRO-S OHM V9/29 1210	Y	Y		154	G9
		G6 065	No injection	N	N		157	G6
		G9 066	45515-6 DRO-S OHM V9/29 1210	Y	Y		154	G9
		G6 066	No injection	N	N		157	G6
		G9 067	Meck	Y	Y		154	G9
		G6 067	No injection	N	N		157	G6
		G9 068	BH 1392 DRO-S Bechtel 010/3	Y	Y	Diesel 016	154	G9 0929
		G6 068	Meck				157	G6
		G9 069	LSH 1392 DRO-S Bechtel 010/3				154	G9
		G6 069	DRO 2013 ppm P8841				157	G6
		G9 070	45515-4 OHM				154	G9
		G6 070	DRO 5034 ppm P8842				157	G6
		G9 071	45515-5 OHM				154	G9
		G6 071	DRO 2013 ppm P8843				157	G6
		G9 072	45515-6 OHM				154	G9
		G6 072	DRO 503 ppm P8844				157	G6
		G9 073	45480-32 DRO-S Bechtel 010/3				154	G9
		G6 073	DRO 50 ppm P8845				157	G6

0000019

PACE, INCORPORATED
GC Instrument Run Log

0000086

Reviewed by _____ Date_____

Circle one:
CLP/PHC/OPP/HERB/P-P

Date	init	result file	Sample	MI	v	Method	column	Sequence
10/6/95	HS	Gb HS 18168	2013 ppm DRO P8843 92	Y	Y	Diesel fuel	157	Gb 167
		G9 169	45593-7 DRO-S OHM 1:10		N		154	G9
		Gb 169	45565-20 DRO-W OHM		Y		157	Gb
		G9 170	45593-8 DRO-S OHM 1:10		Y		154	G9
		Gb 170	45563-9 DRO-W OHM		Y		157	Gb
		G9 171	45593-8 DRO-S OHM need Dilution		N		154	G9
		Gb 171	45558-23 DRO-S Bechtel		Y		157	Gb
		G9 172	45563-7 DRO-S 1:10 OHM				154	G9
		Gb 172	45558-24 ↓ Bechtel				157	Gb
		G9 173	45563-8 DRO-S OHM 1:20				154	G9
		Gb 173	45558-25 ↓ Bechtel				157	Gb
		G9 174	DRO 2013 ppm P8843 92				154	G9
		Gb 174	45558-26 DRO-S Bechtel				157	Gb
		G9 175	45593-6 DRO-S OHM				154	G9
		Gb 175	45558-27 ↓ Bechtel				157	Gb
		G9 176	45593-7 DRO-S OHM				154	G9
↓	↓	Gb 176	45558-28 ↓ Bechtel				157	Gb
10/6/95	HS	G9 177	BH 1406 DRO-S BH 1412 DRO-S	Y	N	Diesel Gb	154	G9
		Gb 177	~~CSH 1406 ↓ DRO-S ③ HS 10/6/95~~ ~~CSH 1412 DRO-S~~		Y		157	Gb
		G9 178	~~CSH 1412 DRO-S ③ HS 10/6/95~~ ~~2013 ppm Diesel P8870~~		N		154	G9
		Gb 178	~~45535-1 MS DRO-S Bechtel~~ ~~45594-4 DRO-S OHM~~		Y		157	Gb
		G9 179	~~45535-1 MSD DRO-S Bechtel~~ 2013 ppm Diesel P8870		N		154	G9
		Gb 179	~~45535-1 MSD DRO-S Bechtel~~ ~~45594-3 ③ HS 10/6/95~~		Y		157	Gb
		G9 180	~~BH 1406 ③ HS~~ 10/6/95 45594-4 DRO-S OHM		N		154	G9
		Gb 180	45536-40 DRO-S Bechtel		Y		157	Gb
		G9 181	45594-5 DRO-S OHM		N		154	G9
		Gb 181	45558-17 MS DRO-S Bechtel		Y		157	Gb
		G9 182	45590-2 DRO-S OHM		N		154	G9
		Gb 182	45558-17 MSD DRO-S Bechtel		Y		157	Gb
		G9 183	BH 1406 DRO-S		N		154	G9
↓	↓	Gb 183		↓	Y	↓	157	Gb

0000020

PACE, INCORPORATED
GC Instrument Run Log

0000087

Reviewed by _____ Date_____

Circle one:
CLP/PHC/OPP/HERB/P-P

Date	init	result file	Sample	MI	V	Method	column	Sequence
10/4/95	BS	G9H18 184	45558-31 DRO-S Bechtel LSH 1406 DRO-S	Y	N	Diesel 016	157	G9 1 016
		G6 185			Y		157	G6
		G9 185	Bad injection	N	N		157	G9
		G6 185	GC9/6 had vent/door problem This				157	G6
		G9 186	Vent door can't be close				157	G9
		G6 186	installed vent with metal from GC6. Remove vent from GC9				157	G6
10/9/95	BS	G9 187	DRO 2013PPM P8870	N	N		157	G9
		G6 187	↓ 83	N	N	10/9/95 Diesel 016	157	G6
		G9 188	↓	N	N		157	G9 1 016
		G6 188	B1H1404 DRO-S	Y	Y		157	G6
		G9 189	2013 ppm DRO P8870 83				157	G9
		G6 189	LSH1404 DRO-S				157	G6
		G9 190	B1H100695ME DRO-S Bechtel				157	G9
		G6 190	45535-1MS ↓				157	G6
		G9 191	LSH100695ME DRO-S Bechtel				157	G9
		G6 191	45535-1MSD ↓				157	G6
		G9 192	45626-2 DRO-S Bechtel				157	G9
		G6 192	45536-4 ↓				157	G6
		G9 193	45626-1 DRO-S Bechtel				157	G9
		G6 193	45558-17MS DRO-S Bechtel				157	G6
		G9 194	45626-1MS DRO-S Bechtel				157	G9
		G6 194	45558-17MSD ↓				157	G6
10/10/95	BS	G9 195	45626-1MSD DRO-S Bechtel				157	G9
		G6 195	45558-31 ↓				157	G6
		G9 196	45626-3 DRO-S Bechtel				157	G9
		G6 196	45559-1 ↓				157	G6
		G9 197	45626-4 DRO-S Bechtel				157	G9
		G6 197	45559-2 ↓				157	G6
		G9 198	45626-5 DRO-S Bechtel				157	G9
		G6 198	DRO 2013PPM P8870 92				157	G6
		G9 199	45626-6 DRO-S Bechtel				157	G9 ↓

QUALITY CONTROL
Corrosivity
Method: 7.2 SW846 3rd Edition

QC Batch: 366 For: 45590
Matrix: SOLID

LABORATORY CONTROL SAMPLES:

	True Value Units	Observed Value Units
LCS1	7.0	7.01

PACE INC. NE-NH LAB
QUALITY CONTROL
Releasable Cyanide
Method: 7.3.3.2 SW846, 3rd Edition

QC Batch: 309 For: 45590
Matrix: SOIL

METHOD BLANK:

	Result ug/g
	< 1.00

LABORATORY CONTROL SAMPLES:

	True Value ug/g	Observed Value ug/g	Accuracy Recovery %
LCS1	40.0	8.900	22.3

QUALITY CONTROL QUALIFIER STATEMENT
The sample results used to generate quality control information for solid samples are uncorrected for dry weight. This does not affect the results reported for percent of spike recovery and relative percent difference.

NC = Not calculable due to result below detection limit.

PACE INC. NE-NH LAB
QUALITY CONTROL
Releasable Cyanide
Method: 7.3.3.2 SW846, 3rd Edition

QC Batch: 309 For: 45590
Matrix: SOIL

METHOD BLANK:

	Result ug/g
	< 1.00

LABORATORY CONTROL SAMPLES:

	True Value ug/g	Observed Value ug/g	Accuracy Recovery %
LCS1	40.0	8.900	22.3

QUALITY CONTROL QUALIFIER STATEMENT
The sample results used to generate quality control information for solid samples are uncorrected for dry weight. This does not affect the results reported for percent of spike recovery and relative percent difference.

NC = Not calculable due to result below detection limit.

pace INCORPORATED THE ASSURANCE OF QUALITY

QUALITY CONTROL
Flashpoint
Method: D93-80, ASTM

QC Batch: 341 For: 45590
Matrix: SOLID

LABORATORY CONTROL SAMPLES:

	True Value Deg F	Observed Value Deg F
LCS1	81.0	82.00

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR VOLATILE CONSTITUENTS

Laboratory Number : 45590-003
Field Identification : CLJ44-CU-070
Extraction Date : 10/05/95
TCLP Blank : 90,002-402

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

Extraction Fluid #1 was used as specfied in the method.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 25 g of sample was added to the extractor with 500 mL of Extraction Fluid #1.

Extraction Time : 17.50 hrs

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid #1: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

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THE ASSURANCE OF QUALITY

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
ANALYSIS FOR VOLATILE CONSTITUENTS

Laboratory number: 45590-003
Sample Designation: CLJ44-CU-070
Date Analyzed: 10/09/95 15:19
QC Batch: BG100995A1
TCLP Batch: 402
Matrix: TCLP EXTRACT

VOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Vinyl chloride	BDL	0.2	0.01
1,1-Dichloroethene	BDL	0.7	0.005
1,2-Dichloroethane	BDL	0.5	0.005
Chloroform	BDL	6.0	0.005
Methyl ethyl ketone	BDL	200	0.025
Carbon Tetrachloride	BDL	0.5	0.005
Trichloroethene	BDL	0.5	0.005
Benzene	BDL	0.5	0.005
Tetrachloroethene	BDL	0.7	0.005
Chlorobenzene	BDL	100	0.005

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8240

Results uncorrected for matrix spike recovery.

BDL = Below reporting limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

WATER VOLATILES SURROGATE RECOVERY

Client: OHM REMEDIATION SERVICES CORP. Lab No.: 45590
Project: CAMP GEIGER/LJN29

CLIENT SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
CLJ44-CU-070	99	103	102		0
BG100995A1	100	95	97		0
BG101195A1	99	98	99		0
TCLP BLANK #402	101	101	103		0

	QC LIMITS
S1 (TOL) = Toluene-d8	86 - 114
S2 (BFB) = Bromofluorobenzene	72 - 132
S3 (DCE) = 1,2-Dichloroethane-d4	70 - 138

Column to be used to flag recovery values with an asterisk
* Values outside of designated QC limits
D Surrogates diluted out

pace INCORPORATED THE ASSURANCE OF QUALITY

Laboratory number: TCLP BLANK #402
Client ID: TCLP BLANK
Date Analyzed: 10/11/95
Matrix: TCLP EXTRACT

Parameter	Result (ug/L)	Regulatory Limit (ug/L)	Detection Limit (ug/L)
Vinyl chloride	BDL	200	10
1,1-Dichloroethene	BDL	700	5
1,2-Dichloroethane	BDL	500	5
Chloroform	BDL	6000	5
Methyl ethyl ketone	BDL	200000	25
Carbon Tetrachloride	BDL	500	5
Trichloroethene	BDL	500	5
Benzene	BDL	500	5
Tetrachloroethene	BDL	700	5
Chlorobenzene	BDL	100000	5

METHOD REFERENCE: EPA SW846 3rd EDITION
METHOD 8240

BDL = Below detection limit

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THE ASSURANCE OF QUALITY

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
ANALYSIS FOR VOLATILE CONSTITUENTS

Laboratory number: BG100995A1
Sample Designation: LAB BLANK
Date Analyzed: 10/09/95 12:10
QC Batch: BG100995A1
TCLP Batch:
Matrix: TCLP EXTRACT

VOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Vinyl chloride	BDL	0.2	0.01
1,1-Dichloroethene	BDL	0.7	0.005
1,2-Dichloroethane	BDL	0.5	0.005
Chloroform	BDL	6.0	0.005
Methyl ethyl ketone	BDL	200	0.025
Carbon Tetrachloride	BDL	0.5	0.005
Trichloroethene	BDL	0.5	0.005
Benzene	BDL	0.5	0.005
Tetrachloroethene	BDL	0.7	0.005
Chlorobenzene	BDL	100	0.005

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8240

Results uncorrected for matrix spike recovery.

BDL = Below reporting limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: BG101195A1
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/11/95
Matrix: WATER

VOLATILE ORGANICS	CONCENTRATION (ug/L)	DETECTION LIMIT (ug/L)
Chloromethane	BDL	10
Bromomethane	BDL	10
Vinyl chloride	BDL	10
Chloroethane	BDL	5
Methylene chloride	3.4 J	10
Acetone	BDL	25
Carbon disulfide	BDL	5
1,1-Dichloroethene	BDL	5
Tetrahydrofuran	BDL	25
1,1-Dichloroethane	BDL	5
1,2-Dichloroethene (total)	BDL	5
Chloroform	BDL	5
Methyl ethyl ketone	BDL	25
1,2-Dichloroethane	BDL	5
1,1,1-Trichloroethane	BDL	5
Carbon Tetrachloride	BDL	5
Vinyl acetate	BDL	10
Bromodichloromethane	BDL	5
cis-1,3-Dichloropropene	BDL	5
trans-1,3-Dichloropropene	BDL	5
Trichloroethene	BDL	5
Benzene	BDL	5
Dibromochloromethane	BDL	5
1,1,2-Trichloroethane	BDL	5
1,2-Dichloropropane	BDL	5
2-Chloroethyl vinyl ether	BDL	5
Bromoform	BDL	5
Methyl isobutyl ketone	BDL	25
2-Hexanone	BDL	25
1,1,2,2-Tetrachloroethane	BDL	5
Tetrachloroethene	BDL	5
Toluene	BDL	5
Chlorobenzene	BDL	5
Ethylbenzene	BDL	5
m-Xylene	BDL	5
o,p-Xylene	BDL	5
Styrene	BDL	5

METHOD REFERENCE: EPA SW 846 3RD EDITION
METHOD 8240

BDL = Below detection limit
J = Probable presence below listed detection limit.

pace INCORPORATED
THE ASSURANCE OF QUALITY

MATRIX SPIKE RECOVERY
VOLATILE ORGANIC COMPOUNDS

Laboratory Number: LCG100995A1
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/09/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
1,1-DICHLOROETHENE	0	50	51	102
TRICHLOROETHYLENE	0	50	51	102
BENZENE	0	50	52	104
TOLUENE	0	50	48	96
CHLOROBENZENE	0	50	50	101

METHOD REFERENCE: EPA SW 846, 3RD EDITION
METHOD 8240

pace INCORPORATED
THE ASSURANCE OF QUALITY

MATRIX SPIKE RECOVERY
VOLATILE ORGANIC COMPOUNDS

Laboratory Number: LCG101195A1
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/11/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
1,1-DICHLOROETHENE	0	50	48	95
TRICHLOROETHYLENE	0	50	48	96
BENZENE	0	50	48	95
TOLUENE	0	50	49	98
CHLOROBENZENE	0	50	53	106

METHOD REFERENCE: EPA SW 846, 3RD EDITION
METHOD 8240

pace INCORPORATED
THE ASSURANCE OF QUALITY

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN29

Lab File ID: >G4607 BFB Injection Date: 09/21/95

Instrument ID: GMS BFB Injection Time: 12:19

ION ABUNDANCE CRITERIA for G4607 are reported on a separate sheet.

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
VSTD200	VSTD200	G4609	09/21/95	13:25
VSTD100	VSTD100	G4610	09/21/95	14:07
VSTD050	VSTD050	G4611	09/21/95	14:48
VSTD020	VSTD020	G4612	09/21/95	15:29
VSTD010	VSTD010	G4614	09/21/95	17:23

pace INCORPORATED THE ASSURANCE OF QUALITY

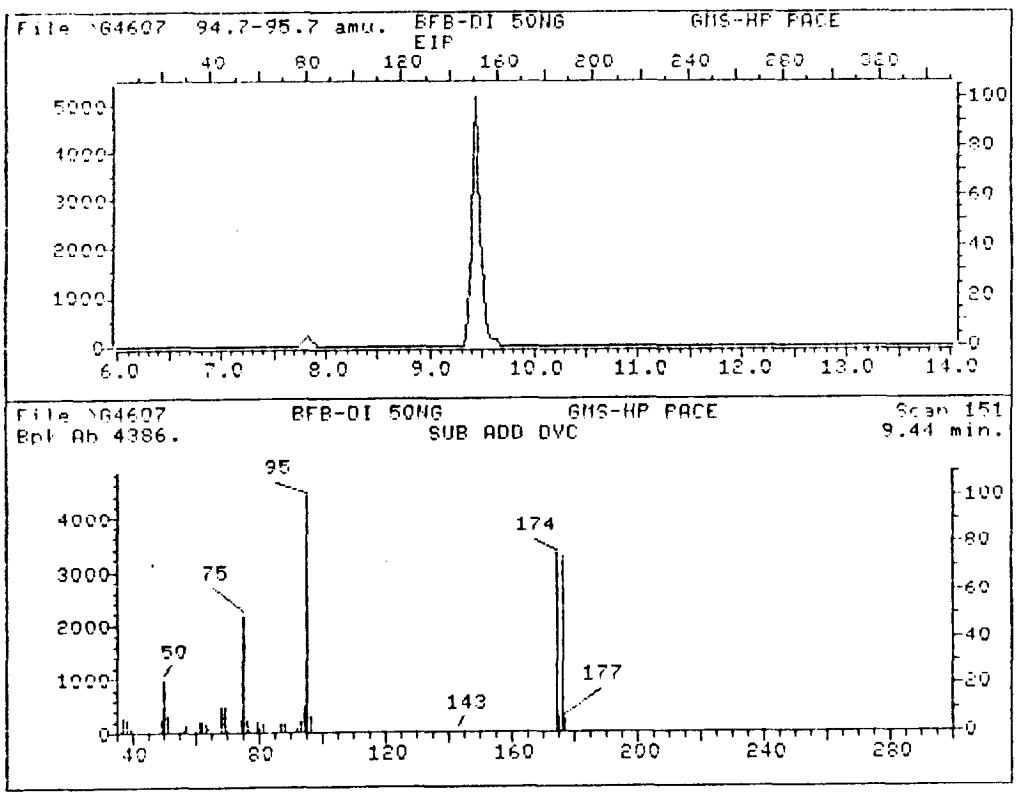
GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB) '88

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	22.06	22.06	Ok
75	30-60% of mass 95	49.30	49.30	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	6.86	6.86	Ok
173	Less than 2% of mass 174	.32	.43	Ok
174	Greater than 50% of mass 95	74.54	74.54	Ok
175	5-9% of mass 174	5.74	7.70	Ok
176	95-101% of mass 174	73.85	99.07	Ok
177	5-9% of mass 176	5.51	7.46	Ok

Injection Date: 09/21/95
Injection Time: 12:19
Data File: >G4607
Scan: 151

THIS IS THE RESULT OF AVERAGING 150.00 151.00 152.00
AND SUBTRACTING BACKGROUND SCAN 100



5A
VOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN29

Lab File ID: >G4996 BFB Injection Date: 10/09/95

Instrument ID: GMS BFB Injection Time: 10:19

ION ABUNDANCE CRITERIA for G4996 are reported on a separate sheet.

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
VSTD050	VSTD050	G4998	10/09/95	11:29
BG100995A1	90184-152	G4999	10/09/95	12:10
LCG100995A1	90184-152MS	G5002	10/09/95	14:39
CLJ44-CU-070	45590-003	G5003	10/09/95	15:19

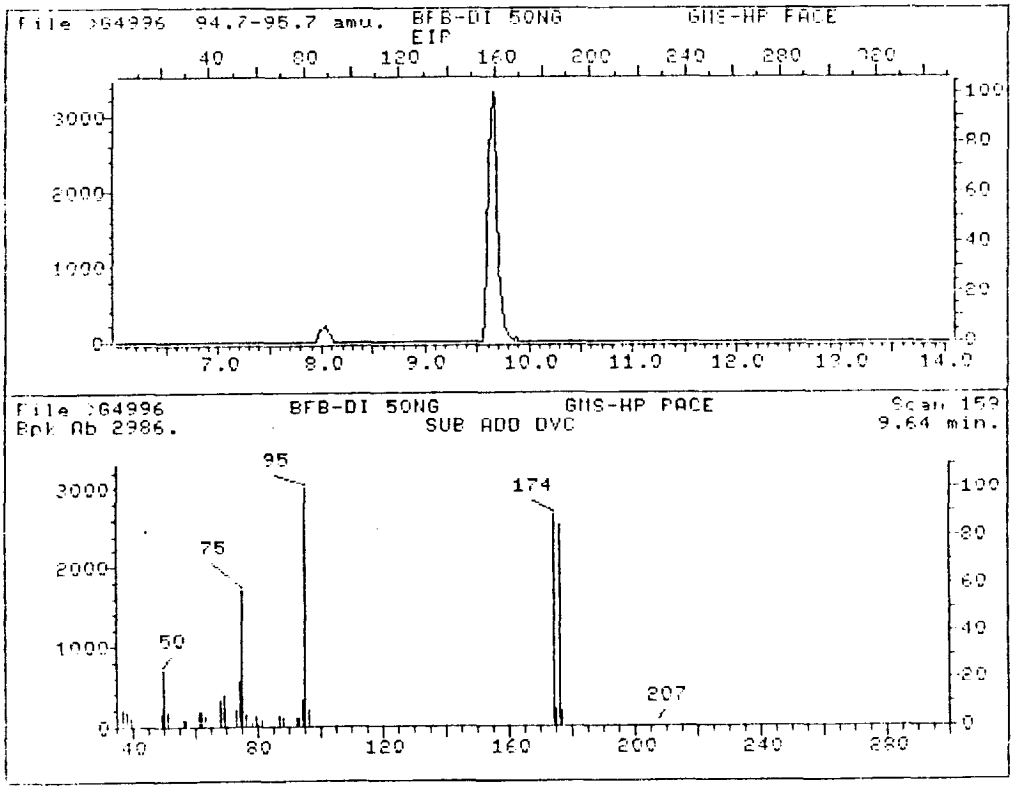
GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB) '88

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	23.72	23.72	Ok
75	30-60% of mass 95	56.87	56.87	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.32	7.32	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	88.27	88.27	Ok
175	5-9% of mass 174	6.86	7.78	Ok
176	95-101% of mass 174	83.95	95.11	Ok
177	5-9% of mass 176	6.02	7.17	Ok

Injection Date: 10/09/95
Injection Time: 10:19
Data File: >G4996
Scan: 159

THIS IS THE RESULT OF AVERAGING 158.00 159.00 160.00
AND SUBTRACTING BACKGROUND SCAN 100



5A
VOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN29

Lab File ID: >G5028 BFB Injection Date: 10/10/95

Instrument ID: GMS BFB Injection Time: 10:46

ION ABUNDANCE CRITERIA for G5028 are reported on a separate sheet.

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
VSTD050	VSTD050	G5032	10/10/95	13:19
VSTD200	VSTD200	G5033	10/10/95	14:31
VSTD100	VSTD100	G5034	10/10/95	15:11
VSTD020	VSTD020	G5035	10/10/95	15:50
VSTD010	VSTD010	G5036	10/10/95	16:30

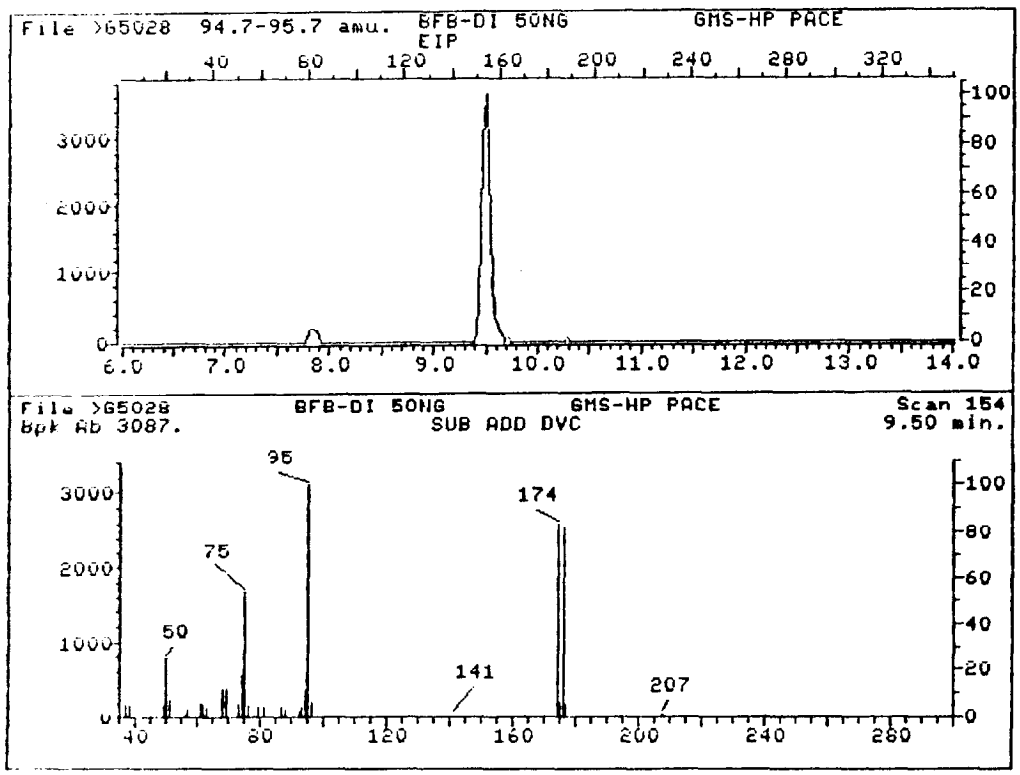
GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB) '88

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	24.98	24.98	Ok
75	30-60% of mass 95	53.59	53.59	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.22	7.22	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	83.04	83.04	Ok
175	5-9% of mass 174	5.67	6.83	Ok
176	95-101% of mass 174	82.49	99.34	Ok
177	5-9% of mass 176	5.47	6.64	Ok

Injection Date: 10/10/95
Injection Time: 10:46
Data File: >G5028
Scan: 154

THIS IS THE RESULT OF AVERAGING 153.00 154.00 155.00
AND SUBTRACTING BACKGROUND SCAN 100



5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN29

Lab File ID: >G5060 BFB Injection Date: 10/11/95

Instrument ID: GMS BFB Injection Time: 12:25

ION ABUNDANCE CRITERIA for G5060 are reported on a separate sheet.

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
VSTD050	VSTD050	G5062	10/11/95	13:37
BG101195A1	90184-157	G5063	10/11/95	14:17
LCG101195A1	90184-157MS	G5064	10/11/95	15:47
TCLPBLK402 5ML	90184-158	G5066	10/11/95	17:09

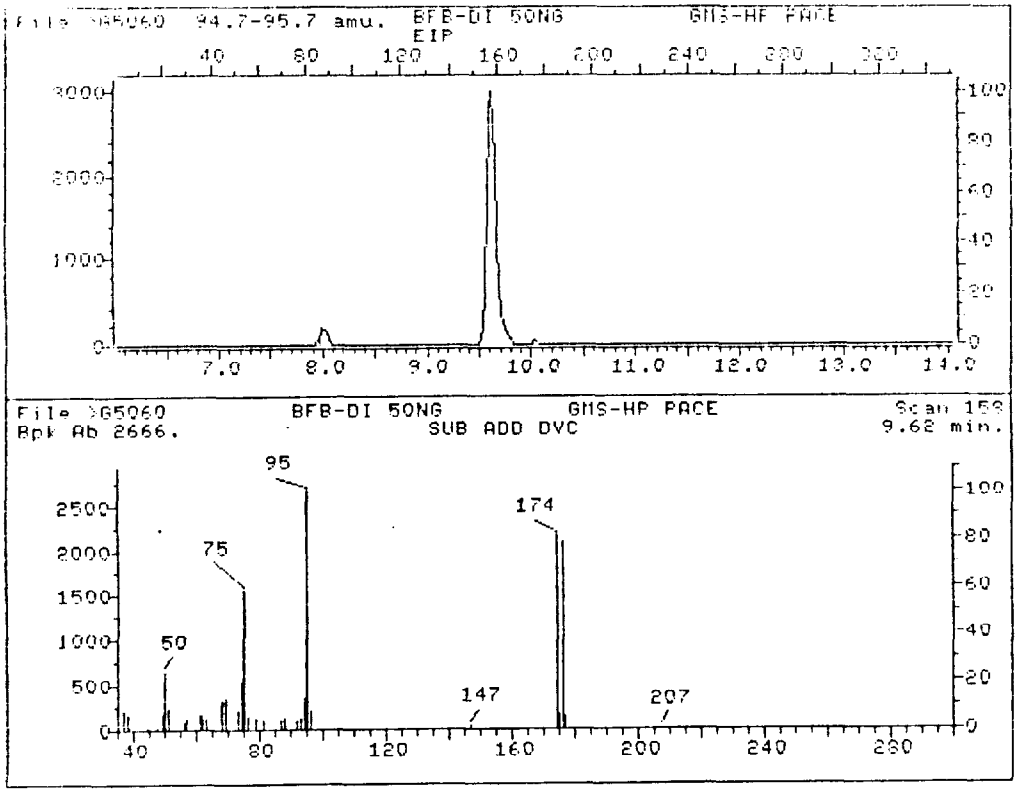
GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB) '88

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	24.13	24.13	Ok
75	30-60% of mass 95	57.86	57.86	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.69	7.69	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	80.51	80.51	Ok
175	5-9% of mass 174	5.68	7.05	Ok
176	95-101% of mass 174	77.97	96.85	Ok
177	5-9% of mass 176	5.41	6.94	Ok

Injection Date: 10/11/95
Injection Time: 12:25
Data File: >G5060
Scan: 158

THIS IS THE RESULT OF AVERAGING 157.00 158.00 159.00
AND SUBTRACTING BACKGROUND SCAN 100



DCE
9/25/95

C60921/I60921

Initial Calibration Data
MSL Compounds

Case No: ---------- Instrument ID: GMS-HP ----------

Contractor: RESAN ---------- Calibration Date: 09/21/95 ----------

Contract No: 68020026 ----------

Minimum $\overline{RF}$ for SPCC is .3 Maximum % RSD for CCC is 30%

Laboratory ID:	>64614	>64612	>64611	>64610	>64609					
	RF	RF	RF	RF	RF					
Compound	10.00	20.00	50.00	100.00	200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C010 CHLOROMETHANE	.41361	.40033	.37849	.42241	.48325	.413	.41962	9.349		**
C015 BROMOMETHANE	1.02446	.93251	.81099	.75660	.58565	.401	.82204	20.488		
C020 VINYL CHLORIDE	.88894	.88646	.78811	.78153	.70716	.428	.81044	9.546	*	
C025 CHLOROETHANE	.46918	.46179	.44855	.43566	.40965	.502	.44497	5.290		
C030 METHYLENE CHLORIDE	1.69945	1.40097	1.16931	1.23239	1.05574	.709	1.31157	19.076		
C035 ACETONE	.41842	.27526	.34567	.23978	.30224	.614	.31627	21.807		
C040 CARBON DISULFIDE	2.38264	2.48355	2.38169	2.61195	2.46201	.714	2.46437	3.832		
C042 TRICHLOROFLUOROMETHANE	3.79956	3.92046	3.60681	3.79935	3.60283	.541	3.74580	3.680		
C045 1,1-DICHLOROETHENE	1.12194	1.20189	1.10772	1.16962	1.14880	.633	1.15000	3.269	*	
C058 TETRAHYDROFURAN	.08243	.09611	.08315	.09481	.08684	1.012	.08867	7.260		
C050 1,1-DICHLOROETHANE	2.63042	2.71397	2.45854	2.47733	2.23082	.832	2.50222	7.408		**
C054 1,2-DICHLOROETHENE(cis)	1.33185	1.44896	1.30795	1.37474	1.26883	.941	1.34647	5.123		
C053 1,2-DICHLOROETHENE(trans)	1.39767	1.48760	1.36618	1.47956	1.32996	.761	1.41219	4.921		
MTBE	2.99003	3.21675	2.89267	3.19336	2.95510	.739	3.04958	4.800		
C060 CHLOROFORM	3.79708	4.11745	3.63981	3.87002	3.55077	.971	3.79503	5.793	*	
C110 2-BUTANONE	.47846	.50773	.49702	.46214	.49941	.910	.48895	3.766		
C065 1,2-DICHLOROETHANE	2.73443	2.90441	2.58106	2.67418	2.44763	1.123	2.66834	6.395		
CS15 1,2-DICHLOROETHANE-d4	1.91001	2.60514	2.18874	2.19154	2.03077	1.106	2.18524	12.020		
C115 1,1,1-TRICHLOROETHANE	.71280	.77892	.73081	.83348	.80766	.886	.77273	6.566		
C120 CARBON TETRACHLORIDE	.61113	.67561	.64928	.73605	.73213	.928	.68084	7.896		
C125 VINYL ACETATE	.37941	.41255	.27091	.36061	.23503	.704	.33170	22.706		
C130 BROMODICHLOROMETHANE	.75009	.83885	.78872	.89812	.87140	1.127	.82944	7.264		
C140 1,2-DICHLOROPROPANE	.33056	.35779	.31768	.34405	.32573	1.087	.33516	4.734	*	
C143 CIS-1,3-DICHLOROPROPENE	.45106	.52149	.47930	.53911	.48826	1.224	.49584	7.035		
C150 TRICHLOROETHENE	.40109	.43538	.40415	.43291	.43011	1.057	.42073	3.962		
C155 DIBROMOCHLOROMETHANE	.51900	.63157	.59115	.68815	.68611	1.439	.62319	11.384		
C160 1,1,2-TRICHLOROETHANE	.29703	.33067	.29432	.33242	.30544	1.344	.31198	5.878		
C165 BENZENE	.82793	.89305	.77934	.86723	.82468	.954	.83845	5.200		
C172 TRANS-1,3-DICHLOROPROPENE	.35296	.41909	.40161	.45422	.42685	1.316	.41095	9.139		
C176 2-CHLOROETHYLVINYLETHER	.07335	.14488	.13206	.15455	.15011	1.182	.13099	25.425		

RF - Response Factor (Subscript is amount in ug/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

NC
9/25/95

Initial Calibration Data
HSL Compounds

Case No: _____ Instrument ID: GMS-HP

Contractor: RESAN Calibration Date: 09/21/95

Contract No: 68020026

CCC921 / ICC921

Minimum $\overline{RF}$ for SPCC is .3 Maximum % RSD for CCC is 30%

Laboratory ID:		>G4614	>G4612	>G4611	>G4610	>G4609					
		RF	RF	RF	RF	RF					
	Compound	10.00	20.00	50.00	100.00	200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C180	BROMOFORM	.35662	.46464	.43177	.52724	.52793	1.741	.46164	15.556		**
CS05	TOLUENE-d8	.79215	1.08184	.95240	.99211	1.01977	.818	.96765	11.248		
C205	4-METHYL-2-PENTANONE	.37079	.48780	.45638	.51520	.51016	.766	.46807	12.631		
C210	2-HEXANONE	.14603	.20666	.21822	.22818	.24540	.870	.20890	18.147		
C220	TETRACHLOROETHENE	.47155	.48172	.45975	.49991	.49132	.905	.48085	3.297		
C225	1,1,2,2-TETRACHLOROETHANE	.65580	.74750	.62648	.72874	.64946	1.144	.68160	7.799		**
C230	TOLUENE	1.34456	1.33040	1.24836	1.34928	1.31809	.827	1.31814	3.102	*	
C235	CHLOROBENZENE	.93519	.99896	.90164	.97057	.95008	1.004	.95129	3.852		**
C240	ETHYLBENZENE	.42385	.48005	.41903	.46303	.45311	1.012	.44781	5.804	*	
C245	STYRENE	.85125	.95021	.83312	.91321	.90317	1.081	.89019	5.350		
C251	XYLENE (O)	.49732	.54467	.49441	.51292	.50892	1.077	.51165	3.911		
C250	XYLENE (total)	.50330	.53761	.49237	.52226	.50056	1.022	.51122	3.593		
CS10	BROMOFLUOROBENZENE	.74651	1.01852	.84251	.88090	.86047	1.154	.86978	11.247		

(Conc=20.0,40.0,100.0,200

$\overline{RF}$ - Response Factor (Subscript is amount in ug/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No: Instrument ID: GMS-HP

Contractor: RESAN Calibration Date: ~~10/12/95~~ 10/10/95

Contract No: 68D20026

Minimum $\overline{RF}$ for SPCC is .3 Maximum % RSD for CCC is 30%

Laboratory ID: >65036 >65035 >65032 >65034 >65033

Compound	RF 10.00	RF 20.00	RF 50.00	RF 100.00	RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C010 CHLOROMETHANE	.62521	.78350	.60877	.52057	.68253	.911	.61412	15.087		**
C015 BROMOMETHANE	1.75362	1.96731	1.59012	1.10887	1.10953	.490	1.52189	24.091		
C020 VINYL CHLORIDE	1.05509	1.27402	1.08221	.82200	.90190	.427	1.02705	17.091	*	
C025 CHLOROETHANE	.71779	.82828	.66337	.49527	.56335	.501	.65361	19.939		
C030 METHYLENE CHLORIDE	2.39816	2.09949	1.61894	1.18222	1.25851	.708	1.71147	30.862		
C035 ACETONE	.42515	.32323	.25468	.28730	.18291	.613	.29165	30.318		
C040 CARBON DISULFIDE	1.95681	2.56732	2.33935	1.94723	2.25066	.713	2.21227	11.942		
C042 TRICHLOROFLUOROMETHANE	3.28337	4.00807	3.42867	2.75089	3.12930	.540	3.32006	13.859		
C045 1,1-DICHLOROETHENE	1.39012	1.55280	1.34777	1.09749	1.21907	.633	1.32145	13.084	*	
C059 TETRAHYDROFURAN	.09233	.12262	.09562	.08722	.09197	1.012	.09855	14.060		
C050 1,1-DICHLOROETHANE	2.66957	3.13121	2.69247	2.12056	2.30828	.832	2.58442	15.102		**
C054 1,2-DICHLOROETHENE(cis)	1.73405	2.05903	1.75087	1.38044	1.52615	.941	1.69017	15.212		
C053 1,2-DICHLOROETHENE(trans)	1.50166	1.88850	1.60312	1.28595	1.48820	.760	1.55354	14.148		
MTBE	3.22798	3.68684	3.03873	2.60686	2.92999	.739	3.03808	12.877		
C060 CHLOROFORM	3.57865	4.31098	3.65806	2.97701	3.30368	.971	3.56567	13.877	*	
C110 2-BUTANONE	.50393	.58886	.47991	.49330	.38716	.910	.49063	11.646		
C065 1,2-DICHLOROETHANE	2.54540	2.95654	2.46581	1.98712	2.15851	1.124	2.42268	15.464		
CS15 1,2-DICHLOROETHANE-d4	1.67454	1.37238	1.96501	1.45526	1.70942	1.105	1.63532	14.252		
C115 1,1,1-TRICHLOROETHANE	.60608	.78364	.64538	.57772	.67930	.885	.65812	12.136		
C120 CARBON TETRACHLORIDE	.50666	.67754	.56872	.50185	.59363	.927	.56968	12.652		
C125 VINYL ACETATE	.39338	.49458	.39424	.30822	.38641	.704	.39537	16.711		
C130 BROMODICHLOROMETHANE	.60554	.80208	.67389	.61967	.73273	1.127	.68678	11.830		
C140 1,2-DICHLOROPROPANE	.33659	.40783	.32994	.28764	.32240	1.087	.33688	13.039	*	
C143 CIS-1,3-DICHLOROPROPENE	.42842	.56867	.48216	.42499	.50180	1.225	.48121	12.301		
C150 TRICHLOROETHENE	.40605	.48718	.40336	.36224	.40649	1.057	.41306	11.003		
C155 DIBROMOCHLOROMETHANE	.44979	.63435	.53794	.50632	.59543	1.439	.54477	13.341		
C160 1,1,2-TRICHLOROETHANE	.30007	.36316	.28618	.26389	.29315	1.345	.30129	12.333		
C165 BENZENE	.93952	1.03450	.85139	.73816	.84710	.951	.88213	12.599		
C172 TRANS-1,3-DICHLOROPROPENE	.34575	.47500	.40948	.37457	.44871	1.316	.41070	12.829		
C176 2-CHLOROETHYLVINYLETHER	.13166	.16651	.13398	.14116	.09360	1.183	.13338	19.636		

RF - Response Factor (Subscript is amount in ug/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No: ----------

Contractor: RESAN ----------

Contract No: 68020026 ----------

Instrument ID: GMS-HP ----------

Calibration Date: ~~10/12/95~~ 10/10/95 10/10/95

Minimum $\overline{RF}$ for SPCC is .3 Maximum % RSD for CCC is 30%

Laboratory ID:	>65036	>65035	>65032	>65034	>65033					
	RF	RF	RF	RF	RF					
Compound	10.00	20.00	50.00	100.00	200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C180 BROMOFORM	.31855	.44325	.38181	.38213	.43879	1.740	.39290	12.983		**
CS05 TOLUENE-d8	.75985	.74092	.98841	.77066	.98544	.818	.84906	14.877		
C205 4-METHYL-2-PENTANONE	.45335	.58949	.44891	.44248	.42656	.766	.47216	14.057		
C210 2-HEXANONE	.17977	.24950	.18580	.22118	.20307	.870	.20786	13.628		
C220 TETRACHLOROETHENE	.42057	.57263	.47697	.39954	.47583	.906	.46911	14.308		
C225 1,1,2,2-TETRACHLOROETHANE	.65165	.82801	.62679	.54891	.62781	1.144	.65664	15.738		**
C230 TOLUENE	1.50525	1.71623	1.38387	1.15947	1.37616	.827	1.42020	14.255	*	
C235 CHLOROBENZENE	.98944	1.18304	.94068	.80604	.92353	1.005	.96855	14.199		**
C240 ETHYLBENZENE	.42441	.55499	.43569	.37800	.44789	1.013	.44820	14.569	*	
C245 STYRENE	.85267	1.10580	.89439	.75687	.90193	1.081	.90233	14.137		
C251 XYLENE (O)	.47529	.62909	.51279	.41972	.48298	1.077	.50397	15.400		
C250 XYLENE (total)	.54553	.69376	.57116	.48890	.55534	1.023	.57094	13.196		(Conc=20.0,40.0,100.0,200
CS10 BROMOFLUOROBENZENE	.64801	.60647	.79974	.62096	.76319	1.155	.68767	12.777		

RF - Response Factor (Subscript is amount in ug/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: | Calibration Date: 10/09/95

Contractor: RESAN | Time: 11:29

Contract No: 68020026 | Laboratory ID: >G4998

Instrument ID: GMS-HP | Initial Calibration Date: 09/21/95

SIR 10/10/95 (3)

TG1009

Minimum RF for SPCC is .3 | Maximum % Diff for CCC is 25%

Compound	RF	RF	%Diff	CCC	SPCC
C010 CHLOROMETHANE	.41962	.43827	4.44		**
C015 BROMOMETHANE	.82204	1.18575	44.24		
C020 VINYL CHLORIDE	.81044	.77792	4.01	*	
C025 CHLOROETHANE	.44497	.50442	13.36		
C030 METHYLENE CHLORIDE	1.31157	1.26174	3.80		
C035 ACETONE	.31627	.31875	.78		
C040 CARBON DISULFIDE	2.46437	1.66390	32.48		
C042 TRICHLOROFLUOROMETHANE	3.74580	2.86509	23.51		
C045 1,1-DICHLOROETHENE	1.15000	1.11944	2.66	*	
C058 TETRAHYDROFURAN	.08867	.09979	12.54		
C050 1,1-DICHLOROETHANE	2.50222	2.41518	3.48		**
C054 1,2-DICHLOROETHENE(cis)	1.34647	1.69557	25.93		
C053 1,2-DICHLOROETHENE(trans)	1.41219	1.35383	4.13		
MTBE	3.04958	3.18759	4.53		
C060 CHLOROFORM	3.79503	3.49343	7.95	*	
C110 2-BUTANONE	.48895	.52270	6.90		
C065 1,2-DICHLOROETHANE	2.66834	2.28041	14.54		
CS15 1,2-DICHLOROETHANE-d4	2.18524	1.94499	10.99		
C115 1,1,1-TRICHLOROETHANE	.77273	.63075	18.37		
C120 CARBON TETRACHLORIDE	.68084	.53537	21.37		
C125 VINYL ACETATE	.33170	.36452	9.89		
C130 BROMODICHLOROMETHANE	.82944	.68083	17.92		
C140 1,2-DICHLOROPROPANE	.33516	.31691	5.45	*	
C143 CIS-1,3-DICHLOROPROPENE	.49584	.46309	6.60		
C150 TRICHLOROETHENE	.42073	.40301	4.21		
C155 DIBROMOCHLOROMETHANE	.62319	.56155	9.89		
C160 1,1,2-TRICHLOROETHANE	.31198	.29546	5.29		
C165 BENZENE	.83845	.76921	8.26		
C172 TRANS-1,3-DICHLOROPROPENE	.41095	.40241	2.08		
C176 2-CHLOROETHYLVINYLETHER	.13099	.12891	1.59		
C180 BROMOFORM	.46164	.42326	8.31		**
CS05 TOLUENE-d8	.96765	.98308	1.59		

RF - Response Factor from daily standard file at 50.00 ug/L

RF - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/09/95

Contractor: RESAN Time: 11:29

Contract No: 68D20026 Laboratory ID: 364998

Instrument ID: GMS-HP Initial Calibration Date: 09/21/95

Minimum $\overline{RF}$ for SPCC is .3 Maximum % Diff for CCC is 25%

	Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
C205	4 METHYL-2-PENTANONE	.46807	.44098	5.79			
C210	2-HEXANONE	.20890	.21669	3.73			
C220	TETRACHLOROETHENE	.48085	.42198	12.24			
C225	1,1,2,2-TETRACHLOROETHANE	.68160	.60407	11.37		**	
C230	TOLUENE	1.31814	1.22304	7.21	*		
C235	CHLOROBENZENE	.95129	.88176	7.31		**	
C240	ETHYLBENZENE	.44781	.41234	7.92	*		
C245	STYRENE	.89019	.91077	2.31			
C251	XYLENE (O)	.51165	.50321	1.65			
C250	XYLENE (total)	.51122	.54439	6.49			(Conc=100.00)
C510	BROMOFLUOROBENZENE	.86978	.79193	8.95			

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/11/95

Contractor: RESAN Time: 13:37

Contract No: 68020026 Laboratory ID: >65062

Instrument ID: GMS-MF Initial Calibration Date: 10/12/95

Minimum $\overline{RF}$ for SPCC is .3 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C010 CHLOROMETHANE	.64112	.62377	3.16		**
C015 BROMOMETHANE	1.52189	1.51253	.61		
C020 VINYL CHLORIDE	1.02705	1.03311	.59	*	
C025 CHLOROETHANE	.65361	.63206	3.30		
C030 METHYLENE CHLORIDE	1.71147	1.41615	17.25		
C035 ACETONE	.29465	.42980	45.87		
C040 CARBON DISULFIDE	2.21227	2.28491	3.28		
C042 TRICHLOROFLUOROMETHANE	3.32006	3.19636	3.73		
C045 1,1-DICHLOROETHENE	1.32145	1.28243	2.95	*	
C058 TETRAHYDROFURAN	.09855	.10792	9.50		
C050 1,1-DICHLOROETHANE	2.58442	2.58666	.09		**
C054 1,2-DICHLOROETHENE(cis)	1.69017	1.72798	2.24		
C053 1,2-DICHLOROETHENE(trans)	1.55354	1.55716	.23		
MTBE	3.09808	3.17301	2.42		
C060 CHLOROFORM	3.56567	3.53323	.91	*	
C110 2-BUTANONE	.49063	.69800	42.27		
C065 1,2-DICHLOROETHANE	2.42268	2.44526	.93		
CS15 1,2-DICHLOROETHANE-d4	1.63532	1.92646	17.80		
C115 1,1,1-TRICHLOROETHANE	.65842	.63537	3.50		
C120 CARBON TETRACHLORIDE	.56968	.56582	.68		
C125 VINYL ACETATE	.39537	.39977	1.11		
C130 BROMODICHLOROMETHANE	.68678	.68823	.21		
C140 1,2-DICHLOROPROPANE	.33688	.34045	1.06	*	
C143 CIS-1,3-DICHLOROPROPENE	.48121	.48085	.08		
C150 TRICHLOROETHENE	.41306	.42152	2.05		
C155 DIBROMOCHLOROMETHANE	.54477	.56083	2.95		
C160 1,1,2-TRICHLOROETHANE	.30129	.31264	3.77		
C165 BENZENE	.88213	.86517	1.92		
C172 TRANS-1,3-DICHLOROPROPENE	.41070	.42033	2.34		
C176 2-CHLOROETHYLVINYLETHER	.13338	.14027	5.16		
C180 BROMOFORM	.39290	.41878	6.59		**
CS05 TOLUENE-d8	.84906	.98752	16.31		

RF - Response factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: _____ Calibration Date: 10/11/95

Contractor: RESAN Time: 13:37

Contract No: 68020026 Laboratory ID:)G5062

Instrument ID: GMS-HP Initial Calibration Date: 10/12/95

Minimum $\overline{RF}$ for SPCC is .3 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
C205 4-METHYL-2-PENTANONE	.47216	.50629	7.23			
C210 2-HEXANONE	.20786	.27155	30.64			
C220 TETRACHLOROETHENE	.46911	.45612	2.77			
C225 1,1,2,2-TETRACHLOROETHANE	.65664	.64218	2.20		**	
C230 TOLUENE	1.42820	1.36021	4.76	*		
C235 CHLOROBENZENE	.96855	.93680	3.28		**	
C240 ETHYLBENZENE	.44820	.43914	2.02	*		
C245 STYRENE	.90233	.89765	.52			
C251 XYLENE (O)	.50397	.51485	2.16			
C250 XYLENE (total)	.57094	.56601	.86			(Conc=100.00)
CS10 BROMOFLUOROBENZENE	.68767	.78624	14.33			

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

8A
VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN29

Lab File ID (Standard): >G4998 Date Analyzed: 10/09/95

Instrument ID: GMS Time Analyzed: 11:29

	IS1(BCM)		IS2(DFB)		IS3(CBZ)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	94693	11.53	484912	13.64	378904	21.20
UPPER LIMIT	189386	12.03	969824	14.14	757808	21.70
LOWER LIMIT	47347	11.03	242456	13.14	189452	20.70
CLIENT I.D.						
BG100995A1	96451	11.51	488770	13.63	380149	21.20
LCG100995A1	85567	11.50	455924	13.64	374867	21.21
CLJ44-CU-070	81606	11.53	431168	13.64	343881	21.21

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%

Column used to flag internal standard area values outside of UPPER and LOWER LIMIT with an asterisk

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8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN29

Lab File ID (Standard): >G5062 Date Analyzed: 10/11/95

Instrument ID: GMS Time Analyzed: 13:37

	IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	86713	11.55	435945	13.66	326902	21.24
UPPER LIMIT	173426	12.05	871890	14.16	653804	21.74
LOWER LIMIT	43357	11.05	217973	13.16	163451	20.74
CLIENT I.D.						
BG101195A1	78857	11.55	400232	13.68	304417	21.25
LCG101195A1	86194	11.60	430079	13.71	313713	21.24
TCLPBLK402 5ML	74565	11.46	399502	13.59	300192	21.16

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50%

Column used to flag internal standard area values outside of UPPER and LOWER LIMIT with an asterisk

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6.54 spt

MSC-54M

Voltage = 2075

PACE New England

GCMS/VOA Instr G **MS-HP** Analyst/Date NR 9/21/95 STD Lot # V-6417B

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
G4606	#	—	—	BFB-DI	50ng	M+R1 M/e95 =		N	
>G4607	#340	—	—	BFB-DI	50ng	M+R1 M/e95 = 29K		Y	
				Scan 150+151+152-100		OK 15%, 19%			
				time: 12:19		V-6057			
>G4608		I6G921	1	VSTD20	5ml/s	CG0921/I60921			
09			2	VSTD20				Y	
10			3	VSTD10				Y	
11			4	VSTD050				Y	
12			5	VSTD020				Y	
13			6	VSTD010	↓	RE ↑ SURR RF's		N	
14			7	VSTD010	5ml/s	C-7 C-38 (M2)		Y	
				START OF 2nd WINDOW					
>G4615	#	—	—	BFB-DI	50ng			N	
16		—	—	DFB-DI	50ng	BASE MULTIPLIER		N	
17		—	—	BFB-DI	50ng	BLK & CC		N	
18		—	—	BFB-DI	50ng			N	
19	#340	—	—	BFB-DI	50ng	V-6057 M/e95=29K		Y	
				TIME 20:00		93 19%			
				SCAN 149+150 +151-100					
>G4620		I6G921	8	VSTD010 @	5ml/s			Y	
21		I6G921	9	BG0921958A1	↓	VBLK-R		Y	
22			10	BG0921958B1	↓	VBLK-S		Y	✓
23			11	LCG0921958A1	5ml/s			Y	✓
24			12	45,347-1C	2ml/s	[illegible] CN349 [illegible]		N	
25			13	45,346-6B	2ml/s	[illegible]		N	
26			14	45,347-4C	3ml/s	[illegible]		N	
27			1	-4	↓	[illegible]		N	
28			2	-4	↓	↓		N	
29			3	45,371-5	5ml/s	(RTI 120A)		Y	✓
30			4	-4	↓			Y	
31			5	-1	5ml/s	M+2=647 ↑ NTC		Y	
32			6	-2	↓	↓		Y	✓

PACE New England

GCMS/VOA Instr. G **MS-HP** Analyst/Date AL 10/9/95 STD Lot # V 104223

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
264996	B344	—	—	BFB DL	50ng	ACVL 10/9/95 MK		Y	
				Scan: 1584-1594		DL '88 + '91 V-6055'			
				160 - 100					
				time: 1019					
34717		F6921	1	VSTD050	5mls	Not used			
98		↓	2	VSTD050	↓			Y	
99		F61009	3	BFB1009995A1	↓	VPLVG-Y 90184-152		Y	
265222		F61009	4	45,593-10	5mls	V10/10(RB24017) LJN30	<2	Y	✓
01			6	45,613-4	5mls	V10/9(RB24017) LJN32	<2	Y	✓
02			4	LCG1009995A1	5mls	90184-152ms		Y	
03			7	45,590-3	5mls	V10/10(RB24017) LJN29 402		Y	✓
04			8	45,524-4	5mls	LR(RB24017) RBN15 tics	<2	Y	✓
05			9	-5	5mls		<2	Y	✓
06			10	-6	5mls		<2	Y	✓
07			11	-1	5mls		<2	Y	✓
08			12	-1ms	5mls		<2	Y	✓
09			13	-1ms5	5mls		<2	Y	✓
10			14	-2	5mls		<2	Y	✓
11			15	-3	5mls		<2	Y	✓
12			16	BFB 50ng	5mls	Purged		Y	
13			1	BFB 50ng	↓	↓ Scan: 1584-1594 DL '88 + '91 V-6055' time: 1017		Y	
14		L60121	2	VSTD050	5mls			Y	
15		L68009	3	BG10099SA2	↓	VPLVG-Z		Y	
16			4	LCG10099SA2	↓			Y	
17			5	BV1126A	100ng	↓TOL-28 RE		N	
18			6	LSV1126	↓			Y	
19			7	45,594-7	5mls	(RB24017) VIAL LJN31 402		Y	✓
20			8	-8	↓	↓		Y	✓
21			9	-9	↓	↓		Y	✓
22			10	-10	100ng	(RB240) RE 1mv		N	✓
23			11	-13	5mls	TCLP list	↓	Y	✓
24			12	HB45475	↓	CH251		Y	

MSD5AM

Voltage = 2190

PACE New England

WORTHINGTON

GCMS/VOA Instr. G **MS-HP** Analyst/Date ACR 10/10/95 STD Lot # V-6411A

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
~~65028~~	8/3441	—	—	BFB-DI	50ng	MKI 10/9/95 = 30%		y	
				Scan: 153+154+155=100		OK '88+'91 V-6058		y	
				time: 1046					
65029		IG0921	1	VSHD050	5mls	Not used			
30		↓	2	VSHD050	↓	↑ Vinyl chloride		N	
31		IG1010	3	BG10109SA1	↓	VBLKGA		N	
32		~~IG0921~~ D	2	VSHD050	5ml	IG1010/CG1010		y	
33			1	VSHD200		MS-C45		y	
34			2	VSHD100				y	
35			3	VSHD020				y	
36			5	VSHD010	↓			y	
								y	
65037	#	—	—	BFB-DI	50ng	MKI 10/9/95 =		y	
				Scan:					
				time: 17:33					
65038		IG1010	6	VSHD050	5mls			y	
39		IG0810	7	BG10109SA2	↓	VBLKGB		N	
40			8	BG10109SB2		VBLKGC			
41			8	LCG101095A2	5ml				
42			9	45614-9		(RCHTCLR) V 10/11 BLK 403			
43			10	-10					
44			11	-11					
45			12	-12					
46			13	45640-18	↓	V 10/11 (RSTMCLR)			
47			14	BV1126 A	100ME	(RS240)			
48			15	45529-1	5ml	(RCLMCLR) IV(3) 10/10/95			
49			16	-2	↓				
50			1	45537-1	20ME	(RS7030) LR			
51			2	45539-1	100ME	↓			
52			3	45528-1	5ml	(RCLMCLR)			
53			4	45527-1					
54			5	45516-1	↓	(RCLH)			

Voltage = 2080

PACE New England

GCMS/VOA Instr G **MS-HP** Analyst/Date _____ STD Lot # _____

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
				BFB 50ng	50ng				
				Scan 157+158 +159-100		OK 15 Oct 91			
				time: 12:25		V-6088			
		EG1010	1	VSTD050	5mls	Not used			
		↓	2	VSTD050	↓				
		EG1011	3	BG10119SA1		VBLK1 90184-157			
		EG011	4	LCG10119SA1	5mls	90184-157			
			5	BV1130A	10mls	RBX 1 Surr			
			6	BG10130A-2	5mls	90184-158			
			7	BG10130A-3	↓				
			8	45,647-1	5mls	LCS V33			
			9	-2	↓	↓			
			10	45,527-1	5mls	MS/MSD RBX 5mls	>2		
			11	-2	↓	↓	<2		
			12	45,538-1	5mls	LCS/LCSD 5mls	>2		
			13	45,027-1	↓	↓	>2		
			14	-1MS			>2		
			15	-1MSD	↓	↓	>2		
			16	45,544-1	5mls	BG10241 5mls	<2		
			1	BFB 50ng	5mls	Purged			
			2	BFB 50ng	5mls	V-6088 Scan: 575+581+577-100 time: 0101 OK SEP '91			
		EG1010	3	VSTD050	↓				
		EG011	4	BG10119SA2		VBLKG-G			
			5	LCG10119SA2	↓				
			6	45,645-6	5mls	(Reagent Blank) V 10/2	72		
			7	45,550-1	5mls	LCS52	<2		
			8	-2	5mls		72		
			9	-3	3.3mls	RE 5mls	72		
			10	-4	5mls		72		
			11	-5	5mls		72		
			12	-6	5mls		<2		

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR NON-VOLATILE CONSTITUENTS

Laboratory Number : 45590-003
Field Identification : CLJ44-CU-070
Extraction Date : 10/05/95
TCLP Blank : 90,001-282

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

A 5.0 gm portion of the sample was stirred with 96.5 mL deionized water. The pH at the end of 5 minutes was 6.65. 3.5 mL 1.0N HCl was added and the mixture was then heated to 50C for ten minutes. Upon cooling the pH was 1.59, therefore Extraction Fluid #1 was used.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 100 gm of sample was added to the extractor with 2000 mL Extraction Fluid #1.

Extraction Time : 19.50 hrs

Final pH : 4.92

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

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Laboratory number: 45590-003
Sample Designation: CLJ44-CU-070
Date Extracted: 10/07/95
Date Analyzed: 10/09/95 12:31
QC Batch: BA2481
TCLP Batch: 282
Matrix: TCLP EXTRACT

Instrument File Name: >F2733

SEMIVOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Pyridine	BDL	5.0	0.05
1,4-Dichlorobenzene	BDL	7.5	0.05
2,4-Dinitrotoluene	BDL	0.13	0.05
2-Methylphenol	BDL	200	0.05
3,4-Methylphenols	BDL	200	0.05
Hexachloroethane	BDL	3.0	0.05
Nitrobenzene	BDL	2.0	0.05
Hexachlorobenzene	BDL	0.13	0.05
Pentachlorophenol	BDL	100	0.05
Hexachlorobutadiene	BDL	0.5	0.05
2,4,6-Trichlorophenol	BDL	2.0	0.05
2,4,5-Trichlorophenol	BDL	400	0.05

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8270

BDL = Below reporting limit

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WATER SEMIVOLATILES SURROGATE RECOVERY

Client: OHM REMEDIATION SERVICES CORP. Lab No.: 45590
Project: CAMP GEIGER/LJN29

CLIENT SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	OTHER	TOT OUT
CLJ44-CU-070	70	76	52	43	47	57		0
B-A2482	68	75	37	46	47	57		0
TCLP BLANK #282	82	78	60	50	55	56		0

		QC LIMITS
S1	(NBZ) = Nitrobenzene-d5	35 - 114
S2	(FBP) = 2-Fluorobiphenyl	43 - 116
S3	(TPH) = Terphenyl-d14	33 - 141
S4	(PHL) = Phenol-d5	10 - 110
S5	(2FP) = 2-Fluorophenol	21 - 110
S6	(TBP) = 2,4,6-Tribromophenol	10 - 123

Column to be used to flag recovery values with an asterisk
* Values outside of designated QC limits
D Surrogates diluted out

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Laboratory number: TCLP BLANK #282
Sample Designation: TCLP BLANK
Date Analyzed: 10/05/95
Matrix: TCLP EXTRACT

Parameter	Result (ug/L)	Regulatory Limit (ug/L)	Detection Limit (ug/L)
Pyridine	BDL	5000	56
1,4-Dichlorobenzene	BDL	7500	56
2,4-Dinitrotoluene	BDL	130	56
2-Methylphenol	BDL	200000	56
3,4-Methylphenols	BDL	200000	56
Hexachloroethane	BDL	3000	56
Nitrobenzene	BDL	2000	56
Hexachlorobenzene	BDL	130	56
Pentachlorophenol	BDL	100000	56
Hexachlorobutadiene	BDL	500	56
2,4,6-Trichlorophenol	BDL	2000	56
2,4,5-Trichlorophenol	BDL	400000	56

METHOD REFERENCE: EPA SW 846, 3RD EDITION
METHOD 8270

BDL = Below detection limit

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Laboratory number: B-A2482
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/09/95
Matrix: WATER

ACID/BASE/NEUTRAL EXTRACTABLES	CONCENTRATION (ug/L)	DETECTION LIMIT (ug/L)
N-Nitrosodimethylamine	BDL	10
Phenol	BDL	10
Aniline	BDL	10
Bis(2-chloroethyl)ether	BDL	10
2-Chlorophenol	BDL	10
1,3-Dichlorobenzene	BDL	10
1,4-Dichlorobenzene	BDL	10
Benzylalcohol	BDL	10
1,2-Dichlorobenzene	BDL	10
2-Methylphenol	BDL	10
Bis(2-chloroisopropyl)ether	BDL	10
4-Methylphenol	BDL	10
N-Nitroso-di-N-propylamine	BDL	10
Hexachloroethane	BDL	10
Nitrobenzene	BDL	10
Isophorone	BDL	10
2-Nitrophenol	BDL	10
2,4-Dimethylphenol	BDL	10
Benzoic acid	BDL	50
Bis(2-chloroethoxy)methane	BDL	10
2,4-Dichlorophenol	BDL	10
1,2,4-Trichlorobenzene	BDL	10
Naphthalene	BDL	10
4-Chloroaniline	BDL	10
Hexachlorobutadiene	BDL	10
4-Chloro-3-methylphenol	BDL	10
2-Methylnaphthalene	BDL	10
Hexachlorocyclopentadiene	BDL	10
2,4,6-Trichlorophenol	BDL	10
2,4,5-Trichlorophenol	BDL	50
2-Chloronaphthalene	BDL	10
2-Nitroaniline	BDL	50
Dimethylpthalate	BDL	10
Acenaphthylene	BDL	10
2,6-Dinitrotoluene	BDL	10

ACID/BASE/NEUTRAL EXTRACTABLES	CONCENTRATION (ug/L)	DETECTION LIMIT (ug/L)
3-Nitroaniline	BDL	50
Acenaphthene	BDL	10
2,4-Dintrophenol	BDL	50
4-Nitrophenol	BDL	50
Dibenzofuran	BDL	10
2,4-Dinitrotoluene	BDL	10
Diethylphthalate	BDL	10
4-Chlorophenyl-phenylether	BDL	10
Fluorene	BDL	10
4-Nitroaniline	BDL	50
4,6-Dinitro-2-methylphenol	BDL	50
N-Nitrosodiphenylamine	BDL	10
Azobenzene	BDL	10
4-Bromophenyl-phenylether	BDL	10
Hexachlorobenzene	BDL	10
Pentachlorophenol	BDL	10
Phenanthrene	BDL	10
Anthracene	BDL	10
Di-N-butylphthalate	BDL	10
Fluoranthene	BDL	10
Benzidine	BDL	50
Pyrene	BDL	10
Butylbenzylpthalate	BDL	10
3,3'-Dichlorobenzidine	BDL	20
Benzo(A)anthracene	BDL	10
Chrysene	BDL	10
Bis(2-ethylhexyl)phthalate	BDL	10
Di-N-octylphthalate	BDL	10
Benzo(B)fluoranthene	BDL	10
Benzo(K)fluoranthene	BDL	10
Benzo(A)pyrene	BDL	10
Ideno(1,2,3,-CD)pyrene	BDL	10
Dibenz(A,H)anthracene	BDL	10
Benzo(G,H,I)perylene	BDL	10

METHOD REFERENCE: EPA SW 846, 3RD EDITION
METHOD 8270

BDL = Below detection limit

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MATRIX SPIKE RECOVERY
ACID/BASE/NEUTRAL EXTRACTABLE ORGANIC COMPOUNDS

Laboratory Number: LS-A2482
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/09/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
PHENOL	0	200	90	45
2-CHLOROPHENOL	0	200	128	64
1,4-DICHLOROBENZENE	0	100	64	64
N-NITROSO-DI-N-PROPYLAMINE	0	100	70	70
1,2,4-TRICHLOROBENZENE	0	100	65	65
4-CHLORO-3-METHYLPHENOL	0	200	127	64
ACENAPHTHENE	0	100	67	67
4-NITROPHENOL	0	200	79	39
2,4-DINITROTOLUENE	0	100	63	63
PENTACHLOROPHENOL	0	200	112	56
PYRENE	0	100	52	52

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8270

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5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN29

Lab File ID: >F2644 DFTPP Injection Date: 10/02/95

Instrument ID: FMS DFTPP Injection Time: 10:11

ION ABUNDANCE CRITERIA for F2644 are reported on a separate sheet.

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
ABNSTD050	ABNSTD050	F2646	10/02/95	10:28
ABNSTD160	ABNSTD160	F2647	10/02/95	11:08
ABNSTD120	ABNSTD120	F2648	10/02/95	11:46
ABNSTD080	ABNSTD080	F2649	10/02/95	12:24
ABNSTD020	ABNSTD020	F2650	10/02/95	13:02

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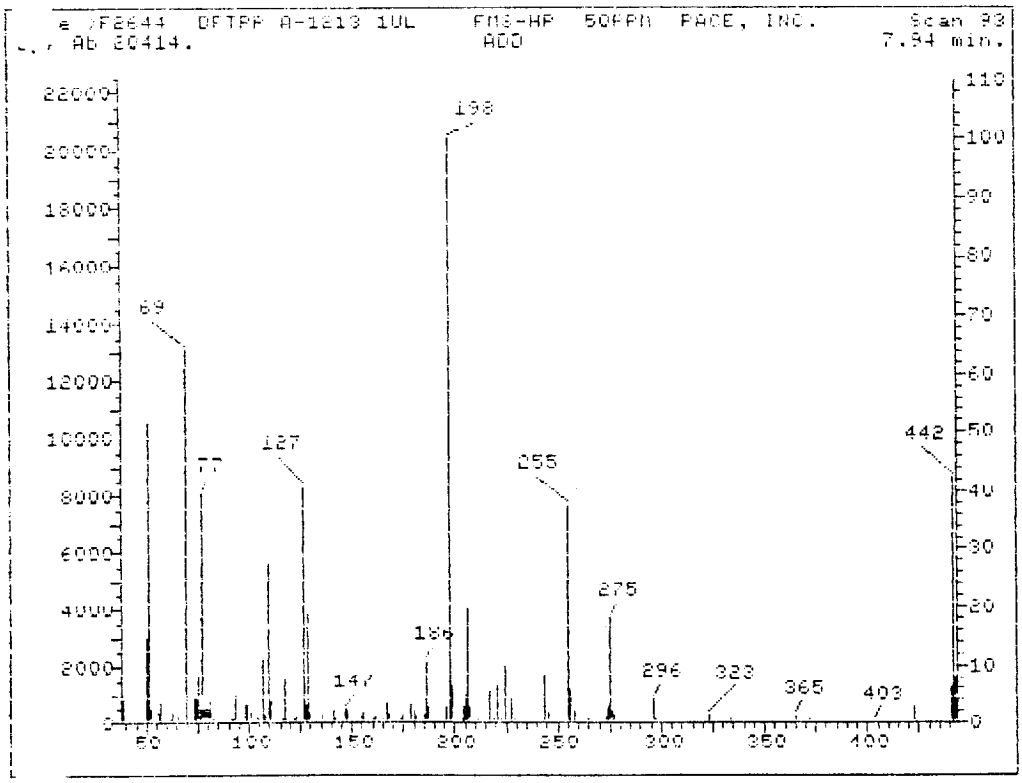
GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphosphine (DFTPP)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	51.57	51.57	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	64.22	64.22	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	40.70	40.70	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.39	6.39	Ok
275	10-30% of mass 198	17.91	17.91	Ok
365	Greater than 1% of mass 198	1.22	1.22	Ok
441	0-100% of mass 443	6.09	77.99	Ok
442	Greater than 40% of mass 198	42.29	42.29	Ok
443	17-23% of mass 442	7.81	18.48	Ok

Injection Date: 10/02/95
Injection Time: 10:11
Data File: >F2644
Scan: 93

10/2/95



5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN29

Lab File ID: >F2707 DFTPP Injection Date: 10/05/95

Instrument ID: FMS DFTPP Injection Time: 12:34

ION ABUNDANCE CRITERIA for F2707 are reported on a separate sheet.

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
ABNSTD050	ABNSTD050	F2709	10/05/95	12:51
90001-282	90001-282	F2721	10/05/95	20:22

pace INCORPORATED THE ASSURANCE OF QUALITY

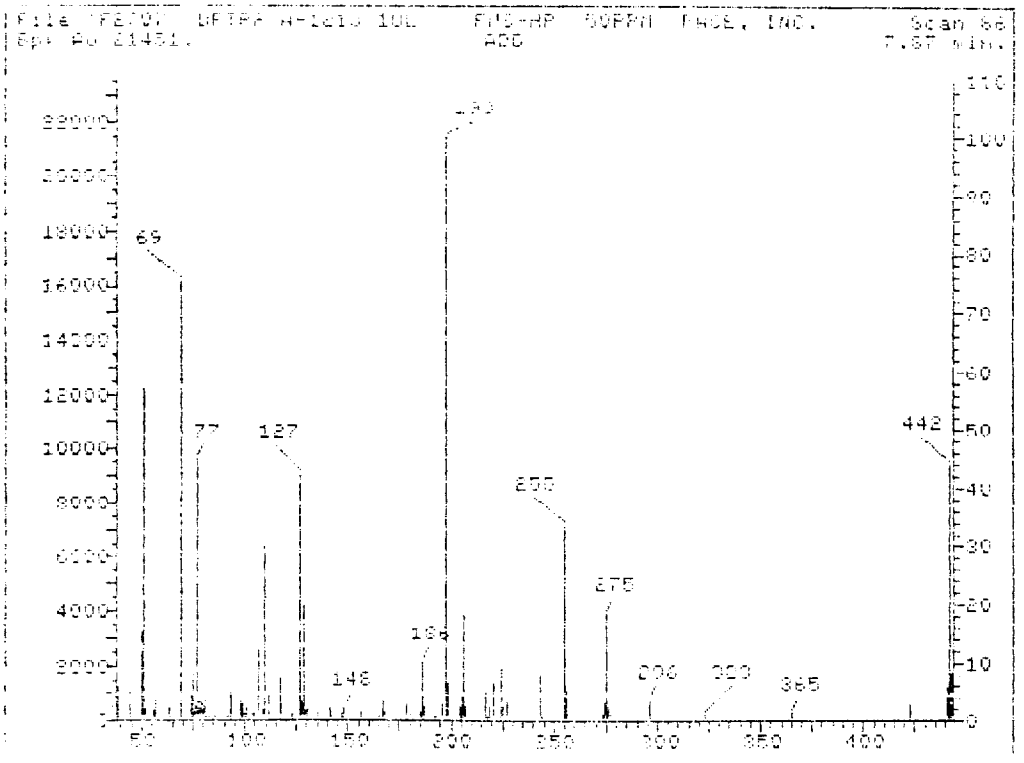
GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphosphine (DFTPP)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	57.01	57.01	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	75.38	75.38	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	42.11	42.11	Ok
197	Less than 1% of mass 198	.15	.15	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.56	6.56	Ok
275	10-30% of mass 198	18.25	18.25	Ok
365	Greater than 1% of mass 198	1.31	1.31	Ok
441	0-100% of mass 443	5.75	69.80	Ok
442	Greater than 40% of mass 198	43.94	43.94	Ok
443	17-23% of mass 442	8.24	18.76	Ok

Injection Date: 10/05/95
Injection Time: 12:34
Data File: >F2707
Scan: 86

THIS IS THE RESULT OF AVERAGING 85.00 86.00 87.00



5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN29

Lab File ID: >F2708 DFTPP Injection Date: 10/09/95

Instrument ID: FMS DFTPP Injection Time: 09:43

ION ABUNDANCE CRITERIA for F2708 are reported on a separate sheet.

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

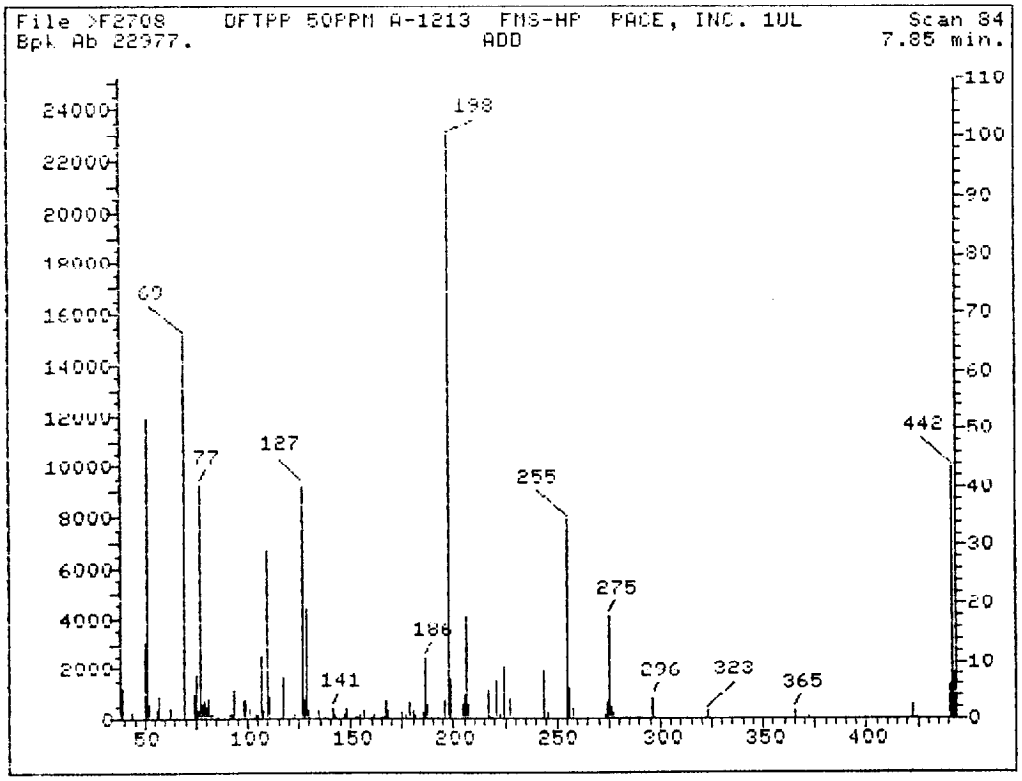
CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
ABNSTD050	ABNSTD050	F2729	10/09/95	10:01
BA2482	90176-150	F2730	10/09/95	10:41
LSA2482	90176-150MS	F2731	10/09/95	11:17
CLJ44-CU-070	45590-003	F2733	10/09/95	12:31

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphosphine (DFTPP)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	51.63	51.63	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	65.97	65.97	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	40.04	40.04	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.68	6.68	Ok
275	10-30% of mass 198	17.77	17.77	Ok
365	Greater than 1% of mass 198	1.45	1.45	Ok
441	0-100% of mass 443	5.72	73.12	Ok
442	Greater than 40% of mass 198	43.24	43.24	Ok
443	17-23% of mass 442	7.82	18.09	Ok

Injection Date: 10/09/95
Injection Time: 09:43
Data File: >F2708
Scan: 84



Initial Calibration Data
HSL Compounds

Case No: Instrument ID: FMS-HP

tractor: RESAN PACE, INC. Calibration Date: 10/02/95

Contract No:

10/2/95 K

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % RSD for CCC is 30%

Laboratory ID:	>FZ650	>FZ646	>FZ649	>FZ648	>FZ647					
Compound	RF 20.00	RF 50.00	RF 80.00	RF 120.00	RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C310 N-NITROSODIMETHYLAMINE	.85101	.87174	.94544	1.04810	1.12684	.438	.96863	12.118		
C550 2-FLUOROPHENOL	1.30134	1.31492	1.44842	1.47645	1.54845	.718	1.41792	7.530		
C545 PHENOL-d5	1.62307	1.55502	1.55470	1.48353	1.51802	.933	1.54687	3.356		
C570 2-CHLOROPHENOL-d4	1.40826	1.39605	1.37536	1.31097	1.34781	.957	1.36769	2.860		
C575 1,2-DICHLOROBENZENE-d4	.89580	.85058	.77377	.65587	.61237	1.046	.75768	16.090		
C515 PHENOL	1.84389	1.71334	1.75253	1.63694	1.70075	.936	1.72949	4.410	*	
C520 ANILINE	1.42437	1.33356	1.28399	1.14276	1.05223	.932	1.24738	11.967		
C525 BIS(2-CHLOROETHYL)ETHER	1.62462	1.53828	1.76113	1.87441	2.08574	.948	1.77684	12.112		
C530 2-CHLOROPHENOL	1.44949	1.39792	1.37063	1.29151	1.33330	.961	1.36857	4.414		
C535 1,3-DICHLOROBENZENE	1.61310	1.60279	1.58248	1.53797	1.52607	.992	1.57248	2.466		
C540 1,4-DICHLOROBENZENE	1.49770	1.50281	1.42277	1.36661	1.34492	1.004	1.42696	5.096	*	
C545 BENZYL ALCOHOL	.76623	.74560	.80042	.74069	.68063	1.042	.74671	5.864		
C550 1,2-DICHLOROBENZENE	1.51078	1.41915	1.27983	1.12568	1.02277	1.050	1.27164	15.838		
C555 2-METHYLPHENOL	1.16581	1.10063	1.14172	1.05715	1.02222	1.074	1.10151	5.915		
C560 BIS(2-CHLOROISOPROPYL)ETH	2.09954	1.73624	2.29288	2.25262	2.25030	1.079	2.12652	10.826		
5 4-METHYLPHENOL	1.24814	1.18351	1.15286	1.09923	1.14312	1.113	1.16537	4.740		
C570 N-NITROSO-DI-N-PROPYLAMIN	1.01592	.94012	1.03585	1.01215	.93426	1.118	.98767	4.757		**
C575 HEXACHLOROETHANE	.68649	.68844	.66097	.61737	.53715	1.125	.63609	9.918		
C610 NITROBENZENE	.45256	.43078	.42487	.42728	.43282	.870	.43366	2.537		
C615 ISOPHORONE	.93629	.90170	.92262	.96427	1.00016	.916	.94539	4.040		
C520 NITROBENZENE-d5	.43421	.41447	.42240	.42065	.43599	.866	.42554	2.169		
C620 2-NITROPHENOL	.25808	.25165	.25554	.24567	.24889	.930	.25197	1.979	*	
C625 2,4-DIMETHYLPHENOL	.41207	.38664	.37923	.37309	.38793	.942	.38779	3.826		
C630 BENZOIC ACID	.15888	.15419	.19074	.19467	.18801	.979	.17730	10.814		
C635 BIS(2-CHLOROETHOXY)METHAN	.56694	.51971	.54135	.51911	.55086	.958	.53960	3.813		
C640 2,4-DICHLOROPHENOL	.37156	.34457	.31645	.30488	.29854	.978	.32720	9.301	*	
C645 1,2,4-TRICHLOROBENZENE	.41551	.39075	.34894	.34157	.32431	.992	.36421	10.340		
C650 NAPHTHALENE	1.09732	.99183	.92624	.88866	.86587	1.004	.95398	9.774		
C655 4-CHLOROANILINE	.45239	.43116	.42942	.42338	.42543	1.018	.43235	2.687		
C660 HEXACHLOROBUTADIENE	.26570	.24207	.20780	.18892	.17055	1.039	.21501	18.030	*	

RF - Response Factor (Subscript is amount in ug/mL)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

- Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No:

Instrument ID: FMS-HP

tractor: RESAN PACE, INC.

Calibration Date: 10/02/95

Contract No:

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % RSD for CCC is 30%

	Laboratory ID:	>F2650	>F2646	>F2649	>F2648	>F2647					
	Compound	RF 20.00	RF 50.00	RF 80.00	RF 120.00	RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C465	4-CHLORO-3-METHYLPHENOL	.38677	.37228	.34036	.35600	.35358	1.115	.36180	4.972	*	
C470	2-METHYLNAPHTHALENE	.72687	.66331	.56821	.56605	.54995	1.138	.61488	12.509		
C555	2,4,6-TRIBROMOPHENOL	.31739	.29989	.29616	.29468	.28703	1.117	.29903	3.771		
C525	2-FLUOROBIPHENYL	1.42846	1.25372	1.14628	1.07248	1.00615	.901	1.18142	14.042		
C510	HEXACHLOROCYCLOPENTADIENE	.20807	.35087	.31905	.33071	.36299	.878	.31434	19.665		**
C515	2,4,6-TRICHLOROPHENOL	.50124	.47984	.45034	.46134	.47276	.691	.47311	4.085	*	
C520	2,4,5-TRICHLOROPHENOL	.55523	.52090	.47910	.46534	.44984	.898	.49408	8.744		
C525	2-CHLORONAPHTHALENE	1.27827	1.16346	1.06980	1.07409	1.06500	.916	1.13012	8.167		
C530	2-NITROANILINE	.51748	.49610	.52227	.56791	.60277	.936	.54131	7.978		
C535	DIMETHYLPHTHALATE	1.70539	1.57418	1.51091	1.56178	1.63821	.967	1.59809	4.705		
C540	ACENAPHTHYLENE	2.00340	1.75355	1.52721	1.43911	1.44130	.978	1.63291	14.915		
C545	3-NITROANILINE	.42572	.41052	.39938	.42198	.42578	.998	.41668	2.762		
C550	ACENAPHTHENE	1.21980	1.10486	1.00806	.97921	.97738	1.006	1.05786	9.867	*	
C555	2,4-DINITROPHENOL	.17686	.24004	.27576	.30056	.32438	1.012	.26352	21.871		**
C560	4-NITROPHENOL	.18461	.22623	.20784	.20453	.20303	1.026	.20525	7.221		**
5	DIBENZOFURAN	1.84229	1.62096	1.50382	1.42368	1.34856	1.029	1.54786	12.474		
C543	2,6-DINITROTOLUENE	.41487	.38619	.33290	.30217	.29466	.977	.34616	15.208		
C570	2,4-DINITROTOLUENE	.57908	.56446	.56428	.57940	.58034	1.034	.57352	1.457		
C580	DIETHYLPHTHALATE	1.78078	1.63403	1.51804	1.51250	1.51520	1.071	1.59211	7.372		
C585	4-CHLOROPHENYL-PHENYLETHE	.71716	.62831	.48128	.40976	.36808	1.078	.52091	28.365		
C590	FLUORENE	1.37242	1.15040	.97149	.90042	.87289	1.080	1.05352	19.790		
C595	4-NITROANILINE	.43255	.41586	.44154	.47287	.44460	1.092	.44148	4.712		
C610	4,6-DINITRO-2-METHYLPHENO	.20021	.22047	.20216	.16785	.14041	.902	.18622	17.107		
C615	N-NITROSODIPHENYLAMINE	.60791	.54858	.45796	.41103	.37750	.903	.48060	19.961	*	
C620	AZOBENZENE	.26088	.16091	.23319	.20550	.18731	.906	.20956	18.589		
C625	4-BROMOPHENYL-PHENYLETHER	.26649	.24437	.22424	.19951	.19061	.944	.22504	13.927		
C630	HEXACHLOROBENZENE	.41453	.37317	.34107	.31286	.29980	.964	.34829	13.364		
C635	PENTACHLOROPHENOL	.21151	.23728	.24664	.24410	.24580	.985	.23706	6.224	*	
C640	PHENANTHRENE	1.21629	1.13125	1.01979	.91828	.96369	1.003	1.04986	11.662		
C645	ANTHRACENE	1.25508	1.13069	1.01345	.89538	.83220	1.009	1.02536	16.766		

RF - Response Factor (Subscript is amount in ug/mL)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

- Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No: Instrument ID: FMS-HP

tractor: RESAN PACE, INC. Calibration Date: 10/02/95

Contract No:

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % RSD for CCC is 30%

Laboratory ID:	>FZ650	>FZ646	>FZ649	>FZ648	>FZ647					
Compound	RF 20.00	RF 50.00	RF 80.00	RF 120.00	RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C650 DI-N-BUTYLPHTHALATE	1.87936	1.63533	1.55114	1.42709	1.40625	1.074	1.57983	12.138		
C655 FLUORANTHENE	1.45032	1.34964	1.19649	1.09307	1.08040	1.148	1.23398	13.132	*	
C660 BENZIDINE	.07892	.06510	.10995	.11510	.10817	1.161	.09544	23.149		
C530 TERPHENYL-d14	1.05708	1.07111	1.09911	1.20852	1.28100	.900	1.14336	8.503		
C715 PYRENE	1.58859	1.64759	1.76357	1.98554	2.17730	.887	1.83252	13.386		
C720 BUTYLBENZYLPHTHALATE	1.01334	1.05355	1.17686	1.28474	1.43698	.947	1.15309	14.513		
C725 3,3'-DICHLOROBENZIDINE	.62485	.65055	.69647	.68982	.67352	.996	.66704	4.421		
C730 BENZO(A)ANTHRACENE	1.39429	1.46352	1.42564	1.37456	1.33144	.998	1.39789	3.586		
C745 BIS(2-ETHYLHEXYL)PHTHALAT	1.03681	1.07509	1.07977	1.06615	1.06325	1.000	1.06421	1.569		
C740 CHRYSENE	1.35964	1.35202	1.43098	1.48231	1.57025	1.003	1.43904	6.315		
C760 DI-N-OCTYLPHTHALATE	1.99784	1.83901	1.70021	1.55235	1.50484	.900	1.71485	12.132	*	
C765 BENZO(B)FLUORANTHENE	1.17952	1.27006	1.40805	1.02819	1.16566	.952	1.21029	11.595		
C770 BENZO(K)FLUORANTHENE	1.22957	.98036	.66547	.81143	.63707	.954	.86488	28.379		
C775 BENZO(A)PYRENE	1.08125	1.09468	1.02458	.95469	.93785	.993	1.01861	7.003	*	
C780 INDENO(1,2,3-CD)PYRENE	1.28468	1.30035	1.23850	1.20004	1.19433	1.192	1.24358	3.869		
5 DIBENZ(A,H)ANTHRACENE	1.05892	1.06536	1.01043	.98577	1.00299	1.192	1.02429	3.511		
C790 BENZO(G,H,I)PERYLENE	1.07462	1.09907	1.04669	1.03439	1.05885	1.246	1.06272	2.370		

RF - Response Factor (Subscript is amount in ug/mL)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

- Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Lab File No: Instrument ID: FMS-HP

Contractor: RESAN Calibration Date: 10/02/95

Contract No:

10/2/95

Minimum $\overline{RF}$ for SPCC is .05 Maximum % RSD for CCC is 30%

Laboratory ID:	>F2650	>F2646	>F2649	>F2648	>F2647				
	RF	RF	RF	RF	RF				
Compound	20.00	50.00	80.00	120.00	160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC SPCC
C300 PYRIDINE	1.32192	1.26642	1.50060	1.48860	1.53455	.437	1.42242	8.429	
C550 2-FLUOROPHENOL	1.30134	1.31492	1.44842	1.47645	1.54845	.718	1.41792	7.530	
C545 PHENOL-d5	1.62307	1.55502	1.55470	1.48353	1.51802	.933	1.54687	3.356	
C535 2-CHLOROPHENOL-d4	1.40826	1.39605	1.37536	1.31097	1.34781	.957	1.36769	2.860	
C540 1,2-DICHLOROBENZENE-d4	.89580	.85058	.77377	.65587	.61237	1.046	.75768	16.090	
C340 1,4-DICHLOROBENZENE	1.49770	1.50281	1.42277	1.36661	1.34492	1.004	1.42696	5.096	*
C355 2-METHYLPHENOL	1.18581	1.10063	1.14172	1.05715	1.02222	1.074	1.10151	5.915	
C367 3,4-METHYLPHENOLS	1.24814	1.18351	1.15286	1.09923	1.14312	1.113	1.16537	4.740	
C375 HEXACHLOROETHANE	.68649	.68844	.66097	.61737	.53715	1.125	.63809	9.918	
C410 NITROBENZENE	.45256	.43078	.42487	.42728	.43282	.870	.43366	2.537	
C520 NITROBENZENE-d5	.43421	.41447	.42240	.42065	.43599	.866	.42554	2.169	
C460 HEXACHLOROBUTADIENE	.26570	.24207	.20780	.18892	.17055	1.039	.21501	18.030	*
5 2,4,6-TRIBROMOPHENOL	.31739	.29989	.29616	.29468	.28703	1.117	.29903	3.771	
C525 2-FLUOROBIPHENYL	1.42846	1.25372	1.14628	1.07248	1.00615	.901	1.18142	14.042	
C515 2,4,6-TRICHLOROPHENOL	.50124	.47984	.45034	.46134	.47276	.891	.47311	4.085	*
C520 2,4,5-TRICHLOROPHENOL	.55523	.52090	.47910	.46534	.43844	.898	.49180	9.417	
C570 2,4-DINITROTOLUENE	.57908	.56446	.56428	.57940	.58034	1.034	.57352	1.457	
C630 HEXACHLOROBENZENE	.41453	.37317	.34107	.31286	.29980	.964	.34829	13.364	
C635 PENTACHLOROPHENOL	.21151	.23728	.24664	.24410	.24560	.985	.23706	6.224	*
C530 TERPHENYL-d14	1.05708	1.07111	1.09911	1.20652	1.28100	.900	1.14336	8.503	

RF - Response Factor (Subscript is amount in ug/mL)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/05/95

Contractor: RESAN PACE, INC. Time: 12:51

Contract No: Laboratory ID: >F2709

Instrument ID: FMS-HP Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % Diff for CCC is 20%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C310 N-NITROSODIMETHYLAMINE	.96863	.96102	.78		
C550 2-FLUOROPHENOL	1.41792	1.38163	2.56		
C545 PHENOL-d5	1.54687	1.73002	11.84		
C570 2-CHLOROPHENOL-d4	1.36769	1.43033	4.58		
C575 1,2-DICHLOROBENZENE-d4	.75768	.82884	9.39		
C315 PHENOL	1.72949	1.97731	14.33	*	
C320 ANILINE	1.24738	1.49915	20.18		
C325 BIS(2-CHLOROETHYL)ETHER	1.77684	1.74487	1.80		
C330 2-CHLOROPHENOL	1.36857	1.45256	6.14		
C335 1,3-DICHLOROBENZENE	1.57248	1.58147	.57		
C340 1,4-DICHLOROBENZENE	1.47696	1.49996	5.12	*	
C345 BENZYL ALCOHOL	.74671	.85116	13.99		
C350 1,2-DICHLOROBENZENE	1.27164	1.38941	9.26		
C355 2-METHYLPHENOL	1.10151	1.21540	10.34		
C360 BIS(2-CHLOROISOPROPYL)ETH	2.12652	2.23867	5.28		
C365 4-METHYLPHENOL	1.16537	1.26569	8.61		
C370 N-NITROSO-DI-N-PROPYLAMIN	.98767	1.01454	2.72		**
C375 HEXACHLOROETHANE	.63809	.72307	13.32		
C410 NITROBENZENE	.43366	.48283	11.34		
C415 ISOPHORONE	.94539	.99207	4.94		
C520 NITROBENZENE-d5	.42554	.47075	10.62		
C420 2-NITROPHENOL	.25197	.25950	2.99	*	
C425 2,4-DIMETHYLPHENOL	.38779	.41067	5.90		
C430 BENZOIC ACID	.17730	.14666	17.28		
C435 BIS(2-CHLOROETHOXY)METHAN	.53960	.56985	5.61		
C440 2,4-DICHLOROPHENOL	.32720	.34251	4.68	*	
C445 1,2,4-TRICHLOROBENZENE	.36421	.36683	.72		
C450 NAPHTHALENE	.95398	1.03685	8.69		
C455 4-CHLOROANILINE	.43235	.43821	1.36		
C460 HEXACHLOROBUTADIENE	.21501	.21967	2.17	*	
C465 4-CHLORO-3-METHYLPHENOL	.36180	.39491	9.15	*	
C470 2-METHYLNAPHTHALENE	.61488	.66175	7.62		

RF - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: | Calibration Date: 10/05/95

Contractor: RESAN PACE, INC. | Time: 12:51

Contract No: | Laboratory ID: >F2709

Instrument ID: FMS-HP | Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % Diff for CCC is 20%

	Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
0555	2,4,6-TRIBROMOPHENOL	.29903	.26167	12.50		
0525	2-FLUOROBIPHENYL	1.18142	1.21982	3.25		
0510	HEXACHLOROCYCLOPENTADIENE	.31434	.26647	15.23		**
0515	2,4,6-TRICHLOROPHENOL	.47311	.46215	2.32	*	
0520	2,4,5-TRICHLOROPHENOL	.49408	.48570	1.70		
0525	2-CHLORONAPHTHALENE	1.13012	1.16274	2.89		
0530	2-NITROANILINE	.54131	.60333	11.45		
0535	DIMETHYLPHTHALATE	1.59809	1.55532	2.68		
0540	ACENAPHTHYLENE	1.63291	1.77650	8.79		
0545	3-NITROANILINE	.41658	.43588	4.61		
0550	ACENAPHTHENE	1.05786	1.12518	6.36	*	
0555	2,4-DINITROPHENOL	.26352	.21107	19.90		**
0560	4-NITROPHENOL	.20526	.20309	1.05		**
0565	DIBENZOFURAN	1.54786	1.60302	3.56		
0570	2,6-DINITROTOLUENE	.34816	.37693	8.89		
0575	2,4-DINITROTOLUENE	.37352	.37735	.67		
0580	DIETHYLPHTHALATE	1.59211	1.62764	2.11		
0585	4-CHLOROPHENYL-PHENYLETHE	.52091	.57629	10.63		
0590	FLUORENE	1.05352	1.15045	9.20		
0595	4-NITROANILINE	.44148	.44366	.49		
0610	4,6-DINITRO-2-METHYLPHENO	.18622	.21362	14.72		
0615	N-NITROSODIPHENYLAMINE	.48060	.55608	15.71	*	
0620	AZOBENZENE	.20956	.19697	6.00		
0625	4-BROMOPHENYL-PHENYLETHER	.22504	.22902	1.77		
0630	HEXACHLOROBENZENE	.34829	.33977	2.45		
0635	PENTACHLOROPHENOL	.23706	.19707	16.87	*	
0640	PHENANTHRENE	1.04986	1.12864	7.50		
0645	ANTHRACENE	1.02536	1.13340	10.54		
0650	DI-N-BUTYLPHTHALATE	1.57983	1.77947	12.64		
0655	FLUORANTHENE	1.23398	1.30278	5.58	*	
0660	BENZIDINE	.09544	.04797	49.74		
0530	TERPHENYL-d14	1.14336	1.00507	12.10		

RF - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/05/95

Contractor: RESAN PACE, INC. Time: 12:51

Contract No: Laboratory ID: >F2709

Instrument ID: FMS-HP Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % Diff for CCC is 20%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C715 PYRENE	1.83252	1.66128	9.34		
C720 BUTYLBENZYLPHTHALATE	1.19309	1.12947	5.33		
C725 3,3'-DICHLOROBENZIDINE	.66704	.61847	7.28		
C730 BENZO(A)ANTHRACENE	1.39769	1.48373	6.14		
C745 BIS(2-ETHYLHEXYL)PHTHALAT	1.06421	1.16292	9.27		
C740 CHRYSENE	1.45904	1.27547	11.37		
C760 DI-N-OCTYLPHTHALATE	1.71485	2.09180	21.98	*	
C765 BENZO(B)FLUORANTHENE	1.21029	1.27456	5.31		
C770 BENZO(K)FLUORANTHENE	.86488	.96862	11.99		
C775 BENZO(A)PYRENE	1.01861	1.05909	3.97	*	
C780 INDENO(1,2,3-CD)PYRENE	1.24358	1.27531	2.55		
C785 DIBENZ(A,H)ANTHRACENE	1.02429	1.02522	.09		
C790 BENZO(G,H,I)PERYLENE	1.06272	1.07585	1.23		

RF - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/05/95

Contractor: RESAN Time: 12:51

Contract No: Laboratory ID: >F2709

Instrument ID: FM5-HP Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is .05 Maximum % Diff for CCC is 20%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
0590 PYRIDINE	1.42242	1.57859	10.98		
0359 2-FLUOROPHENOL	1.41792	1.38165	2.56		
0545 PHENOL-dF	1.54687	1.73001	11.84		
0539 2-CHLOROPHENOL-d4	1.36769	1.43033	4.58		
0540 1,2-DICHLOROBENZENE-d4	.75763	.82884	9.39		
0548 1,4-DICHLOROBENZENE	1.42696	1.49996	5.12	*	
0355 2-METHYLPHENOL	1.10181	1.21940	10.34		
0367 3,4-METHYLPHENOLS	1.16537	1.26369	8.61		
0375 HEXACHLOROETHANE	.63899	.72307	13.32		
0410 NITROBENZENE	.49586	.43263	11.34		
0520 NITROBENZENE-dF	.42594	.47075	10.62		
0450 HEXACHLOROBUTADIENE	.21501	.21967	2.17	*	
0375 2,4,6-TRICHLOROPHENOL	.29903	.26167	12.50		
0523 2-FLUOROBIPHENYL	1.18142	1.21962	3.25		
0510 2,4,5-TRICHLOROPHENOL	.47311	.46215	2.32	*	
0520 2,4,5-TRICHLOROPHENOL	.49188	.48570	1.24		
0570 2,4-DINITROTOLUENE	.57352	.57755	.67		
0630 HEXACHLOROBENZENE	.34829	.33977	2.45		
0635 PENTACHLOROPHENOL	.23706	.19707	16.87	*	
0570 TERPHENYL-d14	1.14736	1.00507	12.40		

$\overline{RF}$ - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

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CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/09/95

Contractor: RESAN PACE, INC. Time: 10:01

Contract No: Laboratory ID: >F2729

Instrument ID: FMS-HP Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % Diff for CCC is 20%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C310 N-NITROSODIMETHYLAMINE	.96863	.86538	10.66		
C550 2-FLUOROPHENOL	1.41792	1.33039	6.17		
C545 PHENOL-d5	1.54687	1.61858	4.64		
C570 2-CHLOROPHENOL-d4	1.36769	1.42636	4.29		
C575 1,2-DICHLOROBENZENE-d4	.75768	.84352	11.33		
C315 PHENOL	1.72949	1.89128	9.35	*	
C320 ANILINE	1.24738	1.44202	15.60		
C325 BIS(2-CHLOROETHYL)ETHER	1.77684	1.63655	7.90		
C330 2-CHLOROPHENOL	1.36857	1.39455	1.90		
C335 1,3-DICHLOROBENZENE	1.57248	1.60423	2.02		
C340 1,4-DICHLOROBENZENE	1.42696	1.50224	5.28	*	
C345 BENZYL ALCOHOL	.74671	.80057	7.21		
C350 1,2-DICHLOROBENZENE	1.27164	1.44876	13.93		
C355 2-METHYLPHENOL	1.10151	1.14603	4.04		
C360 BIS(2-CHLOROISOPROPYL)ETH	2.12632	2.08419	1.98		
C365 4-METHYLPHENOL	1.16537	1.19165	2.25		
C370 N-NITROSO-DI-N-PROPYLAMIN	.98767	.94548	4.27		**
C375 HEXACHLOROETHANE	.63809	.71061	11.37		
C410 NITROBENZENE	.43366	.45074	3.94		
C415 ISOPHORONE	.94539	.94033	.54		
C520 NITROBENZENE-d5	.42554	.43356	1.88		
C420 2-NITROPHENOL	.25197	.25647	1.79	*	
C425 2,4-DIMETHYLPHENOL	.38779	.38947	.43		
C430 BENZOIC ACID	.17730	.15144	14.58		
C435 BIS(2-CHLOROETHOXY)METHAN	.53960	.54771	1.50		
C440 2,4-DICHLOROPHENOL	.32720	.33701	3.00	*	
C445 1,2,4-TRICHLOROBENZENE	.36421	.38131	4.69		
C450 NAPHTHALENE	.95398	1.01461	6.36		
C455 4-CHLOROANILINE	.43235	.41979	2.91		
C460 HEXACHLOROBUTADIENE	.21501	.22311	3.77	*	
C465 4-CHLORO-3-METHYLPHENOL	.36180	.37633	4.02	*	
C470 2-METHYLNAPHTHALENE	.61488	.65773	6.97		

RF - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/09/95

Contractor: RESAN PACE, INC. Time: 10:01

Contract No: Laboratory ID: >F2729

Instrument ID: FMS-HP Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % Diff for CCC is 20%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C715 PYRENE	1.83252	1.58581	13.46		
C720 BUTYLBENZYLPHTHALATE	1.19309	1.05293	11.75		
C725 3,3'-DICHLOROBENZIDINE	.66704	.49738	25.44		
C730 BENZO(A)ANTHRACENE	1.39789	1.35984	2.72		
C745 BIS(2-ETHYLHEXYL)PHTHALAT	1.06421	1.06355	.06		
C740 CHRYSENE	1.43904	1.18352	17.76		
C760 DI-N-OCTYLPHTHALATE	1.71485	2.15587	25.72	*	
C765 BENZO(B)FLUORANTHENE	1.21029	1.15205	4.81		
C770 BENZO(K)FLUORANTHENE	.86488	1.21393	40.36		
C775 BENZO(A)PYRENE	1.01861	1.08614	6.63	*	
C780 INDENO(1,2,3-CD)PYRENE	1.24358	1.10700	10.98		
C785 DIBENZ(A,H)ANTHRACENE	1.02429	.87684	14.40		
C790 BENZO(G,H,I)PERYLENE	1.06272	.93647	11.88		

RF - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: _____ Calibration Date: 10/09/95

Contractor: RESAN Time: 10:01

Contract No: _____ Laboratory ID: >F2729

Instrument ID: FMS-HP Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is .05 Maximum % Diff for CCC is 20%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C300 PYRIDINE	1.42242	1.39341	2.04		
C550 2-FLUOROPHENOL	1.41792	1.33039	6.17		
C545 PHENOL-d5	1.54687	1.61858	4.64		
C535 2-CHLOROPHENOL-d4	1.36769	1.42636	4.29		
C540 1,2-DICHLOROBENZENE-d4	.75768	.84352	11.33		
C340 1,4-DICHLOROBENZENE	1.42696	1.50224	5.28	*	
C355 2-METHYLPHENOL	1.10151	1.14603	4.04		
C367 3,4-METHYLPHENOLS	1.16537	1.19165	2.25		
C375 HEXACHLOROETHANE	.63809	.71061	11.37		
C410 NITROBENZENE	.43366	.45074	3.94		
C520 NITROBENZENE-d5	.42554	.43356	1.88		
C460 HEXACHLOROBUTADIENE	.21501	.22311	3.77	*	
C555 2,4,6-TRIBROMOPHENOL	.29903	.25998	13.06		
C525 2-FLUOROBIPHENYL	1.18142	1.24577	5.45		
C515 2,4,6-TRICHLOROPHENOL	.47311	.46792	1.10	*	
C520 2,4,5-TRICHLOROPHENOL	.49180	.47922	1.51		
C570 2,4-DINITROTOLUENE	.57352	.56368	1.71		
C630 HEXACHLOROBENZENE	.34829	.34960	.38		
C635 PENTACHLOROPHENOL	.23706	.22313	5.88	*	
C530 TERPHENYL-d14	1.14336	1.01839	10.93		

RF - Response Factor from daily standard file at 50.00 ug/mL

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%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN29

Lab File ID (Standard): >F2709 Date Analyzed: 10/05/95

Instrument ID: FMS Time Analyzed: 12:51

	IS1(DCB)		IS2(NPT)		IS3(ANT)		IS4(PHN)		IS5(CRY)		IS6(PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	26550	6.62	92373	8.75	51834	11.81	83099	14.37	65249	19.05	89572	22.54
UPPER LIMIT	53100	7.12	184746	9.25	103668	12.31	166198	14.87	130498	19.55	179144	23.04
LOWER LIMIT	13275	6.12	46187	8.25	25917	11.31	41550	13.87	32625	18.55	44786	22.04
CLIENT I.D.												
90001-282	24562	6.62	82033	8.74	44359	11.79	68254	14.37	63579	19.03	63167	22.50

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10
IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag internal standard area values outside of UPPER and LOWER LIMIT with an asterisk

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SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN29

Lab File ID (Standard): >F2729 Date Analyzed: 10/09/95

Instrument ID: FMS Time Analyzed: 10:01

	IS1(DCB)		IS2(NPT)		IS3(ANT)		IS4(PHN)		IS5(CRY)		IS6(PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	25147	6.61	87476	8.74	49774	11.80	77223	14.37	63081	19.05	72320	22.52
UPPER LIMIT	50294	7.11	174952	9.24	99548	12.30	154446	14.87	126162	19.55	144640	23.02
LOWER LIMIT	12574	6.11	43738	8.24	24887	11.30	38612	13.87	31541	18.55	36160	22.02
CLIENT I.D.												
BA2482	25075	6.61	84078	8.73	46678	11.79	73344	14.37	65687	19.03	64358	22.51
LSA2482	22885	6.62	82728	8.73	47540	11.80	72335	14.37	66152	19.03	64245	22.50
CLJ44-CU-070	22976	6.61	77870	8.73	42870	11.79	66363	14.36	60410	19.04	56880	22.49

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10
IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag internal standard area values outside of UPPER and LOWER LIMIT with an asterisk

pace INCORPORATED THE ASSURANCE OF QUALITY

PACE New England | **GCMS Semi Volatiles** | 0000012

RUN LOG

Voltage 1500 | Tune Meth MSFBFT | Initial Cal 10/2/95 | Date 10/2/95

Threshold 30 | Sample Meth MSFFST | Batch File FOC02A, B, C | Analyst M

uASOP 5200 | Volume Inj 1ul | Int Std A-1482 | Instr F MS-HP

Maintenance: Septum ✓ | Liner ✓ | Inlet Disk ✓ | Column Clip ✓ | Other

Bd #	File #	Sample	Matrix	ID File	Dil	SDG	Comments	MI	A	R	Arcv	P
-	>F2644	DFTPP50	A-1213				m/e198=17K inj 1011 scan 93+94		✓	✓	A1/3??	
✓	46	ABN STD50	A-1488	IFOC02			SSTD050	✓K	✓	✓		
✓	47	160	A-1485	↓			SSTD 160	↓	✓	✓		
✓	48	120	A-1486				SSTD 120		✓	✓		
✓	49	80	A-1487				SSTD 080		✓	✓		
✓	50	20	A-1489	↓			SSTD020	↓	✓	✓		
	51	45461-1	ABNL	IFT002	1/1				✓	✓		
	52	-2	↓	↓	↓				✓	✓		1
	53	-3		↓					✓	✓		
✓	54	BA2467		IF1002		GLN22			✓	✓		
✓	55	LSA2467					no surrs!		✓	✓		
✓	56	BA2468					phth 3ppb		✓	✓		
✓	57	LSA2468		↓					✓	✓		
	58	45514-10		IFT002					✓	✓		
	59	-18							✓	✓		
	60	-12							✓	✓		
	61	-13							✓	✓		
	62	-14				↓			✓	✓		
	63	4544--7					Acsurr's fail - REX					
	64	-18	↓	↓	↓		Acsurr's low, but passing		✓	✓		
							TCLP spkcal - CFTCLP/IFTCLP (IF---files)					
				10/3/95			CFNA } - PNRemods - IFNA } use A files					

0000082

PACE New England

GCMS Semi Volatiles
RUN LOG

Voltage 1500 | Tune Meth MSFDFT | Initial Cal 10/2/95 | Date 10/5/95
Threshold 30 | Sample Meth MSFEST | Batch File FOC#5A | Analyst NT
QASOP 5200 | Volume Inj 1ul | Int Std A-1490 | Instr F MS-HP

Maintenance: Septum ✓ Liner ✓ Inlet Disk ✓ Column Clip ✓ Other

Bd #	File #	Sample	Matrix	ID File	Dil	SDG	Comments	MI	A	R	Arcv	P
✓	>F2707	DFTPP 50	A-1213				m/e 198 = 15K inj 1234 scan 85+86+87		✓	✓	10/3	
✓	09	ABN STD 50	A-1088	IF0402 IFTCLP			compliant 8270	✓	✓	✓		
✓	10	BA2473	ABNL	IF1005	1/1	Rush			✓	✓		
✓	11	LSA2473	↓	↓	↓	↓			✓	✓		
	12	45461-7RE		IFT005					✓	✓		
	13	-9		↓	1/5	↓			✓	✓		
✓	14	BA2478		IF1005	1/1	LN27			✓	✓		
✓	15	LSA2478		↓	↓	↓			✓	✓		
	16	45563-9		IFT005					✓	✓		
	17	-10		↓					✓	✓		
	18	-11							✓	✓		
	19	-12							✓	✓		
	20	-13							✓	✓		
✓	21	90001-282	↓	↓	↓	↓			✓	✓		
	22	45547-2	↓	IF1005	1/5				✓	✓		
	23	MeCl2 check	BK880	↓	1/1				✓	✓		
	24	MeCl2 check	BK873						✓	✓		
	25	surr check	E-1419						✓	✓		
10/6/95 NT	26	surr check	E-1419						✓	✓	10/3	

10/6/95

PACE New England

GCMS Semi Volatiles
RUN LOG

0000016

Voltage 1500 | Tune Meth MSFDFT | Initial Cal 10/2/95 | Date 10/9/95
Threshold 30 | Sample Meth MSFFST | Batch File FOC09A | Analyst MK
OASOP 5200 | Volume Inj 1ul | Int Std A-1490 | Instr F MS-HP

Maintenance: Septum _____ Liner _____ Inlet Disk _____ Column Clip _____ Other none

Btl #	File #	Sample	Matrix	ID File	Dil	SDG	Comments	MI	A	R	Arcv	P
	7F2727	DFTPP50	A1213				m/e 198=15K inj 0943		✓	✓	A1/BFT	
/	7F2709	DFTPP50	A1213	—	—	—	scan 841+853+856 ref					
/	29	ABN STD50	A-1490	IFOC12 IFTCLP			compound 8270		✓	✓		
/	30	BA2482	ABNL	IF1009	1/1				✓	✓		
/	31	LSA2482		↓					✓	✓		
	32	45563-19		IFT006		LJN27	all surr's low=REX					
	33	45590-3				LJN29			✓	✓		
	34	45594-7				LJN31			✓	✓		
	35	-8				↓			✓	✓		
	36	-9							✓	✓		
	37	45576-1		↓	↓	Pace ME			✓	✓		
	38	45544-3		IF1009	1/50				✓	✓		
	39	BA2483			1/1				✓	✓		
	40	LSA2483	↓	↓	↓				✓	✓		

10/9/95

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EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

4CU070

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN29

Matrix (soil/water): WATER Lab Sample ID: 45590-003

Level (low/med): LOW Date Received: 10/04/95

% 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				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	17.8	U		P
7440-39-3	Barium	88.0	B		P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	3.7	U		P
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	24.9			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	23.7	U		P
7440-22-4	Silver	1.9	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
TCLP EXTRACT. FULL SAMPLE ID = CLJ44-CU-070

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR NON-VOLATILE CONSTITUENTS

Laboratory Number : 45590-003
Field Identification : CLJ44-CU-070
Extraction Date : 10/05/95
TCLP Blank : 90,001-282

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

A 5.0 gm portion of the sample was stirred with 96.5 mL deionized water. The pH at the end of 5 minutes was 6.65. 3.5 mL 1.0N HCl was added and the mixture was then heated to 50C for ten minutes. Upon cooling the pH was 1.59, therefore Extraction Fluid #1 was used.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 100 gm of sample was added to the extractor with 2000 mL Extraction Fluid #1.

Extraction Time : 19.50 hrs

Final pH : 4.92

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

pace INCORPORATED THE ASSURANCE OF QUALITY

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2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN29

Initial Calibration Source: VHG\MAL\SPEX

Continuing Calibration Source: SOL+\VHG\MAL

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									NR
Antimony									NR
Arsenic	1000.0	982.32	98.2	10000.0	9106.08	91.1	9235.01	92.4	P
Barium	1000.0	1003.07	100.3	40000.0	39199.37	98.0	39311.34	98.3	P
Beryllium									NR
Cadmium	500.0	489.11	97.8	1000.0	943.05	94.3	960.97	96.1	P
Calcium									NR
Chromium	1000.0	1040.51	104.1	4000.0	3989.13	99.7	4005.41	100.1	P
Cobalt									NR
Copper									NR
Iron									NR
Lead	1000.0	986.33	98.6	10000.0	9415.60	94.2	9418.23	94.2	P
Magnesium									NR
Manganese									NR
Mercury	4.0	4.24	106.0	5.0	4.76	95.2	4.74	94.8	CV
Nickel									NR
Potassium									NR
Selenium	1000.0	998.12	99.8	10000.0	9431.28	94.3	9657.60	96.6	P
Silver	200.0	202.88	101.4	1000.0	1012.01	101.2	1016.78	101.7	P
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN29

Initial Calibration Source: VHG\MAL\SPEX

Continuing Calibration Source: SOL+\VHG\MAL

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum									NR
Antimony									NR
Arsenic				10000.0	9178.85	91.8	9169.24	91.7	P
Barium				40000.0	39137.10	97.8	38705.81	96.8	P
Beryllium									NR
Cadmium				1000.0	960.64	96.1	960.52	96.1	P
Calcium									NR
Chromium				4000.0	3994.53	99.9	3974.33	99.4	P
Cobalt									NR
Copper									NR
Iron									NR
Lead				10000.0	9433.57	94.3	9402.16	94.0	P
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium				10000.0	9545.08	95.5	9495.50	95.0	P
Silver				1000.0	1009.93	101.0	1005.52	100.6	P
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN29

Initial Calibration Source: VHG\MAL\SPEX

Continuing Calibration Source: SOL+\VHG\MAL

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									NR
Antimony									NR
Arsenic				10000.0	9387.97	93.9	9443.33	94.4	P
Barium				40000.0	39838.58	99.6	39902.91	99.8	P
Beryllium									NR
Cadmium				1000.0	977.71	97.8	982.28	98.2	P
Calcium									NR
Chromium				4000.0	4081.82	102.0	4068.89	101.7	P
Cobalt									NR
Copper									NR
Iron									NR
Lead				10000.0	9595.94	96.0	9609.40	96.1	P
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium				10000.0	9824.07	98.2	9699.10	97.0	P
Silver				1000.0	1025.76	102.6	1029.62	103.0	P
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN29

Initial Calibration Source: VHG\MAL\SPEX

Continuing Calibration Source: SOL+\VHG\MAL

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									NR
Antimony									NR
Arsenic				10000.0	9878.44	98.8	9526.81	95.3	P
Barium				40000.0	41439.47	103.6	40493.54	101.2	P
Beryllium									NR
Cadmium				1000.0	1018.16	101.8	1002.28	100.2	P
Calcium									NR
Chromium				4000.0	4247.69	106.2	4152.51	103.8	P
Cobalt									NR
Copper									NR
Iron									NR
Lead				10000.0	9972.89	99.7	9789.25	97.9	P
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium				10000.0	10161.05	101.6	9986.97	99.9	P
Silver				1000.0	1061.94	106.2	1040.62	104.1	P
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

3
BLANKS

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN29

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic	17.8	U	17.8	U	17.8	U	20.7		17.800	U	P
Barium	2.7	U	5.5	B	11.2	B	11.1	B	2.700	U	P
Beryllium											NR
Cadmium	1.5	U	1.5	U	1.5	U	1.5	U	1.500	U	P
Calcium											NR
Chromium	3.7	U	3.7	U	3.7	U	3.7	U	3.700	U	P
Cobalt											NR
Copper											NR
Iron											NR
Lead	10.8	U	10.8	U	12.1		10.8	U	10.800	U	P
Magnesium											NR
Manganese											NR
Mercury	0.1	U	0.1	U	0.1	U			0.100	B	CV
Nickel											NR
Potassium											NR
Selenium	23.7	U	23.7	U	23.7	U	23.7	U	23.700	U	P
Silver	1.9	U	-2.6	B	1.9	U	1.9	U	-2.720	B	P
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

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3
BLANKS

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN29

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic			24.8		17.8	U	17.8	U			P
Barium			11.5	B	7.4	B	13.2	B			P
Beryllium											NR
Cadmium			1.5	U	1.5	U	1.5	U			P
Calcium											NR
Chromium			3.7	U	3.7	U	3.7	U			P
Cobalt											NR
Copper											NR
Iron											NR
Lead			10.8	U	10.8	U	10.8	U			P
Magnesium											NR
Manganese											NR
Mercury											
Nickel											NR
Potassium											NR
Selenium			23.7	U	23.7	U	23.7	U			P
Silver			1.9	U	1.9	B	1.9	U			P
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

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3
BLANKS

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN29

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic			17.8	U	27.6						P
Barium			14.2	B	15.0	B					P
Beryllium											NR
Cadmium			1.5	U	1.5	U					P
Calcium											NR
Chromium			3.7	U	3.7	U					P
Cobalt											NR
Copper											NR
Iron											NR
Lead			10.8	U	10.8	U					P
Magnesium											NR
Manganese											NR
Mercury											
Nickel											NR
Potassium											NR
Selenium			23.7	U	23.7	U					P
Silver			-2.1	B	-2.6	B					P
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

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4
ICP INTERFERENCE CHECK SAMPLE

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN29

ICP ID Number: TJA01 ICS Source: VHG

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum	500000	500000	502195	495378.2	99.1	518934	511753.5	102.4
Antimony								
Arsenic			-194	-120.1		-138	-88.0	
Barium		500	-4	471.2	94.2	-4	488.4	97.7
Beryllium								
Cadmium		1000	4	891.2	89.1	4	925.9	92.6
Calcium	500000	500000	491639	481412.5	96.3	502503	497925.6	99.6
Chromium		500	-1	458.2	91.6	0	477.4	95.5
Cobalt								
Copper								
Iron	200000	200000	187433	183769.6	91.9	194076	193111.5	96.6
Lead		1000	34	909.4	90.9	48	969.8	97.0
Magnesium	500000	500000	494025	487523.7	97.5	511354	505478.3	101.1
Manganese								
Mercury								
Nickel								
Potassium								
Selenium			-16	-16.6		-12	-56.1	
Silver		1000	-3	942.0	94.2	0	978.2	97.8
Sodium								
Thallium								
Vanadium								
Zinc								

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7

LABORATORY CONTROL SAMPLE

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN29

Solid LCS Source:

Aqueous LCS Source: SOL+\SPX\MAL

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic	2000.0	1826.14	91.3						
Barium	2000.0	1875.10	93.8						
Beryllium									
Cadmium	50.0	53.04	106.1						
Calcium									
Chromium	200.0	199.18	99.6						
Cobalt									
Copper									
Iron									
Lead	500.0	459.02	91.8						
Magnesium									
Manganese									
Mercury	8.0	7.88	98.5						
Nickel									
Potassium									
Selenium	2000.0	1844.25	92.2						
Silver	50.0	47.01	94.0						
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

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10
INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN29

ICP ID Number: TJA01 Date: 07/25/95

Flame AA ID Number:

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum	308.22		200.0	10.5	P
Antimony	206.84		60.0	10.5	P
Arsenic	193.70		10.0	17.8	P
Barium	493.41		200.0	2.7	P
Beryllium	313.04		5.0	0.3	P
Cadmium	228.80		5.0	1.5	P
Calcium	317.93		5000.0	10.7	P
Chromium	267.72		10.0	3.7	P
Cobalt	228.62		50.0	1.2	P
Copper	324.75		25.0	2.5	P
Iron	259.94		100.0	9.4	P
Lead	220.35		3.0	10.8	P
Magnesium	279.08		5000.0	15.5	P
Manganese	257.61		15.0	0.8	P
Mercury			0.2		
Nickel	231.60		40.0	6.1	P
Potassium	766.49		5000.0	365.9	P
Selenium	196.03		5.0	23.7	P
Silver	328.07		10.0	1.9	P
Sodium	589.00		5000.0	6.4	P
Thallium			10.0		
Vanadium	292.40		50.0	3.5	P
Zinc	213.86		20.0	3.2	P

Comments:

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10
INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN29

ICP ID Number: Date: 08/30/95

Flame AA ID Number: PE02

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony			60.0		
Arsenic			10.0		
Barium			200.0		
Beryllium			5.0		
Cadmium			5.0		
Calcium			5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper			25.0		
Iron			100.0		
Lead			3.0		
Magnesium			5000.0		
Manganese			15.0		
Mercury	253.70		0.2	0.1	CV
Nickel			40.0		
Potassium			5000.0		
Selenium			5.0		
Silver			10.0		
Sodium			5000.0		
Thallium			10.0		
Vanadium			50.0		
Zinc			20.0		

Comments:
PE02 IS A MERCURY COLD VAPOR INSTRUMENT.

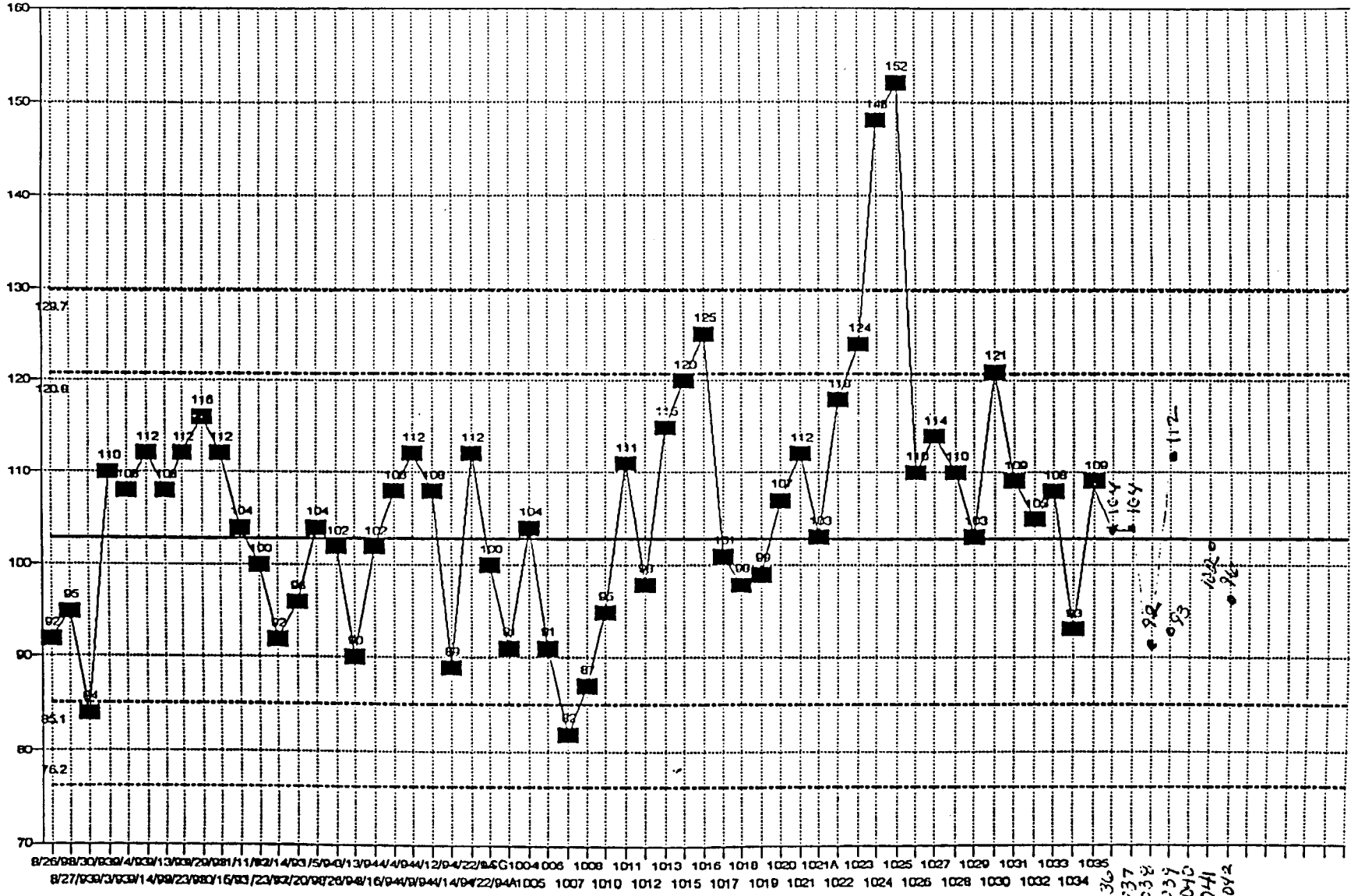
PACE New England, Inc.

Metals Results for TCLP Blank 282

ELEMENT	BLANK RESULT	
Arsenic	< 0.20	mg/L
Barium	< 0.10	mg/L
Cadmium	< 0.005	mg/L
Chromium	< 0.01	mg/L
Lead	< 0.05	mg/L
Mercury	< 0.0003	mg/L
Selenium	< 0.20	mg/L
Silver	< 0.02	mg/L

All results are methods 3010 and 6010,
except mercury (method 7470).

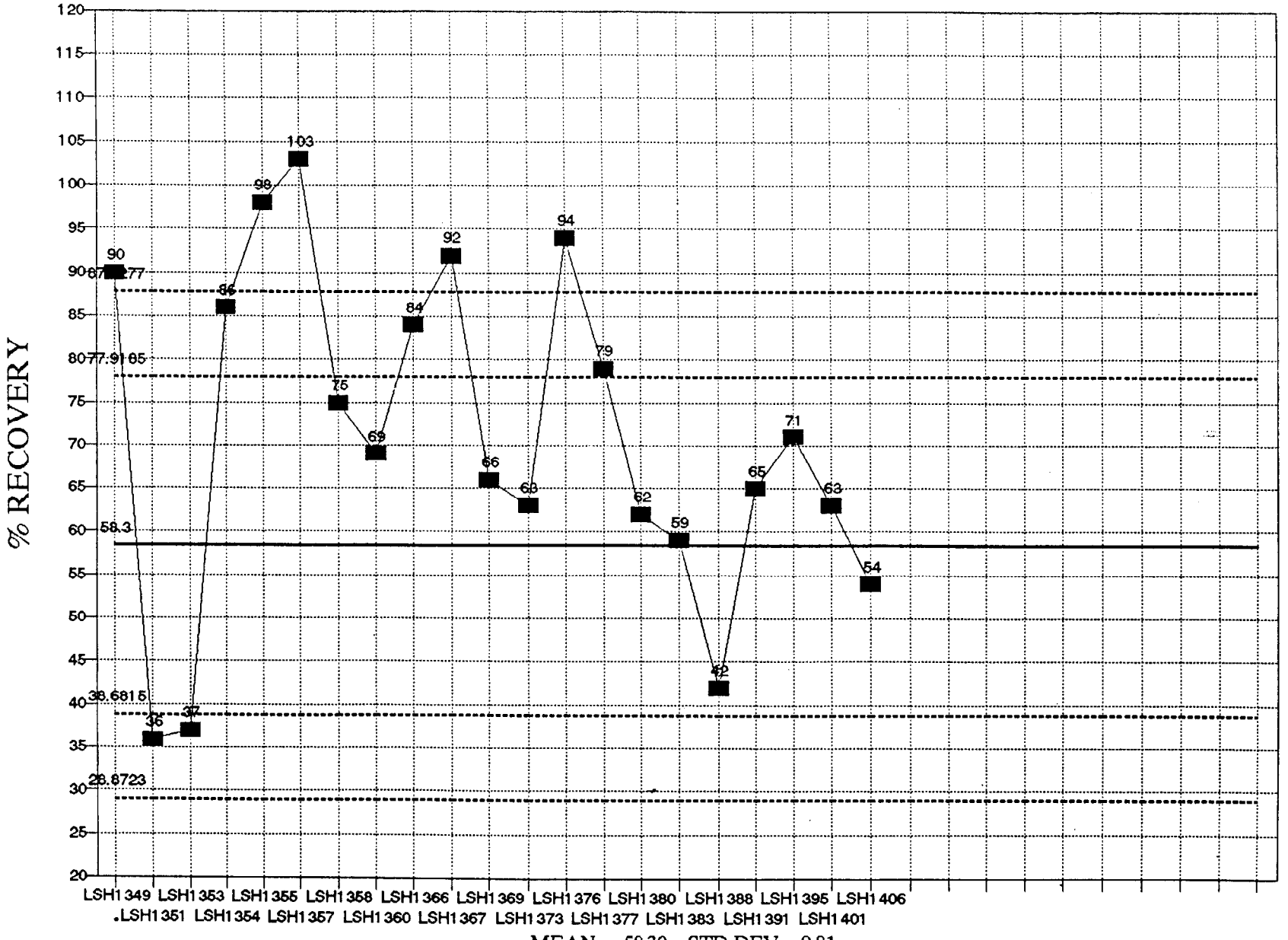
TOTAL GAS LCS RECOVERIES
LIMITS SET 4/13/94



6600000

PHC LOW SOLIDS - DIESEL

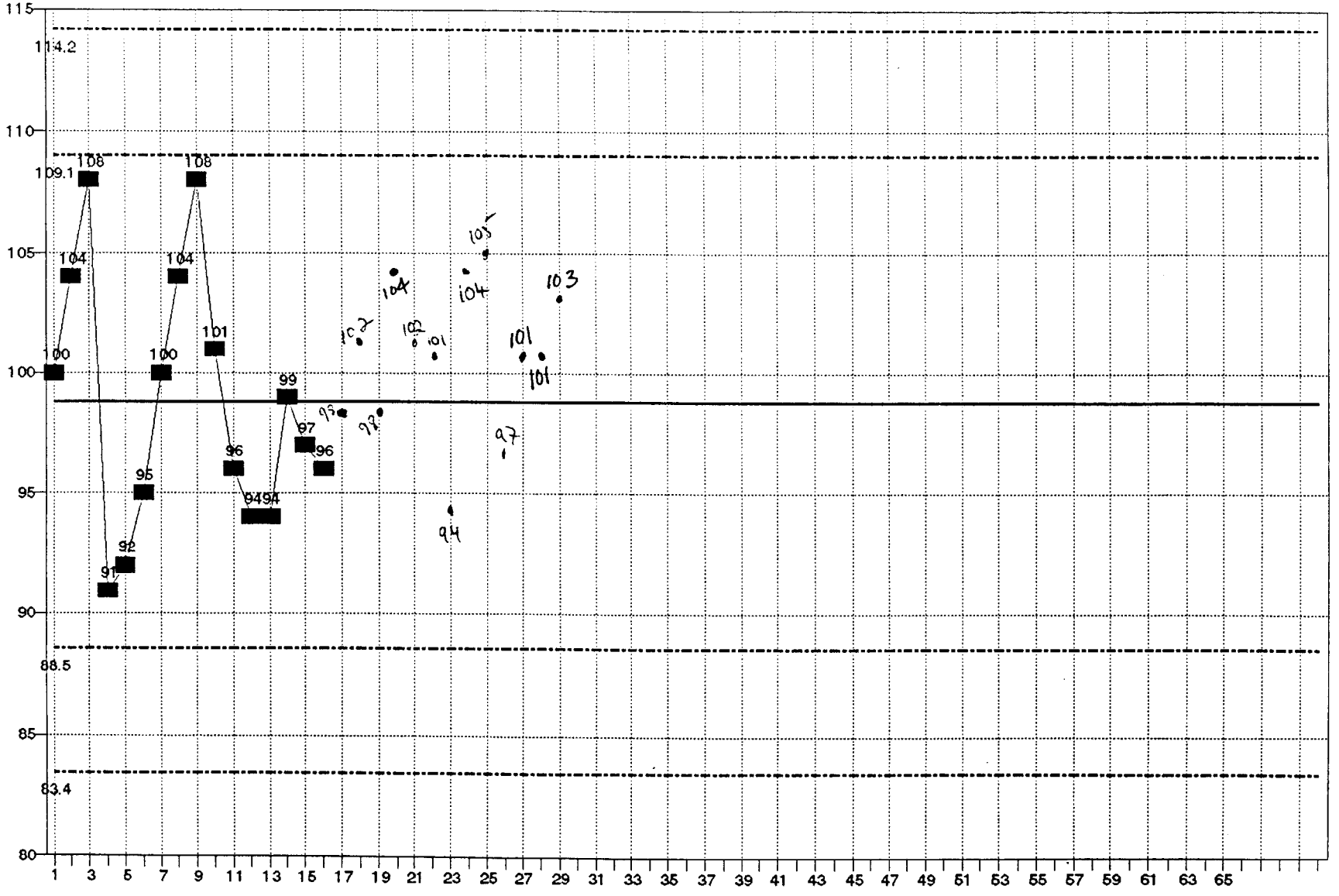
SPK REC LIMS SET6/6/95-PPCBCHT\PHCS1294



MEAN = 58.30 STD DEV =9.81

0000100

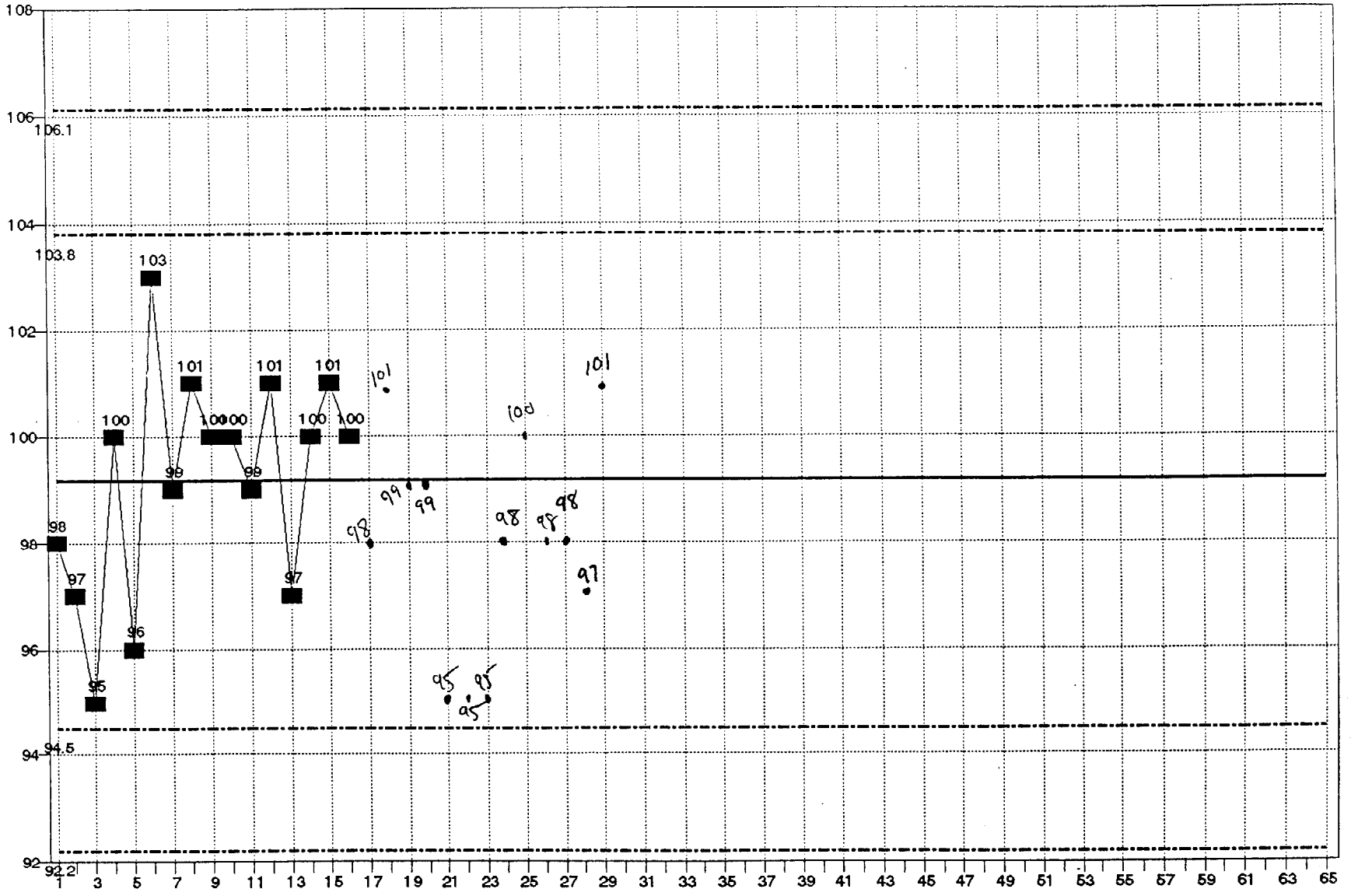
VOA TCLP - SURR DCE
LIMIT SET 7/93



STD DEV = 5.13 MEAN = 98.8

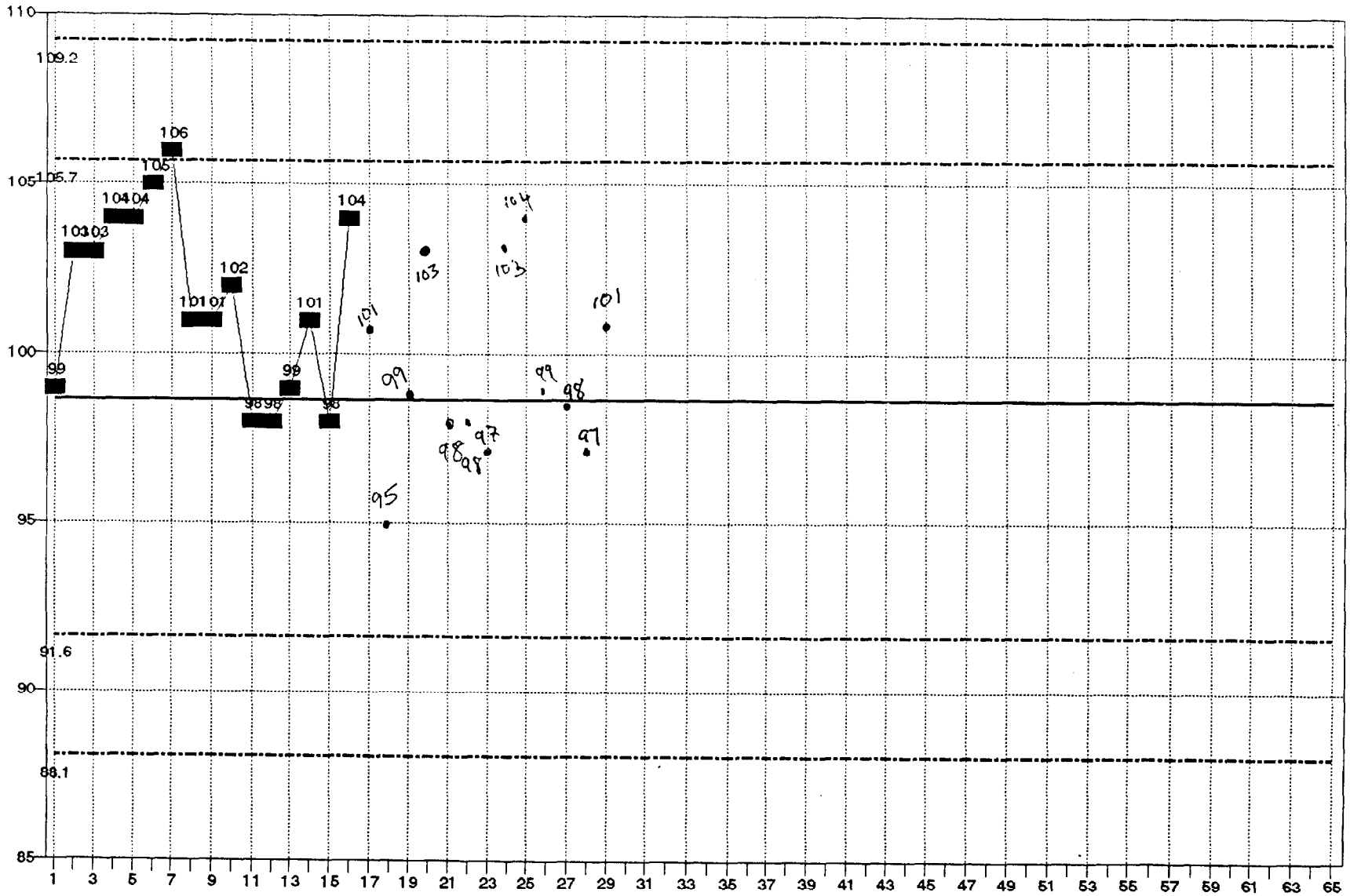
0000101

VOA TCLP - SURR TOL
LIMIT SET 7/93



STD DEV = 2.32 MEAN = 99.1

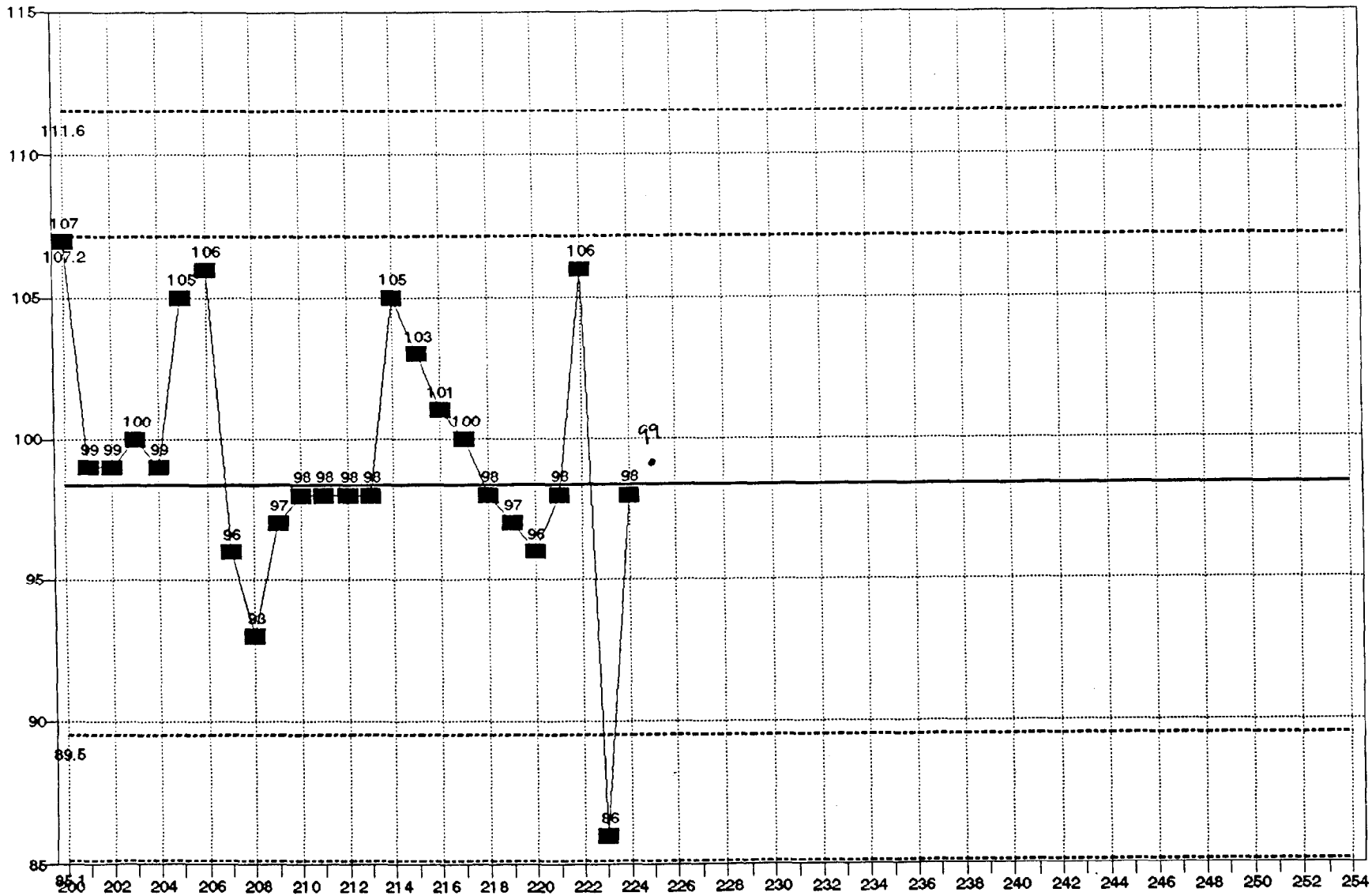
VOA TCLP - SURR BFB
LIMIT SET 7/93



STD DEV =3.51 MEAN = 98.6

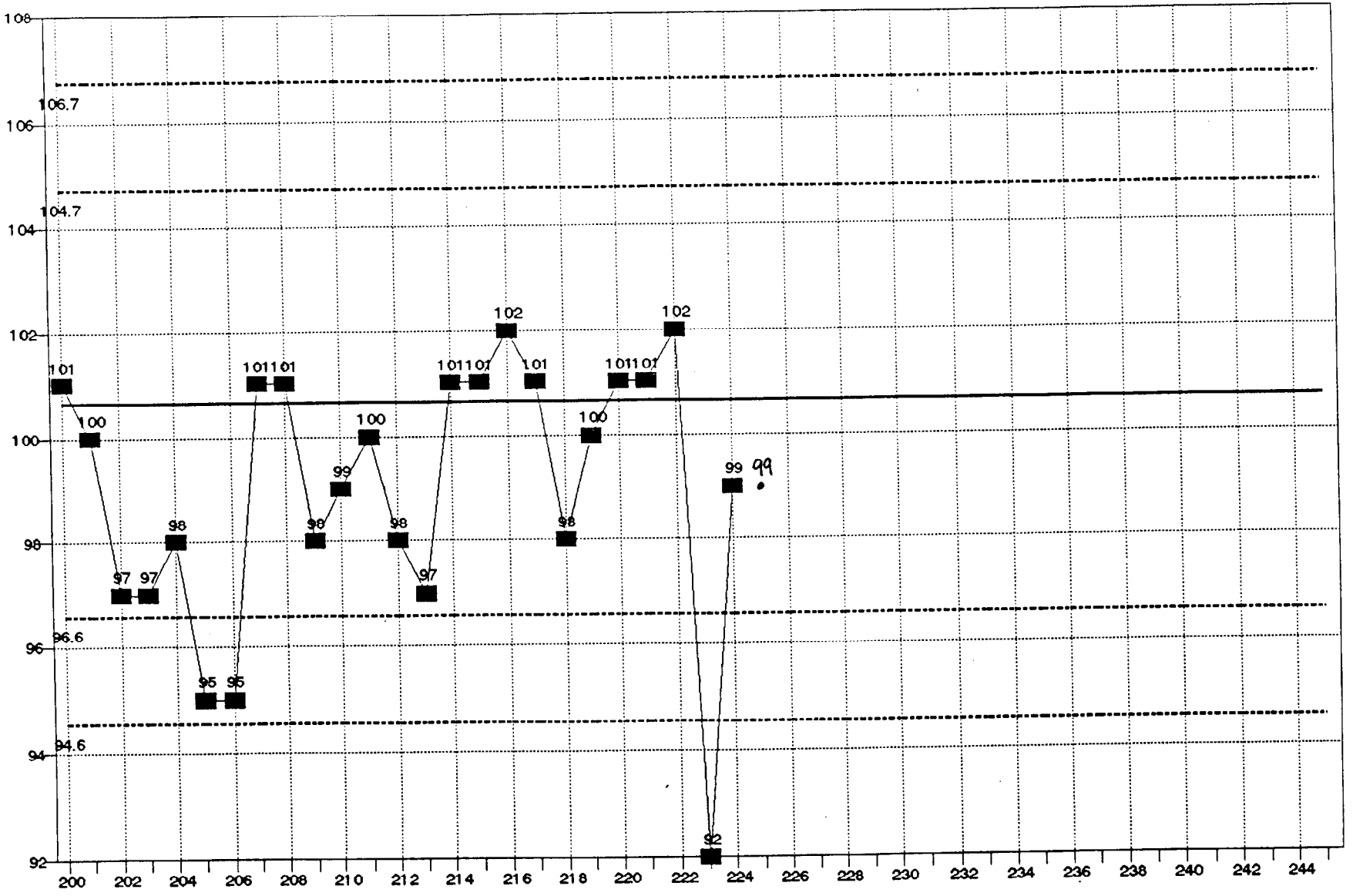
1	TCLP BLANK	340	03/16/94
2	TCLP BLANK	340	03/17/94
3	TCLP BLANK	341	03/17/94
4	TCLP BLANK	341	03/18/94
5	TCLP BLANK	342	03/18/94
6	TCLP BLANK	341	03/22/94
7	TCLP BLANK	343	03/25/94
8	TCLP BLANK	343	03/28/94
9	TCLP BLANK	344	03/28/94
10	TCLP BLANK	345	03/28/94
11	TCLP BLANK	346	04/07/94
12	TCLP BLANK	347	04/19/94
13	TCLP BLANK	349	05/11/94
14	TCLP BLANK	350	05/16/94
15	TCLP BLANK	352	05/17/94
16	TCLP BLANK	354	06/06/94
17	TCLP BLANK	357	7/12/94
18	TCLP BLANK	358	7/15/94
19	TCLP BLANK	360	7/27/94
20	TCLP BLANK	369	11/10/94
21	TCLP BLANK	386	
22	TCLP BLANK	388	
23	TCLP BLANK	389	
24	TCLP BLANK	390	
25	TCLP BLANK	392	
26	TCLP BLANK	399	
27	TCLPBLK	400	10/5/95
28	TCLPBLK	401	10/6/95
29	TCLPBLK	402	10/11/95

VOA WATERS - SURR DCE
LIMITS SET 4/95



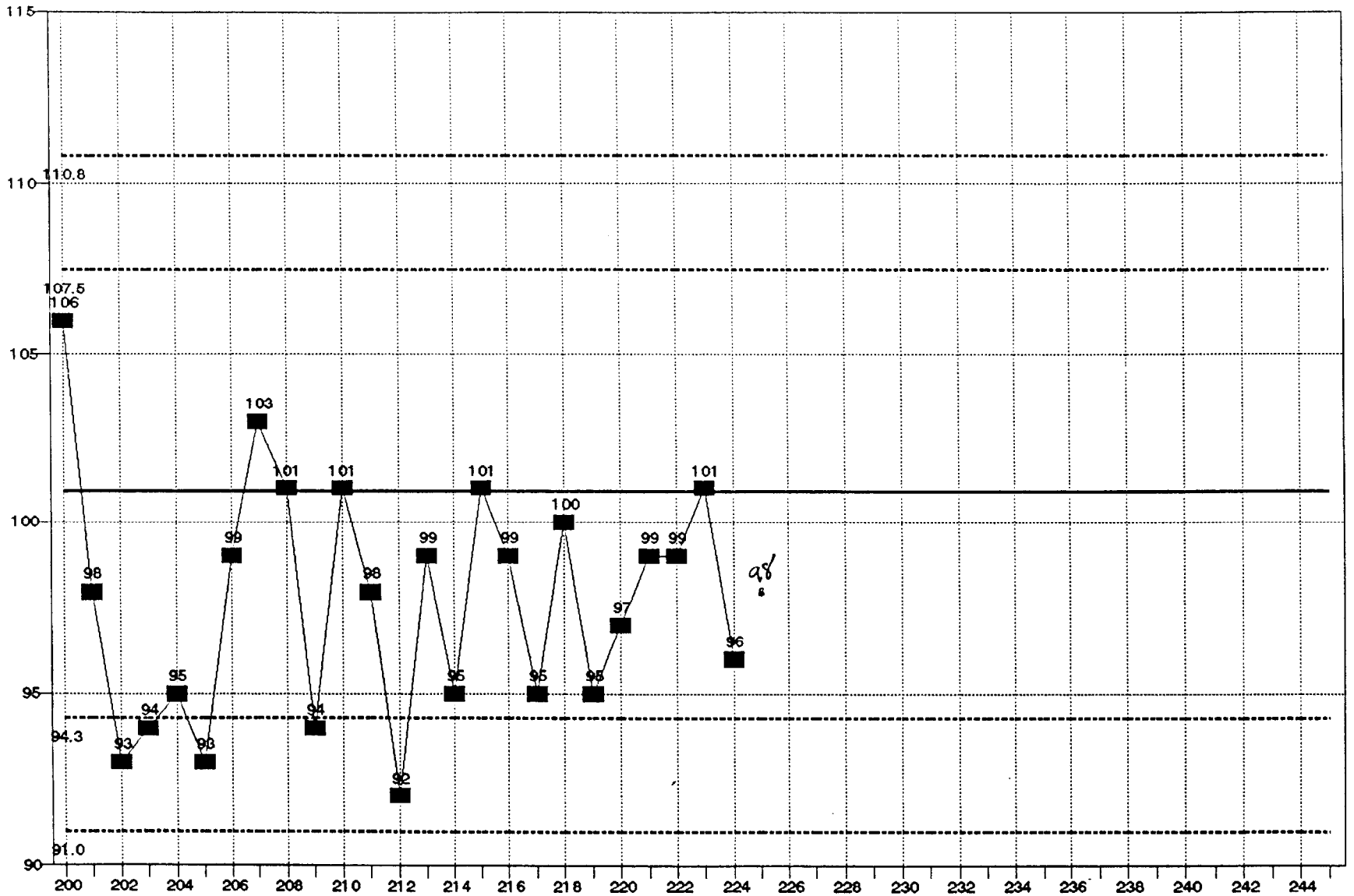
STD DEV = 4.40 MEAN = 98.4

VOA WATERS - SURR TOL
LIMIT SET 4/95



STD DEV = 2.03 MEAN = 100.6

VOA WATERS - SURR BFB
LIMIT SET 4/95



STD DEV =3.31 MEAN = 100.9

00000107

VOLATILES -- WATER SURROGATE CONTROL CHARTS
POINT / BLANK

69	BC041493A	117	BE070794A	165	BC041295A	213	BG100195B2
70	BE052593B	118	BE070894A	166	BI042095B	214	BG100395A1
71	BE060193A	119	BC063094A	167	BI042195A	215	BG100495B2
72	BE060393A	120	BC072794A	168	BI042495A	216	BG100595A1
73	BC062193A	121	BD072794A	169	BC042595B	217	BG100695A1
74	BE051393A	122	BD072894A	170	BI042595A	218	BG100695A2
75	BC062493A	123	BD072994A	171	BI042795A	219	BG100995A1
76	BD051993A	124	BE081194A	172	BI050195A	220	BG101095D2
77	BD052093B	125	BC081994A	173	BC050595A	221	BG100495A1
78	BC063093A	126	BE101194A	174	BC050695A	222	BD101195A2
79	BC061093A	127	BE101294B	175	BG050295B	223	BG100295B2
80	BE051393A	128	BG101494A	176	BC062995B1	224	BG100395B2
81	BD072293A	129	BC110294B	177	BC063095B1	225	BG101195A1
82	BD072393A	130	BC110394B	178	BC072495A1	226	
83	BD072693A	131	BC110794B	179	BC072695A1	227	
84	BD072793A	132	BC110894B	180	BI080895A1	228	
85	BD073093A	133	BC110994A	181	BI080995A1	229	
86	BC080493A	134	BC111594B	182	BC080295A1	230	
87	BC080593A	135	BC111794B	183	BC080495A1	231	
88	BE091793A	136	BC111894B	184	BC080795A1	232	
89	BC092093B	137	BG111094A	185	BC080895A1	233	
90	BC093093B	138	BC120194B	186	BI081095A1	234	
91	BG093093A	139	BC120294B	187	BI081195A1	235	
92	BE120693A	140	BC120594B	188	BI080995A1	236	
93	BE120793A	141	BC120694B	189	BC081195A1	237	
94	BE121793A	142	BC120794B	190	BC081495A1	238	
95	BC122793B	143	BC121594B	191	BI081495A1	239	
96	BC122893A	144	BG120394B	192	BI081595A1	240	
97	BG021094A	145	BC122294B	193	BI081695A1	241	
98	BG021194A	146	BC122994B	194	BI081795A1	242	
99	BG021494A	147	BE121694A	195	BI081895A1	243	
100	BG021594A	148	BE020995B	196	BI082195A1	244	
101	BC022394B	149	BE021395A	197	BC081695A1	245	
102	BC022494C	150	BE021595A	198	BI082295A1	246	
103	BC022594B	151	BE021695A	199	BC081595A1	247	
104	BG022594B	152	BC032295A	200	BC082595A1	248	
105	BG022894A	153	BC032395A	201	BG091495A1	249	
106	BG030394A	154	BC032495A	202	BG091595A1	250	
107	BD022194A	155	BC032795A	203	BG091895A1	251	
108	BC031194A	156	BC040695A	204	BG091995A1	252	
109	BC031594B	157	BC041195B	205	BG092095A2	253	
110	BG040794A	158	BC041395A	206	BG092195B1	254	
111	BC041294B	159	BC041495A	207	BC092195A1	255	
112	BG042894A	160	BG041095B	208	BC092095A1	256	
113	BG042994A	161	BG041495B	209	BG092795A1	257	
114	BC050994C	162	BI041395A	210	BG092795B2	258	
115	BG060394A	163	BI041895B	211	BG092895B2	259	
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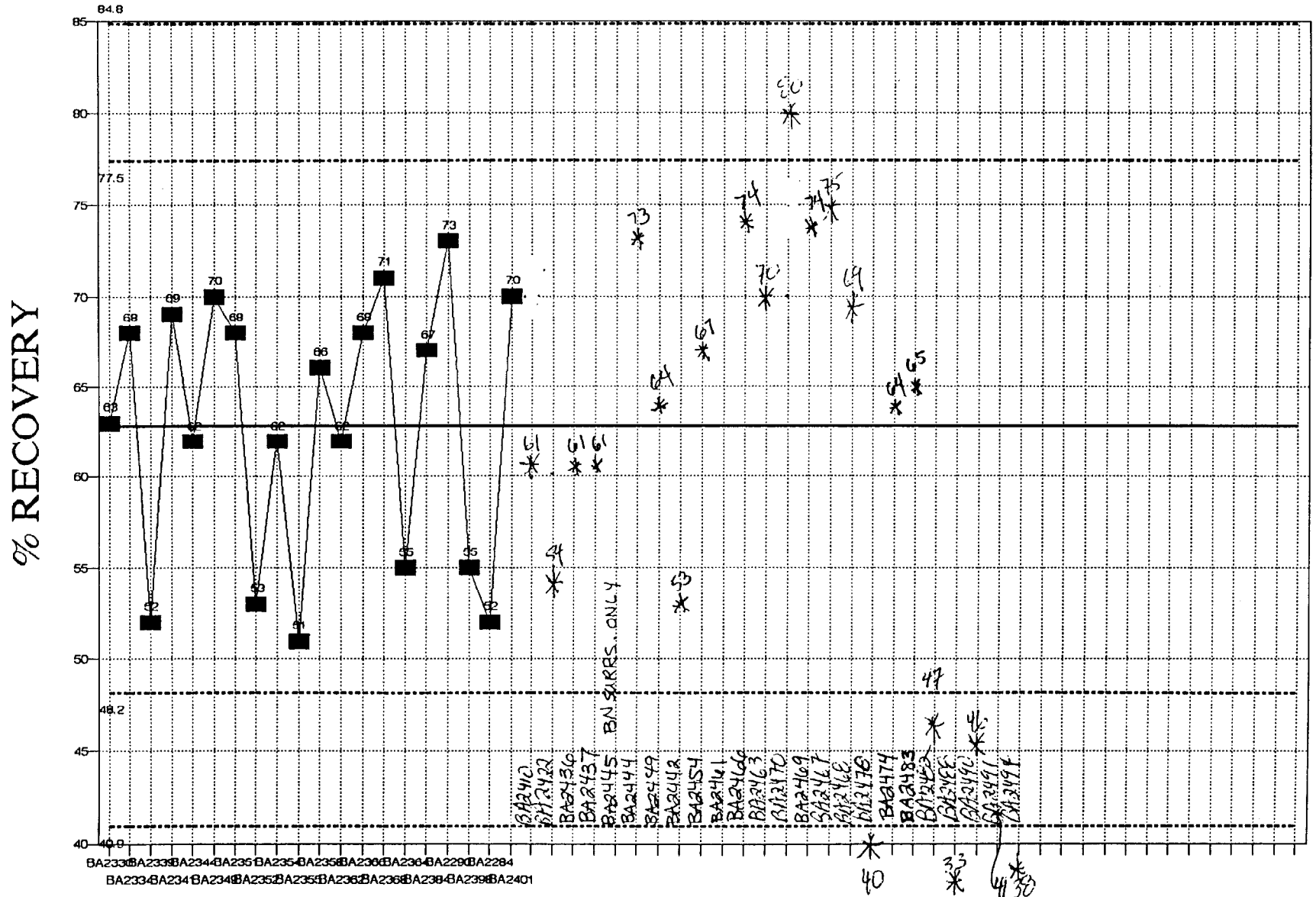
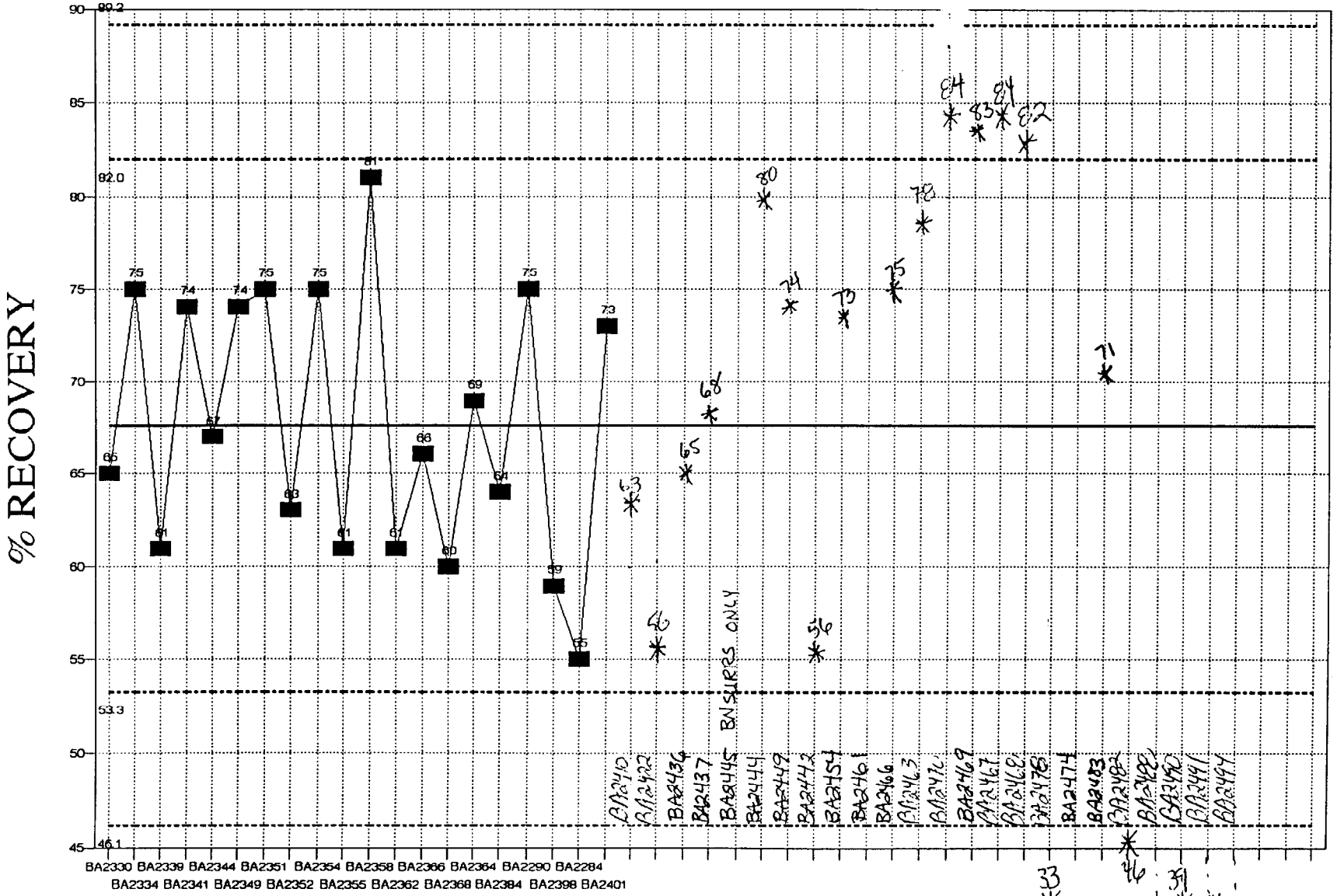
ABN WATER 3520/8270B, 2-FLUOROPHENOL SURR, LIMITS SET 8/95



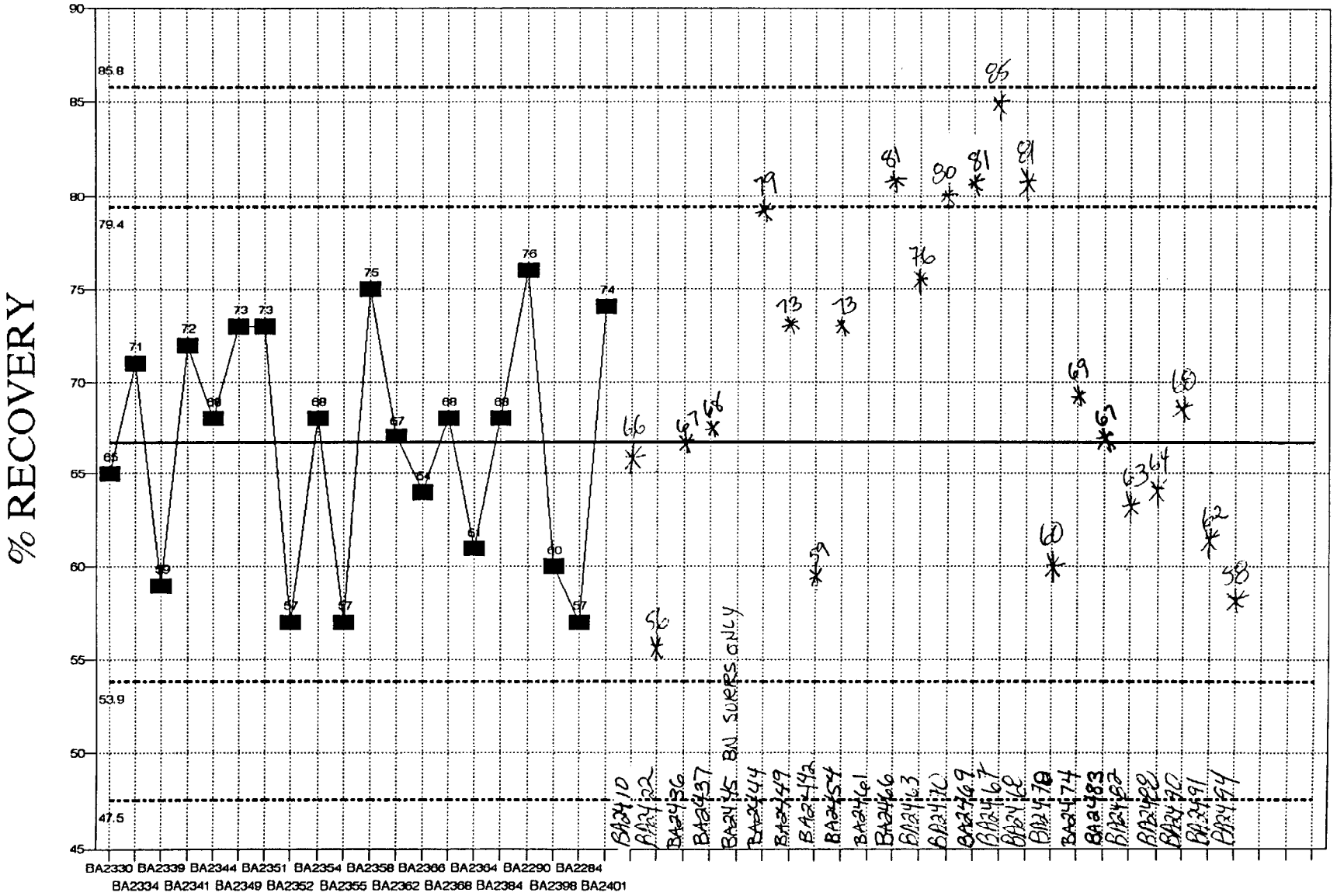
6010000

ABN WATER 3520/8270B, PHENOL-D5
SURR, LIMITS SET 8/95



STD DEV = 7.17 MEAN = 67.6

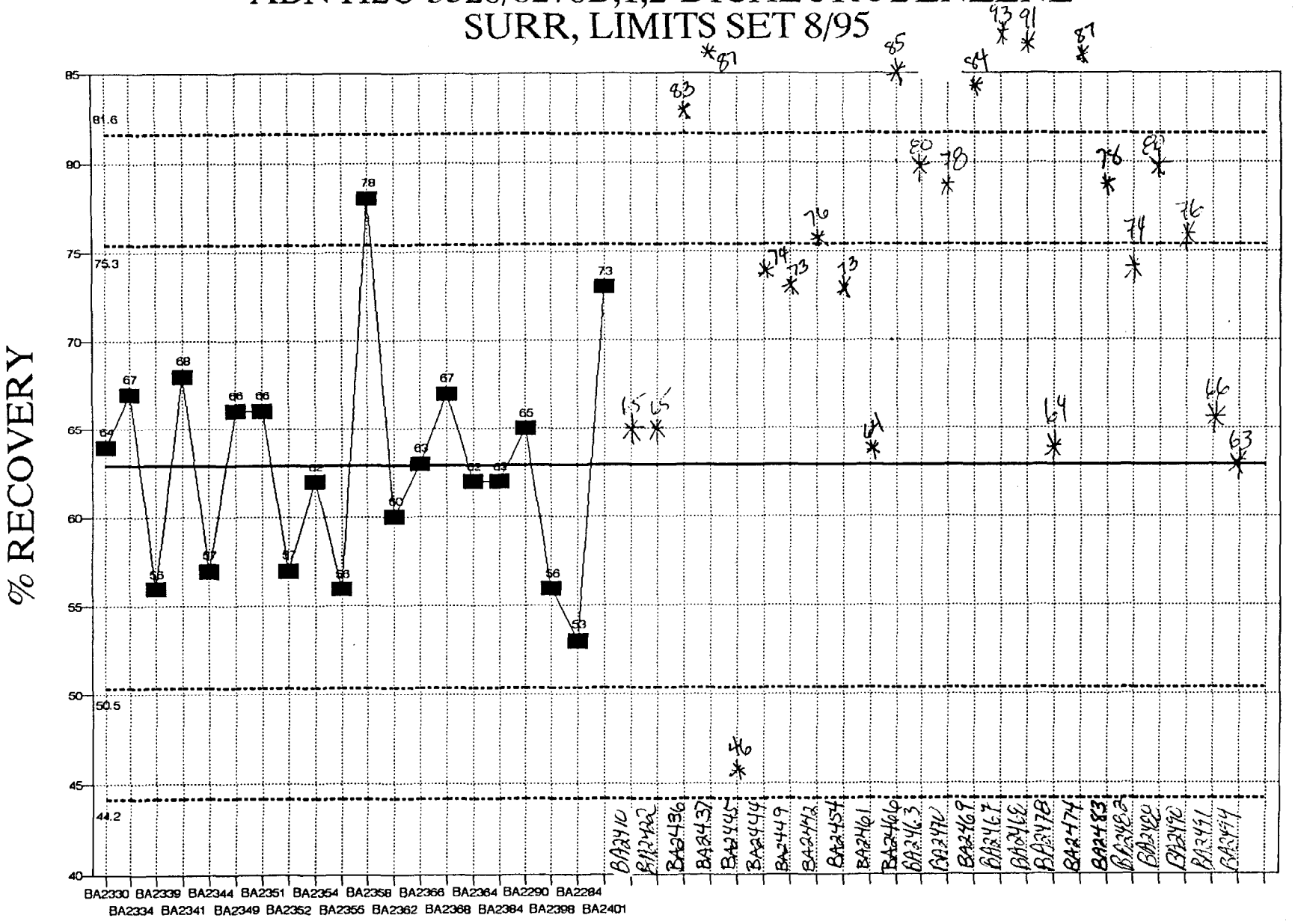
ABN WATER 3520/8270B, 2-CHLOROPHENOL-D4
SURR, LIMITS SET 8/95



STD DEV = 6.37 MEAN = 66.6

38

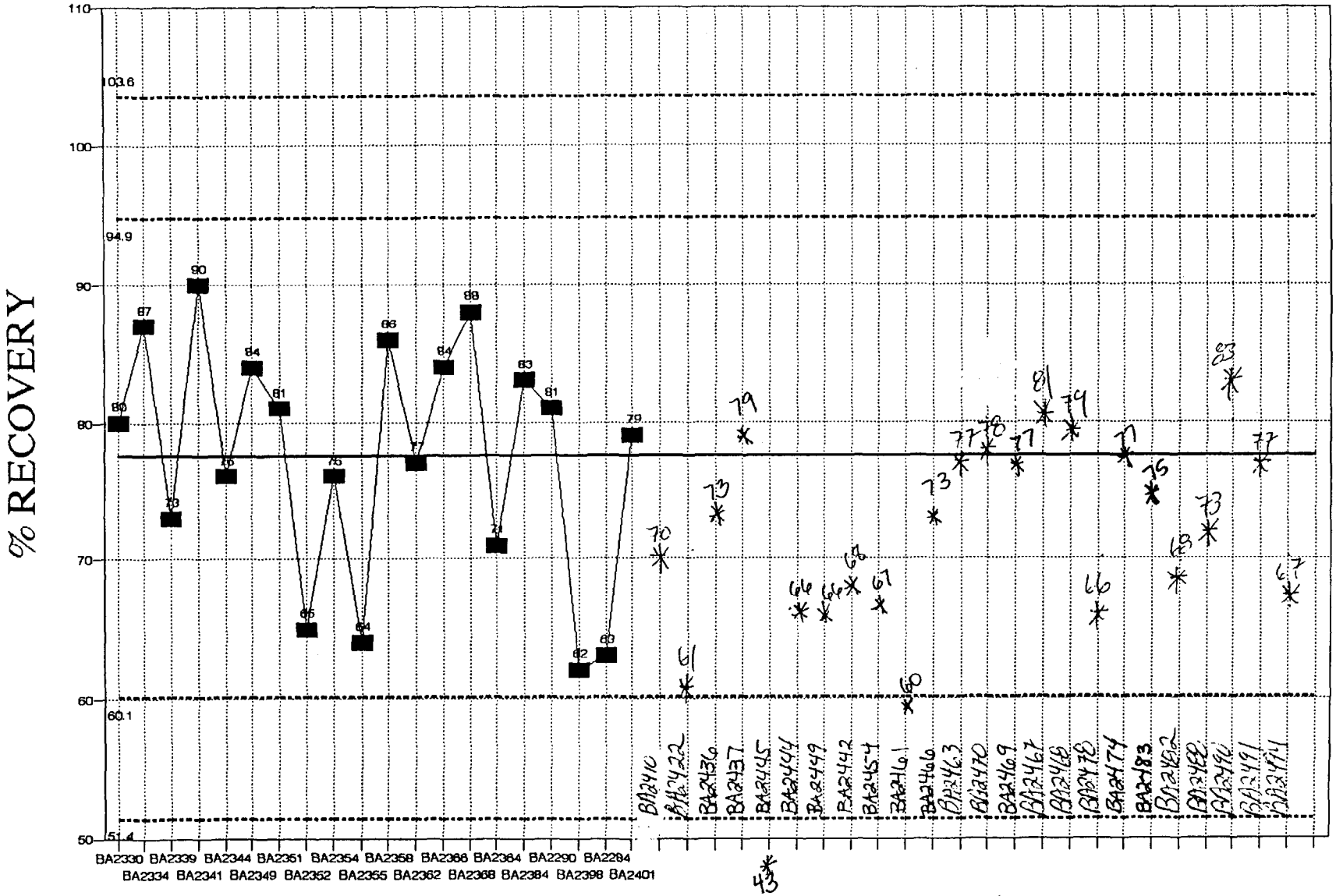
ABN H2O 3520/8270B,1,2-DICHLOROBENZENE-SURR, LIMITS SET 8/95



STD DEV = 6.22 MEAN = 62.9

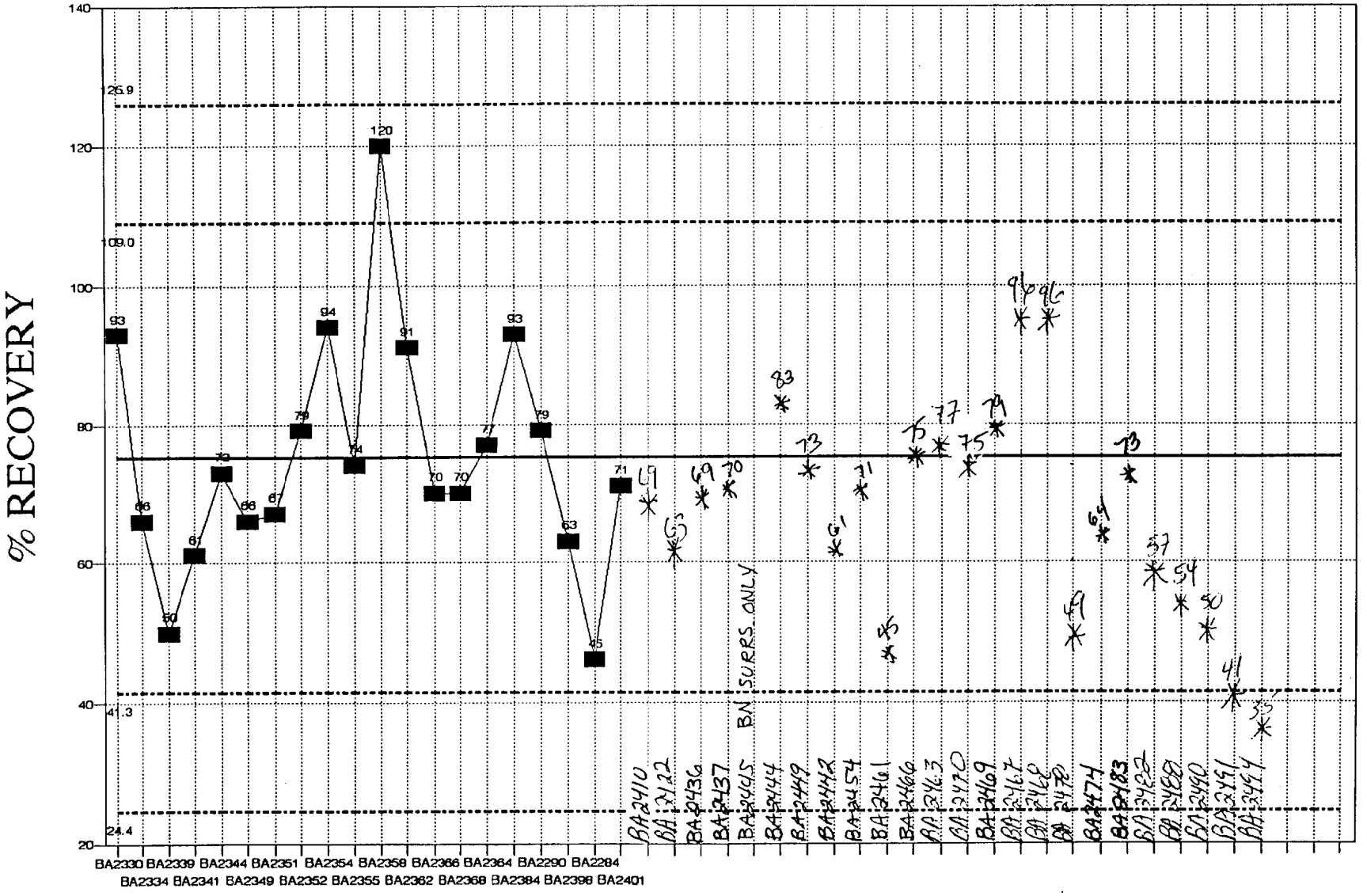
00000112

ABN H2O 3520/8270B, NITROBENZENE-D5
SURR, LIMITS SET 8/95



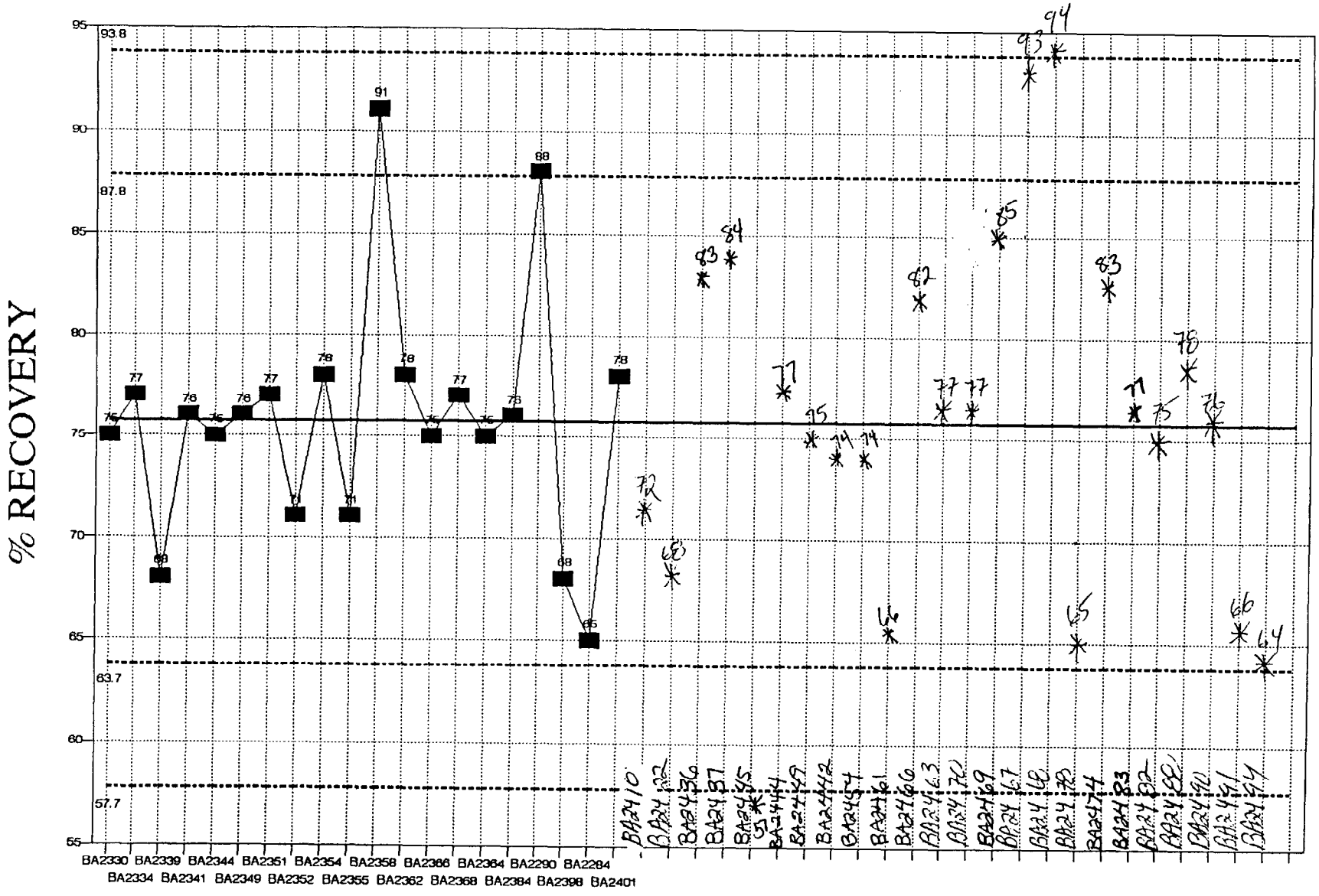
STD DEV = 8.68 MEAN = 77.5

ABN H2O 3520/8270B,2,4,6-TRIBROMOPHENOL
SURR, LIMITS SET 8/95



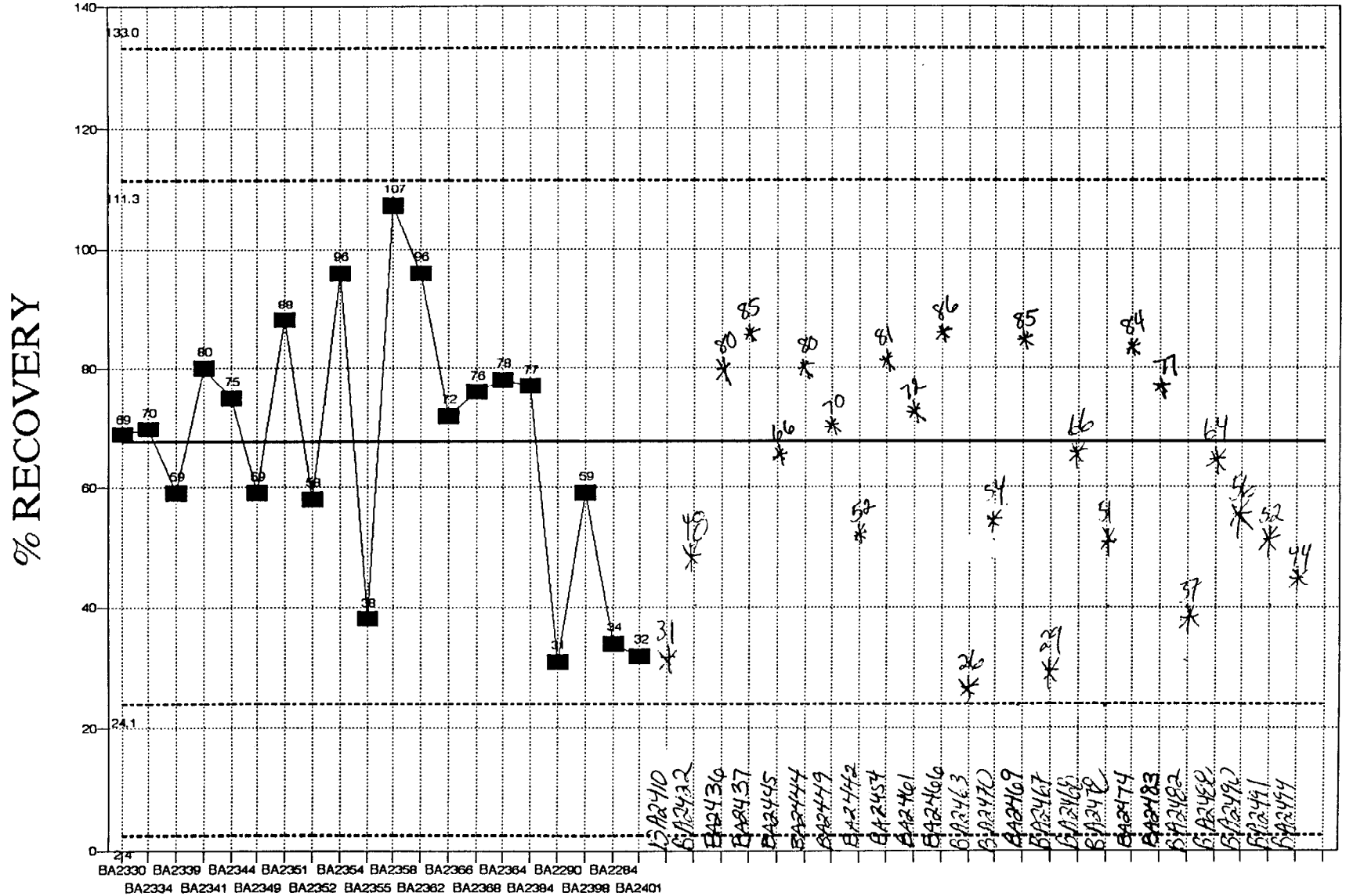
STD DEV = 16.9 MEAN = 75.2

ABN H2O 3520/8270B, 2-FLUOROBIPHENYL SURR, LIMITS SET 8/95



STD DEV = 6.01 MEAN = 75.8

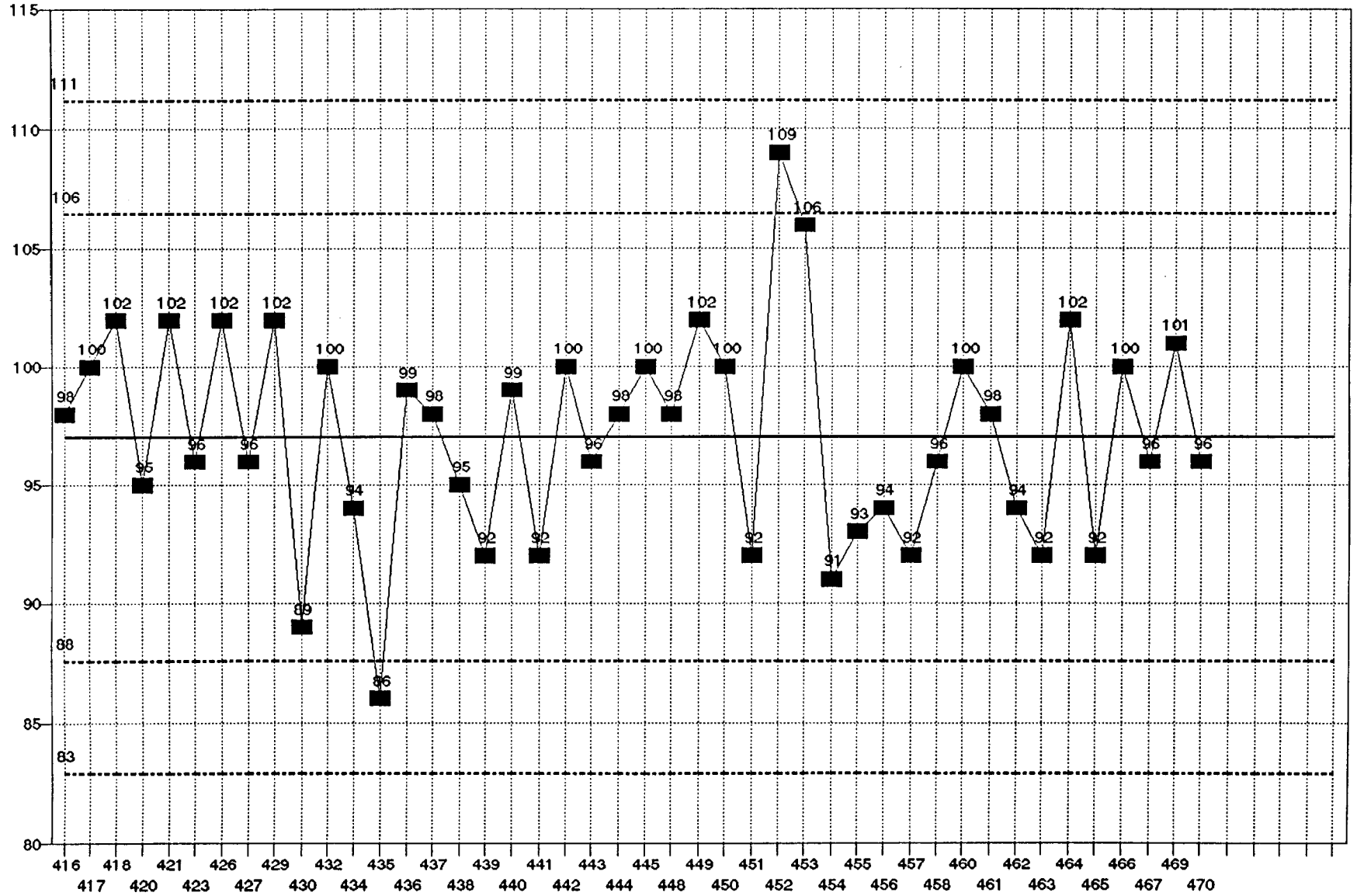
ABN H2O 3520/8270B, TERPHENYL-D14
SURR, LIMITS SET 8/95



STD DEV = 21.8 MEAN = 67.7

9110000

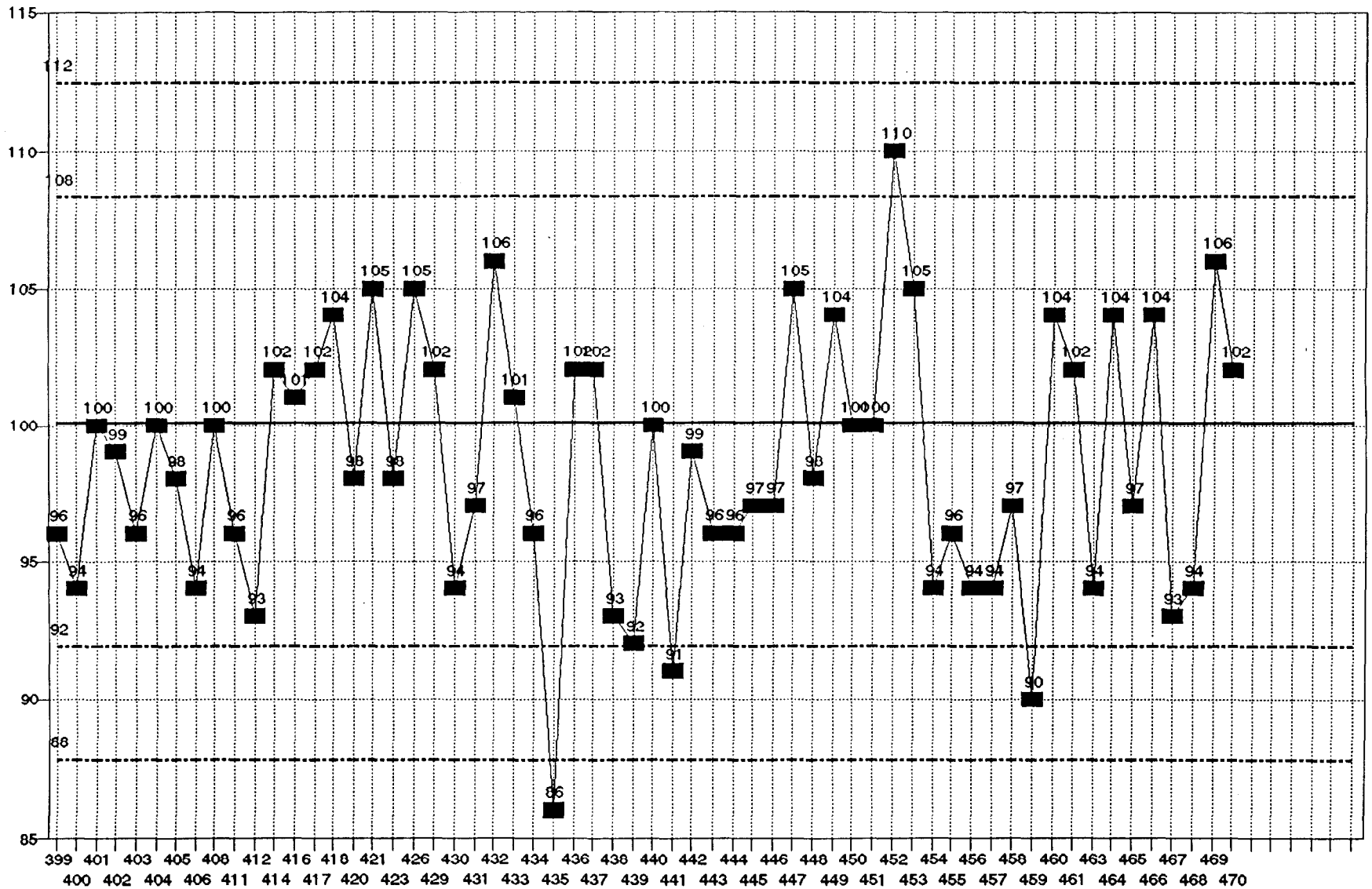
As COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



STD DEV = 5 MEAN = 97

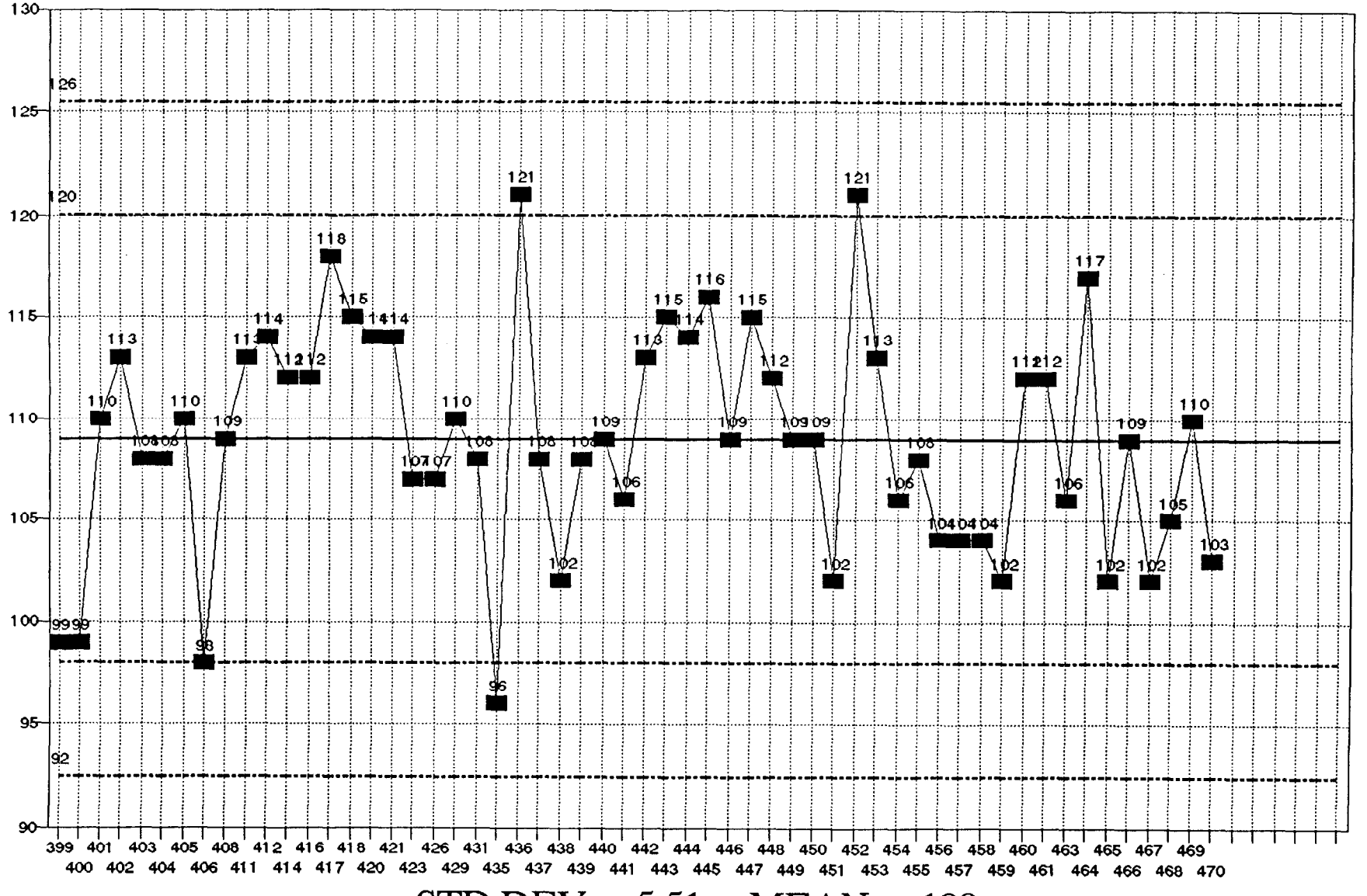
00001117

Ba COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 9/95



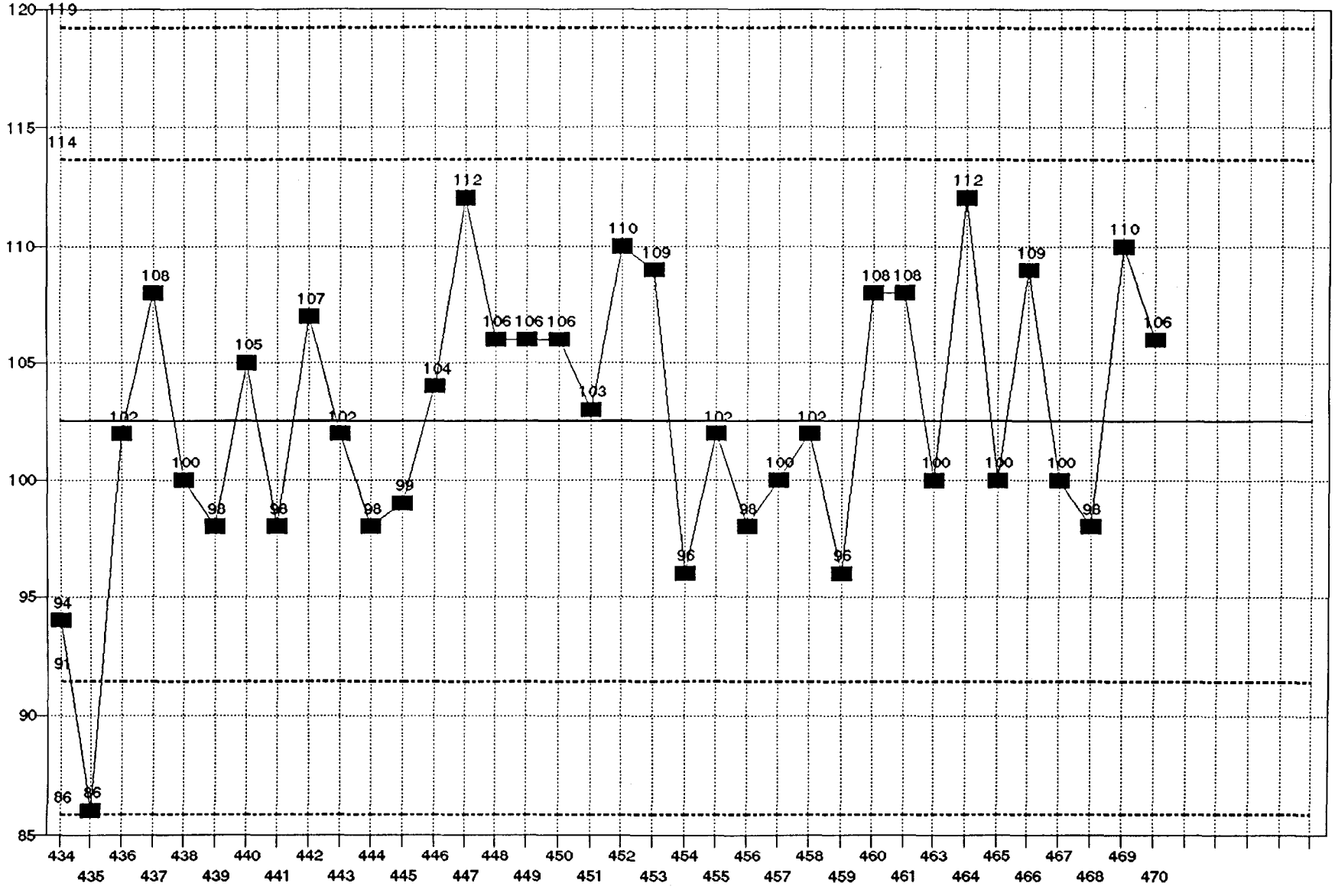
STD DEV = 4 MEAN = 100

Cd COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 7/95



STD DEV = 5.51 MEAN = 109

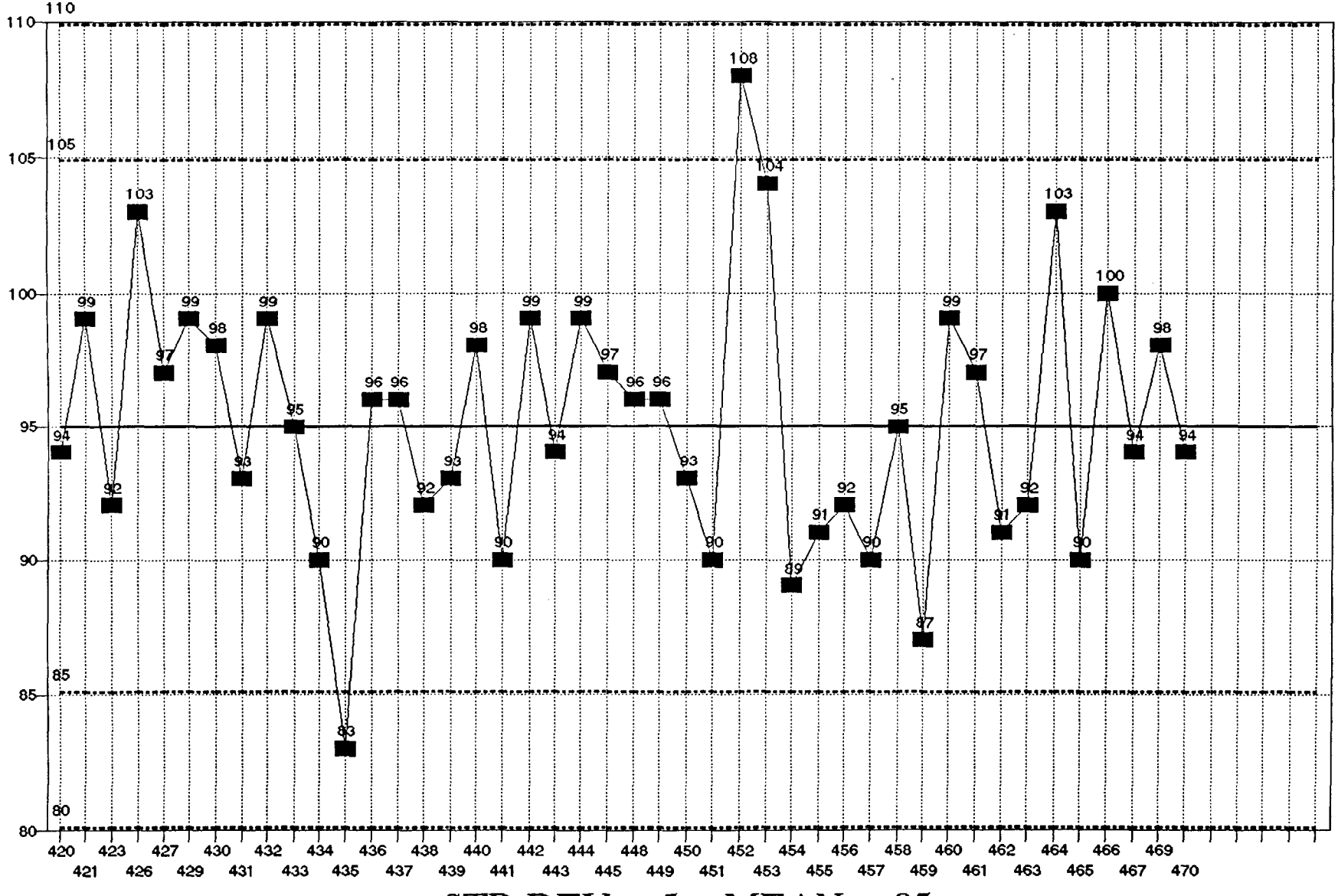
Cr COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



STD DEV = 6 MEAN = 103

0000120

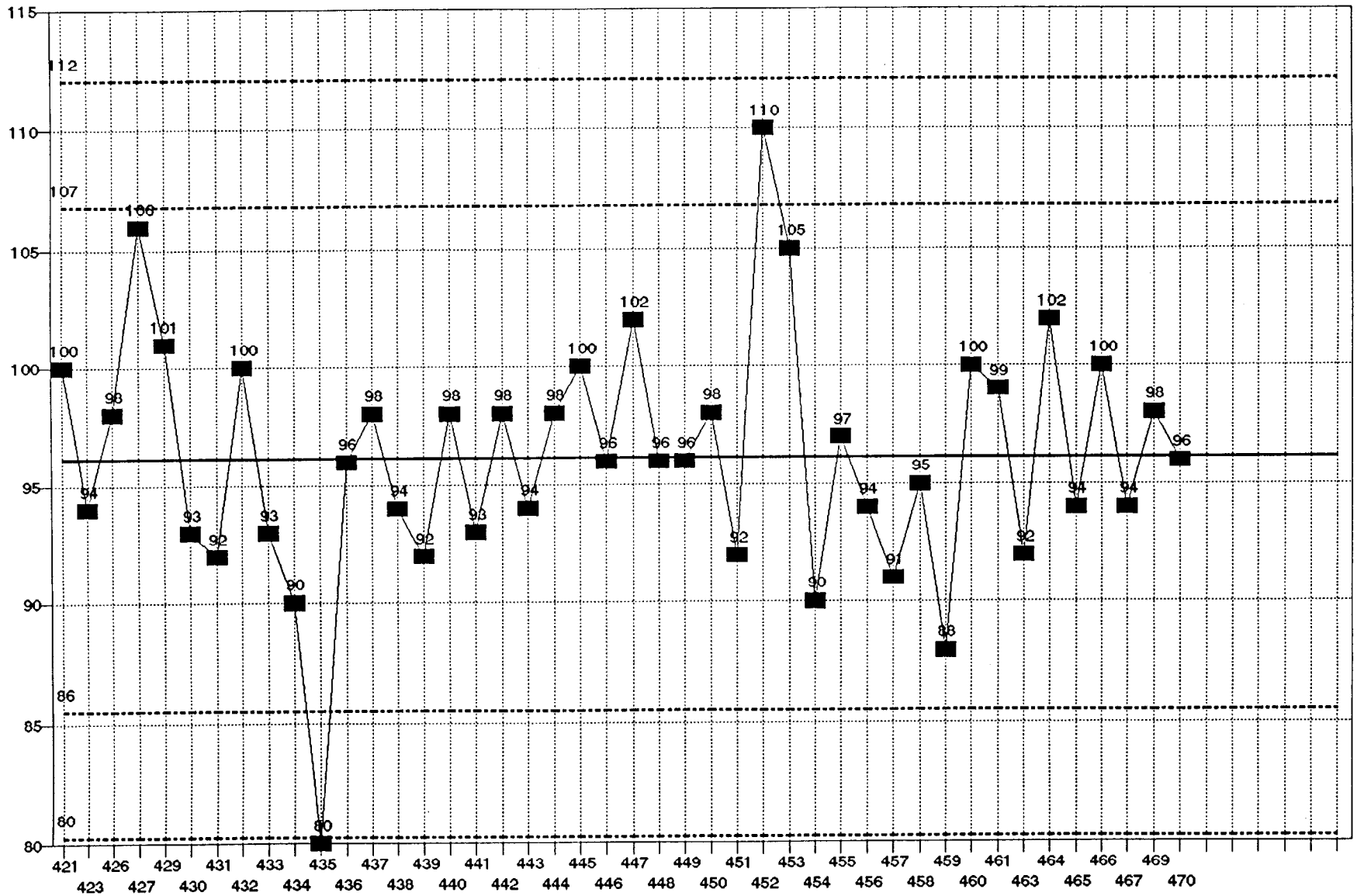
Pb COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



STD DEV = 5 MEAN = 95

0000121

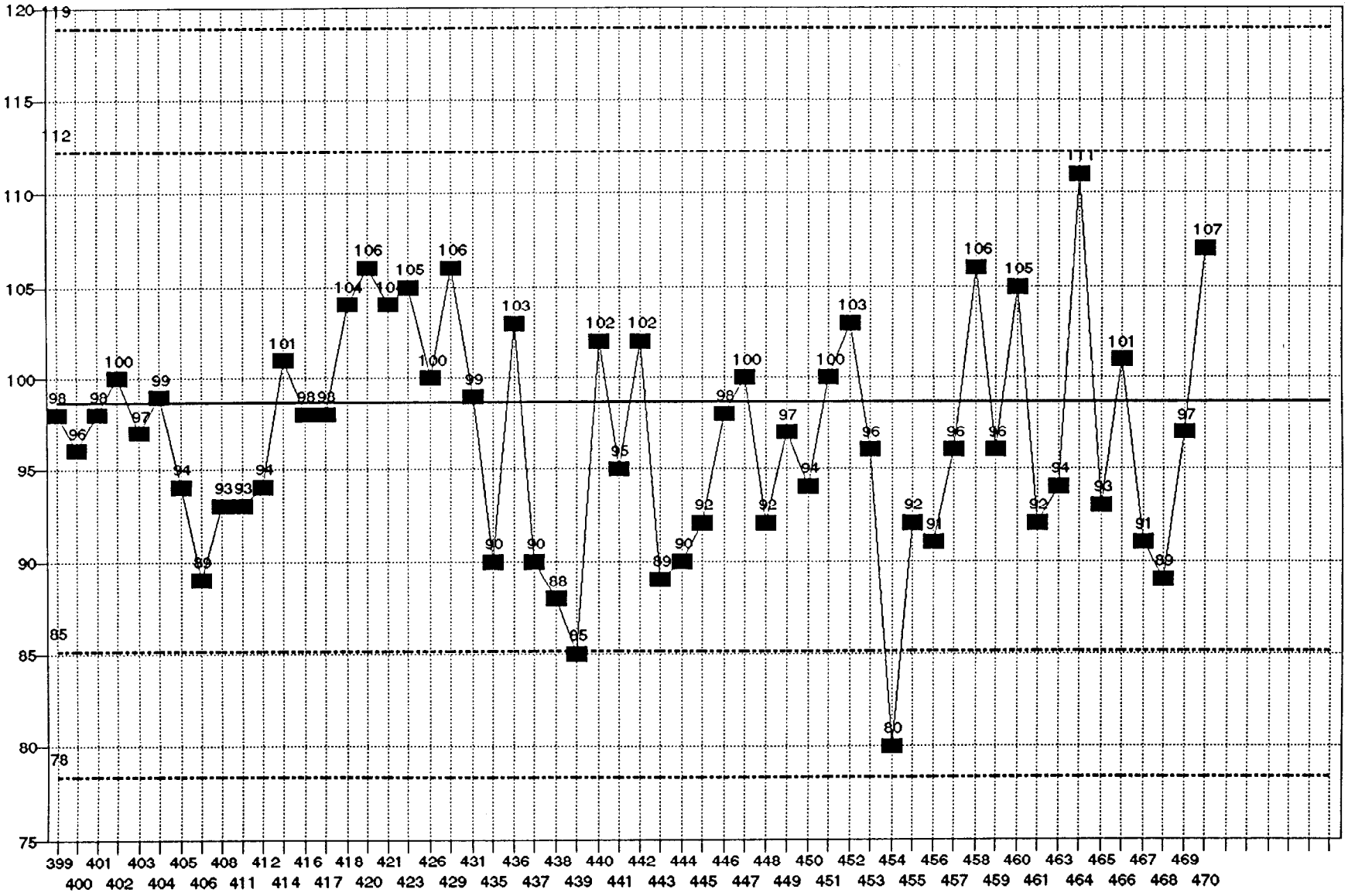
Se COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



STD DEV = 5 MEAN = 96

0000122

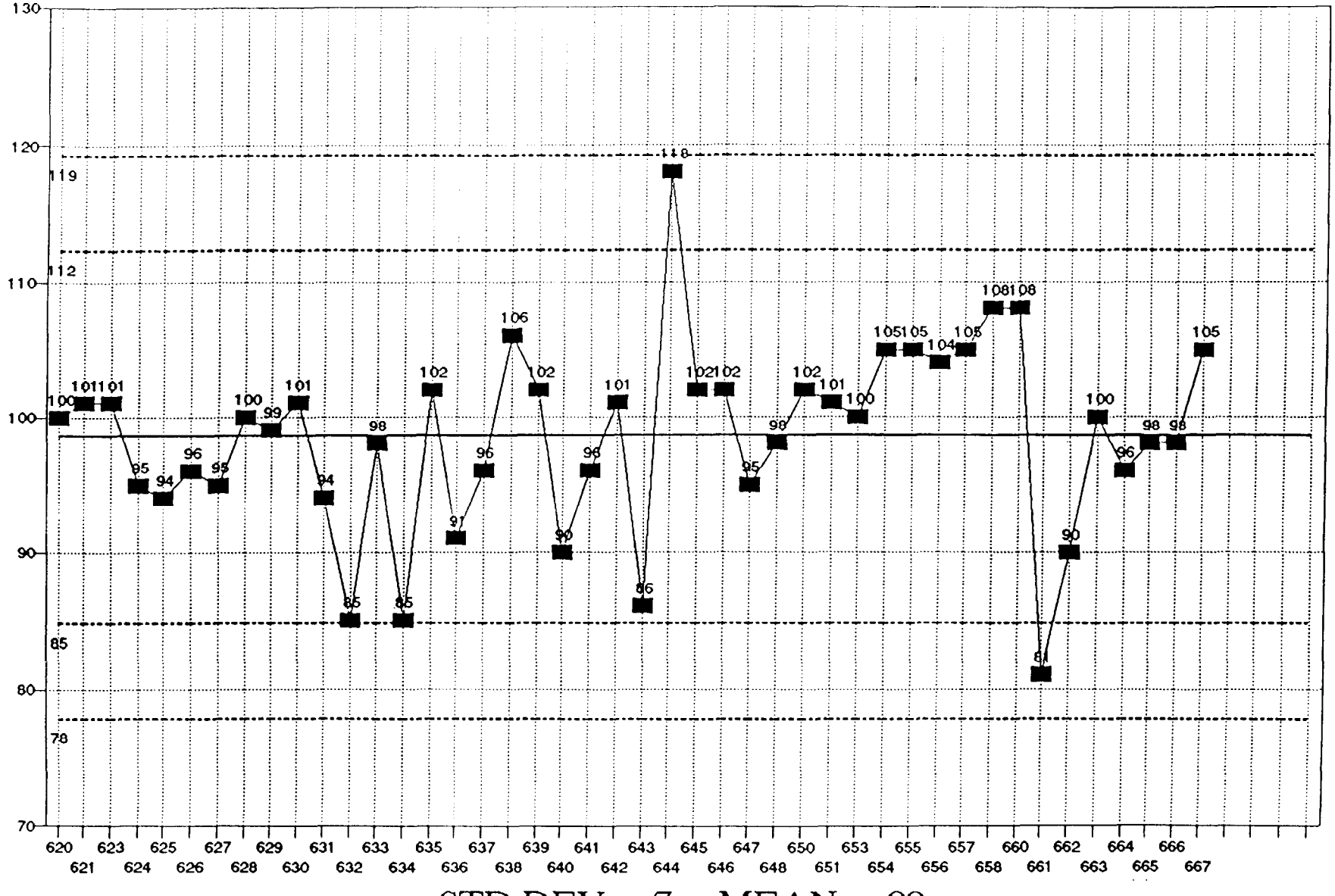
Ag COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 8/95



STD DEV = 7 MEAN = 99

0000123

Hg COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



STD DEV = 7 MEAN = 99

OHM Remediation Services Corp.

CHAIN-OF-CUSTODY RECORD

Field Tech.

166412

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526

PROJECT NAME	PROJECT LOCATION
Camp Lejeune D.O. 44	Camp Geiger, NC

PROJ. NO.	PROJECT CONTACT	PROJECT TELEPHONE NO.
16487	Rakesh Mishra	910-451-2599

CLIENT'S REPRESENTATIVE	PROJECT MANAGER/SUPERVISOR
	Jim Dunn / Randy Smith

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS) TPH-GRO	TPH-DRO	TCLP Metals, TCLP Semi-Volatile	TCLP Volatile	RCRA Haz Waste Char.	DEG	PCB, Total Lead	Volatile + BTEX (8240)	REMARKS
1	CLJ44-CC-010	10/3	0640	X		Clean Soil from Pile 17 of Area A	4	X	X	X	X	X				Please do not Analyze
2	CLJ44-CC-011	10/3	0650	X		Contaminated Soil from Pile 41 of Area A	4	X	X				X			Rinsate Blank.
3	CLJ44-CC-012	10/3	0655	X		Contaminated Soil from Pile 42 of Area A.	4	X	X				X			
4	CLJ44-CC-013	10/3	0700	X		Contaminated Soil from Pile 43 of Area A.	4	X	X				X			
5	CLJ44-CC-014-RB	10/3	0705	X		Rinsate Blank	5	X	X	X	X	X				
6	CLJ44-CC-015-TB					Trip Blank	3	X			X				X	
7																
8																
9																
10																

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-6	[signature]		10/3	1100
2			Dina Ford	10/4/	1550
3					
4					

REMARKS Send Samples to Pace Lab
Sample 1 3 days TAT
Sample 2-6 24 hr. TAT

SAMPLER'S SIGNATURE [signature]

0000125

OHM Remediation Services Corp.

CHAIN-OF-CUSTODY RECORD

LAB COPY

Form 0019
Field Technical Services
Rev 08/89

166412

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526

PROJECT NAME	PROJECT LOCATION
Camp Lejeune D.O. 44	Camp Geiger, NC

PROJ. NO.	PROJECT CONTACT	PROJECT TELEPHONE NO.
16487	Rakesh Mishra	910-451-2599

CLIENT'S REPRESENTATIVE	PROJECT MANAGER/SUPERVISOR
	Jim Dunn / Randy Smith

45590

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS) TPH-GRO	TPH-DRO	TCLP Metals, TCLP Semi-Volatile	TCLP Volatile	RCRA Haz Waste Char.	DEG	PCB, Total Lead Volatile + BTEX (8240)	REMARKS
1	CLJ44-cc-070	10/3	0640	X		Clean Soil from Pile 17 of Area A	4	X	X	X	X	X			Please do not Analyze
2	CLJ44-cc-071	10/3	0650	X		Contaminated Soil from Pile 41 of Area A	4	X	X				X		Rinsate Blank.
3	CLJ44-cc-072	10/3	0655	X		Contaminated Soil from Pile 42 of Area A.	4	X	X				X		
4	CLJ44-cc-073	10/3	0700	X		Contaminated Soil from Pile 43 of Area A.	4	X	X				X		
5	CLJ44-cc-074 -RB	10/3	0705	X		Rinsate Blank	5	X	X	X	X	X			
6	CLJ44-cc-075 -TB					Trip Blank	3	X			X			X	
7															
8															
9															
10															

Final Page

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-6			10/3	1100
2			Dina Ford	10/4	1550
3					
4					

REMARKS Send Samples to Pace lab
Sample 1 3 days TAT
Sample 2-6 24 hr. TAT

SAMPLER'S SIGNATURE

0000126

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

October 25, 1995

OHM Remediation Services Corporation
5335 Triangle Parkway
Suite 450
Norcross, GA 30092

SAMPLE DELIVERY GROUP NARRATIVE

Case: OHMRC
SDG: LJN30
Laboratory: PACE New England - New Hampshire of Hampton, NH
Lab Numbers: 45593
Protocol: SW846 Methods. NEESA E deliverables. No diskette.

Sample Receipt: These samples were received at PACE, Inc. on October 5, 1995. Laboratory sample numbers were assigned for test parameters as listed on the Sample Table which follows this narrative. The sample shipment was checked for custody seal integrity and cooler temperature. Samples were checked for appropriate preservation and accuracy against the Chains-of-Custody provided. Other than the exceptions noted below, samples were received between 2-6° C and in good condition. PACE Sample Receipt Condition Reports can be found with the Chains-of-Custody.

Shipment received 10/5/95 (45593): Samples were received in one cooler and was assigned PACE# 45593 and 45594. A temperature blank was not included with the shipment, therefore the cooler temperature could not be verified upon receipt of samples at PACE. The samples were received cool, and had been packed on ice. Samples assigned PACE Lab# 45594 were logged in for a 3-day turnaround per the request on the COC. Samples assigned PACE Lab# 45593 were logged in for 24-hour turnaround per the request on the COC. Bottle labels for the sample identified on the COC as "CLJ44-CC-080" matched the COC with the exception that the Pile identified on the bottle label was "Pile 45" rather than Pile 46 (as listed on the COC. Rakesh Mishra was notified of the discrepancy on 10/6/95 and indicated that PACE should consider the information on the COC to be correct. Additionally, the GRO, DRO and OGG parameters for sample "CLJ44-CC-079" were logged in for 24-hour turnaround per the request of Rakesh Mishra.

GRO Analysis: The surrogate was not quantitated in laboratory number 45593-3 due to matrix interference.

DRO Analysis: The method 8015 blank contained low levels of non-target interferences. The sample results should be used with due consideration.

Laboratory number 45593-6, -7 and -9 for diesel range organics contained petroleum hydrocarbon products which did not match diesel.

Oil and Grease Analysis: Analyses proceeded without difficulty. Matrix spikes and duplicates met all acceptance criteria.

P.O. Box 2130
1 Lafayette Road
Hampton, NH 03842
TEL: 603-926-7777
800-992-0724
FAX: 603-926-7939

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

Volatiles Analysis: The method 8240 blank contained low levels of methylene chloride. The sample results for this analyte should be used with due consideration.

Statement of Compliancy and Data Authorization

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Richard A Williamson — 10/25/95

PACE Incorporated, New England-New Hampshire — October 25, 1995

P.O. Box 2130
1 Lafayette Road
Hampton, NH 03842
TEL: 603-926-7777
800-992-0724
FAX: 603-926-7939

pace INCORPORATED
ENVIRONMENTAL LABORATORIES

NEW ENGLAND - NEW HAMPSHIRE LABORATORY
SAMPLE RECEIPT CONDITION REPORT
Tel. (603) 926-7777
FAX (603) 926-7939

LAB# 45593
PAGE _____ of _____
COOLER _____ of _____
COC# _____
SDG# LJN30
CASE# OHMRC

CLIENT OHM Remediation Services Corp.
DATE/TIME RECEIVED 10/5/95 1015
DELIVERED BY Fed EX
RECEIVED BY Gretchen Frankheim
LIMS ENTRY BY GMF
TRANSCRIPTION REVIEW BY GMF
LIMS REVIEW BY/PM GMF

		NA	YES	EXCEPTION	COMMENT	RESOLUTION
1.	CUSTODY SEALS PRESENT/INTACT	☐	☐	☒	No Custody Seal.	
2.	CHAIN OF CUSTODY PRESENT IN THIS COOLER	☐	☑	☐		
3.	CHAIN OF CUSTODY SIGNED	☐	☑	☐		
4.	CHAIN OF CUSTODY MATCHES SAMPLES	☐	☑	☐		
5.	SAMPLES RECEIVED AT 2° - 6° C (Ice/Ice Packs Present? (Y) or N)	☐	☐	☑	No Temp Blank	
6.	VOLATILES FREE OF HEAD SPACE	☐	☑	☐		
7.	TRIP BLANK PRESENT IN THIS COOLER	☐	☑	☐		
8.	PROPER SAMPLE CONTAINERS AND VOLUME	☐	☑	☐		
9.	SAMPLES WITHIN HOLD TIME	☐	☑	☐		
10.	SAMPLES PROPERLY PRESERVED	☐	☑	☐		

11. ANALYTICAL PROGRAMS (circle one) COMMERCIAL CLP EPA-CLP NYASP NJ ISRA (NEESA E) AFCEE Other _____
12. NUMBER OF PACE FILTRATIONS: _____
13. CORRECTIVE ACTIONS REPORT # _____

Log-in Notes:

Verbal 10-6

Bottle labels for sample ID's on COC = "LJ44-OC-016" matched COC in all respects except the bottle labels indicated that sample was from Pile 45 (rather than Pile 46). GMF notified Rebecca Mishra who indicates that PACE should go with information recorded on COC. Also per Rebecca, Items #1 DRO, GRO + OGG only were to be logged in for 24 hour turnaround.

CLIENT AUTHORIZATION SIGNATURE _____ DATE _____

SAMPLE TABLE

CLIENT ID.	MATRIX	PACE #	PARAMETERS
CLJ44-CC-078	SOLID	45593-001	TOTAL GASOLINE
		45593-006	OIL & GREASE BY GRAVIMETRY
			TOTAL DIESEL
CLJ44-CC-079	SOLID	45593-002	TOTAL GASOLINE
		45593-007	OIL & GREASE BY GRAVIMETRY
			TOTAL DIESEL
CLJ44-CC-080	SOLID	45593-003	TOTAL GASOLINE
		45593-008	OIL & GREASE BY GRAVIMETRY
			TOTAL DIESEL
CLJ44-CC-081-RB	WATER	45593-004	TOTAL GASOLINE
		45593-009	TOTAL DIESEL
CLJ44-CC-082-TB	WATER	45593-005	TOTAL GASOLINE
		45593-010	GC/MS VOA

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Field Identification: CLJ44-CC-078 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	12	45593-001	10/06/95	BG1042A	8015(mod)/2
Total Diesel (ug/g)	1200	11	45593-006	10/06/95		8015(mod),3350/2
Oil and Grease by Gravimetry (ug/g)	2100	280	45593-006	10/06/95	BG1387	9071,503D/2,3

Field Identification: CLJ44-CC-079 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	14	45593-002	10/06/95	BG1042A	8015(mod)/2
Total Diesel (ug/g)	650	11	45593-007	10/06/95		8015(mod),3350/2
Oil and Grease by Gravimetry (ug/g)	1500	270	45593-007	10/06/95	BG1387	9071,503D/2,3

Field Identification: CLJ44-CC-080 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	140	12	45593-003	10/06/95	BG1042A	8015(mod)/2
Total Diesel (ug/g)	2600	110	45593-008	10/06/95		8015(mod),3350/2
Oil and Grease by Gravimetry (ug/g)	4800	270	45593-008	10/06/95	BG1387	9071,503D/2,3

Field Identification: CLJ44-CC-081-RB Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/L)	BDL	100	45593-004	10/06/95	BG1042A	8015(mod)/2
Total Diesel (ug/L)	210	100	45593-009	10/06/95		8015(mod),3350/2

Field Identification: CLJ44-CC-082-TB Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/L)	BDL	100	45593-005	10/06/95	BG1042A	8015(mod)/2

Results for solid samples expressed on a dry weight basis.

References: 2) EPA SW 846, 3rd Edition
3) Standard Methods, 16th Edition

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QUALITY CONTROL DATA
TOTAL GASOLINE

BLANK DATA

Laboratory Number: BG100695TGA
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/06/95
Matrix: WATER

COMPOUND	CONCENTRATION ug/L	DETECTION LIMIT ug/L
GASOLINE	BDL	100

MATRIX SPIKE DUPLICATE RECOVERY

Laboratory Number: LW100695TGA
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/06/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%RECOVERY
GASOLINE	0	500	537	107

METHOD REFERENCE: METHOD 8015 (MODIFIED)

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QUALITY CONTROL
OIL & GREASE

BLANK DATA

Laboratory Number: B-G1387
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/06/95
Matrix: SOLID

PARAMETER	CONCENTRATION ug/g	DETECTION LIMIT ug/g
OIL & GREASE	BDL	250

MATRIX SPIKE RECOVERY

Laboratory Number: LS-G1387
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/06/95
Matrix: SOLID

PARAMETER	ug/g IN SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
OIL & GREASE	0	1275	1200	94

METHOD REFERENCE: EPA SW846, 3RD EDITION
METHOD 9071
STANDARD METHODS, 16TH EDITION, METHOD 503D

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THE ASSURANCE OF QUALITY

QUALITY CONTROL DATA
PETROLEUM HYDROCARBONS BY GCFID

BLANK DATA

Laboratory Number: B-H1405
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/05/95
Matrix: SOLID

HYDROCARBON TYPE	CONCENTRATION ug/g	DETECTION LIMIT ug/g
DIESEL	BDL	10

MATRIX SPIKE RECOVERY

Laboratory Number: LSH1405
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/05/95
Matrix: SOLID

COMPOUND	ug/g SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
DIESEL	0	101	69.4	69

METHOD REFERENCE: EPA SW 846, 3RD EDITION METHOD 8015 (MODIFIED) AND 3350

pace INCORPORATED THE ASSURANCE OF QUALITY

QUALITY CONTROL DATA
PETROLEUM HYDROCARBONS BY GCFID

BLANK DATA

Laboratory Number: B-H1408
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/05/95
Matrix: WATER

HYDROCARBON TYPE	CONCENTRATION ug/L	DETECTION LIMIT ug/L
DIESEL	134	100

MATRIX SPIKE RECOVERY

Laboratory Number: LSH1408
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/05/95
Matrix: SOLID

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
DIESEL	0	1007	669	67

METHOD REFERENCE: EPA SW 846, 3RD EDITION METHOD 8015 (MODIFIED) AND 3350

pace INCORPORATED THE ASSURANCE OF QUALITY

Laboratory number: 45593-010
Sample Designation: CLJ44-CC-082-TB
Date Analyzed: 10/09/95
Matrix: WATER

Instrument File Name: >G5000

VOLATILE ORGANICS	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Chloromethane	BDL	10
Bromomethane	BDL	10
Vinyl chloride	BDL	10
Chloroethane	BDL	5
Methylene chloride	BDL	10
Acetone	BDL	25
Carbon disulfide	BDL	5
Tetrahydrofuran	BDL	25
Trichlorofluoromethane	BDL	5
1,1-Dichloroethene	BDL	5
1,1-Dichloroethane	BDL	5
1,2-Dichloroethene (total)	BDL	5
Chloroform	BDL	5
1,2-Dichloroethane	BDL	5
2-Butanone	BDL	25
1,1,1-Trichloroethane	BDL	5
Carbon Tetrachloride	BDL	5
Vinyl acetate	BDL	10
Bromodichloromethane	BDL	5
1,2-Dichloropropane	BDL	5
cis-1,3-Dichloropropene	BDL	5
trans-1,3-Dichloropropene	BDL	5
Trichloroethene	BDL	5
Dibromochloromethane	BDL	5
1,1,2-Trichloroethane	BDL	5
Benzene	BDL	5
Bromoform	BDL	5
4-Methyl-2-Pentanone	BDL	25
2-Hexanone	BDL	25
Tetrachloroethene	BDL	5
1,1,2,2-Tetrachloroethane	BDL	5
Toluene	BDL	5
Chlorobenzene	BDL	5
Ethylbenzene	BDL	5
Styrene	BDL	5
Xylene (total)	BDL	5

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8240

BDL = Below reporting limit

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WATER VOLATILES SURROGATE RECOVERY

Client: OHM REMEDIATION SERVICES CORP. Lab No.: 45593
Project: CAMP GEIGER/LJN30

CLIENT SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
CLJ44-CC-082-TB	102	102	95		0
BG100995A1	100	95	97		0

	QC LIMITS
S1 (TOL) = Toluene-d8	86 - 114
S2 (BFB) = Bromofluorobenzene	72 - 132
S3 (DCE) = 1,2-Dichloroethane-d4	70 - 138

Column to be used to flag recovery values with an asterisk
* Values outside of designated QC limits
D Surrogates diluted out

pace INCORPORATED THE ASSURANCE OF QUALITY

Laboratory number: BG100995A1
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/09/95
Matrix: WATER

VOLATILE ORGANICS	CONCENTRATION (ug/L)	DETECTION LIMIT (ug/L)
Chloromethane	BDL	10
Bromomethane	BDL	10
Vinyl chloride	BDL	10
Chloroethane	BDL	5
Methylene chloride	7.1 J	10
Acetone	BDL	25
Carbon disulfide	BDL	5
1,1-Dichloroethene	BDL	5
Tetrahydrofuran	BDL	25
1,1-Dichloroethane	BDL	5
1,2-Dichloroethene (total)	BDL	5
Chloroform	BDL	5
Methyl ethyl ketone	BDL	25
1,2-Dichloroethane	BDL	5
1,1,1-Trichloroethane	BDL	5
Carbon Tetrachloride	BDL	5
Vinyl acetate	BDL	10
Bromodichloromethane	BDL	5
cis-1,3-Dichloropropene	BDL	5
trans-1,3-Dichloropropene	BDL	5
Trichloroethene	BDL	5
Benzene	BDL	5
Dibromochloromethane	BDL	5
1,1,2-Trichloroethane	BDL	5
1,2-Dichloropropane	BDL	5
2-Chloroethyl vinyl ether	BDL	5
Bromoform	BDL	5
Methyl isobutyl ketone	BDL	25
2-Hexanone	BDL	25
1,1,2,2-Tetrachloroethane	BDL	5
Tetrachloroethene	BDL	5
Toluene	BDL	5
Chlorobenzene	BDL	5
Ethylbenzene	BDL	5
m-Xylene	BDL	5
o,p-Xylene	BDL	5
Styrene	BDL	5

METHOD REFERENCE: EPA SW 846 3RD EDITION
METHOD 8240

BDL = Below detection limit
J = Probable presence below listed detection limit.

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MATRIX SPIKE RECOVERY
VOLATILE ORGANIC COMPOUNDS

Laboratory Number: LCG100995A1
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/09/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
1,1-DICHLOROETHENE	0	50	51	102
TRICHLOROETHYLENE	0	50	51	102
BENZENE	0	50	52	104
TOLUENE	0	50	48	96
CHLOROBENZENE	0	50	50	101

METHOD REFERENCE: EPA SW 846, 3RD EDITION
METHOD 8240

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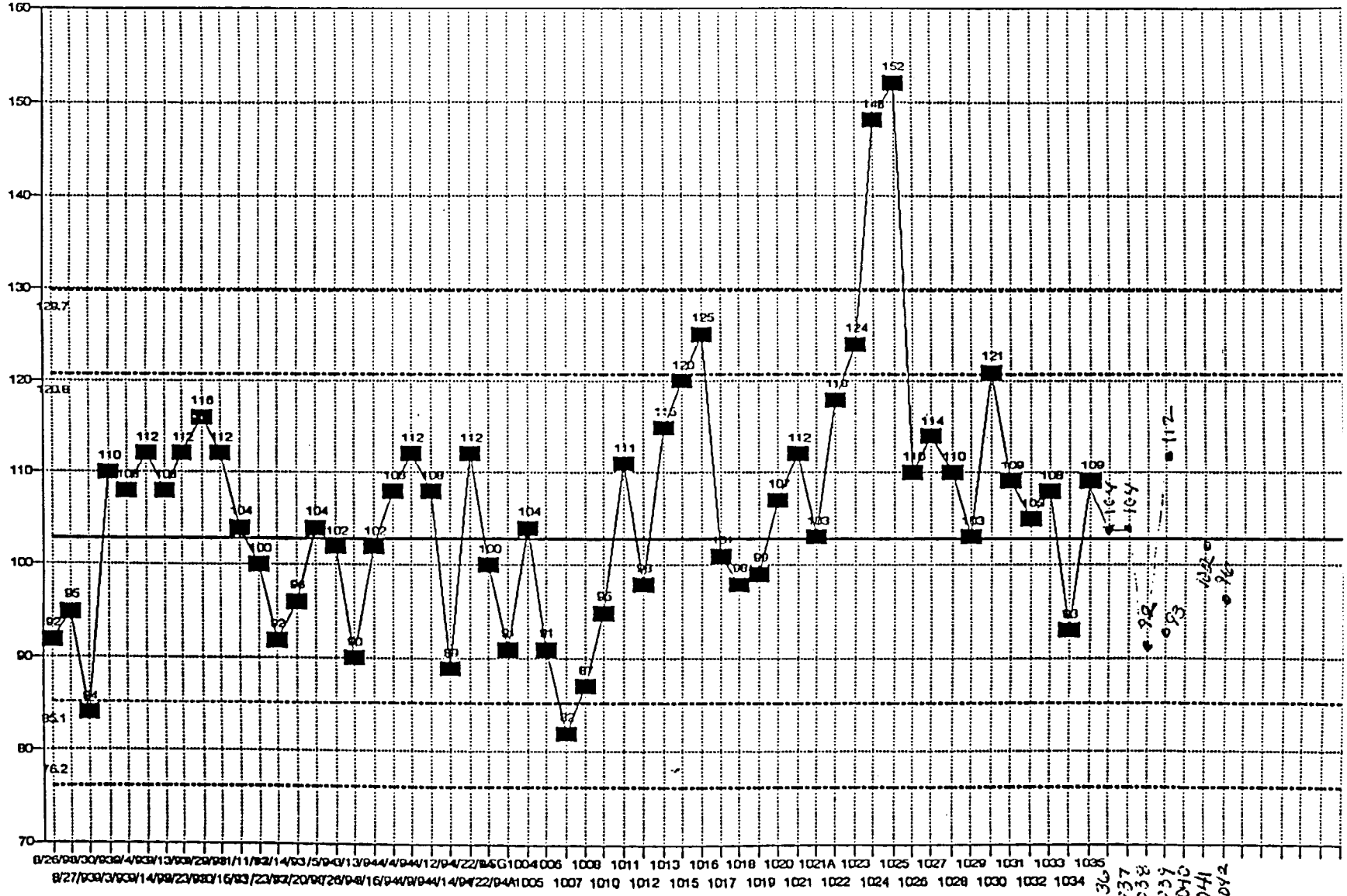
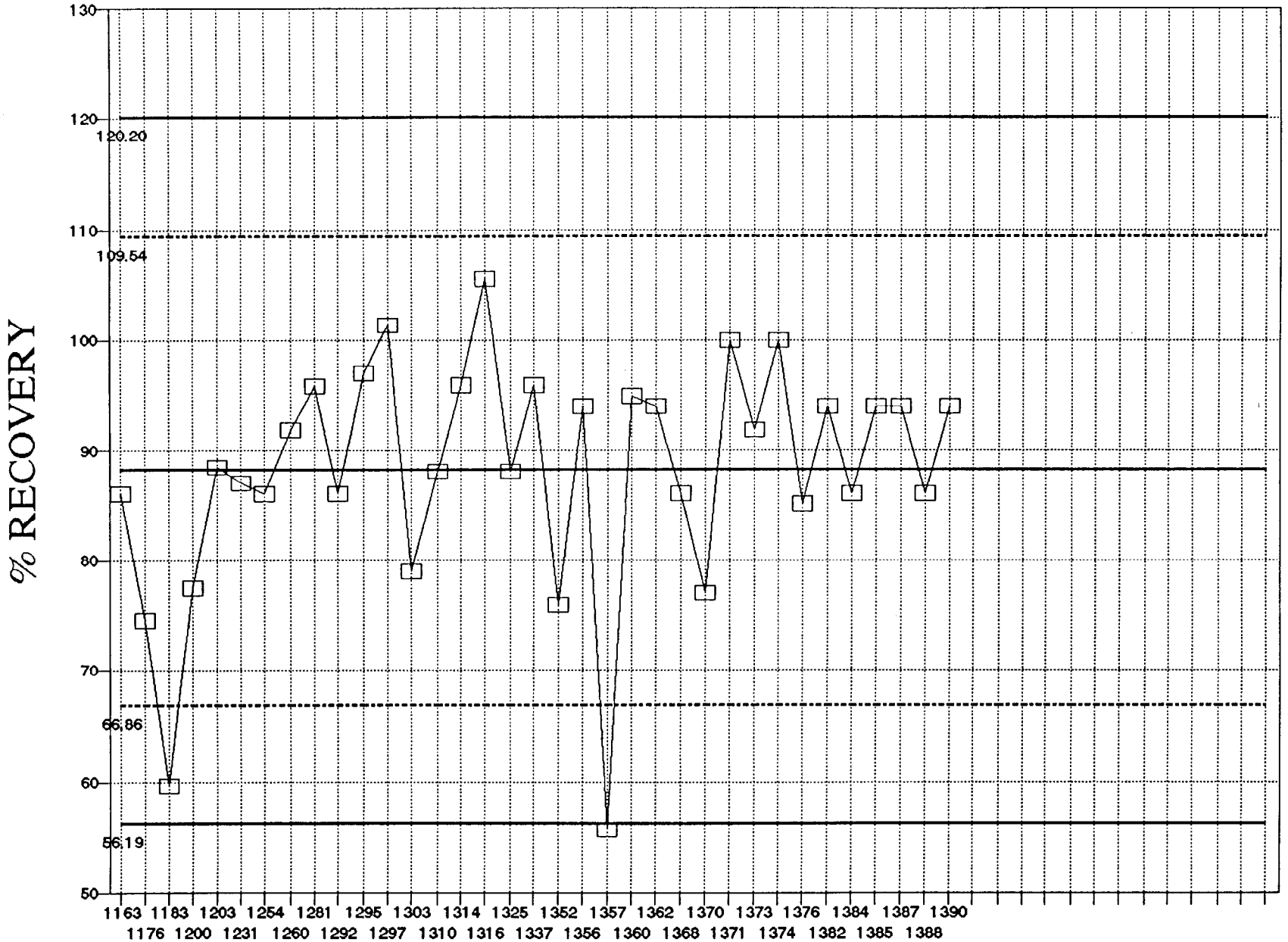
TOTAL GAS LCS RECOVERIES
LIMITS SET 4/13/94



STD DEV = 8.93 MEAN = 103

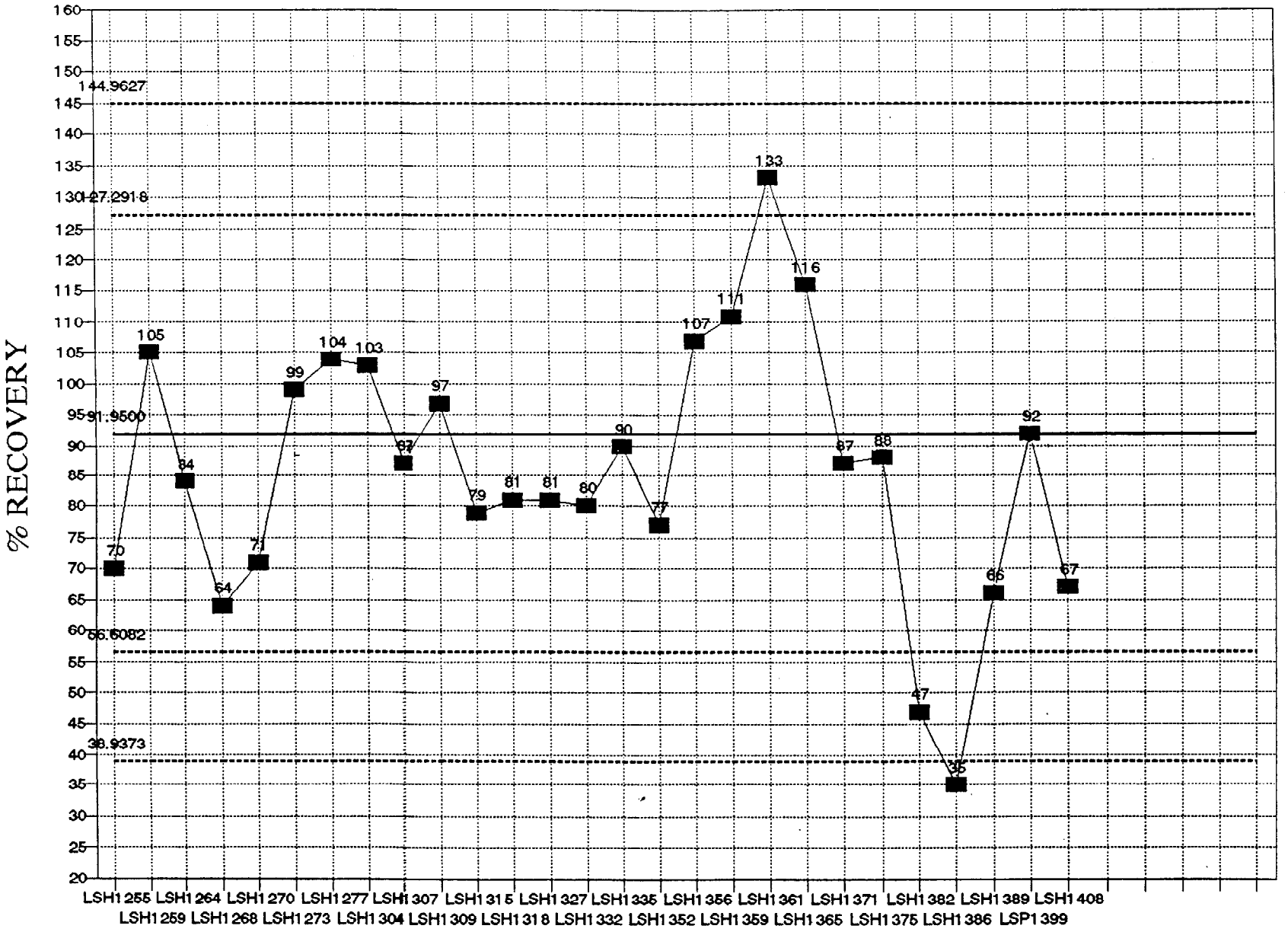
O&G GRAV-S LCS RECOVERIES



MEAN = 87.5 STD DEV = 11.3

PHC WATERS BY SEPF - DIESEL

SPK REC LIMS SET0795-PPCBCHT\PHCWSF94

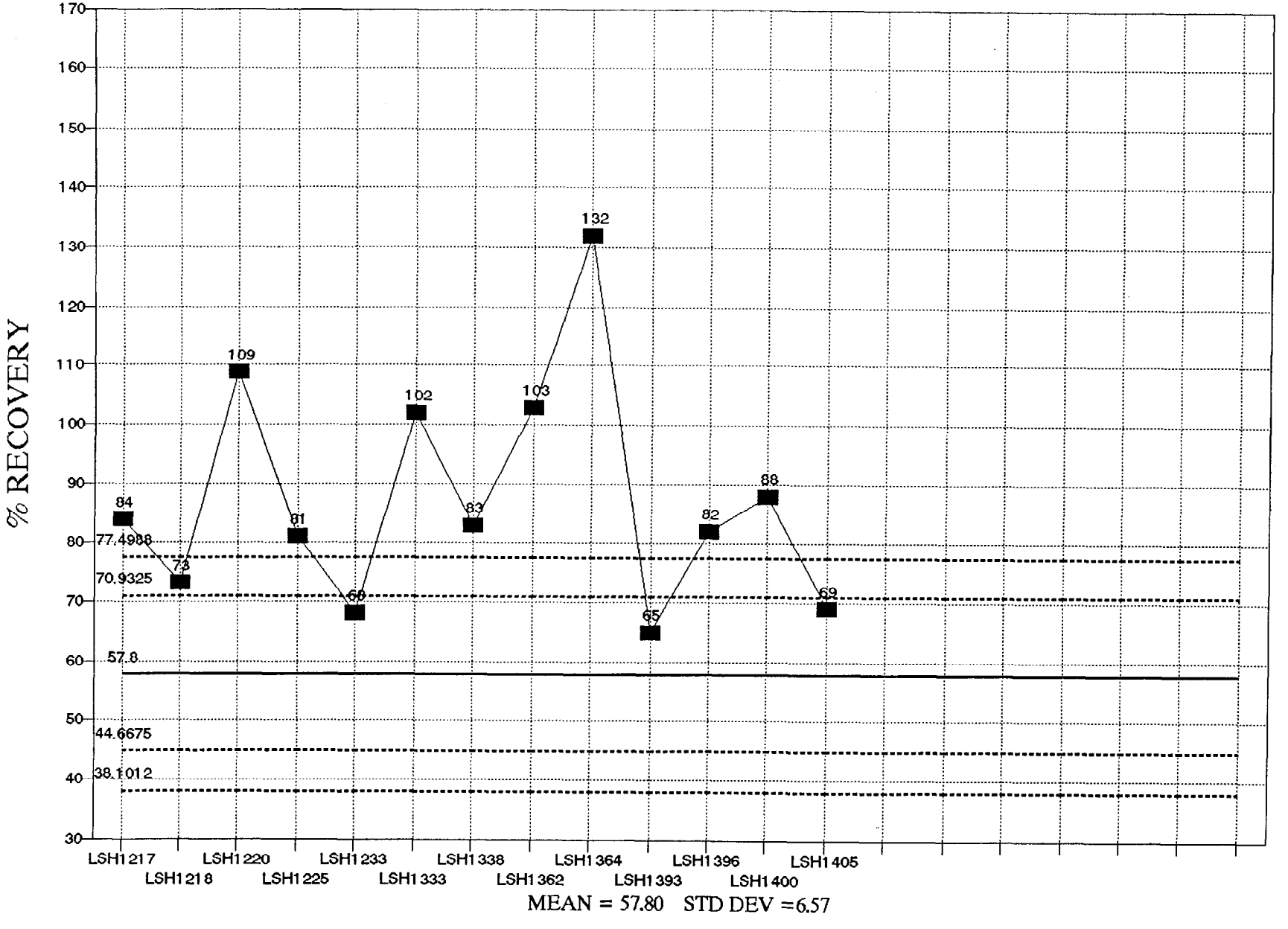


MEAN = 91.95 STD DEV = 17.67

10/17/95 1T3 49->68

PHC MEDIUM SOLIDS - DIESEL

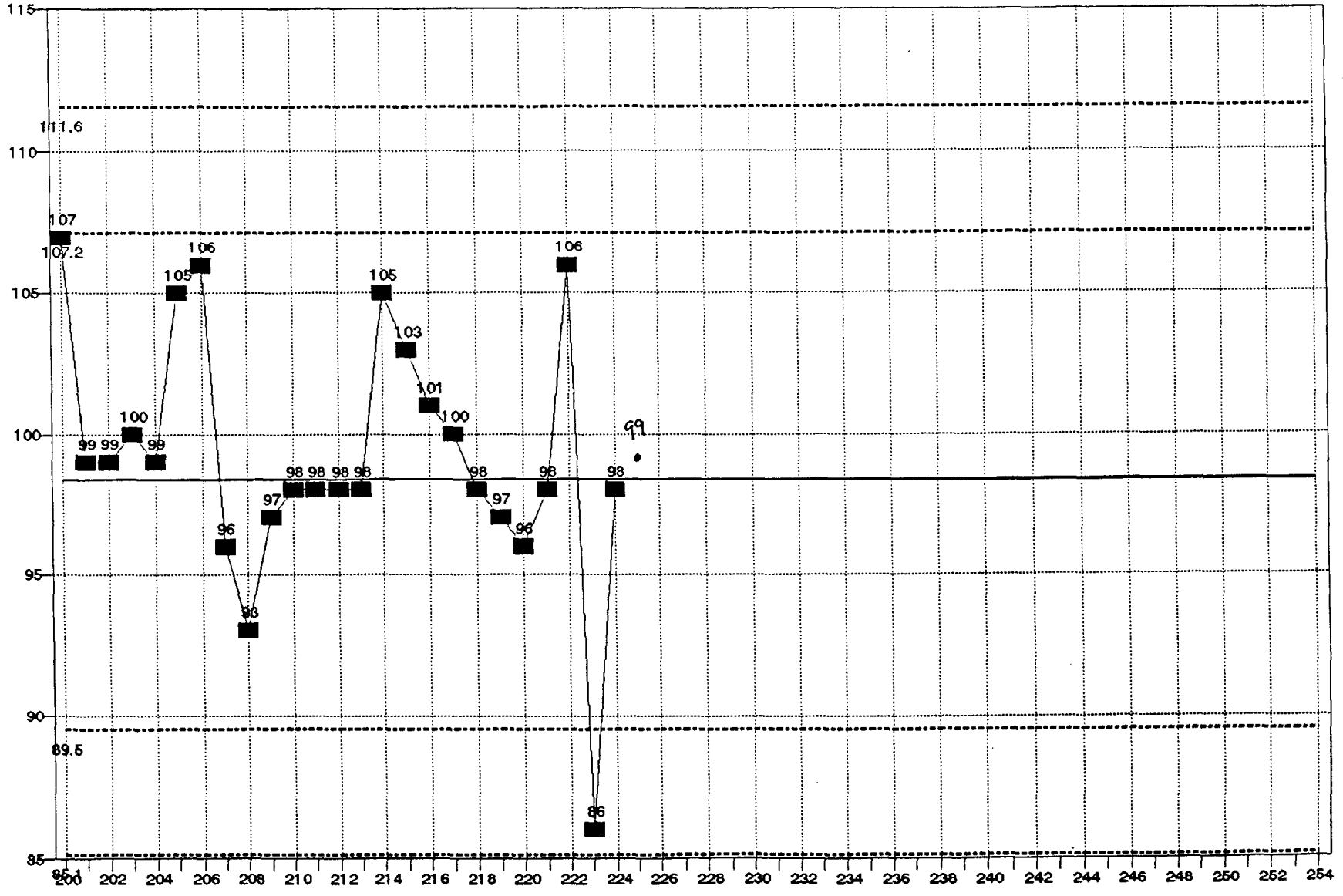
SPK REC LIMS SET195-PPCBCHT\PHCMS195



MEAN = 57.80 STD DEV =6.57

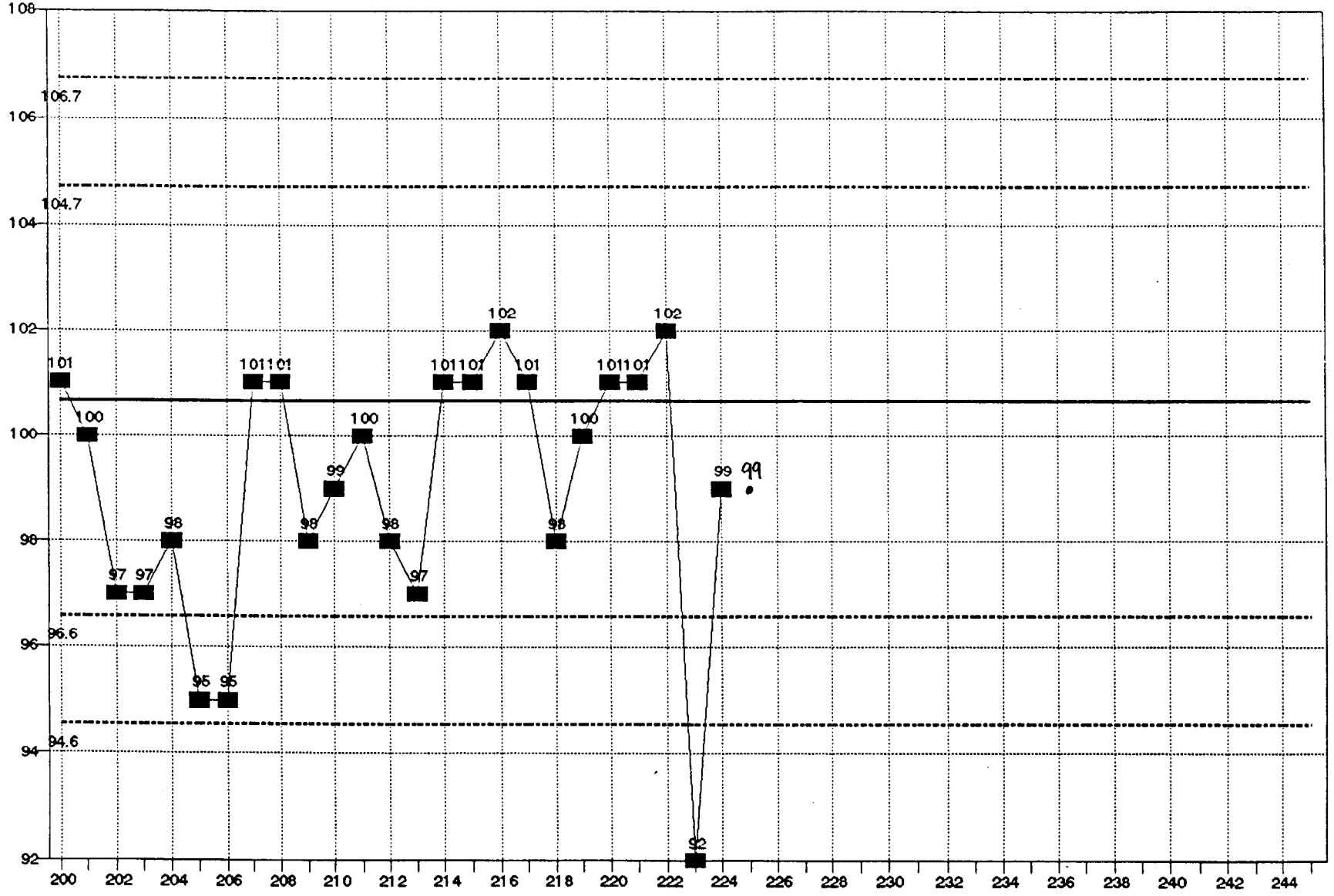
00000017

VOA WATERS - SURR DCE
LIMITS SET 4/95



STD DEV = 4.40 MEAN = 98.4

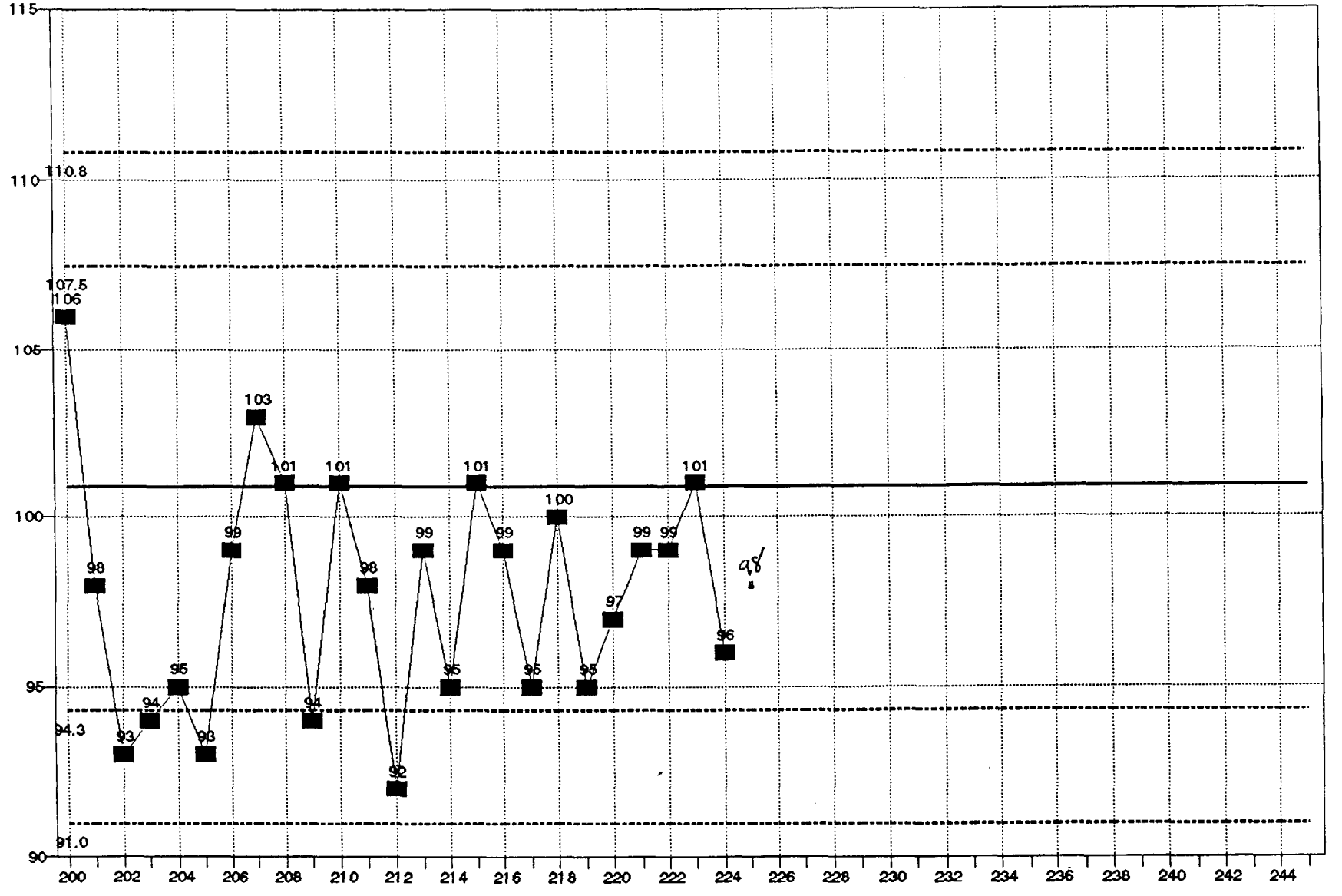
VOA WATERS - SURR TOL
LIMIT SET 4/95



STD DEV = 2.03 MEAN = 100.6

00000019

VOA WATERS - SURR BFB
LIMIT SET 4/95



STD DEV =3.31 MEAN = 100.9

0000020

VOLATILES -- WATER SURROGATE CONTROL CHARTS
POINT / BLANK

69	BC041493A	117	BE070794A	165	BC041295A	213	BG100195B2
70	BE052593B	118	BE070894A	166	BI042095B	214	BG100395A1
71	BE060193A	119	BC063094A	167	BI042195A	215	BG100495B2
72	BE060393A	120	BC072794A	168	BI042495A	216	BG100595A1
73	BC062193A	121	BD072794A	169	BC042595B	217	BG100695A1
74	BE051393A	122	BD072894A	170	BI042595A	218	BG100695A2
75	BC062493A	123	BD072994A	171	BI042795A	219	BG100995A1
76	BD051993A	124	BE081194A	172	BI050195A	220	BG101095D2
77	BD052093B	125	BC081994A	173	BC050595A	221	BG100495A1
78	BC063093A	126	BE101194A	174	BC050695A	222	BD101195A2
79	BC061093A	127	BE101294B	175	BG050295B	223	BG100295B2
80	BE051393A	128	BG101494A	176	BC062995B1	224	BG100395B2
81	BD072293A	129	BC110294B	177	BC063095B1	225	BG101195A1
82	BD072393A	130	BC110394B	178	BC072495A1	226	
83	BD072693A	131	BC110794B	179	BC072695A1	227	
84	BD072793A	132	BC110894B	180	BI080895A1	228	
85	BD073093A	133	BC110994A	181	BI080995A1	229	
86	BC080493A	134	BC111594B	182	BC080295A1	230	
87	BC080593A	135	BC111794B	183	BC080495A1	231	
88	BE091793A	136	BC111894B	184	BC080795A1	232	
89	BC092093B	137	BG111094A	185	BC080895A1	233	
90	BC093093B	138	BC120194B	186	BI081095A1	234	
91	BG093093A	139	BC120294B	187	BI081195A1	235	
92	BE120693A	140	BC120594B	188	BI080995A1	236	
93	BE120793A	141	BC120694B	189	BC081195A1	237	
94	BE121793A	142	BC120794B	190	BC081495A1	238	
95	BC122793B	143	BC121594B	191	BI081495A1	239	
96	BC122893A	144	BG120394B	192	BI081595A1	240	
97	BG021094A	145	BC122294B	193	BI081695A1	241	
98	BG021194A	146	BC122994B	194	BI081795A1	242	
99	BG021494A	147	BE121694A	195	BI081895A1	243	
100	BG021594A	148	BE020995B	196	BI082195A1	244	
101	BC022394B	149	BE021395A	197	BC081695A1	245	
102	BC022494C	150	BE021595A	198	BI082295A1	246	
103	BC022594B	151	BE021695A	199	BC081595A1	247	
104	BG022594B	152	BC032295A	200	BC082595A1	248	
105	BG022894A	153	BC032395A	201	BG091495A1	249	
106	BG030394A	154	BC032495A	202	BG091595A1	250	
107	BD022194A	155	BC032795A	203	BG091895A1	251	
108	BC031194A	156	BC040695A	204	BG091995A1	252	
109	BC031594B	157	BC041195B	205	BG092095A2	253	
110	BG040794A	158	BC041395A	206	BG092195B1	254	
111	BC041294B	159	BC041495A	207	BC092195A1	255	
112	BG042894A	160	BG041095B	208	BC092095A1	256	
113	BG042994A	161	BG041495B	209	BG092795A1	257	
114	BC050994C	162	BI041395A	210	BG092795B2	258	
115	BG060394A	163	BI041895B	211	BG092895B2	259	
116	BC050394B	164	BI041995A	212	BG092995A1	260	

OHM Remediation Services Corp.

CHAIN-OF-CUSTODY RECORD

LAB COPY

Form 001
Field Technical Service
Rev. 08/8

166413

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526

PROJECT NAME	PROJECT LOCATION
Camp Lejeune D.O. 44	Camp Geiger, NC

PROJ. NO.	PROJECT CONTACT	PROJECT TELEPHONE NO.
16487	Rakesh Mishra	910-451-2599

CLIENT'S REPRESENTATIVE	PROJECT MANAGER/SUPERVISOR
	Jim Dunn / Randy Smith

45593

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS) TPH-GRO	TPH-DRO	TCLP Metals	TCLP Volatile	TCLP Semi-Volatile	RCRA Haz Waste Char.	OEG	PCBs	Total Lead	Volatile + BTEX (8240)	REMARKS
1	CJJ44-CC-076	10/4	0640	X		Clean Soil from Pile 18 of Area A.	4	X	X	X	X	X						
2	CJJ44-CC-077	10/4	0645	X		Clean Soil from Pile 19 of Area A.	4	X	X	X	X	X						
3	CJJ44-CC-078	10/4	0655	X		Contaminated Soil from Pile 44 of Area A.	4	-1 X	-6 X				-6 X					
4	CJJ44-CC-079	10/4	0700	X		Contaminated Soil from Pile 45 of Area A.	4	-2 X	-7 X	X	X	X	-7 X	X	X			
5	CJJ44-CC-080	10/4	0705	X		Contaminated Soil from Pile 46 of Area A.	4	-3 X	-8 X				-8 X					
6	CJJ44-CC-081-RB	10/4	0715	X		Rinsate Blank	5	-4 X	-9 X	X	X	X						
7	CJJ44-CC-082-TB	10/4				Trip Blank	3	-5 X			-11 X					X -10		
8																		
9																		
10																		

Final Page

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-7		FedEx	10/4	1100
2		FedEx	Gretchen Franchi on Pace	10/5/05	1015
3					
4					

REMARKS Send Samples to Pace Lab
Items 1, 2 & 4 3 days TAT
Items 3, 5, 6, 7 24 hr. TAT

SAMPLER'S SIGNATURE

0000022

pace INCORPORATED
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REPORT OF LABORATORY ANALYSIS

October 25, 1995

OHM Remediation Services Corporation
5335 Triangle Parkway
Suite 450
Norcross, GA 30092

SAMPLE DELIVERY GROUP NARRATIVE

Case: OHMRC
SDG: LJN31
Laboratory: PACE New England - New Hampshire of Hampton, NH
Lab Numbers: 45594
Protocol: SW846 Methods. NEESA C deliverables. No diskette.

Sample Receipt: These samples were received at PACE, Inc. on October 5, 1995. Laboratory sample numbers were assigned for test parameters as listed on the Sample Table which follows this narrative. The sample shipment was checked for custody seal integrity and cooler temperature. Samples were checked for appropriate preservation and accuracy against the Chains-of-Custody provided. Other than the exceptions noted below, samples were received between 2-6° C and in good condition. PACE Sample Receipt Condition Reports can be found with the Chains-of-Custody.

Shipment received 10/5/95 (45594): Samples were received in one cooler and were assigned PACE# 45593 and 45594. A temperature blank was not included with the shipment, therefore the cooler temperature could not be verified upon receipt of samples at PACE. The samples were received cool, and had been packed on ice. Samples assigned PACE Lab# 45594 were logged in for a 3-day turnaround per the request on the COC. Samples assigned PACE Lab# 45593 were logged in for 24-hour turnaround per the request on the COC. The GRO, DRO and OGG parameters for sample "CLJ44-CC-079" were logged in for 24-hour turnaround per the request of Rakesh Mishra. The remaining parameters were logged in for 3-day turnaround.

GRO Analysis: Analyses proceeded without difficulty and in accordance with SW846 methods. Matrix spikes and duplicates met all acceptance criteria.

DRO Analysis: Analyses were conducted within holding time and in accordance with SW846 methods. The method blank contained low levels of non-target interference. The sample results should be used with due consideration.

Volatiles and TCLP VOA Analysis: Samples were analyzed within holding time and in accordance with SW846 methods. Method blanks "BG101395B1," "BG100995A2" and "BG101195A1" contained low levels of methylene chloride and/or acetone. Sample results for these analytes should be used with due consideration.

TCLP Semivolatile Analysis: Samples were analyzed within holding time and in accordance with SW846 methods. NEESA control charts revealed low recoveries for surrogates 2-fluorophenol and phenol-d5. This was a consequence of using the separatory funnel extraction method in order to meet rapid turnaround times. Separatory funnels do not extract these two surrogates as well as continuous extractors do, as shown by the control charts. However, data quality was maintained.

PCB Analysis: Analyses proceeded without difficulty and in accordance with SW846 methods. Matrix spikes and duplicates met all acceptance criteria.

Conventional Wet Chemistry Parameters: Analyses proceeded without difficulty. Matrix spikes and duplicates met all acceptance criteria.

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REPORT OF LABORATORY ANALYSIS

Metals Analysis: Samples were analyzed within holding time and in accordance with SW846 methods for the TCLP list of eight metals (Ag, As, Ba, Cd, Cr, Hg, Pb, Se). Sample matrices consisted of one water, one solid, and three TCLP extracts run as waters. Sample QC analyses were not requested for this SDG. Due to software restrictions, sample field identifications were shortened to six characters. The correct full identifications have been included as comments on the Form I sample data. NEESA control charts showed acceptable recoveries for laboratory control samples.

Samples were prepared in two ICP batches, two furnace batches, and one mercury batch. Analyses were conducted in six sequences on four instruments:

TJA01 10/06/95 for As, Ba, Cd, Cr, Pb, Se, Ag.
PE01 10/18/95 for As.
PE03 10/19/95 for Pb.
PE01 10/19/95 for Se.
PE01 10/20/95 for Se.
PE02 10/09/95 for Hg.

The higher detection limits obtained on ICP TJA01 for arsenic, lead, and selenium were adequate to quantitate the solid sample and TCLP extracts. The solid contained a moderate amount of lead, and the TCLP regulatory limits are high relative to the Instrument Detection Limit. Furnace instruments were used to analyze these elements in the water sample. Standards met all SW846 compliance criteria. Method blanks were free of contaminants but a few instrument blanks (CCB's) on the ICP contained low levels of arsenic. Because TCLP regulatory limits are so much higher than CLP reporting limits, the blank contamination was not believed to affect sample results. The laboratory control samples showed acceptable analyte recoveries. No difficulties were encountered during metals analysis.

Statement of Compliancy and Data Authorization

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Richard Wellman, Operations Manager
PACE Incorporated, New England-New Hampshire

10/25/95
October 25, 1995

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FAX 603-926-7939

Case: _____

SDG: _____

TABLE 1: MANUAL INTEGRATIONS PERFORMED

EPA ID	LAB ID	FILE NUMBER	COMPOUNDS MANUALLY INTEGRATED
	VSTD010	AG4614	2-chloroethylvinylether Chloromethane

Manual Integrations were performed as required to correct faulty integrations made by the automated software. The manual integrations began and ended at the points where the peak intersected the baseline, in order that the entire peak and only the peak would be integrated. Hardcopies of the manually-integrated peaks have been provided with the data.

Analyst Signature
PACE Incorporated

Date

...\document\manint.frm

pace INCORPORATED
ENVIRONMENTAL LABORATORIES

NEW ENGLAND - NEW HAMPSHIRE LABORATORY
SAMPLE RECEIPT CONDITION REPORT
Tel. (603) 926-7777
FAX (603) 926-7939

LAB# 45594
PAGE 1 of 1
COOLER ____ of ____
COC# ____
SDG# LJN31
CASE# OHMRC

CLIENT OHM Remediation Services Corp.
DATE/TIME RECEIVED 10/5/95 1015
DELIVERED BY FedEX
RECEIVED BY Gretchen Frangham
LIMS ENTRY BY GMF
TRANSCRIPTION REVIEW BY GMF
LIMS REVIEW BY/PM GMF

	NA	YES	EXCEPTION	COMMENT	RESOLUTION
1. CUSTODY SEALS PRESENT/INTACT	☐	☐	☑	No custody seals present	
2. CHAIN OF CUSTODY PRESENT IN THIS COOLER	☐	☑	☐		
3. CHAIN OF CUSTODY SIGNED	☐	☑	☐		
4. CHAIN OF CUSTODY MATCHES SAMPLES	☐	☑	☐		
5. SAMPLES RECEIVED AT 2° - 6° C Ice/Ice Packs Present? (Y) or N	☐	☐	☑	No Temp Blank	
6. VOLATILES FREE OF HEAD SPACE	☐	☑	☐		
7. TRIP BLANK PRESENT IN THIS COOLER	☐	☑	☐	Logged in under 45593 -5, -10	
8. PROPER SAMPLE CONTAINERS AND VOLUME	☐	☑	☐		
9. SAMPLES WITHIN HOLD TIME	☐	☑	☐		
10. SAMPLES PROPERLY PRESERVED	☐	☑	☐		

11. ANALYTICAL PROGRAMS (circle one) COMMERCIAL CLP EPA-CLP NYASP NJ ISRA (NEESA C) AFCEE Other ____
12. NUMBER OF PACE FILTRATIONS: ____
13. CORRECTIVE ACTIONS REPORT # ____

Log-in Notes:

CLIENT AUTHORIZATION SIGNATURE ____ DATE ____

SAMPLE TABLE

CLIENT ID.	MATRIX	PACE #	PARAMETERS
CLJ44-CU-076	SOLID	45594-001	TOTAL GASOLINE
		45594-004	TOTAL DIESEL
		45594-007	GC/MS VOA
			ACID EXTRACTABLES
			BASE/NEUTRAL EXTRACTABLES
			TCLP VOA EXTRACT
			TCLP ORGANICS EXTRACT
			CORROSIVITY
			FLASH POINT
			RELEASABLE CYANIDE
			RELEASABLE SULFIDE
			TCLP METALS EXTRACTION
			Ba, Cd, Cr, Pb, Hg, Ag, As, Se
CLJ44-CU-077	SOLID	45594-002	TOTAL GASOLINE
		45594-005	TOTAL DIESEL
		45594-008	GC/MS VOA
			ACID EXTRACTABLES
			BASE/NEUTRAL EXTRACTABLES
			TCLP VOA EXTRACT
			TCLP ORGANICS EXTRACT
			CORROSIVITY
			FLASH POINT
			RELEASABLE CYANIDE
			RELEASABLE SULFIDE
			TCLP METALS EXTRACTION
			Ba, Cd, Cr, Pb, Hg, Ag, As, Se
CLJ44-CC-079	SOLID	45594-009	GC/MS VOA
			ACID EXTRACTABLES
			BASE/NEUTRAL EXTRACTABLES
			TCLP VOA EXTRACT
			TCLP ORGANICS EXTRACT
			CORROSIVITY
			FLASH POINT
			RELEASABLE CYANIDE
			RELEASABLE SULFIDE
			TCLP METALS EXTRACTION
			Ba, Cd, Cr, Pb, Hg, Ag, As, Se
		45594-010	GC/MS VOA
			PCBS
			Pb
CLJ44-CC-081-RB	WATER	45594-011	Ba, Cd, Cr, Pb, Hg, Ag, As, Se
		45594-012	ACID EXTRACTABLES

SAMPLE TABLE
(CONTINUED)

CLIENT ID.	MATRIX	PACE #	PARAMETERS
CLJ44-CC-081-RB	WATER	45594-012	BASE/NEUTRAL EXTRACTABLES
		45594-013	GC/MS VOA
		45594-014	CORROSIVITY
			FLASH POINT
			RELEASABLE CYANIDE
			RELEASABLE SULFIDE

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Field Identification: CLJ44-CU-076 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	14	45594-001	10/05/95	BG1042A	8015(mod)/2
Total Diesel (ug/g)	280	3.7	45594-004	10/06/95		8015(mod),3350/2
Corrosivity (pH, units)	4.8		45594-007	10/06/95	367	2.1.2/2
Releasable Sulfide (mg/Kg)	BDL	50	45594-007	10/06/95	310	7.3.4.2/2
Releasable Cyanide (mg/Kg)	BDL	1	45594-007	10/09/95	310	7.3.3.2/2
Flash Point (degrees F)	>150	50	45594-007	10/06/95	342	1010/2

Field Identification: CLJ44-CU-077 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	13	45594-002	10/05/95	BG1042A	8015(mod)/2
Total Diesel (ug/g)	340	3.7	45594-005	10/06/95		8015(mod),3350/2
Corrosivity (pH, units)	4.9		45594-008	10/06/95	367	2.1.2/2
Releasable Sulfide (mg/Kg)	BDL	50	45594-008	10/06/95	310	7.3.4.2/2
Releasable Cyanide (mg/Kg)	BDL	1	45594-008	10/09/95	310	7.3.3.2/2
Flash Point (degrees F)	>150	50	45594-008	10/06/95	342	1010/2

Field Identification: CLJ44-CC-079 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Corrosivity (pH, units)	7.7		45594-009	10/06/95	367	2.1.2/2
Releasable Sulfide (mg/Kg)	BDL	50	45594-009	10/06/95	310	7.3.4.2/2
Releasable Cyanide (mg/Kg)	BDL	1	45594-009	10/09/95	310	7.3.3.2/2
Flash Point (degrees F)	>150	50	45594-009	10/06/95	342	1010/2

Field Identification: CLJ44-CC-081-RB Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Corrosivity (pH, units)	6.1		45594-014	10/06/95	367	2.1.2/2
Releasable Sulfide (mg/Kg)	BDL	50	45594-014	10/06/95	310	7.3.4.2/2
Releasable Cyanide (mg/Kg)	BDL	1	45594-014	10/09/95	310	7.3.3.2/2
Flash Point (degrees F)	>150	50	45594-014	10/06/95	342	1010/2

Results expressed on a dry weight basis with the exception of releasables, which are expressed on a weight as received basis.

References: 2) EPA SW 846, 3rd Edition

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QUALITY CONTROL DATA
TOTAL GASOLINE

BLANK DATA

Laboratory Number: BG1042A
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/05/95
Matrix: SOLID

COMPOUND	CONCENTRATION ug/g	DETECTION LIMIT ug/g
GASOLINE	BDL	12

MATRIX SPIKE RECOVERY

Laboratory Number: LS-G1042
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/05/95
Matrix: SOLID

COMPOUND	ug/g IN SAMPLE	ug/g SPIKE	ug/g FOUND	%RECOVERY
GASOLINE	0	50	48	96

METHOD REFERENCE: METHOD 8015 (MODIFIED)

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Calibration Curve for T6AS

Titles

Test: T6AS
Date: 09/26/95
X-Axis: CONC.
Y-Axis: AREA

	Conc.	Abs.	Calc-Abs.
1	100	3570006	3836227
2	200	4927839	4710531
3	500	14045613	15273642
4	1000	33382006	29548409
5	2000	58088582	58086945
6	3000	87510758	86622480

Regression Output:

Constant	1001874
Std Err of Y Est	2466208
R Squared	0.995491
No. of Observations	6
Degrees of Freedom	4
X Coefficient(s)	28543.54
Std Err of Coef.	960.4553
Slope	= 28543.54
Y-Intercept	= 1001874

Calibration Curve for BFB SURR

Titles

Test: BFB SURR
Date: 09/26/95
X-Axis: CONC
Y-Axis: AREA

	Conc.	Abs.	Calc-Abs.
1	10	223616	204423.4
2	20	452761	401291.7
3	50	986999	991896.7
4	100	2013474	1976238

Regression Output:

Constant	7555.031
Std Err of Y Est	69779.55
R Squared	0.994998
No. of Observations	4
Degrees of Freedom	2
X Coefficient(s)	19686.83
Std Err of Coef.	996.8508

Slope = 19686.83
Y-Intercept = 7555.031

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CARBON SIX-CARBON TEN
Sample Name : VSTD1000 5ML

Report No :354.01

Instrument : GC05

Subseq/Sample/Bottle: 1/ 4/ 4

Sequence File: /DATA/GC05/SEQUENCE/G51005.SEQ
Method File : /DATA/GC05/METHOD/TGA50926A.MTH
Result File : /DATA/GC05/RESULT/G5CF115915.RES

Run Time : 37.83 Minutes Injected on 1230 05Oct1995
Report Time : 0830 06Oct1995
Run Status : RunStatusOK
. EndOffBaseline
NoReference

Timed Events	Time	Events	Logic	Value	EventUpdate
1	.800	EndIntegrateAtB	NoLogic	-1	True
2	5.245	SetBLandIntegra	NoLogic	-1	True
3	29.590	EndIntegrateAtB	NoLogic	-1	True
4	30.651	SetBLandIntegra	NoLogic	-1	True

Dil-Fact : 100.00% Sample Amt: 0.0000 Standard Amt: 1.0000

Pk#	RT	ID-tm	Factor	Area	Code	UG/L	Name
1	9.35			2495208	VV	74.8562	
2	9.67			1638748	VV	49.1624	
3	10.42			1368939	VV	41.0682	
4	10.94			521966	VV	52.3361	C7 N-HEPTANE
5	11.45			974855	VV	29.2457	
6	12.21			207802	VV	6.2341	
8	13.18			748574	VV	22.4572	
9	13.51			2552174	VV	76.5652	
10	14.22			1515623	VV	45.4687	
11	14.62			335459	VV	10.0638	
12	14.84			807817	VV	24.2345	
13	15.13			624764	VV	18.7429	
14	15.48			224487	VV	6.7346	
15	15.87			191556	VV	5.7467	
16	16.35			173548	VV	5.2064	
17	16.55			305641	VV	9.1692	
18	17.17			450146	VV	13.5044	
19	17.84			729413	VV	21.8824	
20	18.31			1028042	VV	30.8412	
21	18.69			719408	VV	21.5823	
22	19.73			35180	PV	1.0554	
23	20.10			149017	VV	4.4705	
24	20.32			397784	VV	11.9335	
25	20.67			163195	VV	4.8958	
26	20.92			2243869	VV	67.3161	
27	21.33			95146	VV	2.8544	
28	21.73			194144	VV	5.8243	
29	22.09			83443	VV	2.5033	
30	22.46			22254	VV	.6676	

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Pk#	RT	ID-tm	Factor	Area	Code	UG/L	Name
31	22.86			58660	PV	1.7598	
32	23.17			173372	VV	5.2012	
33	23.39			235410	VV	7.0623	
34	23.77			204976	VV	6.1493	
35	24.20			45407	VV	1.3622	
36	24.45			14913	VV	.4474	
37	24.89			236737	VV	7.1021	
38	25.30			614197	VV	18.4259	
39	25.52			2152638	VV	64.5791	
40	25.75			52168	VV	1.5650	
41	26.12			64180	VV	1.9254	
42	26.64			797834	PV	23.9350	
43	27.08			288302	VV	8.6490	
44	27.41			160005	VV	4.8002	
45	27.76			11885	VV	.3565	
46	28.04			1179354	PV	35.3806	BFD 59/50
47	28.20			131084	VV	3.9325	
48	28.38			216264	VV	6.4879	
49	28.58			1372701	VV	41.1810	
50	29.04			23487	VV	.7046	
51	29.18			262317	VV	7.8695	
52	29.44			1071102	VB	32.1331	
53	36.81			25475	BV	.7642	
54	36.96			30208	VV	.9062	
55	37.23			125847	PB	3.7754	

Total Area DRO only : 30242728

983/1000 CF (E3) 10/12/95

VSTD1000 5ml
G51005
TCA50926A
G5CF115915

TGAS

Total Gas: Gas Range Organics (GRO)

PACE N.E.
REV00

Batch 1042
Method 8015 mod SW-846 3rd Ed
Matrix solid

	RESULT	SURR
Slope	28543.54	19686.8
Intercept	1001874	7555.03

IDC	*	ANAL Inits	PREP Date Prepared	DATE Date Analyzed	* Init Wt g	* PegVol Loaded ME	* LCS SPK LEV	* AREA	* SURR AREA	* Instr Result ug/L	VAL Obs Conc.	DL Det Limit	*	* Rpted Conc.	*	% Rec	% Diff	SURR SURR
Sample	Code																	
BG1042A	BW	CF	10/05/95	10/05/95	4	100		2473449	1197366	9.606692	1.201	12.5	<	12.5				60.43
LSG1042	LCS1	CF	10/05/95	10/05/95	4	100	50	13108432	1113871	385.12	48.14	12.5		48.14		96.28		56.195
BG100595TGA		CF	10/05/95	10/05/95				1353596	1128767	-27.2231								56.952
VSTD1000		CF	10/05/95	10/05/95				30242728	1179354	983.1121								59.521
BG100695TGA		CF	10/06/95	10/06/95				1928594	1296309	-12.9483								65.462
45589-1	S1	CF	10/05/95	10/05/95	4.5	50		29000056	624530	959.0139	213.1	22.22		213.1				31.339
45589-1MS	MS	CF	10/05/95	10/05/95	4.4	20	50	16449278		541.1874	307.5	56.82		307.5				-0.383
45589-1MSD	MSD	CF	10/05/95	10/05/95	4.3	20	50	22388772		749.2728	435.6	58.14		435.6				
45589-2	S2	CF	10/05/95	10/05/95	4.2	50		35508664		1208.918	287.8	23.81		287.8		ERR	40.9%	-0.383
45589-3	S2	CF	10/05/95	10/05/95	4.3	50		34753952		1182.477	275	23.26		275				-0.383
45589-4		CF	10/05/95	10/06/95				3951766	1229151	60.28478								62.051
45593-1	S4	CF	10/05/95	10/06/95	4.5	100		2525873	1257422	9.339311	1.038	11.11	<	11.11				63.487
45593-2	S5	CF	10/05/95	10/06/95	4	100		2440268	1255445	6.409471	0.801	12.5	<	12.5				63.387
45593-3	S6	CF	10/05/95	10/06/95	4.5	100		34656168		1179.051	131	11.11		131				-0.383
45594-1	S7	CF	10/05/95	10/05/95	4	100		3340999	1242817	38.40627	4.801	12.5	<	12.5				62.74
45594-2	S8	CF	10/05/95	10/05/95	4.3	100		3308129	1386498	32.22295	3.747	11.63	<	11.63				70.043
VSTD1000		CF	10/06/95	10/06/95				31849568	1225487	1037.79								61.865
LW100695TGA		CF	10/06/95	10/06/95				17419792	1086270	537.132								54.793
45593-4	S11	CF	10/06/95	10/06/95				4125424	1224873	66.51862								61.834
45593-5	S12	CF	10/06/95	10/06/95				2066697	1158491	-3.28158								58.462
	S13	CF	10/06/95	10/06/95				3951766	1229151	60.28478	ERR	ERR	**	ERR				62.051
	S14	CF	10/06/95	10/06/95				4125424	1224873	66.51862	ERR	ERR	**	ERR				61.834
	S15	CF	10/06/95	10/06/95				2066697	1158491	-3.28158	ERR	ERR	**	ERR				58.462
	S16	CF	10/06/95	10/06/95						-35.0999	ERR	ERR	**	ERR				-0.383
	S17	CF	10/06/95	10/06/95		100		10139964	1371496	272.0964	ERR	ERR	**	ERR				69.28
	S18	CF	10/06/95	10/06/95		50		49364024		1694.329	ERR	ERR	**	ERR				
	S19	CF	10/06/95	10/06/95				3662559	1301945	47.60236	ERR	ERR	**	ERR				65.749
	S20	CF	10/06/95	10/06/95				2428390	1192196	8.209213	ERR	ERR	**	ERR				60.174
		CF	10/06/95	10/06/95				2116907	1137987	-0.80417	ERR	ERR	**	ERR				57.420
		CF	10/06/95	10/06/95				3007202	945667	37.12437	ERR	ERR	**	ERR				47.651
		CF	10/06/95	10/06/95				2249701	1338126	-3.16355	ERR	ERR	**	ERR				67.586
		CF	10/06/95	10/06/95				2192381	1024294	5.823139	ERR	ERR	**	ERR				51.645
		CF	10/06/95	10/06/95				2198787	1088690	3.791506	ERR	ERR	**	ERR				54.916

PACE New England
VOA Screening Analyst/Date 0f 10/5/95

GC05 SCRNA					GC04 SCRNB				
FRN	tube	Sample#	Vol.	Comments	FRN	tube	Sample#	Vol.	Comments
05Of115912	1	Be100595TGA	5ml	BDV	04Of114238	1	Blank	5ml	
13	2	45563-14	20ml	100ml 20ml	39	1	624std	5ml	
14	3	45563-16	20ml	20ml 100ml	40	2	45551-2		25ml
15	4	VSTD1000	5ml	98%/100 98%/	41	3	3		25ml
16	5	BV1042		✓	42	4	4		25ml
17	6	45589-1	50ml	✓	43	1	45565-1	50ml	5ml
18	7	2	50ml	✓	44	2	2		5ml
19	8	3	50ml	✓	45	3	3		5ml
20	9	45590-1	100ml	✓	46	4	4		5ml
21	10	45593-1	50ml	Re100ml	47	5	5		5ml
22	1	2	50ml	Re 100ml	48	6	45586-1		5ml
23	2	3	50ml	Re 100ml	49	7	45561-4		5ml
24	3	45594-1	100ml	✓	50	8	45527-1		5ml
25	4	2	100ml	✓	51	9	45475-1		5ml
26	5	LS1042	100ml	48/50	52	10	2		5ml
27	6	45589-1MS	20ml	16%/Rec	53	11	3		5ml
28	7	-1MSD	20ml	40%/Rec	54	12	45490-1		5ml
					55	13	45550-1		5ml
					56	14	2		5ml
					57	15	3		3.3ml
					58	16	4		5ml
					59	17	5		5ml
					60	18	6		5ml
					61	19	45553-1		5ml
					62	20	2		
					63	21	3		
					64	22	4		
					65	23	5		
					66	24	6		
					67	25	7		

Of 10/4/95

Run time at 57.83 every other sample

PACE New England
VOA SOILS PREP

TOTAL GASOLINE

Date/Init	Smpl Ct.	SAMPLE #	Prep Wt. (g)	Pan #	Pan Wt. (g)	Wet Wt. + Pan (g)	Dry Wt. + Pan (g)	% Solid	COMMENTS
CF 10/5/95		BV1042	4.0						MeOH Lot#
		LS1042	4.0						
		45589-1	4.5						
		-1MS	4.4						
		-1MSD	4.3						
		-2	4.2						
		-3	4.3						
		45590-1	4.2						
		45593-1	4.5						
		2	4.0						
		3	4.5						
		45594-1	4.0						
		-2	4.3						
CF 10/6/95		BV1043	4.0						
		LS1043	4.0						
		~~45563-4~~ H_2O	—						
		~~45563~~ done	—						
		45613-1	4.2 4.1						
		2	4.2						
		45614-1	4.1						
		2	4.4						
		3	4.3						
		-4	4.3						

CF 10/10/95

Spike V6462
Surrogate V6461

QUALITY CONTROL DATA
PETROLEUM HYDROCARBONS BY GCFID

BLANK DATA

Laboratory Number: B-H1406
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/06/95
Matrix: SOLID

HYDROCARBON TYPE	CONCENTRATION ug/g	DETECTION LIMIT ug/g
DIESEL	7	3

MATRIX SPIKE RECOVERY

Laboratory Number: LSH1406
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/06/95
Matrix: SOLID

COMPOUND	ug/g SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
DIESEL	0	33.6	18.1	54

METHOD REFERENCE: EPA SW 846, 3RD EDITION METHOD 8015 (MODIFIED) AND 3350

pace INCORPORATED THE ASSURANCE OF QUALITY

PACE, Incorporated

INITIAL CALIBRATION SUMMARY

For /DATA/GC06/METHOD/DIESEL016.MTH
Method created: 09/28/95 09:17:56
Method updated: 09/29/95 15:21:21

Result files used for Calibration data:
Level 1 /DATA/GC06/RESULT/G6H18073.RES
Level 2 /DATA/GC06/RESULT/G6H18072.RES
Level 3 /DATA/GC06/RESULT/G6H18071.RES
Level 4 /DATA/GC06/RESULT/G6H18070.RES
Level 5 /DATA/GC06/RESULT/G6H18069.RES

#	Time	Analyte	Correlation	B_0 Intercept	B1 Slope	B2 Quadratic
1	3.73	SOLVENT PEAK	.00000	0.00	**********	**********
2	20.45	DIESEL FUEL	.99990	-225552.00	4495.09	.01

$$R = B0 + B1X + B2X^2$$

PACE, Incorporated
Continuing Calibration Report

Tue Oct 24, 1995 1:21:17 pm

/DATA/GC06/RESULT/G6H18179.RES
/DATA/GC06/METHOD/DIESEL016A.MTH

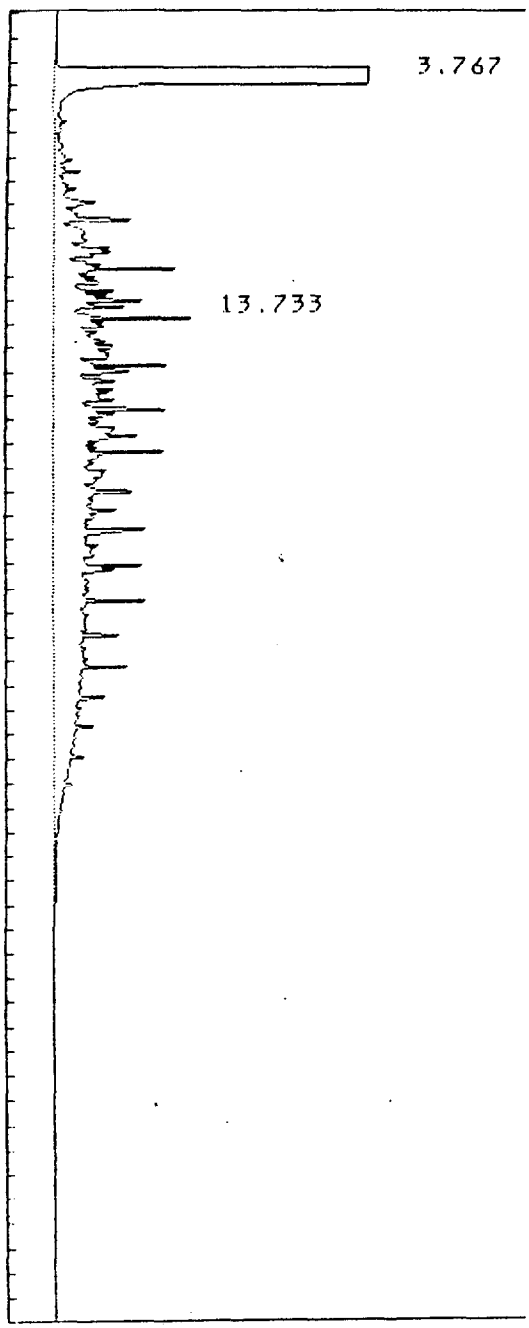
Sample: 2013PPM DIESEL P8870
Injected: Fri Oct 6, 1995 6:14:26 pm

RetTime	Analyte	Found	Nominal	%D	Recovery
13.90	DIESEL FUEL	1649.99	2013.000	18.0	82.0

PACE INCORPORATED

PHC GC-FID : SPB-5 COLUMN # 130, RANGE 3000 - 100000 Page 1
Sample Name : DRO 2013PPM P8843 Report No : 40.01

Instrument : GC06 Subseq/Sample/Bottle: 1/ 4/ 4



Sequence File: /DATA/GC06/SEQUENCE/G60929.SEQ
Method File : /DATA/GC06/METHOD/DIESEL016.MTH
Result File : /DATA/GC06/RESULT/G6H18071.RES

Run Time : 55.00 Minutes Injected on 1202 29Sep1995
Report Time : 1519 29Sep1995
Run Status : EndOffBaseline
SignalOverload
SpecialInteg

Timed Events	Time	Events	Logic	Value	EventUpdate
1	1.700	ResetBl	NoLogic	-1	True
2	4.963	SumPeaks	EventOn	-1	True
3	35.000	SumPeaks	EventOff	-1	True
4	36.000	ResetBL	NoLogic	-1	True

Dil-Fact : 100.00% Sample Amt: 0.0000 Standard Amt: 1.0000

Pk#	RT	ID-tm	Factor	Area	Code	UG/ML	Name
1	3.77	#3.73		36747336	FF	0.0000	SOLVENT PEAK
2	13.73	#20.45		7849440	FF	1793.3690	DIESEL FUEL

PACE INCORPORATED
Organics Extraction
SOLIDS PREP LOG

REVIEWED BY
JSH 10/05/95

PROTOCOL: EPA SW846

SOP #: _____

METHOD: SONC/3550

MATRIX: SOLID

TEST / LEVEL: PHC / low

COUNT	DATE/INIT	BLANK/SPIKES SAMPLE #	INIT WT (g)	SURR # AMT/CONC.	LCS MS/MSD	SPIKE # AMT/CONC.	NA2SO4 (g)	INTER VOL (ml)	ALIQUOT VOL (ml)	FINAL VOL (ml)
←	10/5 AS	BH1406	30.0	21416 500~1		N/A	60.0	10.0	10.0	1.0
—		LSH1406	30.10	101 ppm		21394 200~1				
1		45484-1	30.50		No QC	501 ppm N/A	50 gm.			
2		-2	30.41		assigned yet					
3		45590-2	30.91							
4		45594-4	30.82							
5	↓	-5	30.00	↓	↓	↓	↓	↓	↓	↓

Sent MC 10/6/95

MC
LCS
10/6/95

COMMENTS: _____

PACE, INCORPORATED
GC Instrument Run Log

0000078

Reviewed by _____ Date _____

Circle one:
CLP / PHC / OPP / HERB / P-P

Date	init	result file	Sample	MI	V	Method	column	Sequence
			injection	N	N	Diesel 016	157	
		G9 059	45480-44 Bechtel DRO-S D10/3	Y	Y		154	G9
		G6 059	two injection	N	N		157	G6
		G9 060	45480-45 Bechtel DRO-S D10/3	Y	Y		154	G9
		G6 060	two injection	N	N		157	G6
		G9 061	B11 1393 DRO-S OHM	Y	Y		154	G9
		G6 061	two injection	N	N		157	G6
		G9 062	LS151393 DRO-S OHM	Y	Y		154	G9
		G6 062	two injection #3	N	N		157	G6
		G9 063	45515-4 DRO-S OHM V9/29 1:10	Y	Y		154	G9
		G6 063	two injection	N	N		157	G6
		G9 064	DRO 2013 ppm P8843	Y	Y		154	G9
		G6 064	two injection	N	N		157	G6
		G9 065	45515-5 DRO-S OHM V9/29 1:10	Y	Y		154	G9
		G6 065	two injection	N	N		157	G6
		G9 066	45515-6 DRO-S OHM V9/29 1:10	Y	Y		154	G9
		G6 066	two injection	N	N		157	G6
		G9 067	Meck2	Y	Y		154	G9
		G6 067	two injection	N	N		157	G6
		G9 068	B11 1392 DRO-S Bechtel D10/3	Y	Y	Diesel 016	154	G9 092 9
		G6 068	Meck2				157	G6
		G9 069	LS11 1392 DRO-S Bechtel D10/3				154	G9
		G6 069	DRO 2013 ppm P8841				157	G6
		G9 070	45515-4 OHM				154	G9
		G6 070	DRO 5134 ppm P8842				157	G6
		G9 071	45515-5 OHM				154	G9
		G6 071	DRO 2013 ppm P8843				157	G6
		G9 072	45515-6 OHM				154	G9
		G6 072	DRO 503 ppm P8844				157	G6
		G9 073	45480-32 DRO-S Bechtel D10/3				154	G9
		G6 073	DRO 50 ppm P8845				157	G6

PACE, INCORPORATED
GC Instrument Run Log

Reviewed by _____ Date _____

Circle one:
CLP/PHC/OPP/HERB/P-P

Date	init	result file	Sample	MI	V	Method	column	Sequence
10/6/95	HS	Gb # 18168	2013 ppm DRO P8843 92	Y	Y	Diesel01b	157	Gb 167 G
		G9 169	45593-7 DRO-S OHM 1:10		N		154	G9
		Gb 169	45563-20 DRO-W OHM ENSIFE		N		157	Gb
		G9 170	45593-8 DRO-S OHM 1:10		Y		154	G9
		Gb 170	45563-9 DRO-W OHM		Y		157	Gb
		G9 171	45593-8 DRO-S OHM need dilution		N		154	G9
		Gb 171	45558-23 DRO-S Bechtel		Y		157	Gb
		G9 172	45563-7 DRO-S 1:10 OHM				154	G9
		Gb 172	45558-24 ↓ Bechtel				157	Gb
		G9 173	45563-8 DRO-S OHM 1:20				154	G9
		Gb 173	45558-25 ↓ Bechtel				157	Gb
		G9 174	DRO 2013 PPM P8843 Sr				154	G9
		Gb 174	45558-26 DRO-S Bechtel				157	Gb
		G9 175	45593-6 DRO-S OHM				154	G9
		Gb 175	45558-27 ↓ Bechtel				157	Gb
		G9 176	45593-7 DRO-S OHM				154	G9
	↓	Gb 176	45558-28 ↓ Bechtel				157	Gb
10/6/95	HS	G9 177	BH 1404 DRO-S BH 1412 DRO-S	Y	N	Diesel.lab	154	G9
		Gb 177	LSH 1404 ↓ ~~LSH 1412 DRO-S~~ HS 10/6/95		Y		157	Gb No Acetate to Sending Lab
		G9 178	LSH 1412 DRO-S HS 10/6/95 ~~2013 PPM Diesel P8870~~		N		154	G9
		Gb 178	45535-1MS DRO-S Bechtel ~~45594-4 DRO-S OHM~~ HS 10/6/95		Y		157	Gb
		G9 179	~~45535-1MSD DRO-S Bechtel~~ 2013 PPM Diesel P8870		N		154	G9
		Gb 179	45535-1MSD DRO-S Bechtel ~~45590-2~~ HS 10/6/95		Y		157	Gb
		G9 180	~~BH 1406~~ HS 10/6/95 45594-4 DRO-S OHM		N		154	G9
		Gb 186	45536-40 DRO-S Bechtel		Y		157	Gb
		G9 181	45594-5 DRO-S OHM		N		154	G9
		Gb 181	45558-17MS DRO-S Bechtel		Y		157	Gb
		G9 182	45590-2 DRO-S OHM		N		154	G9
		Gb 182	45558-17MSD DRO-S Bechtel		Y		157	Gb
		G9 183	BH 1406 DRO-S		N		154	G9
	↓	Gb 183		↓	Y	↓	157	Gb

PACE, INCORPORATED
GC Instrument Run Log

Reviewed by _____ Date _____

Circle one:
CLP/PHC/OPP/HERB/P-P

Date	init	result file	Sample	MI	V	Method	column	Sequence
10/4/95	BS	G9H18180	45558-31 DRO-S Bechtel	Y	N	Diesel.mb	154	G9.seq
		G6 184	LSH1406 DRO-S	Y	Y		157	G6
		G9 185	Bad injection	N	N		154	G9
		G6 185	GC9/6 had vent door problem. The				157	G6
		G9 186	Vent door can't be close				154	G9
		G6 186	installed vent with metal from GC6. Remove vent from GC9/6				157	G6
10/9/95	BS	G9 187	DRO 2013PPM P887o 83	N	N		154	G9
		G6 187	↓	Y	Y	10/9/95 Diesel.mb	157	G6
		G9 188	↓	N	N		154	G9.seq
		G6 188	BLH1404 DRO-S	Y	Y		157	G6
		G9 189	2013 PPM DRO P887o 83				154	G9
		G6 189	LSH1404 DRO-S				157	G6
		G9 190	BLH100695ME DRO-S Bechtel				154	G9
		G6 190	45535-1MS ↓				157	G6
		G9 191	LSH100695ME DRO-S Bechtel				154	G9
		G6 191	45535-1MSD ↓				157	G6
		G9 192	45626-2 DRO-S Bechtel				154	G9
		G6 192	45536-4o ↓				157	G6
		G9 193	45626-1 DRO-S Bechtel				154	G9
		G6 193	45558-17MS DRO-S Bechtel				157	G6
		G9 194	45626-1MS DRO-S Bechtel				154	G9
		G6 194	45558-17MSD ↓				157	G6
10/10/95	BS	G9 195	45626-1MSD DRO-S Bechtel				154	G9
		G6 195	45558-31 ↓				157	G6
		G9 196	45626-3 DRO-S Bechtel				154	G9
		G6 196	45559-1 ↓				157	G6
		G9 197	45626-4 DRO-S Bechtel				154	G9
		G6 197	45559-2 ↓				157	G6
		G9 198	45626-5 DRO-S Bechtel				154	G9
		G6 198	DRO 2013PPM P887o 92				157	G6
		G9 199	45626-6 DRO-S Bechtel				154	G9

QUALITY CONTROL
Corrosivity
Method: 7.2 SW846 3rd Edition

QC Batch: 367 For: 45594
Matrix: SOLID

LABORATORY CONTROL SAMPLES:

	True Value Units	Observed Value Units
LCS1	7.0	7.01

PACE INC. NE-NH LAB
QUALITY CONTROL
Releasable Sulfide
Method: 7.3.4.2 EPA SW846, 3rd Edition

QC Batch: 310 For: 45594
Matrix: SOLID

METHOD BLANK:

	Result ug/g
	< 50.00

LABORATORY CONTROL SAMPLES:

	True Value ug/g	Observed Value ug/g	Accuracy Recovery %
LCS1	1447.4	1596.1	110.3

QUALITY CONTROL QUALIFIER STATEMENT
The sample results used to generate quality control information for solid samples are uncorrected for dry weight. This does not affect the results reported for percent of spike recovery and relative percent difference.

PACE INC. NE-NH LAB
QUALITY CONTROL
Releasable Cyanide
Method: 7.3.3.2 SW846, 3rd Edition

QC Batch: 310 For: 45594
Matrix: SOIL

METHOD BLANK:

	Result ug/g
	< 1.00

LABORATORY CONTROL SAMPLES:

	True Value ug/g	Observed Value ug/g	Accuracy Recovery %
LCS1	40.0	12.800	32.0

QUALITY CONTROL QUALIFIER STATEMENT
The sample results used to generate quality control information for solid samples are uncorrected for dry weight. This does not affect the results reported for percent of spike recovery and relative percent difference.

NC = Not calculable due to result below detection limit.

QUALITY CONTROL
Flashpoint
Method: D93-80, ASTM

QC Batch: 342 For: 45594
Matrix: SOLID

LABORATORY CONTROL SAMPLES:

	True Value Deg F	Observed Value Deg F
LCS1	81.0	82.00

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR VOLATILE CONSTITUENTS

Laboratory Number : 45594-007
Field Identification : CLJ44-CU-076
Extraction Date : 10/05/95
TCLP Blank : 90,002-402

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

Extraction Fluid #1 was used as specfied in the method.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 25 g of sample was added to the extractor with 500 mL of Extraction Fluid #1.

Extraction Time : 17.50 hrs

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid #1: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

pace INCORPORATED THE ASSURANCE OF QUALITY

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
ANALYSIS FOR VOLATILE CONSTITUENTS

Laboratory number: 45594-007
Sample Designation: CLJ44-CU-076
Date Analyzed: 10/10/95 02:19
QC Batch: BG100995A2
TCLP Batch: 402
Matrix: TCLP EXTRACT

VOLATILES	Concentration (mg/L)		Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Vinyl chloride	BDL		0.2	0.01
1,1-Dichloroethene	BDL		0.7	0.005
1,2-Dichloroethane	BDL		0.5	0.005
Chloroform	BDL		6.0	0.005
Methyl ethyl ketone	BDL		200	0.025
Carbon Tetrachloride	BDL		0.5	0.005
Trichloroethene	BDL		0.5	0.005
Benzene	BDL		0.5	0.005
Tetrachloroethene	0.0041	J	0.7	.0050
Chlorobenzene	BDL		100	0.005

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8240

Results uncorrected for matrix spike recovery.

BDL = Below reporting limit
J = Probable presence below listed detection limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR VOLATILE CONSTITUENTS

Laboratory Number : 45594-008
Field Identification : CLJ44-CU-077
Extraction Date : 10/05/95
TCLP Blank : 90,002-402

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

Extraction Fluid #1 was used as specfied in the method.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 25 g of sample was added to the extractor with 500 mL of Extraction Fluid #1.

Extraction Time : 17.50 hrs

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid #1: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

pace INCORPORATED THE ASSURANCE OF QUALITY

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
ANALYSIS FOR VOLATILE CONSTITUENTS

Laboratory number: 45594-008
Sample Designation: CLJ44-CU-077
Date Analyzed: 10/10/95 03:00
QC Batch: BG100995A2
TCLP Batch: 402
Matrix: TCLP EXTRACT

VOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Vinyl chloride	BDL	0.2	0.01
1,1-Dichloroethene	BDL	0.7	0.005
1,2-Dichloroethane	BDL	0.5	0.005
Chloroform	BDL	6.0	0.005
Methyl ethyl ketone	BDL	200	0.025
Carbon Tetrachloride	BDL	0.5	0.005
Trichloroethene	BDL	0.5	0.005
Benzene	BDL	0.5	0.005
Tetrachloroethene	BDL	0.7	0.005
Chlorobenzene	BDL	100	0.005

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8240

Results uncorrected for matrix spike recovery.

BDL = Below reporting limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR VOLATILE CONSTITUENTS

Laboratory Number : 45594-009
Field Identification : CLJ44-CC-079
Extraction Date : 10/05/95
TCLP Blank : 90,002-402

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

Extraction Fluid #1 was used as specfied in the method.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 25 g of sample was added to the extractor with 500 mL of Extraction Fluid #1.

Extraction Time : 17.50 hrs

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid #1: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

pace INCORPORATED
THE ASSURANCE OF QUALITY

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
ANALYSIS FOR VOLATILE CONSTITUENTS

Laboratory number: 45594-009
Sample Designation: CLJ44-CC-079
Date Analyzed: 10/10/95 03:40
QC Batch: BG100995A2
TCLP Batch: 402
Matrix: TCLP EXTRACT

VOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Vinyl chloride	BDL	0.2	0.01
1,1-Dichloroethene	BDL	0.7	0.005
1,2-Dichloroethane	BDL	0.5	0.005
Chloroform	BDL	6.0	0.005
Methyl ethyl ketone	BDL	200	0.025
Carbon Tetrachloride	BDL	0.5	0.005
Trichloroethene	BDL	0.5	0.005
Benzene	BDL	0.5	0.005
Tetrachloroethene	0.038	0.7	.0050
Chlorobenzene	BDL	100	0.005

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8240

Results uncorrected for matrix spike recovery.

BDL = Below reporting limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: 45594-010
Sample Designation: CLJ44-CC-079
Date Analyzed: 10/13/95
Matrix: SOLID

Instrument File Name: >G5131

Results are expressed on a dry (103 degrees C) basis.
Moisture content was 12 % , elevating the reporting limits
by a factor of 1.13 .

VOLATILE ORGANICS	CONCENTRATION (ug/Kg)		REPORTING LIMIT (ug/Kg)
Chloromethane	BDL		12
Bromomethane	BDL		12
Vinyl chloride	BDL		12
Chloroethane	BDL		6
Methylene chloride	12	B	12
Acetone	BDL		29
Carbon disulfide	BDL		6
Tetrahydrofuran	BDL		29
Trichlorofluoromethane	BDL		6
1,1-Dichloroethene	BDL		6
1,1-Dichloroethane	BDL		6
1,2-Dichloroethene (total)	BDL		6
Chloroform	BDL		6
1,2-Dichloroethane	BDL		6
2-Butanone	BDL		29
1,1,1-Trichloroethane	BDL		6
Carbon Tetrachloride	BDL		6
Vinyl acetate	BDL		12
Bromodichloromethane	BDL		6
1,2-Dichloropropane	BDL		6
cis-1,3-Dichloropropene	BDL		6
trans-1,3-Dichloropropene	BDL		6
Trichloroethene	BDL		6
Dibromochloromethane	BDL		6
1,1,2-Trichloroethane	BDL		6
Benzene	BDL		6
2-Chloroethyl vinyl ether	BDL		6
Bromoform	BDL		6
4-Methyl-2-Pentanone	BDL		29
2-Hexanone	BDL		29
Tetrachloroethene	BDL		6
1,1,2,2-Tetrachloroethane	BDL		6
Toluene	BDL		6
Chlorobenzene	BDL		6
Ethylbenzene	BDL		6
Styrene	BDL		6
Xylene (total)	BDL		6

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8240

BDL = Below reporting limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
ANALYSIS FOR VOLATILE CONSTITUENTS

Laboratory number: 45594-013
Sample Designation: CLJ44-CC-081-RB
Date Analyzed: 10/10/95 05:01
QC Batch: BG100995A2
Matrix: WATER

VOLATILES	Concentration (mg/L)		Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Vinyl chloride	BDL		0.2	0.01
1,1-Dichloroethene	BDL		0.7	0.005
1,2-Dichloroethane	BDL		0.5	0.005
Chloroform	BDL		6.0	0.005
Methyl ethyl ketone	BDL		200	0.025
Carbon Tetrachloride	BDL		0.5	0.005
Trichloroethene	BDL		0.5	0.005
Benzene	BDL		0.5	0.005
Tetrachloroethene	0.0042	J	0.7	.0050
Chlorobenzene	BDL		100	0.005

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8240

Results uncorrected for matrix spike recovery.

BDL = Below reporting limit
J = Probable presence below listed detection limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

2A

WATER VOLATILES SURROGATE RECOVERY

Client: OHM REMEDIATION SERVICES CORP. Lab No.: 45594
Project: CAMP GEIGER/LJN31

CLIENT SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
CLJ44-CU-076	100	102	94		0
CLJ44-CU-077	101	101	97		0
CLJ44-CC-079	105	103	97		0
CLJ44-CC-081-RB	99	107	89		0
BG100995A2	103	101	94		0
BG101195A1	99	98	99		0
TCLP BLANK #402	101	101	103		0

	QC LIMITS
S1 (TOL) = Toluene-d8	86 - 114
S2 (BFB) = Bromofluorobenzene	72 - 132
S3 (DCE) = 1,2-Dichloroethane-d4	70 - 138

Column to be used to flag recovery values with an asterisk
* Values outside of designated QC limits
D Surrogates diluted out

SOIL VOLATILES SURROGATE RECOVERY

Client: OHM REMEDIATION SERVICES CORP. Lab No.: 45594
Project: CAMP GEIGER/LJN31
Level: Low Soil

CLIENT SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
CLJ44-CC-079	98	115	106		0
BG101395B1	100	101	104		0

	QC LIMITS
S1 (TOL) = Toluene-d8	86 - 114
S2 (BFB) = Bromofluorobenzene	72 - 132
S3 (DCE) = 1,2-Dichloroethane-d4	70 - 138

Column to be used to flag recovery values with an asterisk
* Values outside of designated QC limits
D Surrogates diluted out

pace INCORPORATED THE ASSURANCE OF QUALITY

Laboratory number: TCLP BLANK #402
Client ID: TCLP BLANK
Date Analyzed: 10/11/95
Matrix: TCLP EXTRACT

Parameter	Result (ug/L)	Regulatory Limit (ug/L)	Detection Limit (ug/L)
Vinyl chloride	BDL	200	10
1,1-Dichloroethene	BDL	700	5
1,2-Dichloroethane	BDL	500	5
Chloroform	BDL	6000	5
Methyl ethyl ketone	BDL	200000	25
Carbon Tetrachloride	BDL	500	5
Trichloroethene	BDL	500	5
Benzene	BDL	500	5
Tetrachloroethene	BDL	700	5
Chlorobenzene	BDL	100000	5

METHOD REFERENCE: EPA SW846 3rd EDITION
METHOD 8240

BDL = Below detection limit

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Laboratory number: BG100995A2
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/09/95
Matrix: WATER

VOLATILE ORGANICS	CONCENTRATION (ug/L)	DETECTION LIMIT (ug/L)
Chloromethane	BDL	10
Bromomethane	BDL	10
Vinyl chloride	BDL	10
Chloroethane	BDL	5
Methylene chloride	6.4 J	10
Acetone	BDL	25
Carbon disulfide	BDL	5
1,1-Dichloroethene	BDL	5
Tetrahydrofuran	BDL	25
1,1-Dichloroethane	BDL	5
1,2-Dichloroethene (total)	BDL	5
Chloroform	BDL	5
Methyl ethyl ketone	BDL	25
1,2-Dichloroethane	BDL	5
1,1,1-Trichloroethane	BDL	5
Carbon Tetrachloride	BDL	5
Vinyl acetate	BDL	10
Bromodichloromethane	BDL	5
cis-1,3-Dichloropropene	BDL	5
trans-1,3-Dichloropropene	BDL	5
Trichloroethene	BDL	5
Benzene	BDL	5
Dibromochloromethane	BDL	5
1,1,2-Trichloroethane	BDL	5
1,2-Dichloropropane	BDL	5
2-Chloroethyl vinyl ether	BDL	5
Bromoform	BDL	5
Methyl isobutyl ketone	BDL	25
2-Hexanone	BDL	25
1,1,2,2-Tetrachloroethane	BDL	5
Tetrachloroethene	BDL	5
Toluene	BDL	5
Chlorobenzene	BDL	5
Ethylbenzene	BDL	5
m-Xylene	BDL	5
o,p-Xylene	BDL	5
Styrene	BDL	5

METHOD REFERENCE: EPA SW 846 3RD EDITION
METHOD 8240

BDL = Below detection limit
J = Probable presence below listed detection limit.

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: BG101195A1
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/11/95
Matrix: WATER

VOLATILE ORGANICS	CONCENTRATION (ug/L)	DETECTION LIMIT (ug/L)
Chloromethane	BDL	10
Bromomethane	BDL	10
Vinyl chloride	BDL	10
Chloroethane	BDL	5
Methylene chloride	3.4 J	10
Acetone	BDL	25
Carbon disulfide	BDL	5
1,1-Dichloroethene	BDL	5
Tetrahydrofuran	BDL	25
1,1-Dichloroethane	BDL	5
1,2-Dichloroethene (total)	BDL	5
Chloroform	BDL	5
Methyl ethyl ketone	BDL	25
1,2-Dichloroethane	BDL	5
1,1,1-Trichloroethane	BDL	5
Carbon Tetrachloride	BDL	5
Vinyl acetate	BDL	10
Bromodichloromethane	BDL	5
cis-1,3-Dichloropropene	BDL	5
trans-1,3-Dichloropropene	BDL	5
Trichloroethene	BDL	5
Benzene	BDL	5
Dibromochloromethane	BDL	5
1,1,2-Trichloroethane	BDL	5
1,2-Dichloropropane	BDL	5
2-Chloroethyl vinyl ether	BDL	5
Bromoform	BDL	5
Methyl isobutyl ketone	BDL	25
2-Hexanone	BDL	25
1,1,2,2-Tetrachloroethane	BDL	5
Tetrachloroethene	BDL	5
Toluene	BDL	5
Chlorobenzene	BDL	5
Ethylbenzene	BDL	5
m-Xylene	BDL	5
o,p-Xylene	BDL	5
Styrene	BDL	5

METHOD REFERENCE: EPA SW 846 3RD EDITION
METHOD 8240

BDL = Below detection limit
J = Probable presence below listed detection limit.

pace INCORPORATED
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Laboratory number: BG101395B1
Sample Designation: LAB BLANK
Date Analyzed: 10/13/95
Matrix: SOLID

Instrument File Name: >G5128

Results are expressed on a dry (103 degrees C) basis.

VOLATILE ORGANICS	CONCENTRATION (ug/Kg)		REPORTING LIMIT (ug/Kg)
Chloromethane	BDL		10
Bromomethane	BDL		10
Vinyl chloride	BDL		10
Chloroethane	BDL		5
Methylene chloride	8	J	10
Acetone	7	J	25
Carbon disulfide	BDL		5
Tetrahydrofuran	BDL		25
Trichlorofluoromethane	BDL		5
1,1-Dichloroethene	BDL		5
1,1-Dichloroethane	BDL		5
1,2-Dichloroethene (total)	BDL		5
Chloroform	BDL		5
1,2-Dichloroethane	BDL		5
2-Butanone	BDL		25
1,1,1-Trichloroethane	BDL		5
Carbon Tetrachloride	BDL		5
Vinyl acetate	BDL		10
Bromodichloromethane	BDL		5
1,2-Dichloropropane	BDL		5
cis-1,3-Dichloropropene	BDL		5
trans-1,3-Dichloropropene	BDL		5
Trichloroethene	BDL		5
Dibromochloromethane	BDL		5
1,1,2-Trichloroethane	BDL		5
Benzene	BDL		5
2-Chloroethyl vinyl ether	BDL		5
Bromoform	BDL		5
4-Methyl-2-Pentanone	BDL		25
2-Hexanone	BDL		25
Tetrachloroethene	BDL		5
1,1,2,2-Tetrachloroethane	BDL		5
Toluene	BDL		5
Chlorobenzene	BDL		5
Ethylbenzene	BDL		5
Styrene	BDL		5
Xylene (total)	BDL		5

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8240

BDL = Below reporting limit
J = Probable presence below listed detection limit

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MATRIX SPIKE RECOVERY
VOLATILE ORGANIC COMPOUNDS

Laboratory Number: LCG100995A2
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/09/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
1,1-DICHLOROETHENE	0	50	57	114
TRICHLOROETHYLENE	0	50	51	101
BENZENE	0	50	49	98
TOLUENE	0	50	51	102
CHLOROBENZENE	0	50	54	109

METHOD REFERENCE: EPA SW 846, 3RD EDITION
METHOD 8240

pace. INCORPORATED
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MATRIX SPIKE RECOVERY
VOLATILE ORGANIC COMPOUNDS

Laboratory Number: LCG101195A1
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/11/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
1,1-DICHLOROETHENE	0	50	48	95
TRICHLOROETHYLENE	0	50	48	96
BENZENE	0	50	48	95
TOLUENE	0	50	49	98
CHLOROBENZENE	0	50	53	106

METHOD REFERENCE: EPA SW 846, 3RD EDITION
METHOD 8240

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VOLATILE ORGANIC COMPOUNDS
MATRIX SPIKE DUPLICATE RECOVERY

Laboratory Number: LCG101395A1
Field Identification: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/13/95
Matrix: SOLID

COMPOUND	ug/Kg IN SAMPLE	ug/Kg SPIKE	ug/Kg FOUND	%REC-OVERY
1,1-DICHLOROETHENE	0.00	50.00	50.35	101
TRICHLOROETHYLENE	0.00	50.00	48.86	98
BENZENE	0.00	50.00	48.63	97
TOLUENE	0.00	50.00	46.49	93
CHLOROBENZENE	0.00	50.00	51.08	102

METHOD REFERENCE: EPA SW 846, 3RD EDITION METHOD 8240

pace INCORPORATED
THE ASSURANCE OF QUALITY

5A
VOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN31

Lab File ID: >G4607 BFB Injection Date: 09/21/95

Instrument ID: GMS BFB Injection Time: 12:19

ION ABUNDANCE CRITERIA for G4607 are reported on a separate sheet.

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
VSTD200	VSTD200	G4609	09/21/95	13:25
VSTD100	VSTD100	G4610	09/21/95	14:07
VSTD050	VSTD050	G4611	09/21/95	14:48
VSTD020	VSTD020	G4612	09/21/95	15:29
VSTD010	VSTD010	G4614	09/21/95	17:23

pace INCORPORATED
THE ASSURANCE OF QUALITY

GC/MS PERFORMANCE STANDARD

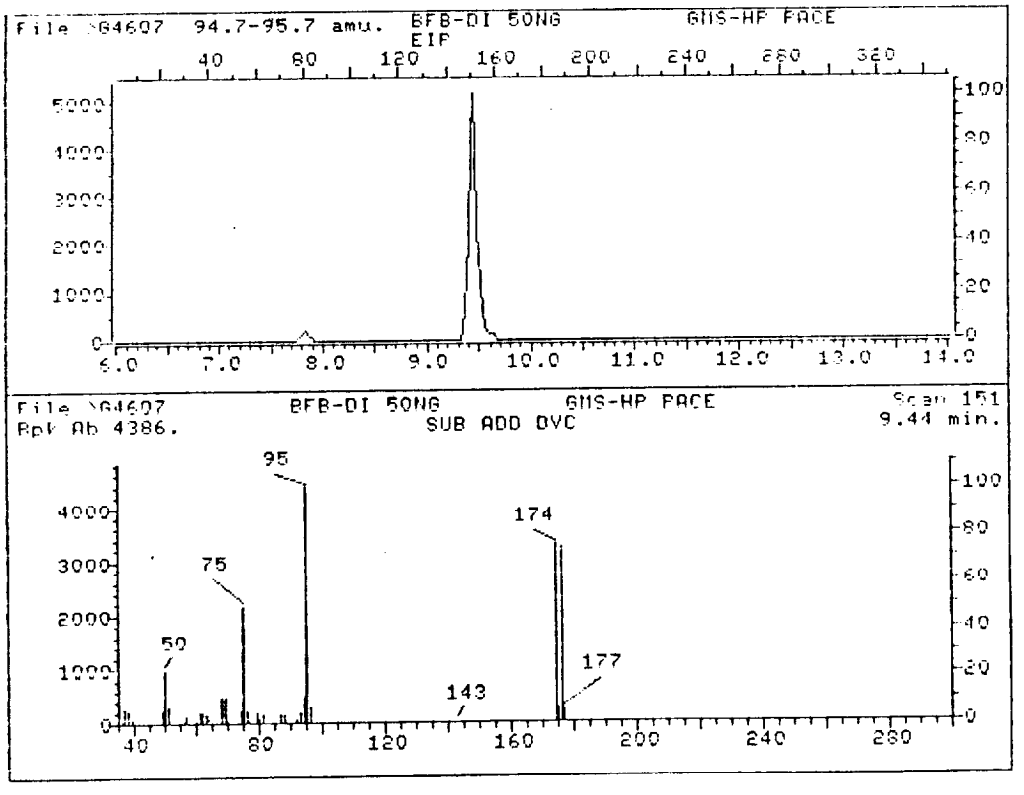
Bromofluorobenzene (BFB) '88

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	22.06	22.06	Ok
75	30-60% of mass 95	49.30	49.30	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	6.86	6.86	Ok
173	Less than 2% of mass 174	.32	.43	Ok
174	Greater than 50% of mass 95	74.54	74.54	Ok
175	5-9% of mass 174	5.74	7.70	Ok
176	95-101% of mass 174	73.85	99.07	Ok
177	5-9% of mass 176	5.51	7.46	Ok

Injection Date: 09/21/95
Injection Time: 12:19
Data File: >G4607
Scan: 151

THIS IS THE RESULT OF AVERAGING AND SUBTRACTING BACKGROUND SCAN 100

150.00 151.00 152.00



5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN31

Lab File ID: >G5013 BFB Injection Date: 10/09/95

Instrument ID: GMS BFB Injection Time: 22:17

ION ABUNDANCE CRITERIA for G5013 are reported on a separate sheet.

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
VSTD050	VSTD050	G5014	10/09/95	22:57
BG100995A2	90184-153	G5015	10/09/95	23:38
LCG100995A2	90184-153MS	G5016	10/10/95	00:18
CLJ44-CU-076	45594-007	G5019	10/10/95	02:19
CLJ44-CU-077	45594-008	G5020	10/10/95	03:00
CLJ44-CC-079	45594-009	G5021	10/10/95	03:40
CLJ44-CC-081-RB	45594-013	G5023	10/10/95	05:01

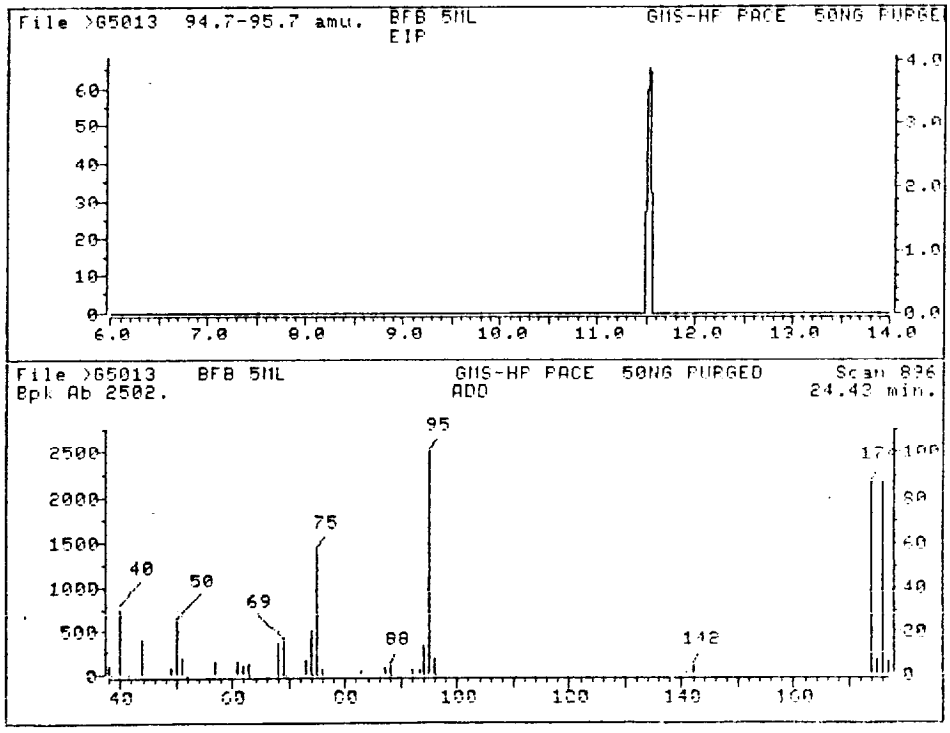
pace INCORPORATED THE ASSURANCE OF QUALITY

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB) '88

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	24.46	24.46	Ok
75	30-60% of mass 95	56.12	56.12	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.91	7.91	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	86.57	86.57	Ok
175	5-9% of mass 174	6.71	7.76	Ok
176	95-101% of mass 174	86.49	99.91	Ok
177	5-9% of mass 176	6.43	7.44	Ok

Injection Date: 10/09/95
Injection Time: 22:17
Data File: >G5013
Scan: 896



5A
VOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN31

Lab File ID: >G5028 BFB Injection Date: 10/10/95

Instrument ID: GMS BFB Injection Time: 10:46

ION ABUNDANCE CRITERIA for G5028 are reported on a separate sheet.

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
VSTD050	VSTD050	G5032	10/10/95	13:19
VSTD200	VSTD200	G5033	10/10/95	14:31
VSTD100	VSTD100	G5034	10/10/95	15:11
VSTD020	VSTD020	G5035	10/10/95	15:50
VSTD010	VSTD010	G5036	10/10/95	16:30

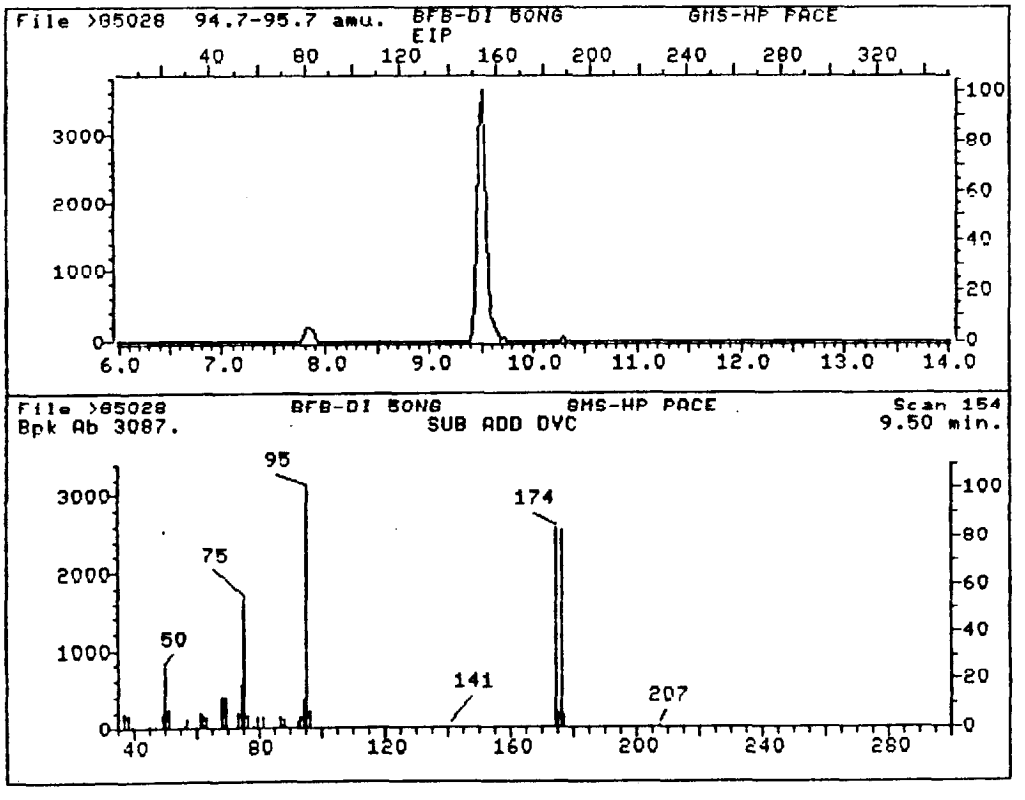
GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB) '88

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	24.98	24.98	Ok
75	30-60% of mass 95	53.59	53.59	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.22	7.22	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	83.04	83.04	Ok
175	5-9% of mass 174	5.67	6.83	Ok
176	95-101% of mass 174	82.49	99.34	Ok
177	5-9% of mass 176	5.47	6.64	Ok

Injection Date: 10/10/95
Injection Time: 10:46
Data File: >G5028
Scan: 154

THIS IS THE RESULT OF AVERAGING 153.00 154.00 155.00
AND SUBTRACTING BACKGROUND SCAN 100



5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN31

Lab File ID: >G5060 BFB Injection Date: 10/11/95

Instrument ID: GMS BFB Injection Time: 12:25

ION ABUNDANCE CRITERIA for G5060 are reported on a separate sheet.

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
VSTD050	VSTD050	G5062	10/11/95	13:37
BG101195A1	90184-157	G5063	10/11/95	14:17
LCG101195A1	90184-157MS	G5064	10/11/95	15:47
TCLPBLK402 5ML	90184-158	G5066	10/11/95	17:09

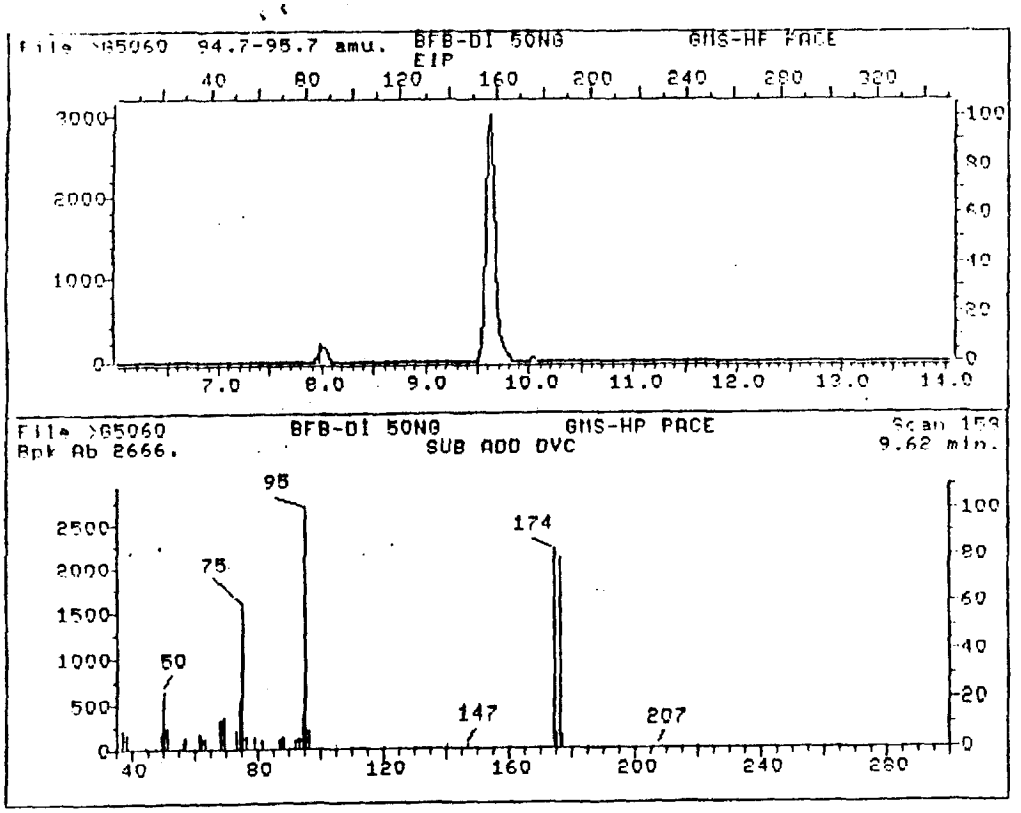
GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB) '88

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	24.13	24.13	Ok
75	30-60% of mass 95	57.86	57.86	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.69	7.69	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	80.51	80.51	Ok
175	5-9% of mass 174	5.68	7.05	Ok
176	95-101% of mass 174	77.97	96.85	Ok
177	5-9% of mass 176	5.41	6.94	Ok

Injection Date: 10/11/95
Injection Time: 12:25
Data File: >G5060
Scan: 158

THIS IS THE RESULT OF AVERAGING 157.00 158.00 159.00
AND SUBTRACTING BACKGROUND SCAN 100



5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN31

Lab File ID: >G5120 BFB Injection Date: 10/13/95

Instrument ID: GMS BFB Injection Time: 14:37

ION ABUNDANCE CRITERIA for G5120 are reported on a separate sheet.

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
VSTD200	VSTD200	G5121	10/13/95	15:35
VSTD100	VSTD100	G5122	10/13/95	16:15
VSTD050	VSTD050	G5123	10/13/95	16:55
VSTD020	VSTD020	G5124	10/13/95	17:34
VSTD010	VSTD010	G5125	10/13/95	18:14
BG101395B1	90184-164	G5128	10/13/95	20:13
LCG101395A1	90184-164MS	G5129	10/13/95	20:53
CLJ44-CC-079	45594-010	G5131	10/13/95	22:12

GC/MS PERFORMANCE STANDARD

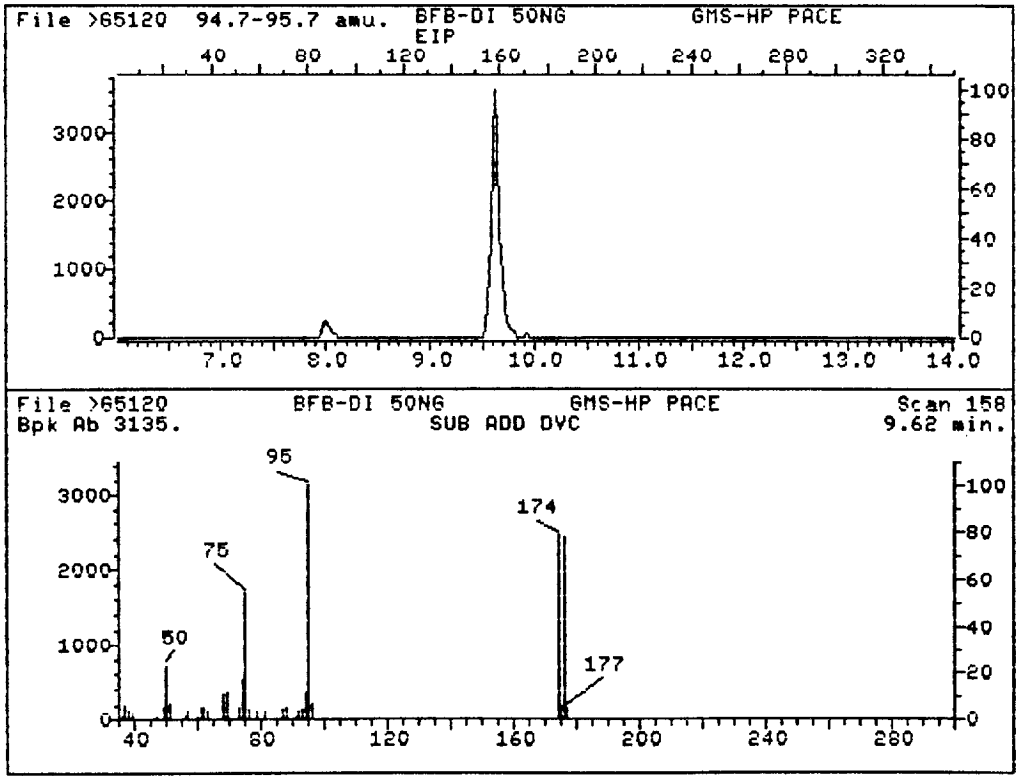
Bromofluorobenzene (BFB) '88

pl 10/13/95

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	23.00	23.00	Ok
75	30-60% of mass 95	53.82	53.82	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.02	7.02	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	78.01	78.01	Ok
175	5-9% of mass 174	5.84	7.48	Ok
176	95-101% of mass 174	77.81	99.74	Ok
177	5-9% of mass 176	4.98	6.40	Ok

Injection Date: 10/13/95
Injection Time: 14:37
Data File: >G5120
Scan: 158

THIS IS THE RESULT OF AVERAGING 157.00 158.00 159.00
AND SUBTRACTING BACKGROUND SCAN 100



DKL
9/25/95

CG09.21/IG09.21

Initial Calibration Data
HSL Compounds

Case No: _____ Instrument ID: GMS-HP

Contractor: RESAN Calibration Date: 09/21/95

Contract No: 68020026

Minimum $\overline{RF}$ for SPCC is .3 Maximum % RSD for CCC is 30%

Laboratory ID:		>64614	>64612	>64611	>64610	>64609					
		RF	RF	RF	RF	RF					
	Compound	10.00	20.00	50.00	100.00	200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C010	CHLOROMETHANE	.41361	.40033	.37849	.42241	.48325	.413	.41962	9.349		**
C015	BROMOMETHANE	1.02446	.93251	.81099	.75660	.58565	.491	.82204	20.488		
C020	VINYL CHLORIDE	.88894	.88646	.78811	.78153	.70716	.428	.81044	9.546	*	
C025	CHLOROETHANE	.46918	.46179	.44855	.43566	.40965	.502	.44497	5.290		
C030	METHYLENE CHLORIDE	1.69945	1.40097	1.16931	1.23239	1.05574	.709	1.31157	19.076		
C035	ACETONE	.41842	.27526	.34567	.23978	.30224	.614	.31627	21.807		
C040	CARBON DISULFIDE	2.38264	2.48355	2.38169	2.61195	2.46201	.714	2.46437	3.832		
C042	TRICHLOROFLUOROMETHANE	3.79956	3.92046	3.60681	3.79935	3.60283	.541	3.74580	3.680		
C045	1,1-DICHLOROETHENE	1.12194	1.20189	1.10772	1.16962	1.14880	.633	1.15000	3.269	*	
C058	TETRAHYDROFURAN	.08243	.09611	.08315	.09481	.08684	1.012	.08867	7.260		
C050	1,1-DICHLOROETHANE	2.63042	2.71397	2.45854	2.47733	2.23082	.832	2.50222	7.408		**
C054	1,2-DICHLOROETHENE(cis)	1.33185	1.44896	1.30795	1.37474	1.26883	.941	1.34647	5.123		
C053	1,2-DICHLOROETHENE(trans)	1.39767	1.48760	1.36618	1.47956	1.32996	.761	1.41219	4.921		
MTBE		2.99003	3.21675	2.89267	3.19336	2.95510	.739	3.04958	4.800		
C060	CHLOROFORM	3.79708	4.11745	3.63981	3.87002	3.55077	.971	3.79503	5.793	*	
C110	2-BUTANONE	.47846	.50773	.49702	.46214	.49941	.910	.48895	3.766		
C065	1,2-DICHLOROETHANE	2.73443	2.90441	2.58106	2.67418	2.44763	1.123	2.66834	6.395		
CS15	1,2-DICHLOROETHANE-d4	1.91001	2.60514	2.18874	2.19154	2.03077	1.106	2.18524	12.020		
C115	1,1,1-TRICHLOROETHANE	.71280	.77892	.73081	.83348	.80766	.886	.77273	6.566		
C120	CARBON TETRACHLORIDE	.61113	.67561	.64928	.73605	.73213	.928	.68084	7.896		
C125	VINYL ACETATE	.37941	.41255	.27091	.36061	.23503	.704	.33170	22.706		
C130	BROMODICHLOROMETHANE	.75009	.83885	.78872	.89812	.87140	1.127	.82944	7.264		
C140	1,2-DICHLOROPROPANE	.33056	.35779	.31768	.34405	.32573	1.087	.33516	4.734	*	
C143	CIS-1,3-DICHLOROPROPENE	.45106	.52149	.47930	.53911	.48826	1.224	.49584	7.035		
C150	TRICHLOROETHENE	.40109	.43538	.40415	.43291	.43011	1.057	.42073	3.962		
C155	DIBROMOCHLOROMETHANE	.51900	.63157	.59115	.68815	.68611	1.439	.62319	11.384		
C160	1,1,2-TRICHLOROETHANE	.29703	.33067	.29432	.33242	.30544	1.344	.31198	5.878		
C165	BENZENE	.82793	.89305	.77934	.86723	.82468	.954	.83845	5.200		
C172	TRANS-1,3-DICHLOROPROPENE	.35296	.41909	.40161	.45422	.42685	1.316	.41095	9.139		
C176	2-CHLOROETHYLVINYLETHER	.07335	.14488	.13206	.15455	.15011	1.182	.13099	25.425		

RF - Response Factor (Subscript is amount in ug/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

NC
9/25/95

Initial Calibration Data
HSL Compounds

Case No: ----------

Instrument ID: GMS-HP ----------

Contractor: RESAN ----------

Calibration Date: 09/21/95 ----------

Contract No: 68020026 ----------

C 60921 / I 60921

Minimum $\overline{RF}$ for SPCC is .3 Maximum % RSD for CCC is 30%

Laboratory ID:	>64614	>64612	>64611	>64610	>64609					
	RF	RF	RF	RF	RF					
Compound	10.00	20.00	50.00	100.00	200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C180 BROMOFORM	.35662	.46464	.43177	.52724	.52793	1.741	.46164	15.556		**
CS05 TOLUENE-d8	.79215	1.08184	.95240	.99211	1.01977	.818	.96765	11.248		
C205 4-METHYL-2-PENTANONE	.37079	.48780	.45638	.51520	.51016	.766	.46807	12.631		
C210 2-HEXANONE	.14603	.20666	.21822	.22818	.24540	.870	.20890	18.147		
C220 TETRACHLOROETHENE	.47155	.48172	.45975	.49991	.49132	.905	.48085	3.297		
C225 1,1,2,2-TETRACHLOROETHANE	.65580	.74750	.62648	.72874	.64946	1.144	.68160	7.799		**
C230 TOLUENE	1.34456	1.33040	1.24836	1.34928	1.31809	.827	1.31814	3.102	*	
C235 CHLOROBENZENE	.93519	.99896	.90164	.97057	.95008	1.004	.95129	3.852		**
C240 ETHYLBENZENE	.42385	.48005	.41903	.46303	.45311	1.012	.44781	5.804	*	
C245 STYRENE	.85125	.95021	.83312	.91321	.90317	1.081	.89019	5.350		
C251 XYLENE (O)	.49732	.54467	.49441	.51292	.50892	1.077	.51165	3.911		
C250 XYLENE (total)	.50330	.53761	.49237	.52226	.50056	1.022	.51122	3.593		(Conc=20.0,40.0,100.0,200
CS10 BROMOFLUOROBENZENE	.74651	1.01852	.84251	.88090	.86047	1.154	.86978	11.247		

RF - Response Factor (Subscript is amount in ug/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No: _____ Instrument ID: GMS-HP

Contractor: RESAN Calibration Date: ~~10/12/95~~ 10/10/95

Contract No: 68D20026

Minimum $\overline{RF}$ for SPCC is .3 Maximum % RSD for CCC is 30%

Laboratory ID:	>65036	>65035	>65032	>65034	>65033					
	RF	RF	RF	RF	RF					
Compound	10.00	20.00	50.00	100.00	200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C010 CHLOROMETHANE	.62521	.78350	.60877	.52057	.68253	.411	.64412	15.087		**
C015 BROMOMETHANE	1.75362	1.96731	1.59012	1.18887	1.10953	.490	1.52189	24.091		
C020 VINYL CHLORIDE	1.05509	1.27402	1.08221	.82200	.90190	.427	1.02705	17.041	*	
C025 CHLOROETHANE	.71779	.82828	.66337	.49527	.56335	.501	.65361	19.939		
C030 METHYLENE CHLORIDE	2.39816	2.09949	1.61894	1.18222	1.25851	.708	1.71147	30.862		
C035 ACETONE	.42515	.32323	.25468	.28730	.18291	.615	.29165	30.318		
C040 CARBON DISULFIDE	1.95681	2.56732	2.33935	1.94723	2.25066	.713	2.21227	11.942		
C042 TRICHLOROFLUOROMETHANE	3.28337	4.00807	3.42867	2.75089	3.12930	.540	3.32006	13.859		
C045 1,1-DICHLOROETHENE	1.39012	1.55280	1.34777	1.09749	1.21907	.633	1.32145	13.084	*	
C058 TETRAHYDROFURAN	.09233	.12262	.09562	.08722	.09497	1.012	.09855	14.060		
C050 1,1-DICHLOROETHANE	2.66957	3.13121	2.69247	2.12056	2.30828	.832	2.58442	15.102		**
C054 1,2-DICHLOROETHENE(cis)	1.73405	2.05903	1.75087	1.38044	1.52645	.941	1.69017	15.212		
C053 1,2-DICHLOROETHENE(trans)	1.50166	1.88850	1.60342	1.28595	1.48820	.760	1.55354	14.148		
MTBE	3.22798	3.68684	3.03873	2.60686	2.92999	.739	3.09808	12.877		
C060 CHLOROFORM	3.57865	4.31098	3.65806	2.97701	3.30368	.971	3.56567	13.877	*	
C110 2-BUTANONE	.50393	.58886	.47991	.49330	.38716	.910	.49063	14.646		
C065 1,2-DICHLOROETHANE	2.54510	2.95654	2.46581	1.98712	2.15851	1.124	2.42268	15.464		
C515 1,2-DICHLOROETHANE-d4	1.67454	1.37238	1.96501	1.45526	1.70942	1.105	1.63532	14.252		
C115 1,1,1-TRICHLOROETHANE	.60608	.78364	.64538	.57772	.67930	.885	.65842	12.136		
C120 CARBON TETRACHLORIDE	.50666	.67754	.56872	.50185	.59363	.927	.56968	12.652		
C125 VINYL ACETATE	.39338	.49458	.39424	.30822	.38641	.704	.39537	16.741		
C130 BROMODICHLOROMETHANE	.60554	.80208	.67389	.61967	.73273	1.127	.68678	11.890		
C140 1,2-DICHLOROPROPANE	.33659	.40783	.32994	.28764	.32240	1.087	.33688	13.038	*	
C143 CIS-1,3-DICHLOROPROPENE	.42842	.56867	.48216	.42499	.50180	1.225	.48121	12.301		
C150 TRICHLOROETHENE	.40605	.48718	.40336	.36224	.40649	1.057	.41306	11.003		
C155 DIBROMOCHLOROMETHANE	.44979	.63435	.53794	.50632	.59543	1.439	.54477	13.344		
C160 1,1,2-TRICHLOROETHANE	.30007	.36316	.28618	.26389	.29315	1.345	.30129	12.333		
C165 BENZENE	.93952	1.03450	.85139	.73816	.84710	.954	.88213	12.599		
C172 TRANS-1,3-DICHLOROPROPENE	.34575	.47500	.40949	.37457	.44871	1.316	.41070	12.829		
C176 2-CHLOROETHYLVINYLETHER	.13166	.16651	.13398	.14116	.09360	1.183	.13338	19.636		

RF - Response Factor (Subscript is amount in ug/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No: Instrument ID: GMS-HP

Contractor: RESAH Calibration Date: ~~10/12/95~~ 10/10/95
10/10/95

Contract No: 68D20026

Minimum $\overline{RF}$ for SPCC is .3 Maximum % RSD for CCC is 30%

Laboratory ID:	>65036	>65035	>65032	>65034	>65033					
	RF	RF	RF	RF	RF					
Compound	10.00	20.00	50.00	100.00	200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C180 BROMOFORM	.31855	.44325	.38181	.38213	.43879	1.740	.39290	12.983		**
C505 TOLUENE-d8	.75985	.74092	.98841	.77066	.98544	.818	.84906	14.877		
C205 4-METHYL-2-PENTANONE	.45335	.58949	.44891	.44248	.42656	.766	.47216	14.057		
C210 2-HEXANONE	.17977	.24950	.18580	.22118	.20307	.870	.20786	13.628		
C220 TETRACHLOROETHENE	.42057	.57263	.47697	.39954	.47583	.906	.46911	14.308		
C225 1,1,2,2-TETRACHLOROETHANE	.65165	.82801	.62679	.54891	.62781	1.144	.65664	15.738		**
C230 TOLUENE	1.50525	1.71623	1.38387	1.15947	1.37616	.827	1.42820	14.255	*	
C235 CHLOROBENZENE	.98944	1.18304	.94068	.80604	.92353	1.005	.96855	14.199		**
C240 ETHYLBENZENE	.42441	.55499	.43569	.37800	.44769	1.013	.44820	14.569	*	
C245 STYRENE	.85267	1.10580	.89439	.75687	.90193	1.081	.90233	14.137		
C251 XYLENE (O)	.47529	.62909	.51279	.41972	.48298	1.077	.50397	15.400		
C250 XYLENE (total)	.54553	.69376	.57116	.48890	.55534	1.023	.57094	13.196		(Conc=20.0,40.0,100.0,200
CS10 BROMOFLUOROBENZENE	.64801	.60647	.79974	.62096	.76319	1.155	.68767	12.777		

RF - Response Factor (Subscript is amount in ug/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No: Instrument ID: HP-GMS

Contractor: RESAN Calibration Date: ~~10/16/95~~ 10/13/95

Contract No: 68D20026

AR 10/13/95 (3)

SG1013/ : 6G1013

Minimum $\overline{RF}$ for SPCC is .30 Maximum % RSD for CCC is 30%

Compound	Laboratory ID: >G5125 RF 10.00	>G5124 RF 20.00	>G5123 RF 50.00	>G5122 RF 100.00	>G5121 RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C010 CHLOROMETHANE	.67329	.54387	.56320	.58226	.57735	.412	.58799	8.496		**
C015 BROMOMETHANE	1.56719	1.25801	1.21613	1.07765	.85410	.490	1.19462	21.866		
C020 VINYL CHLORIDE	1.07485	.94161	.95802	.88614	.87431	.428	.94699	8.429	*	
C025 CHLOROETHANE	.65412	.45946	.53877	.45844	.39069	.502	.50030	20.132		
C030 METHYLENE CHLORIDE	2.64849	1.80462	1.54941	1.29745	1.21956	.709	1.70391	33.791		
C035 ACETONE	1.03281	.50252	.38535	.34399	.51731	.616	.55640	49.692		
C040 CARBON DISULFIDE	2.58502	2.20158	2.43718	2.43972	2.51870	.714	2.43644	5.948		
C042 TRICHLOROFLUOROMETHANE	3.40941	2.88311	3.05338	2.95132	2.97117	.541	3.05368	6.809		
C045 1,1-DICHLOROETHENE	1.38560	1.51176	1.25964	1.25684	1.25619	.634	1.33400	8.530	*	
C058 TETRAHYDROFURAN	.24901	.21603	.19901	.19223	.15064	1.012	.20139	17.812		
C050 1,1-DICHLOROETHANE	2.96295	2.57388	2.55928	2.38952	2.22522	.833	2.54217	10.811		**
C054 1,2-DICHLOROETHENE(cis)	1.92491	1.72832	1.74319	1.62217	1.60482	.941	1.72468	7.410		
C053 1,2-DICHLOROETHENE(trans)	1.63229	1.47565	1.55760	1.50118	1.54159	.761	1.54166	3.901		
C060 CHLOROFORM	3.89413	3.39852	3.45595	3.32634	3.26458	.971	3.46791	7.180	*	
C110 2-BUTANONE	1.42613	.95093	.82264	.83831	.74784	.910	.95717	28.421		
C065 1,2-DICHLOROETHANE	2.79681	2.45366	2.44165	2.28302	2.12051	1.124	2.41913	10.376		
CS15 1,2-DICHLOROETHANE-d4	2.30360	2.39224	1.94706	1.78476	1.64585	1.105	2.01470	16.074		
C115 1,1,1-TRICHLOROETHANE	.68316	.59798	.64630	.64966	.67633	.886	.65069	5.160		
C120 CARBON TETRACHLORIDE	.58060	.51834	.54945	.57064	.58219	.928	.56024	4.787		
C125 VINYL ACETATE	.61408	.56788	.56733	.52816	.30528	.705	.51655	23.610		
C130 BROMODICHLOROMETHANE	.73048	.66490	.70248	.71836	.75973	1.127	.71519	4.903		
C140 1,2-DICHLOROPROPANE	.39855	.35383	.35541	.34697	.34569	1.087	.36009	6.085	*	
C143 CIS-1,3-DICHLOROPROPENE	.52515	.48131	.49987	.50172	.50244	1.225	.50210	3.100		
C150 TRICHLOROETHENE	.45758	.48012	.40549	.42637	.41381	1.058	.43668	7.174		
C155 DIBROMOCHLOROMETHANE	.61189	.56969	.60192	.60924	.65625	1.439	.60980	5.077		
C160 1,1,2-TRICHLOROETHANE	.38931	.33809	.35373	.34611	.34488	1.344	.35443	5.721		
C165 BENZENE	.99966	1.04113	.86039	.87167	.87654	.955	.92988	9.047		
C172 TRANS-1,3-DICHLOROPROPENE	.47633	.42903	.46039	.45376	.47078	1.316	.45806	4.029		
C176 2-CHLOROETHYLVINYLETHER	.20982	.18612	.19258	.19986	.12722	1.183	.18312	17.729		
C180 BROMOFORM	.48031	.44977	.49218	.50838	.52676	1.740	.49148	5.928		**

RF - Response Factor (Subscript is amount in ug/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No: Instrument ID: HP-GMS

Contractor: RESAN Calibration Date: 10/16/95 10/13/95

Contract No: 68D20026

5G7013/2G7013

Minimum $\overline{RF}$ for SPCC is .30 Maximum % RSD for CCC is 30%

Laboratory ID:	>G5125	>G5124	>G5123	>G5122	>G5121					
Compound	RF 10.00	RF 20.00	RF 50.00	RF 100.00	RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
CS05 TOLUENE-d8	1.11712	1.19142	.99361	.98048	.96983	.818	1.05049	9.393		
C205 4-METHYL-2-PENTANONE	.98443	.83105	.79869	.79561	.64105	.767	.81017	15.086		
C210 2-HEXANONE	.54447	.42815	.41755	.40498	.42021	.870	.44307	12.930		
C220 TETRACHLOROETHENE	.49381	.43179	.45846	.46398	.47550	.905	.46471	4.915		
C225 1,1,2,2-TETRACHLOROETHANE	1.05290	.92984	.90910	.86726	.79858	1.144	.91154	10.269		**
C230 TOLUENE	1.70569	1.71070	1.40877	1.37773	1.38215	.827	1.51701	11.532	*	
C235 CHLOROBENZENE	1.06960	1.17054	.96029	.94803	.97131	1.005	1.02395	9.285		**
C240 ETHYLBENZENE	.50163	.43573	.45684	.44598	.45076	1.012	.45819	5.561	*	
C245 STYRENE	.99392	.92552	.90609	.91601	.95833	1.081	.93998	3.828		
C251 XYLENE (O)	.56421	.51691	.52653	.49366	.51075	1.077	.52241	5.026		
C250 XYLENE (total)	.62909	.56065	.56825	.58602	.58444	1.022	.58569	4.531		(Conc=20.0,40.0,100.0,200
CS10 BROMOFLUOROBENZENE	.96198	.95767	.79301	.76297	.74917	1.154	.84496	12.552		

RF - Response Factor (Subscript is amount in ug/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No:

Calibration Date: 10/13/95

Contractor: RESAN

Time: 16:55

LC-8C13

Contract No: 68D20026

Laboratory ID: >G5123

Instrument ID: HP-GMS

Initial Calibration Date: 10/16/95 10/13/95

Minimum $\overline{RF}$ for SPCC is .30

Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
C010 CHLOROMETHANE	.58799	.56320	4.22		**	
C015 BROMOMETHANE	1.19462	1.21613	1.80			
C020 VINYL CHLORIDE	.94699	.95802	1.17	*		
C025 CHLOROETHANE	.50030	.53877	7.69			
C030 METHYLENE CHLORIDE	1.70391	1.54941	9.07			
C035 ACETONE	.55640	.38535	30.74			
C040 CARBON DISULFIDE	2.43644	2.43718	.03			
C042 TRICHLOROFLUOROMETHANE	3.05368	3.05338	.01			
C045 1,1-DICHLOROETHENE	1.33400	1.25964	5.57	*		
C058 TETRAHYDROFURAN	.20139	.19901	1.18			
C050 1,1-DICHLOROETHANE	2.54217	2.55928	.67		**	
C054 1,2-DICHLOROETHENE(cis)	1.72468	1.74319	1.07			
C053 1,2-DICHLOROETHENE(trans)	1.54166	1.55760	1.03			
C060 CHLOROFORM	3.46791	3.45595	.34	*		
C110 2-BUTANONE	.95717	.82264	14.05			
C065 1,2-DICHLOROETHANE	2.41913	2.44165	.93			
CS15 1,2-DICHLOROETHANE-d4	2.01470	1.94706	3.36			
C115 1,1,1-TRICHLOROETHANE	.65069	.64630	.67			
C120 CARBON TETRACHLORIDE	.56024	.54945	1.93			
C125 VINYL ACETATE	.51655	.56733	9.83			
C130 BROMODICHLOROMETHANE	.71519	.70248	1.78			
C140 1,2-DICHLOROPROPANE	.36009	.35541	1.30	*		
C143 CIS-1,3-DICHLOROPROPENE	.50210	.49987	.44			(Conc=50.00)
C150 TRICHLOROETHENE	.43668	.40549	7.14			
C155 DIBROMOCHLOROMETHANE	.60980	.60192	1.29			
C160 1,1,2-TRICHLOROETHANE	.35443	.35373	.20			
C165 BENZENE	.92988	.86039	7.47			
C172 TRANS-1,3-DICHLOROPROPENE	.45806	.46039	.51			(Conc=50.00)
C176 2-CHLOROETHYLVINYLETHER	.18312	.19258	5.17			
C180 BROMOFORM	.49148	.49218	.14		**	
CS05 TOLUENE-d8	1.05049	.99361	5.41			
C205 4-METHYL-2-PENTANONE	.81017	.79869	1.42			

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/13/95

Contractor: RESAN Time: 16:55

Contract No: 68D20026 Laboratory ID: >G5123

Instrument ID: HP-GMS Initial Calibration Date: 10/16/95 10/13/95

Minimum $\overline{RF}$ for SPCC is .30 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
C210 2-HEXANONE	.44307	.41755	5.76			
C220 TETRACHLOROETHENE	.46471	.45846	1.34			
C225 1,1,2,2-TETRACHLOROETHANE	.91154	.90910	.27		**	
C230 TOLUENE	1.51701	1.40877	7.14	*		
C235 CHLOROBENZENE	1.02395	.96029	6.22		**	
C240 ETHYLBENZENE	.45819	.45684	.29	*		
C245 STYRENE	.93998	.90609	3.60			
C251 XYLENE (O)	.52241	.52653	.79			
C250 XYLENE (total)	.58569	.56825	2.98			(Conc=100.00)
CS10 BROMOFLUOROBENZENE	.84496	.79301	6.15			

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: | Calibration Date: 10/09/95

Contractor: RESAN | Time: 22:57

Contract No: 68020026 | Laboratory ID: >65014

Instrument ID: GMS-HP | Initial Calibration Date: 09/21/95

DR 10/10/95 (3)
~~IGOC10~~

IGOC09

Minimum $\overline{RF}$ for SPCC is .3 | Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C010 CHLOROMETHANE	.41962	.41156	1.92		**
C015 BROMOMETHANE	.82204	1.14968	39.86		
C020 VINYL CHLORIDE	.81044	.77836	3.96	*	
C025 CHLOROETHANE	.44497	.51813	16.44		
C030 METHYLENE CHLORIDE	1.31157	1.50743	14.93		
C035 ACETONE	.31627	.25847	18.28		
C040 CARBON DISULFIDE	2.46437	1.44629	41.31		
C042 TRICHLOROFLUOROMETHANE	3.74580	2.86257	23.58		
C045 1,1-DICHLOROETHENE	1.15000	1.04739	8.92	*	
C058 TETRAHYDROFURAN	.08867	.09389	5.89		
C050 1,1-DICHLOROETHANE	2.50222	2.49414	.32		**
C054 1,2-DICHLOROETHENE(cis)	1.34647	1.62741	20.87		
C053 1,2-DICHLOROETHENE(trans)	1.41219	1.29930	7.99		
MTBE	3.04958	3.06507	.51		
C060 CHLOROFORM	3.79503	3.53956	6.73	*	
C110 2-BUTANONE	.48895	.46917	4.05		
C065 1,2-DICHLOROETHANE	2.66834	2.38919	10.46		
CS15 1,2-DICHLOROETHANE-d4	2.18524	2.13269	2.40		
C115 1,1,1-TRICHLOROETHANE	.77273	.59592	22.88		
C120 CARBON TETRACHLORIDE	.68084	.50931	25.19		
C125 VINYL ACETATE	.33170	.38877	17.20		
C130 BROMODICHLOROMETHANE	.82944	.66005	20.42		
C140 1,2-DICHLOROPROPANE	.33516	.31734	5.32	*	
C143 CIS-1,3-DICHLOROPROPENE	.49584	.44178	10.90		
C150 TRICHLOROETHENE	.42073	.35718	15.10		
C155 DIBROMOCHLOROMETHANE	.62319	.52854	15.19		
C160 1,1,2-TRICHLOROETHANE	.31198	.28690	8.04		
C165 BENZENE	.83845	.74416	11.24		
C172 TRANS-1,3-DICHLOROPROPENE	.41095	.38978	5.15		
C176 2-CHLOROETHYLVINYLETHER	.13099	.14328	9.38		
C180 BROMOFORM	.46164	.39562	14.30		**
CS05 TOLUENE-d8	.96765	.96684	.08		

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/09/95

Contractor: RESAN Time: 22:57

Contract No: 68020026 Laboratory ID: >G5014

Instrument ID: GMS-HP Initial Calibration Date: 09/21/95

Minimum $\overline{RF}$ for SPCC is .3 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
C205 4-METHYL-2-PENTANONE	.46807	.47534	1.55			
C210 2-HEXANONE	.20890	.19400	7.13			
C220 TETRACHLOROETHENE	.48085	.39687	17.47			
C225 1,1,2,2-TETRACHLOROETHANE	.68160	.62422	8.42		**	
C230 TOLUENE	1.31814	1.21309	7.97	*		
C235 CHLOROBENZENE	.95129	.84501	11.17		**	
C240 ETHYLBENZENE	.44781	.39779	11.17	*		
C245 STYRENE	.89019	.85995	3.40			
C251 XYLENE (O)	.51165	.48224	5.75			
C250 XYLENE (total)	.51122	.52716	3.12			(Conc=100.00)
CS10 BROMOFLUOROBENZENE	.86978	.79003	9.17			

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: _____ Calibration Date: 10/11/95

Contractor: PLSAN Time: 13:37

Contract No: 68020026 Laboratory ID:)65062

Instrument ID: GMS-MF Initial Calibration Date: 10/12/95

Minimum $\overline{RF}$ for SPCC is .3 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C010 CHLOROMETHANE	.61412	.62377	3.16		**
C015 BROMOMETHANE	1.52189	1.51253	.61		
C020 VINYL CHLORIDE	1.02705	1.03311	.59	*	
C025 CHLOROETHANE	.65361	.63206	3.30		
C030 METHYLENE CHLORIDE	1.71147	1.41615	17.25		
C035 ACETONE	.29165	.42980	45.87		
C040 CARBON DISULFIDE	2.21227	2.28191	3.28		
C042 TRICHLOROFLUOROMETHANE	3.32006	3.19636	3.73		
C045 1,1-DICHLOROETHENE	1.32145	1.28243	2.95	*	
C058 TETRAHYDROFURAN	.09855	.10792	9.50		
C050 1,1-DICHLOROETHANE	2.58442	2.58666	.09		**
C054 1,2-DICHLOROETHENE(cis)	1.69017	1.72798	2.24		
C053 1,2 DICHLOROETHENE(trans)	1.55354	1.55716	.23		
MTBE	3.09808	3.17301	2.42		
C060 CHLOROFORM	3.56567	3.53323	.91	*	
C110 2-BUTANONE	.49063	.69800	42.27		
C065 1,2-DICHLOROETHANE	2.42268	2.44526	.93		
CS15 1,2-DICHLOROETHANE-d4	1.63532	1.92646	17.80		
C115 1,1,1-TRICHLOROETHANE	.65842	.63537	3.50		
C120 CARBON TETRACHLORIDE	.56968	.56582	.68		
C125 VINYL ACETATE	.39537	.39977	1.11		
C130 BROMODICHLOROMETHANE	.68678	.68823	.21		
C140 1,2-DICHLOROPROPANE	.33688	.34045	1.06	*	
C143 CIS-1,3-DICHLOROPROPENE	.48121	.48085	.08		
C150 TRICHLOROETHENE	.41306	.42152	2.05		
C155 DIBROMOCHLOROMETHANE	.54477	.56083	2.95		
C160 1,1,2-TRICHLOROETHANE	.30129	.31261	3.77		
C165 BENZENE	.88213	.86517	1.92		
C172 TRANS-1,3-DICHLOROPROPENE	.41070	.42033	2.34		
C176 2-CHLOROETHYLVINYLETHER	.13338	.14027	5.16		
C180 BROMOFORM	.39290	.41878	6.59		**
CS05 TOLUENE-d8	.84906	.98752	16.31		

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
NSL Compounds

Case No: | Calibration Date: 10/11/95

Contractor: RESAM | Time: 13:37

Contract No: 68020026 | Laboratory ID:)65062

Instrument ID: GMS-HP | Initial Calibration Date: 10/12/95

Minimum $\overline{RF}$ for SPCC is .3 | Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
C205 4-METHYL-2-PENTANONE	.47216	.50629	7.23			
C210 2-HEXANONE	.20786	.27155	30.64			
C220 TETRACHLOROETHENE	.46911	.45612	2.77			
C225 1,1,2,2-TETRACHLOROETHANE	.65664	.64218	2.20		**	
C230 TOLUENE	1.42820	1.36021	4.76	*		
C235 CHLOROBENZENE	.96855	.93680	3.28		**	
C240 ETHYLBENZENE	.44820	.43914	2.02	*		
C245 STYRENE	.90233	.89765	.52			
C251 XYLENE (O)	.50397	.51485	2.16			
C250 XYLENE (total)	.57094	.56601	.86			(Conc=100.00)
CS10 BROMOFLUOROBENZENE	.68767	.78624	14.33			

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN31

Lab File ID (Standard): >G5014 Date Analyzed: 10/09/95

Instrument ID: GMS Time Analyzed: 22:57

	IS1(BCM)		IS2(DFB)		IS3(CBZ)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	75687	11.48	400230	13.62	305592	21.17
UPPER LIMIT	151374	11.98	800460	14.12	611184	21.67
LOWER LIMIT	37844	10.98	200115	13.12	152796	20.67
CLIENT I.D.						
BG100995A2	71065	11.48	368433	13.62	274849	21.16
LCG100995A2	72345	11.50	384182	13.61	285034	21.18
CLJ44-CU-076	72433	11.48	378141	13.61	291204	21.18
CLJ44-CU-077	74169	11.49	375387	13.60	287291	21.17
CLJ44-CC-079	74315	11.50	390142	13.61	288753	21.16
CLJ44-CC-081-RB	62713	11.47	300290	13.59	243873	21.16

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%

Column used to flag internal standard area values outside of UPPER and LOWER LIMIT with an asterisk

8A
VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN31

Lab File ID (Standard): >G5122 Date Analyzed: 10/13/95

Instrument ID: GMS Time Analyzed: 16:15

	IS1(BCM)		IS2(DFB)		IS3(CBZ)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	100843	11.65	470301	13.74	352258	21.29
UPPER LIMIT	201686	12.15	940602	14.24	704516	21.79
LOWER LIMIT	50422	11.15	235151	13.24	176129	20.79
CLIENT I.D.						
BG101395B1	77070	11.55	376314	13.69	287696	21.26
LCG101395A1	78686	11.57	401411	13.69	302133	21.26
CLJ44-CC-079	59557	11.57	269589	13.70	173805*	21.26

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50%

Column used to flag internal standard area values outside of UPPER and LOWER LIMIT with an asterisk

pace INCORPORATED THE ASSURANCE OF QUALITY

6.24 spl

MSC-5AM

Voltage = 2015

PACE New England

GCMS/VOA Instr G **MS-HP** Analyst/Date NR 9/21/95 STD Lot # V-6411B

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
G4606	#	—	—	BFB-DI	50ng	MthR1 M/e95 =		N	
G4607	#340	—	—	BFB-DI	50ng	MthR1 M/e95 = 29K			
				Scan 150+151+152-100		6L 150/151			
				time 12:19		V-6058			
		I6G921	1	VSHD20	5mls	CG0921/IG0921			
			2	VSHD20					
			3	VSHD10					
			4	VSHD050					
			5	VSHD020					
			6	VSHD010	V	RE Insert RFs		N	
			7	VSHD010	5mls	C-2 C-32 (M2)		Y	
				START OF 2nd WINDOW					
G4615	#	—	—	BFB-DI	50ng			N	
		—	—	DFB-DI	50ng	BASE LINE SAMPLE		N	
		—	—	BFB-DI	50ng	BNCH CC		N	
		—	—	BFB-DI	50ng				
	#340	—	—	BFB-DI	50ng	V-6058 M/e95 = 29K			
				TIME 20:00		88 .91			
				SCAN 149+150+151-100					
G4620		I6G921	8	VSHD010 @	5mls				
		I6G921	9	BG0921958A1		VBLK01			
			10	BG0921958B1		VBLK05			
			11	LCG0921958A1	5mls				
			12	40, 347-1 C	2mls	CH549			
			13	45, 326-6 B	2mls				
			14	40, 347-4 C	2mls				
			1	-4 115 D					
			2	-4 115 DE					
			3	40, 371-5	5mls	(RTIVOA)			
			4	-4					
			5	-1	5mls	M2=C47 NTC			
			6 7	-2 210					

MSGSAM
Voltage

PACE New England

GCMS/VOA Instr. G **MS-HP** Analyst/Date AL 10/9/95 STD Lot #

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
>64996	BP3N1	—	—	BFB DL	50ng	MSK1 11/6/95 19k		y	
				Scan: 1584-1594		DL '88 + '91 V-6055			
				160 - 100					
				time: 1019					
>64997		IG0121	1	VSHD050	5mls	Not used			
98		↓	2	VSHD050	↓			y	
99		IG1009	3	BG10099SA1	↓	VBLK1		y	
>65000		IG1009	4	45,593-10	5mls	V10/6(20ml) LJN30	<2	y	✓
01			6	45,613-4	5mls	V10/9(20ml) LJN32	<2	y	✓
02			4	LCG10099SA1	5mls			y	
03			7	45,590-3	5mls	V10/10(20ml) LJN29 402		y	✓
04			8	#5,524-4	5mls	LCS(20ml/clear) LJN15 tics	<2	y	✓
05			9	-5	5mls		<2	y	✓
06			10	-6	5mls		<2	y	✓
07			11	-1	5mls		<2	y	✓
08			12	-1ms	5mls		<2	y	✓
09			13	-1ms5	5mls		<2	y	✓
10			14	-2	5mls		<2	y	✓
11			15	-3	5mls		<2	y	✓
12			16	BFB 50ng	5mls	Purged		y	
13			1	BFB 50ng	↓	↓ Scan: 1584-1594 DL '88 time: 2017 V-6055		y	
14		IG0121	2	VSHD050	5mls			y	
15		IG1009	3	BG10099SA2	↓	VBLK2 90184-153		y	
16			4	LCG10099SA2	↓	-153MS		y	
17			5	BV1126A	100ml	VTol-D8 RE		N	
18			6	LSV1126	↓			y	
19			7	45,594-7	5mls	(20ml/clear) VHP LJN31 402		y	✓
20			8	-8	↓	↓		y	✓
21			9	-9	↓	↓		y	✓
22			10	-10	100ml	(DS240) RE 1mv		N	
23			11	-13	5mls	TCLP last	>2	y	✓

8260 5ml

MSGSAM

Voltage = 2190

PACE New England

100995TGN

GCMS/VOA Instr G **MS-HP** Analyst/Date ACR 10/10/95 STD Lot # V-6058

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
>65028	8/3441	—	—	BFB-DI	50ng	MHRL 10/095 = 20K		Y	
				Scan: 153+154+155-100		OK '58+'91 V-6058			
				time: 1046					
>65029		IG0921	1	VSTD050	5mls	Not used			
30		↓	2	VSTD050	↓	↑ Vinyl chloride.		N	
31		IG1010	3	BG101095A1		VBLKGA		N	
32		~~IG0951~~	2	VSTD050	5ml	IG1010 / CG1010		Y	
33			1	VSTD200		MS-C45		Y	
34			2	VSTD100				Y	
35			3	VSTD020				Y	
36			5	VSTD010	↓			Y	
>65037	8/3442	—	—	BFB-DI	50ng	MHRL 10/095 =		Y	
				scan:					
				time: 17:33					
>65038		IG1010	6	VSTD050	5mls			Y	
39		IG0810	7	BG101095A2	↓	VBLKGB		N	
40			8	BG101095B2		VBLKGC			
41			8	LCG101095A2	5ml	VSTD2			
42			9	45614-9		(RGHTCLP) V 10/11 BLK 403			
43			10	-10					
44			11	-11					
45			12	-12					
46			13	45640-18	↓	V 10/11 (RG14MCLP)			
47			14	BV1126 A	100ML	(RG240)			
48			15	45529-1	5ml	(RG14MCLP) V (3) 10/10/95			
49			16	-2	↓				
50			1	45537-1	20ML	(RG240MS) LR			
51			2	45539-1	100ML	↓			
52			3	45528-1	5ml	(RG14 MCLP)			
53			4	45527-1					
54			5	45516-1	↓	(RG14)			

Voltage = 2080

PACE New England

GCMS/VOA Instr G **MS-HP** Analyst/Date NK 10/11/91 STD Lot # V [illegible]

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
55 b-c	Y	---	—	BFB - 2	50ng	[illegible]			
				Scan: 157+158 +159-100		OK '5'K + '91			
				time: 12:25		V-6088			
[illegible]		IG1010	1	VSTD050	5mls	Not used			
62		↓	2	VSTD050					
63		IG1011	3	BG101195A1		VBLK-1 90184-157			
[illegible]		IG1011	4	LCG101195A-1	5mls	90184-157			
65			5	BV1126A	1000ng	REX ↓ surr			
66			6	TCLP BLK-102	5mls	90184-158			
67			7	TCLP BLK-103	↓				
68			8	45,614-2	5mls	(Acetone) SN:33			
69			9	-2	↓	↓			
70			10	45,527-1	5mls	(Acetone) RE1 5mls	>2	N	
71			11	-2	↓	↓	<2		
72			12	45,528-1	5mls	(Acetone)	>2		
73			13	45,527-1		↓	>2		
74			14	1/10			>2		
75			15	-1/100	↓	↓	>2		
76			16	45,544-1	5mls	(Acetone) SN:33	<2		
77			1	BFB 50ng	5mls	Purged			
78			2	BFB 50ng	5mls	V-6088 Scan: 815+816, 817-100 time: 0101 OK '5ep '91			
79		IG1010	3	VSTD050					
80		IG1011	4	BG101195A2		VBLK-5			
81			5	LCG101195A2	↓				
82			6	45,645-6	5mls	(Acetone) V 10/12	72		
83			7	45,550-1	5mls	CLS52	<2		
84			8	-2	5mls		72		
85			9	-3	3.3mls	RE 5mls	72	N	
86			10	-4	5mls		72		
87			11	-5	5mls		72		
88			12	-6	5mls	↓	<2		

MS-SATM

Voltage = 2080

PACE New England

GCMS/VOA Instr G MS-HP Analyst/Date AR 10/13/95 STD Lot # V-6111A

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
>65115	#345	—	—	BFB - DI	50ng	MHRI m/e95=		y	
				Scan: 151+152 +159-100		V-6088		y	
				time: 10:05		OK '88 + '91			
>65118		L60930	1	VSTD050	5mls	Headed Purge - not used			
18+7		↓	2	VSTD050	↓	↓		N	
19 +8		L61013	3	BG101395A1	↓	VBLKGI		N	
~~>65120~~	~~#~~	~~DLR~~	~~10/13/95 (2)~~	~~BFB-DI~~	~~50ng 5mls~~				
>65120	#345	—	—	BFB - DI	50ng	MHRI m/e95=		y	✓
				Scan: 157+158 +159-100		OK '88 + '91 V-6088		y	
				time: 1437					
>65121		L61013	1	VSTD200	5mls	SG1013 / LCG1013 MS-45		y	✓
22			2	VSTD100				y	✓
23			3	VSTD050				y	✓
24			4	VSTD020				y	✓
25			5	VSTD010				y	✓
26			6	VSTD010	↓	not needed		y	
27		L60213	7	BG101395A1	5mls	VBLKGI		y	
28			8	BG101395B1	↓	VBLKGK		y	✓
29			9	LCG101395A1	↓			y	✓
30			10	45,563-14	5.0g	(K8240L) 1334 3		N	✓
31			11	45,594-10	4.9g	↓		y	✓
32			12	BFB 50ng	5mls	Purged Volatile		N	
33			13	BFB ↓	↓	out of sequence			
34		IG1010	14	VSTD050	5mls	No peaks in			
35		IG1013	15	BG101395A2	↓	area listed			
36			16	LCG101395A2	↓	BCR 10/16/95			
37			1	BV1126C	100ml				
38			2	45,600-5	5mls				
39			3	45,554-2	↓				
40			/	BAKE					

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR NON-VOLATILE CONSTITUENTS

Laboratory Number : 45594-007
Field Identification : CLJ44-CU-076
Extraction Date : 10/05/95
TCLP Blank : 90,001-282

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

A 5.0 gm portion of the sample was stirred with 96.5 mL deionized water. The pH at the end of 5 minutes was 5.05. 3.5 mL 1.0N HCl was added and the mixture was then heated to 50C for ten minutes. Upon cooling the pH was 1.67, therefore Extraction Fluid #1 was used.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 100 gm of sample was added to the extractor with 2000 mL Extraction Fluid #1.

Extraction Time : 17.00 hrs

Final pH : 4.90

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: 45594-007
Sample Designation: CLJ44-CU-076
Date Extracted: 10/07/95
Date Analyzed: 10/09/95 13:08
QC Batch: BA2481
TCLP Batch: 282
Matrix: TCLP EXTRACT

Instrument File Name: >F2734

SEMIVOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Pyridine	BDL	5.0	0.05
1,4-Dichlorobenzene	BDL	7.5	0.05
2,4-Dinitrotoluene	BDL	0.13	0.05
2-Methylphenol	BDL	200	0.05
3,4-Methylphenols	BDL	200	0.05
Hexachloroethane	BDL	3.0	0.05
Nitrobenzene	BDL	2.0	0.05
Hexachlorobenzene	BDL	0.13	0.05
Pentachlorophenol	BDL	100	0.05
Hexachlorobutadiene	BDL	0.5	0.05
2,4,6-Trichlorophenol	BDL	2.0	0.05
2,4,5-Trichlorophenol	BDL	400	0.05

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8270

BDL = Below reporting limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR NON-VOLATILE CONSTITUENTS

Laboratory Number : 45594-008
Field Identification : CLJ44-CU-077
Extraction Date : 10/05/95
TCLP Blank : 90,001-282

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

A 5.0 gm portion of the sample was stirred with 96.5 mL deionized water. The pH at the end of 5 minutes was 5.36. 3.5 mL 1.0N HCl was added and the mixture was then heated to 50C for ten minutes. Upon cooling the pH was 1.62, therefore Extraction Fluid #1 was used.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 100 gm of sample was added to the extractor with 2000 mL Extraction Fluid #1.

Extraction Time : 17.00 hrs

Final pH : 4.86

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: 45594-008
Sample Designation: CLJ44-CU-077
Date Extracted: 10/07/95
Date Analyzed: 10/09/95 13:45
QC Batch: BA2481
TCLP Batch: 282
Matrix: TCLP EXTRACT

Instrument File Name: >F2735

SEMIVOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Pyridine	BDL	5.0	0.05
1,4-Dichlorobenzene	BDL	7.5	0.05
2,4-Dinitrotoluene	BDL	0.13	0.05
2-Methylphenol	BDL	200	0.05
3,4-Methylphenols	BDL	200	0.05
Hexachloroethane	BDL	3.0	0.05
Nitrobenzene	BDL	2.0	0.05
Hexachlorobenzene	BDL	0.13	0.05
Pentachlorophenol	BDL	100	0.05
Hexachlorobutadiene	BDL	0.5	0.05
2,4,6-Trichlorophenol	BDL	2.0	0.05
2,4,5-Trichlorophenol	BDL	400	0.05

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8270

BDL = Below reporting limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR NON-VOLATILE CONSTITUENTS

Laboratory Number : 45594-009
Field Identification : CLJ44-CC-079
Extraction Date : 10/05/95
TCLP Blank : 90,001-282

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

A 5.0 gm portion of the sample was stirred with 96.5 mL deionized water. The pH at the end of 5 minutes was 8.27. 3.5 mL 1.0N HCl was added and the mixture was then heated to 50C for ten minutes. Upon cooling the pH was 1.66, therefore Extraction Fluid #1 was used.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 100 gm of sample was added to the extractor with 2000 mL Extraction Fluid #1.

Extraction Time : 17.00 hrs

Final pH : 5.13

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: 45594-009
Sample Designation: CLJ44-CC-079
Date Extracted: 10/07/95
Date Analyzed: 10/09/95 14:22
QC Batch: BA2481
TCLP Batch: 282
Matrix: TCLP EXTRACT

Instrument File Name: >F2736

SEMIVOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Pyridine	BDL	5.0	0.05
1,4-Dichlorobenzene	BDL	7.5	0.05
2,4-Dinitrotoluene	BDL	0.13	0.05
2-Methylphenol	BDL	200	0.05
3,4-Methylphenols	BDL	200	0.05
Hexachloroethane	BDL	3.0	0.05
Nitrobenzene	BDL	2.0	0.05
Hexachlorobenzene	BDL	0.13	0.05
Pentachlorophenol	BDL	100	0.05
Hexachlorobutadiene	BDL	0.5	0.05
2,4,6-Trichlorophenol	BDL	2.0	0.05
2,4,5-Trichlorophenol	BDL	400	0.05

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8270

BDL = Below reporting limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: 45594-012
Sample Designation: CLJ44-CC-081-RB
Date Extracted: 10/10/95
Date Analyzed: 10/10/95 14:03
QC Batch: BA2488
Matrix: WATER

Instrument File Name: >F2744

SEMIVOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Pyridine	BDL	5.0	0.05
1,4-Dichlorobenzene	BDL	7.5	0.05
2,4-Dinitrotoluene	BDL	0.13	0.05
2-Methylphenol	BDL	200	0.05
3,4-Methylphenols	BDL	200	0.05
Hexachloroethane	BDL	3.0	0.05
Nitrobenzene	BDL	2.0	0.05
Hexachlorobenzene	BDL	0.13	0.05
Pentachlorophenol	BDL	100	0.05
Hexachlorobutadiene	BDL	0.5	0.05
2,4,6-Trichlorophenol	BDL	2.0	0.05
2,4,5-Trichlorophenol	BDL	400	0.05

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8270

BDL = Below reporting limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

2C

WATER SEMIVOLATILES SURROGATE RECOVERY

Client: OHM REMEDIATION SERVICES CORP. Lab No.: 45594
Project: CAMP GEIGER/LJN31

CLIENT SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	OTHER	TOT OUT
CLJ44-CU-076	72	78	52	49	50	52		0
CLJ44-CU-077	68	76	53	41	46	50		0
CLJ44-CC-079	74	80	62	48	51	57		0
CLJ44-CC-081-RB	84	90	68	55	53	63		0
BA2482	68	75	37	46	47	57		0
BA2488	73	78	64	26	33	54		0
LSA2488MS	83	90	67	33	41	60		0
TCLP BLANK #282	82	78	60	50	55	56		0

		QC LIMITS
S1	(NBZ) = Nitrobenzene-d5	35 - 114
S2	(FBP) = 2-Fluorobiphenyl	43 - 116
S3	(TPH) = Terphenyl-d14	33 - 141
S4	(PHL) = Phenol-d5	10 - 110
S5	(2FP) = 2-Fluorophenol	21 - 110
S6	(TBP) = 2,4,6-Tribromophenol	10 - 123

Column to be used to flag recovery values with an asterisk
* Values outside of designated QC limits
D Surrogates diluted out

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: TCLP BLANK #282
Sample Designation: TCLP BLANK
Date Analyzed: 10/05/95
Matrix: TCLP EXTRACT

Parameter	Result (ug/L)	Regulatory Limit (ug/L)	Detection Limit (ug/L)
Pyridine	BDL	5000	56
1,4-Dichlorobenzene	BDL	7500	56
2,4-Dinitrotoluene	BDL	130	56
2-Methylphenol	BDL	200000	56
3,4-Methylphenols	BDL	200000	56
Hexachloroethane	BDL	3000	56
Nitrobenzene	BDL	2000	56
Hexachlorobenzene	BDL	130	56
Pentachlorophenol	BDL	100000	56
Hexachlorobutadiene	BDL	500	56
2,4,6-Trichlorophenol	BDL	2000	56
2,4,5-Trichlorophenol	BDL	400000	56

METHOD REFERENCE: EPA SW 846, 3RD EDITION
METHOD 8270

BDL = Below detection limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: BA2482
Sample Designation: LAB BLANK
Date Extracted: 10/07/95
Date Analyzed: 10/09/95 10:41
QC Batch: BA2482
Matrix: TCLP EXTRACT

Instrument File Name: >F2730

SEMIVOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Pyridine	BDL	5.0	0.01
1,4-Dichlorobenzene	BDL	7.5	0.01
2,4-Dinitrotoluene	BDL	0.13	0.01
2-Methylphenol	BDL	200	0.01
3,4-Methylphenols	BDL	200	0.01
Hexachloroethane	BDL	3.0	0.01
Nitrobenzene	BDL	2.0	0.01
Hexachlorobenzene	BDL	0.13	0.01
Pentachlorophenol	BDL	100	0.01
Hexachlorobutadiene	BDL	0.5	0.01
2,4,6-Trichlorophenol	BDL	2.0	0.01
2,4,5-Trichlorophenol	BDL	400	0.01

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8270

BDL = Below reporting limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: BA2488
Sample Designation: LAB BLANK
Date Extracted: 10/10/95
Date Analyzed: 10/10/95 15:17
QC Batch: BA2488
TCLP Batch:
Matrix: TCLP EXTRACT

Instrument File Name: >F2746

SEMIVOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Pyridine	BDL	5.0	0.01
1,4-Dichlorobenzene	BDL	7.5	0.01
2,4-Dinitrotoluene	BDL	0.13	0.01
2-Methylphenol	BDL	200	0.01
3,4-Methylphenols	BDL	200	0.01
Hexachloroethane	BDL	3.0	0.01
Nitrobenzene	BDL	2.0	0.01
Hexachlorobenzene	BDL	0.13	0.01
Pentachlorophenol	BDL	100	0.01
Hexachlorobutadiene	BDL	0.5	0.01
2,4,6-Trichlorophenol	BDL	2.0	0.01
2,4,5-Trichlorophenol	BDL	400	0.01

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8270

BDL = Below reporting limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

MATRIX SPIKE RECOVERY
ACID/BASE/NEUTRAL EXTRACTABLE ORGANIC COMPOUNDS

Laboratory Number: LS-A2482
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/09/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
PHENOL	0	200	90	45
2-CHLOROPHENOL	0	200	128	64
1,4-DICHLOROBENZENE	0	100	64	64
N-NITROSO-DI-N-PROPYLAMINE	0	100	70	70
1,2,4-TRICHLOROBENZENE	0	100	65	65
4-CHLORO-3-METHYLPHENOL	0	200	127	64
ACENAPHTHENE	0	100	67	67
4-NITROPHENOL	0	200	79	39
2,4-DINITROTOLUENE	0	100	63	63
PENTACHLOROPHENOL	0	200	112	56
PYRENE	0	100	52	52

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8270

pace INCORPORATED
THE ASSURANCE OF QUALITY

MATRIX SPIKE RECOVERY
ACID/BASE/NEUTRAL EXTRACTABLE ORGANIC COMPOUNDS

Laboratory Number: LS-A2488
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/10/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
PHENOL	0	200	62	31
2-CHLOROPHENOL	0	200	132	66
1,4-DICHLOROBENZENE	0	100	70	70
N-NITROSO-DI-N-PROPYLAMINE	0	100	75	75
1,2,4-TRICHLOROBENZENE	0	100	66	66
4-CHLORO-3-METHYLPHENOL	0	200	136	68
ACENAPHTHENE	0	100	74	74
4-NITROPHENOL	0	200	59	30
2,4-DINITROTOLUENE	0	100	71	71
PENTACHLOROPHENOL	0	200	119	59
PYRENE	0	100	59	59

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8270

pace INCORPORATED
THE ASSURANCE OF QUALITY

TCLP

PACE INCORPORATED
Organics Extraction
AQUEOUS PREP LOG

PROTOCOL: EPA SW846 | LOG BOOK NO: 4

SOP #: QA5514 | STEAMBATH TEMP: 55 (Range 80-90°C) | METHOD: CONT/3520 SEPF/3510

MATRIX: AQUEOUS | Reviewed By/Date: JEH 10/07/95 | TEST/LEVEL: ABN /

COUNT	DATE/INIT	BLANK/SPIKES SAMPLE #	INIT VOL (L)	LCS MS/MSD	SURR # AMT/CONC	SPIKE # AMT/CONC	INTER VOL (ml)	ALIQ VOL (ml)	FINAL VOL (mL)	* SPECIAL CLEAN-UP (F,G,S,SA)	QUATTRO DATE/INIT
—	JEH 10/07/95	BA2482	1.0	N/A	ENAS 100/2ml	—	10.0	10.0	1.0	N/A	JEH
—		LSA2482	1.0		500µl	E1286 100/2ml 100/ml					10/07/95
5		45594-7	.2			—					
6		-8				—					
8		-9				—					
9		45570-1				—					
10		15690-3 45594-9				—					
—		E3 45595 JEH 10/07/95				—					

JEH 10/7/95

JEH 10/7/95

NO QC Assigned

COMMENTS: * F = Florisil; G = GPC; S = Sulfur using copper powder, SA = Sulfuric acid

TCLP

PACE INCORPORATED
Organics Extraction
AQUEOUS PREP LOG

PROTOCOL: EPA SW846 | LOG BOOK NO: 4

SOP #: QA5514 | STEAMBATH TEMP: 90 (Range 80-90°C) | METHOD: CONT/3520 SEPF/3510

MATRIX: AQUEOUS | Reviewed By/Date: JCA 10/10/95 | TEST/LEVEL: ABN

COUNT	DATE/INIT	BLANK/SPIKES SAMPLE #	INIT VOL (L)	LCS MS/MSD	SURR # AMT/CONC	SPIKE # AMT/CONC	INTER VOL (ml)	ALIQ VOL (ml)	FINAL VOL (mL)	* SPECIAL CLEAN-UP (F,G,S,SA)	QUATTRO DATE/INIT
—	JCA	BT2488	1.0	LSA2488	E1419	N/A	10	10	1.0	N/A	JCA
—	10/6/95	LSA2488	1.0	45576-	0.5 mL	1.0 mL					10/6/95
11		45576-1MS	1.00	1MS/1MSD	1.00	1.00 2.00					
12		-1MSD			ppi	ppi (E10)					
13		45594-12				N/A					
14		45563-1982									

JCA 10/10/95

COMMENTS: * F = Florisil; G = GPC; S = Sulfur using copper powder, SA = Sulfuric acid

(10) Added 250 µL E1235 15

45576 1MS/MSD only. PM 10-10-95

F:\APPS\WP51\NANCY\EXLBWA

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN31

Lab File ID: >F2644 DFTPP Injection Date: 10/02/95

Instrument ID: FMS DFTPP Injection Time: 10:11

ION ABUNDANCE CRITERIA for F2644 are reported on a separate sheet.

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
ABNSTD050	ABNSTD050	F2646	10/02/95	10:28
ABNSTD160	ABNSTD160	F2647	10/02/95	11:08
ABNSTD120	ABNSTD120	F2648	10/02/95	11:46
ABNSTD080	ABNSTD080	F2649	10/02/95	12:24
ABNSTD020	ABNSTD020	F2650	10/02/95	13:02

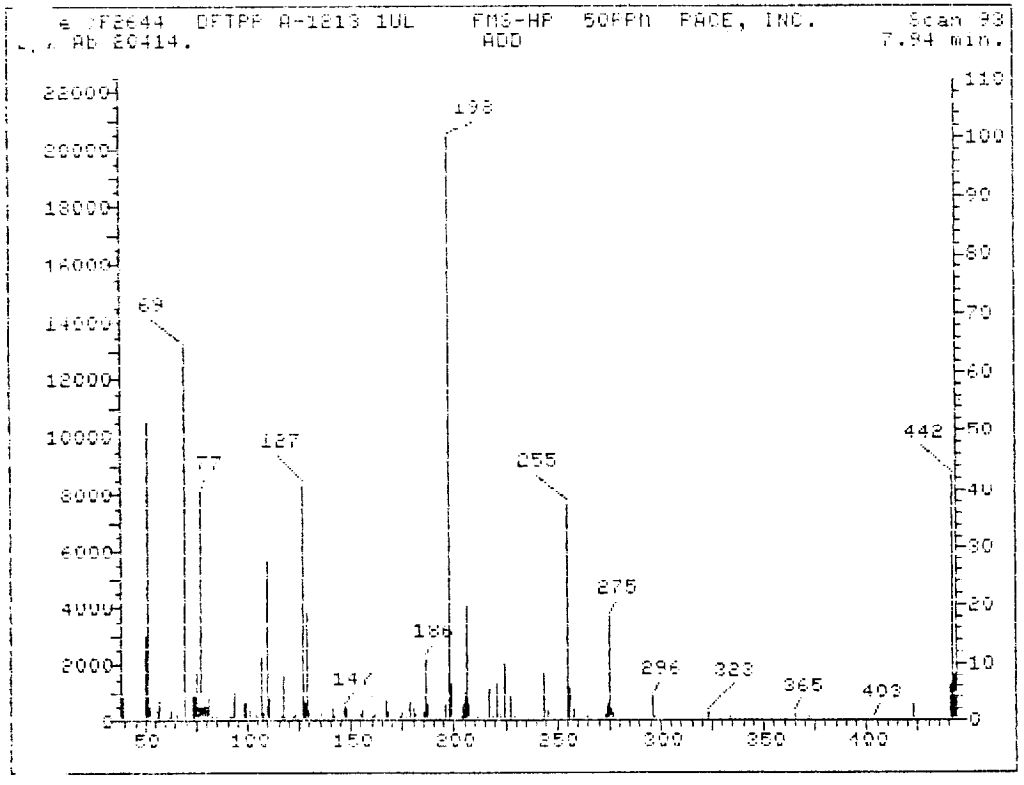
GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphosphine (DFTPP)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	51.57	51.57	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	64.22	64.22	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	40.70	40.70	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.39	6.39	Ok
275	10-30% of mass 198	17.91	17.91	Ok
365	Greater than 1% of mass 198	1.22	1.22	Ok
441	0-100% of mass 443	6.09	77.99	Ok
442	Greater than 40% of mass 198	42.29	42.29	Ok
443	17-23% of mass 442	7.81	18.48	Ok

Injection Date: 10/02/95
Injection Time: 10:11
Data File: >F2644
Scan: 93

10/2/95



5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN31

Lab File ID: >F2707 DFTPP Injection Date: 10/05/95

Instrument ID: FMS DFTPP Injection Time: 12:34

ION ABUNDANCE CRITERIA for F2707 are reported on a separate sheet.

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
ABNSTD050	ABNSTD050	F2709	10/05/95	12:51
90001-282	90001-282	F2721	10/05/95	20:22

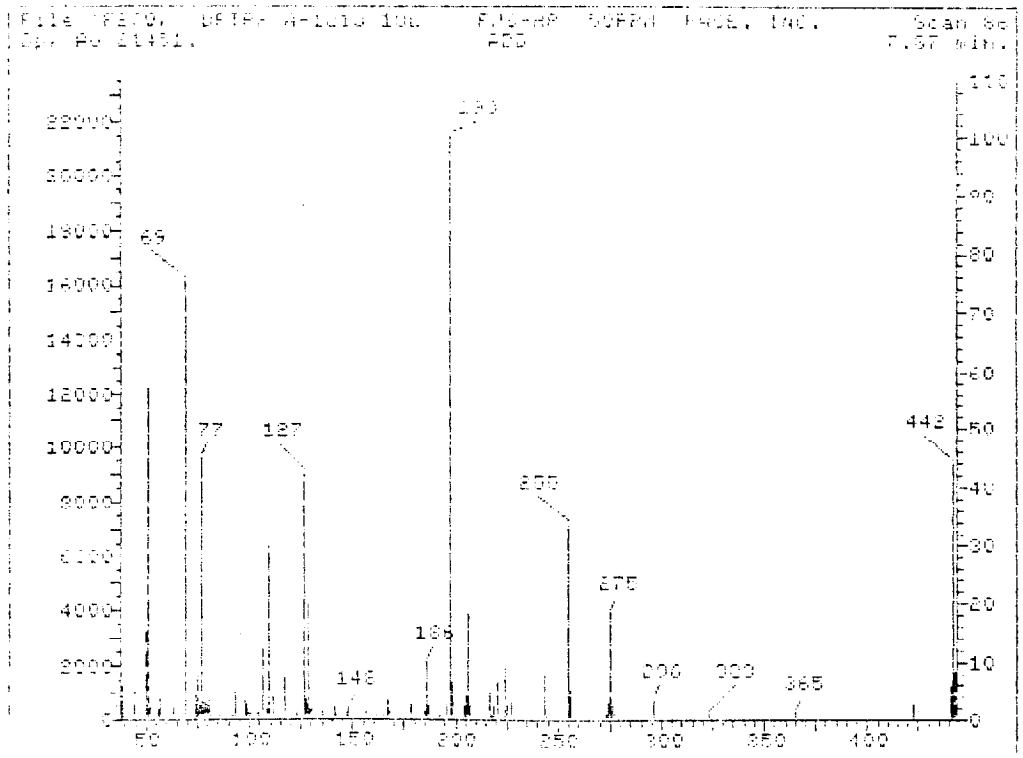
GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphosphine (DFTPP)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	57.01	57.01	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	75.38	75.38	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	42.11	42.11	Ok
197	Less than 1% of mass 198	.15	.15	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.56	6.56	Ok
275	10-30% of mass 198	18.25	18.25	Ok
365	Greater than 1% of mass 198	1.31	1.31	Ok
441	0-100% of mass 443	5.75	69.80	Ok
442	Greater than 40% of mass 198	43.94	43.94	Ok
443	17-23% of mass 442	8.24	18.76	Ok

Injection Date: 10/05/95
Injection Time: 12:34
Data File: >F2707
Scan: 86

THIS IS THE RESULT OF AVERAGING 85.00 86.00 87.00



5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.. OHMRC SAS No.: SDG No.: LJN31

Lab File ID: >F2708 DFTPP Injection Date: 10/09/95

Instrument ID: FMS DFTPP Injection Time: 09:43

ION ABUNDANCE CRITERIA for F2708 are reported on a separate sheet.

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

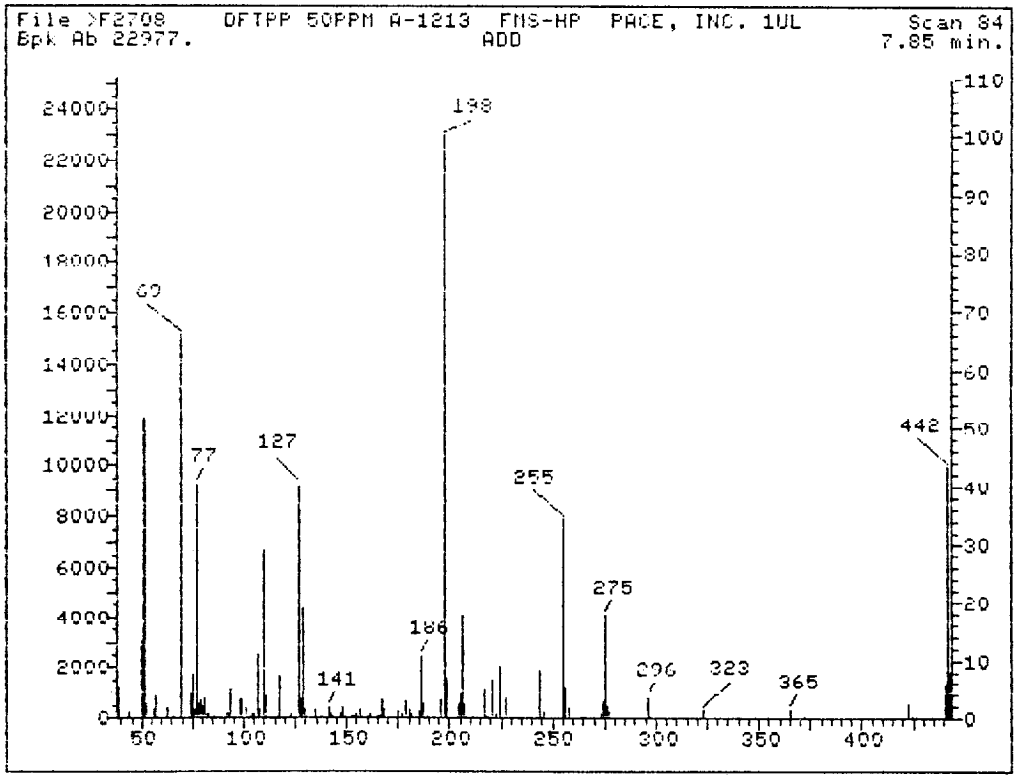
CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
ABNSTD050	ABNSTD050	F2729	10/09/95	10:01
BA2482	90176-150	F2730	10/09/95	10:41
LSA2482	90176-150MS	F2731	10/09/95	11:17
CLJ44-CU-076	45594-007	F2734	10/09/95	13:08
CLJ44-CU-077	45594-008	F2735	10/09/95	13:45
CLJ44-CC-079	45594-009	F2736	10/09/95	14:22

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphosphine (DFTPP)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	51.63	51.63	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	65.97	65.97	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	40.04	40.04	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.68	6.68	Ok
275	10-30% of mass 198	17.77	17.77	Ok
365	Greater than 1% of mass 198	1.45	1.45	Ok
441	0-100% of mass 443	5.72	73.12	Ok
442	Greater than 40% of mass 198	43.24	43.24	Ok
443	17-23% of mass 442	7.82	18.09	Ok

Injection Date: 10/09/95
Injection Time: 09:43
Data File: >F2708
Scan: 84



5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN31

Lab File ID: >F2741 DFTPP Injection Date: 10/10/95

Instrument ID: FMS DFTPP Injection Time: 10:40

ION ABUNDANCE CRITERIA for F2741 are reported on a separate sheet.

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

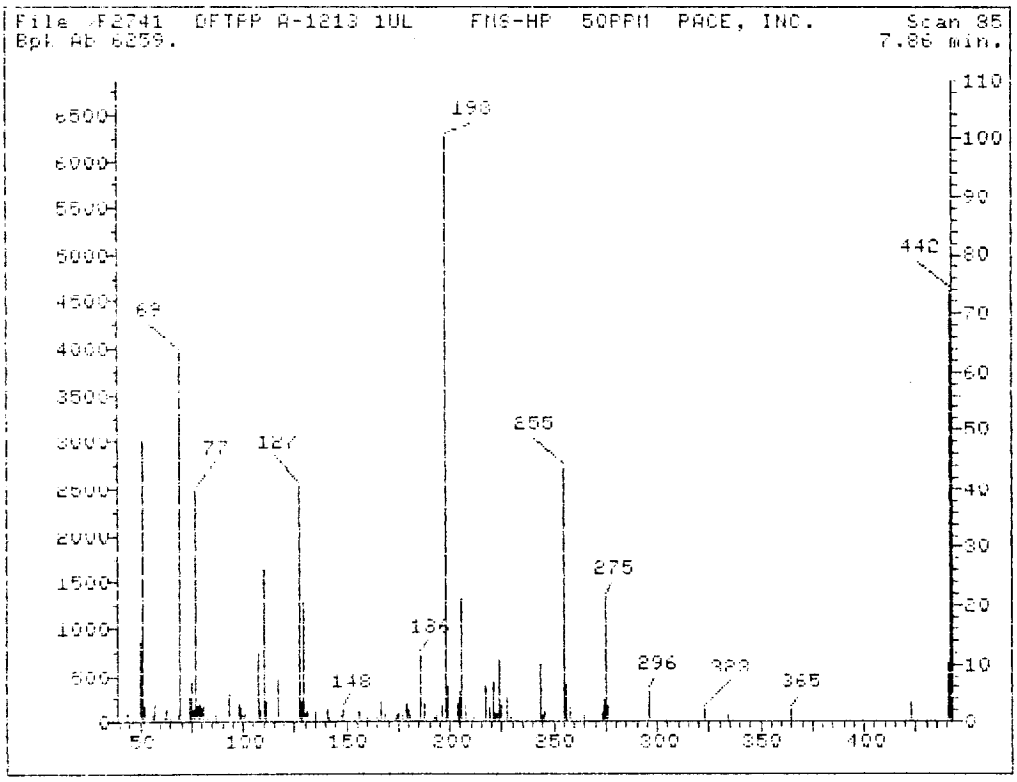
CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
ABNSTD050	ABNSTD050	F2743	10/10/95	10:56
CLJ44-CC-081-RB	45594-012	F2744	10/10/95	14:03
BA2488	90176-155	F2746	10/10/95	15:17
LSA2488	90176-155MS	F2747	10/10/95	15:54

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphosphine (DFTPP)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	48.20	48.20	Ok
68	Less than 2% of mass 69	1.12	1.77	Ok
69	(reference only)	63.16	63.16	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	40.60	40.60	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.25	6.25	Ok
275	10-30% of mass 198	21.28	21.28	Ok
365	Greater than 1% of mass 198	2.03	2.03	Ok
441	0-100% of mass 443	10.10	78.22	Ok
442	Greater than 40% of mass 198	73.78	73.78	Ok
443	17-23% of mass 442	12.91	17.50	Ok

Injection Date: 10/10/95
Injection Time: 10:40
Data File: >F2741
Scan: 85



Initial Calibration Data
HSL Compounds

Case No: Instrument ID: FMS-HP

tractor: KESAM PACE, INC. Calibration Date: 10/02/95

Contract No:

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % RSD for CCC is 30%

10/2/95

Laboratory ID:	>FZ650	>FZ646	>FZ649	>FZ648	>FZ647					
	RF	RF	RF	RF	RF					
Compound	20.00	50.00	80.00	120.00	160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C310 N-NITROSODIMETHYLAMINE	.85101	.87174	.94544	1.04810	1.12684	.438	.96863	12.118		
C550 2-FLUOROPHENOL	1.30134	1.31492	1.44842	1.47645	1.54845	.718	1.41792	7.530		
C545 PHENOL-d5	1.62307	1.55502	1.55470	1.48353	1.51802	.933	1.54687	3.356		
C570 2-CHLOROPHENOL-d4	1.40826	1.39605	1.37536	1.31097	1.34781	.957	1.36769	2.860		
C575 1,2-DICHLOROBENZENE-d4	.89580	.85058	.77377	.65587	.61237	1.046	.75768	16.090		
C315 PHENOL	1.84389	1.71334	1.75253	1.63694	1.70075	.936	1.72949	4.410	*	
C320 ANILINE	1.42457	1.33356	1.28399	1.14276	1.05223	.932	1.24738	11.967		
C325 BIS(2-CHLOROETHYL)ETHER	1.62462	1.53828	1.76113	1.87441	2.08574	.948	1.77684	12.112		
C330 2-CHLOROPHENOL	1.44949	1.39792	1.37063	1.29151	1.33330	.961	1.36857	4.414		
C335 1,3-DICHLOROBENZENE	1.61310	1.60279	1.58248	1.53797	1.52607	.992	1.57246	2.466		
C340 1,4-DICHLOROBENZENE	1.49770	1.50281	1.42277	1.36661	1.34492	1.004	1.42696	5.096	*	
C345 BENZYL ALCOHOL	.78623	.74560	.80042	.74069	.68063	1.042	.74671	5.864		
C350 1,2-DICHLOROBENZENE	1.51078	1.41915	1.27983	1.12568	1.02277	1.050	1.27164	15.838		
C355 2-METHYLPHENOL	1.18581	1.10065	1.14172	1.05715	1.02222	1.074	1.10151	5.915		
C360 BIS(2-CHLOROISOPROPYL)ETH	2.09954	1.73624	2.29288	2.25262	2.25030	1.079	2.12632	10.826		
5 4-METHYLPHENOL	1.24814	1.18351	1.15286	1.09923	1.14312	1.113	1.16537	4.740		
C370 N-NITROSO-DI-N-PROPYLAMIN	1.01592	.94012	1.03589	1.01215	.93428	1.118	.98767	4.757		**
C375 HEXACHLOROETHANE	.68649	.68844	.66077	.61737	.53715	1.125	.63809	9.918		
C410 NITROBENZENE	.45256	.43078	.42487	.42728	.43282	.870	.43366	2.537		
C415 ISOPHORONE	.93620	.90170	.92262	.96427	1.00016	.916	.94539	4.040		
C520 NITROBENZENE-d5	.43421	.41447	.42240	.42065	.43599	.866	.42554	2.169		
C420 2-NITROPHENOL	.25808	.25165	.25554	.24567	.24889	.930	.25197	1.979	*	
C425 2,4-DIMETHYLPHENOL	.41207	.38664	.37923	.37309	.38793	.942	.38779	3.826		
C430 BENZOIC ACID	.15838	.15419	.19074	.19467	.18901	.979	.17730	10.814		
C435 BIS(2-CHLOROETHOXY)METHAN	.56694	.51971	.54135	.51911	.55086	.958	.53960	3.813		
C440 2,4-DICHLOROPHENOL	.37156	.34457	.31645	.30488	.29854	.978	.32720	9.301	*	
C445 1,2,4-TRICHLOROBENZENE	.41551	.39073	.34894	.34157	.32431	.992	.36421	10.340		
C450 NAPHTHALENE	1.09732	.99183	.92624	.88866	.86587	1.004	.95398	9.774		
C455 4-CHLOROANILINE	.45239	.43116	.42942	.42338	.42543	1.018	.43235	2.687		
C460 HEXACHLOROBUTADIENE	.26570	.24207	.20780	.18892	.17055	1.039	.21501	18.030	*	

RF - Response Factor (Subscript is amount in ug/mL)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No: Instrument ID: FMS-HP

tractor: RESAN PACE, INC. Calibration Date: 10/02/95

Contract No:

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % RSD for CCC is 30%

Laboratory ID:	>F2650	>F2646	>F2649	>F2648	>F2647					
Compound	RF 20.00	RF 50.00	RF 80.00	RF 120.00	RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C465 4-CHLORO-3-METHYLPHENOL	.38677	.37228	.34036	.35600	.35358	1.115	.36180	4.972	*	
C470 2-METHYLNAPHTHALENE	.72687	.66331	.56821	.56605	.54995	1.138	.61488	12.509		
C555 2,4,6-TRIBROMOPHENOL	.31739	.29989	.29616	.29468	.28703	1.117	.29903	3.771		
C525 2-FLUOROBIPHENYL	1.42846	1.25372	1.14628	1.07248	1.00615	.901	1.18142	14.042		
C510 HEXACHLOROCYCLOPENTADIENE	.20807	.35087	.31905	.33071	.36299	.878	.31434	19.665		**
C515 2,4,6-TRICHLOROPHENOL	.50124	.47984	.45034	.46134	.47276	.891	.47311	4.085	*	
C520 2,4,5-TRICHLOROPHENOL	.55523	.52070	.47910	.46534	.44984	.898	.49408	8.744		
C525 2-CHLORONAPHTHALENE	1.27827	1.16346	1.06980	1.07409	1.06500	.916	1.13012	8.167		
C530 2-NITROANILINE	.51748	.49610	.52227	.56791	.60277	.936	.54131	7.978		
C535 DIMETHYLPHTHALATE	1.70539	1.57418	1.51091	1.56178	1.63821	.967	1.59809	4.705		
C540 ACENAPHTHYLENE	2.00340	1.75355	1.52721	1.43911	1.44130	.978	1.63291	14.915		
C545 3-NITROANILINE	.42572	.41052	.39938	.42198	.42578	.998	.41668	2.762		
C550 ACENAPHTHENE	1.21980	1.10486	1.00806	.97921	.97738	1.006	1.05786	9.867	*	
C555 2,4-DINITROPHENOL	.17686	.24004	.27576	.30056	.32438	1.012	.26352	21.871		**
C560 4-NITROPHENOL	.18461	.22623	.20784	.20453	.20303	1.026	.20525	7.221		**
5 DIBENZOFURAN	1.84229	1.62096	1.50382	1.42368	1.34856	1.029	1.54786	12.474		
C565 2,6-DINITROTOLUENE	.41487	.38619	.33290	.30217	.29466	.977	.34616	15.208		
C570 2,4-DINITROTOLUENE	.57908	.56446	.56428	.57940	.58034	1.034	.57352	1.457		
C580 DIETHYLPHTHALATE	1.78078	1.63403	1.51804	1.51250	1.51520	1.071	1.59211	7.372		
C585 4-CHLOROPHENYL-PHENYLETHE	.71716	.62831	.48128	.40976	.36808	1.078	.52091	28.365		
C590 FLUORENE	1.37242	1.15040	.97149	.90042	.87289	1.080	1.05352	19.790		
C595 4-NITROANILINE	.43255	.41586	.44154	.47287	.44460	1.092	.44148	4.712		
C610 4,6-DINITRO-2-METHYLPHENO	.20021	.22047	.20216	.16785	.14041	.902	.18622	17.107		
C615 N-NITROSODIPHENYLAMINE	.60791	.54858	.45796	.41103	.37750	.903	.48060	19.961	*	
C620 AZOBENZENE	.26088	.16091	.23319	.20550	.18731	.906	.20956	18.589		
C625 4-BROMOPHENYL-PHENYLETHER	.26649	.24437	.22424	.19951	.19061	.944	.22504	13.927		
C630 HEXACHLOROBENZENE	.41453	.37317	.34107	.31286	.29980	.964	.34829	13.364		
C635 PENTACHLOROPHENOL	.21151	.23728	.24664	.24410	.24580	.985	.23706	6.224	*	
C640 PHENANTHRENE	1.21629	1.13125	1.01979	.91828	.96369	1.003	1.04986	11.662		
C645 ANTHRACENE	1.25508	1.13069	1.01345	.89538	.83220	1.009	1.02536	16.766		

RF - Response Factor (Subscript is amount in ug/mL)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

- Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No:

Instrument ID: FMS-HP

tractor: RESAN PACE, INC.

Calibration Date: 10/02/95

Contract No:

Minimum $\overline{RF}$ for SPCC is 0.05

Maximum % RSD for CCC is 30%

Laboratory ID:	>FZ650	>FZ646	>FZ649	>FZ648	>FZ647					
Compound	RF 20.00	RF 50.00	RF 80.00	RF 120.00	RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C650 DI-N-BUTYLPHTHALATE	1.87936	1.63533	1.55114	1.42709	1.40625	1.074	1.57983	12.138		
C655 FLUORANTHENE	1.45032	1.34964	1.19649	1.09307	1.08040	1.148	1.23398	13.132	*	
C660 BENZIDINE	.07892	.06510	.10995	.11510	.10817	1.161	.09544	23.149		
C530 TERPHENYL-d14	1.05708	1.07111	1.09911	1.20852	1.28100	.900	1.14336	8.503		
C715 PYRENE	1.58859	1.64759	1.76357	1.98554	2.17730	.887	1.83252	13.388		
C720 BUTYLBENZYLPHTHALATE	1.01334	1.05355	1.17686	1.28474	1.43698	.947	1.19309	14.513		
C725 3,3'-DICHLOROBENZIDINE	.62485	.65055	.69647	.68982	.67352	.996	.66704	4.421		
C730 BENZO(A)ANTHRACENE	1.39429	1.46352	1.42564	1.37456	1.33144	.998	1.39789	3.586		
C745 BIS(2-ETHYLHEXYL)PHTHALAT	1.03681	1.07509	1.07977	1.06615	1.06325	1.000	1.06421	1.569		
C740 CHRYSENE	1.35964	1.35202	1.43098	1.48231	1.57025	1.003	1.43904	6.315		
C760 DI-N-OCTYLPHTHALATE	1.99784	1.83901	1.70021	1.53235	1.50484	.900	1.71485	12.132	*	
C765 BENZO(B)FLUORANTHENE	1.17952	1.27006	1.40803	1.02819	1.16566	.952	1.21029	11.595		
C770 BENZO(K)FLUORANTHENE	1.22957	.98036	.66547	.61143	.63707	.954	.86488	28.379		
C775 BENZO(A)PYRENE	1.08125	1.09468	1.02458	.95469	.93785	.993	1.01861	7.003	*	
C780 INDENO(1,2,3-CD)PYRENE	1.28468	1.30035	1.23850	1.20004	1.19433	1.192	1.24358	3.869		
5 DIBENZ(A,H)ANTHRACENE	1.05892	1.06536	1.01043	.98577	1.00299	1.192	1.02429	3.511		
C790 BENZO(G,H,I)PERYLENE	1.07462	1.09907	1.04669	1.03439	1.05885	1.246	1.06272	2.370		

RF - Response Factor (Subscript is amount in ug/mL)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

- Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

...e No: Instrument ID: FMS-HP

Contractor: RESAN Calibration Date: 10/02/95

Contract No:

10/2/95

Minimum $\overline{RF}$ for SPCC is .05 Maximum % RSD for CCC is 30%

Laboratory ID:	>F2650	>F2646	>F2649	>F2648	>F2647					
	RF	RF	RF	RF	RF					
Compound	20.00	50.00	80.00	120.00	160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C300 PYRIDINE	1.32192	1.26642	1.50060	1.48860	1.53455	.437	1.42242	8.429		
C550 2-FLUOROPHENOL	1.30134	1.31492	1.44842	1.47645	1.54845	.718	1.41792	7.530		
C545 PHENOL-d5	1.62307	1.55502	1.55470	1.48353	1.51802	.933	1.54687	3.356		
C535 2-CHLOROPHENOL-d4	1.40826	1.39605	1.37536	1.31097	1.34781	.957	1.36769	2.860		
C540 1,2-DICHLOROBENZENE-d4	.89580	.85058	.77377	.65587	.61237	1.046	.75768	16.090		
C340 1,4-DICHLOROBENZENE	1.49770	1.50281	1.42277	1.36661	1.34492	1.004	1.42696	5.096	*	
C355 2-METHYLPHENOL	1.18581	1.10063	1.14172	1.05715	1.02222	1.074	1.10151	5.915		
C367 3,4-METHYLPHENOLS	1.24814	1.18351	1.15286	1.09923	1.14312	1.113	1.16537	4.740		
C375 HEXACHLOROETHANE	.68649	.68844	.66097	.61737	.53715	1.125	.63809	9.918		
C410 NITROBENZENE	.45256	.43078	.42487	.42728	.43282	.870	.43366	2.537		
C520 NITROBENZENE-d5	.43421	.41447	.42240	.42065	.43599	.866	.42554	2.169		
C460 HEXACHLOROBUTADIENE	.26570	.24207	.20780	.18892	.17055	1.039	.21501	18.030	*	
5 2,4,6-TRIBROMOPHENOL	.31739	.29989	.29616	.29468	.28703	1.117	.29903	3.771		
C525 2-FLUOROBIPHENYL	1.42846	1.25372	1.14628	1.07248	1.00615	.901	1.18142	14.042		
C515 2,4,6-TRICHLOROPHENOL	.50124	.47984	.45034	.46134	.47276	.891	.47311	4.085	*	
C520 2,4,5-TRICHLOROPHENOL	.55523	.52090	.47910	.46534	.43844	.898	.49180	9.417		
C570 2,4-DINITROTOLUENE	.57908	.56446	.56428	.57940	.58034	1.034	.57352	1.457		
C630 HEXACHLOROBENZENE	.41453	.37317	.34107	.31286	.29980	.964	.34829	13.364		
C635 PENTACHLOROPHENOL	.21151	.23728	.24664	.24410	.24560	.985	.23706	6.224	*	
C530 TERPHENYL-d14	1.05708	1.07111	1.09911	1.20652	1.28100	.900	1.14336	8.503		

RF - Response Factor (Subscript is amount in ug/mL)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

.sD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/05/95

Contractor: RESAN PACE, INC. Time: 12:51

Contract No: Laboratory ID: >F2709

Instrument ID: FM5-HP Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % Diff for CCC is 20%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C310 N-NITROSODIMETHYLAMINE	.96863	.96102	.78		
C550 2-FLUOROPHENOL	1.41792	1.38163	2.56		
C545 PHENOL-d5	1.54687	1.73002	11.84		
C570 2-CHLOROPHENOL-d4	1.36769	1.43033	4.58		
C575 1,2-DICHLOROBENZENE-d4	.75768	.82884	9.39		
C315 PHENOL	1.72949	1.97731	14.33	*	
C320 ANILINE	1.24738	1.49915	20.18		
C325 BIS(2-CHLOROETHYL)ETHER	1.77684	1.74487	1.80		
C330 2-CHLOROPHENOL	1.36857	1.45256	6.14		
C335 1,3-DICHLOROBENZENE	1.57248	1.58147	.57		
C340 1,4-DICHLOROBENZENE	1.42696	1.49996	5.12	*	
C345 BENZYL ALCOHOL	.74671	.85116	13.99		
C350 1,2-DICHLOROBENZENE	1.27164	1.38941	9.26		
C355 2-METHYLPHENOL	1.10151	1.21540	10.34		
C360 BIS(2-CHLOROISOPROPYL)ETH	2.12632	2.23867	5.28		
C365 4-METHYLPHENOL	1.16537	1.26569	8.61		
C370 N-NITROSO-DI-N-PROPYLAMIN	.98767	1.01454	2.72		**
C375 HEXACHLOROETHANE	.63809	.72307	13.32		
C410 NITROBENZENE	.43366	.48283	11.34		
C415 ISOPHORONE	.94539	.99207	4.94		
C520 NITROBENZENE-d5	.42554	.47075	10.62		
C420 2-NITROPHENOL	.25197	.25950	2.99	*	
C425 2,4-DIMETHYLPHENOL	.38779	.41067	5.90		
C430 BENZOIC ACID	.17730	.14666	17.28		
C435 BIS(2-CHLOROETHOXY)METHAN	.53980	.56985	5.61		
C440 2,4-DICHLOROPHENOL	.32720	.34251	4.68	*	
C445 1,2,4-TRICHLOROBENZENE	.36421	.36683	.72		
C450 NAPHTHALENE	.95398	1.03685	8.69		
C455 4-CHLOROANILINE	.43235	.43821	1.36		
C460 HEXACHLOROBUTADIENE	.21501	.21967	2.17	*	
C465 4-CHLORO-3-METHYLPHENOL	.36180	.39491	9.15	*	
C470 2-METHYLNAPHTHALENE	.61488	.66175	7.62		

RF - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/05/95

Contractor: RESEARCH TRIANGLE, INC. Time: 12:51

Contract No: Laboratory ID: >FZ709

Instrument ID: FM5-HP Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % Diff for CCC is 20%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C555 2,4,6-TRIBROMOPHENOL	.29905	.26167	12.50		
C525 2-FLUOROBIPHENYL	1.18142	1.21982	3.25		
C510 HEXACHLOROCYCLOPENTADIENE	.31434	.26647	15.23		**
C515 2,4,6-TRICHLOROPHENOL	.47311	.46215	2.32	*	
C520 2,4,5-TRICHLOROPHENOL	.49408	.48570	1.70		
C525 2-CHLORONAPHTHALENE	1.13012	1.16274	2.89		
C530 2-NITROANILINE	.54131	.60333	11.46		
C535 DIMETHYLPHTHALATE	1.59809	1.55532	2.68		
C540 ACENAPHTHYLENE	1.63291	1.77650	8.79		
C545 3-NITROANILINE	.41668	.43586	4.61		
C550 ACENAPHTHENE	1.05788	1.12518	6.36	*	
C555 2,4-DINITROPHENOL	.20552	.24107	17.30		**
C560 4-NITROPHENOL	.20525	.20709	1.05		**
C565 DIBENZOFURAN	1.54786	1.60302	3.56		
C570 2,6-DINITROTOLUENE	.34016	.37095	8.89		
C575 2,4-DINITROTOLUENE	.37352	.37739	.67		
C580 DIETHYLPHTHALATE	1.59211	1.62764	2.11		
C585 4-CHLOROPHENYL-PHENYLETHE	.52091	.57629	10.63		
C590 FLUORENE	1.09352	1.15045	9.20		
C595 4-NITROANILINE	.44148	.44366	.49		
C610 4,6-DINITRO-2-METHYLPHENO	.18622	.21362	14.72		
C615 N-NITROSODIPHENYLAMINE	.45060	.55608	19.71	*	
C620 AZOBENZENE	.20756	.19699	6.00		
C625 4-BROMOPHENYL-PHENYLETHER	.22804	.22902	1.77		
C630 HEXACHLOROBENZENE	.34829	.33977	2.45		
C635 PENTACHLOROPHENOL	.25706	.19707	16.87	*	
C640 PHENANTHRENE	1.04986	1.12864	7.50		
C645 ANTHRACENE	1.02536	1.13340	10.54		
C650 DI-N-BUTYLPHTHALATE	1.57983	1.77947	12.64		
C655 FLUORANTHENE	1.23398	1.30278	5.58	*	
C660 BENZIDINE	.09544	.04797	49.74		
C830 TERPHENYL-d14	1.14336	1.00507	12.10		

RF - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/05/95

Contractor: RESAN PACE, INC. Time: 12:51

Contract No: Laboratory ID: >F2709

Instrument ID: FMS-HP Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % Diff for CCC is 20%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C715 PYRENE	1.83252	1.66128	9.34		
C720 BUTYLBENZYLPHTHALATE	1.19309	1.12947	5.33		
C725 3,3'-DICHLOROBENZIDINE	.66704	.61847	7.28		
C730 BENZO(A)ANTHRACENE	1.39789	1.48573	6.14		
C745 BIS(2-ETHYLHEXYL)PHTHALAT	1.06421	1.16292	9.27		
C740 CHRYSENE	1.43904	1.27547	11.37		
C760 DI-N-OCTYLPHTHALATE	1.71485	2.09180	21.98	*	
C765 BENZO(B)FLUORANTHENE	1.21029	1.27456	5.31		
C770 BENZO(K)FLUORANTHENE	.86488	.96862	11.99		
C775 BENZO(A)PYRENE	1.01861	1.05909	3.97	*	
C780 INDENO(1,2,3-CD)PYRENE	1.24358	1.27531	2.55		
C785 DIBENZ(A,H)ANTHRACENE	1.02429	1.02522	.09		
C790 BENZO(G,H,I)PERYLENE	1.06272	1.07585	1.23		

RF - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/05/95

Contractor: RESRA Time: 12:51

Contract No: Laboratory ID: >F2709

Instrument ID: FM5-HP Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is .05 Maximum % Diff for CCC is 20%

	Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C300	PYRIDINE	1.42242	1.57855	10.96		
C313	2-FLUOROPHENOL	1.41792	1.39165	2.56		
C346	PHENOL-d5	1.54687	1.73091	11.84		
C355	2-CHLOROPHENOL-d4	1.56769	1.45033	4.58		
C364	1,2-DICHLOROBENZENE-d4	.75768	.82384	9.39		
C367	1,4-DICHLOROBENZENE	1.42696	1.49996	5.12	*	
C375	2-METHYLPHENOL	1.10151	1.21740	10.34		
C387	3,4-METHYLPHENOLS	1.16597	1.26369	8.61		
C393	HEXACHLOROETHANE	.63809	.72307	13.32		
C410	NITROBENZENE	.45566	.48263	11.34		
C420	NITROBENZENE-d5	.42554	.47075	10.62		
C433	HEXACHLOROBUTADIENE	.21501	.21967	2.17	*	
C455	2,4,6-TRICHLOROPHENOL	.29903	.26167	12.50		
C457	2-FLUOROBIPHENYL	1.16142	1.21962	5.25		
C467	2,4,6-TRICHLOROPHENOL	.47511	.46215	2.32	*	
C510	2,4,5-TRICHLOROPHENOL	.49183	.48570	1.24		
C520	2,4-DINITROTOLUENE	.57752	.57755	.67		
C530	PENTACHLOROBENZENE	.34829	.33977	2.45		
C533	PENTACHLOROPHENOL	.23706	.19707	16.87	*	
C537	TERPHENYL-d14	1.14736	1.00507	12.40		

RF - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/09/95

Contractor: RESAN PACE, INC. Time: 10:01

Contract No: Laboratory ID: >F2729

Instrument ID: FMS-HP Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % Diff for CCC is 20%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C310 N-NITROSODIMETHYLAMINE	.96863	.86538	10.66		
CS50 2-FLUOROPHENOL	1.41792	1.33039	6.17		
CS45 PHENOL-d5	1.54687	1.61858	4.64		
CS70 2-CHLOROPHENOL-d4	1.36769	1.42636	4.29		
CS75 1,2-DICHLOROBENZENE-d4	.75768	.84352	11.33		
C315 PHENOL	1.72949	1.89128	9.35	*	
C320 ANILINE	1.24738	1.44202	15.60		
C325 BIS(2-CHLOROETHYL)ETHER	1.77684	1.63655	7.90		
C330 2-CHLOROPHENOL	1.36857	1.39455	1.90		
C335 1,3-DICHLOROBENZENE	1.57248	1.60423	2.02		
C340 1,4-DICHLOROBENZENE	1.42696	1.50224	5.28	*	
C345 BENZYL ALCOHOL	.74671	.80057	7.21		
C350 1,2-DICHLOROBENZENE	1.27164	1.44876	13.93		
C355 2-METHYLPHENOL	1.10151	1.14603	4.04		
C360 BIS(2-CHLOROISOPROPYL)ETH	2.12632	2.08419	1.98		
C365 4-METHYLPHENOL	1.16537	1.19165	2.25		
C370 N-NITROSO-DI-N-PROPYLAMIN	.98767	.94548	4.27		**
C375 HEXACHLOROETHANE	.63809	.71061	11.37		
C410 NITROBENZENE	.43366	.45074	3.94		
C415 ISOPHORONE	.94539	.94033	.54		
CS20 NITROBENZENE-d5	.42554	.43356	1.88		
C420 2-NITROPHENOL	.25197	.25647	1.79	*	
C425 2,4-DIMETHYLPHENOL	.38779	.38947	.43		
C430 BENZOIC ACID	.17730	.15144	14.58		
C435 BIS(2-CHLOROETHOXY)METHAN	.53960	.54771	1.50		
C440 2,4-DICHLOROPHENOL	.32720	.33701	3.00	*	
C445 1,2,4-TRICHLOROBENZENE	.36421	.38131	4.69		
C450 NAPHTHALENE	.95398	1.01461	6.36		
C455 4-CHLOROANILINE	.43235	.41979	2.91		
C460 HEXACHLOROBUTADIENE	.21501	.22311	3.77	*	
C465 4-CHLORO-3-METHYLPHENOL	.36180	.37633	4.02	*	
C470 2-METHYLNAPHTHALENE	.61488	.65773	6.97		

RF - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/09/95

Contractor: RESAN PACE, INC. Time: 10:01

Contract No: Laboratory ID: >F2729

Instrument ID: FMS-HP Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % Diff for CCC is 20%

	Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C555	2,4,6-TRIBROMOPHENOL	.29903	.25998	13.06		
C525	2-FLUOROBIPHENYL	1.18142	1.24577	5.45		
C510	HEXACHLOROCYCLOPENTADIENE	.31434	.33978	8.09		**
C515	2,4,6-TRICHLOROPHENOL	.47311	.46792	1.10	*	
C520	2,4,5-TRICHLOROPHENOL	.49408	.49922	1.04		
C525	2-CHLORONAPHTHALENE	1.13012	1.15197	1.93		
C530	2-NITROANILINE	.54131	.53642	.90		
C535	DIMETHYLPHTHALATE	1.59809	1.53389	4.02		
C540	ACENAPHTHYLENE	1.63291	1.80010	10.24		
C545	3-NITROANILINE	.41668	.40026	3.94		
C550	ACENAPHTHENE	1.05786	1.09996	3.98	*	
C555	2,4-DINITROPHENOL	.26352	.21550	18.22		**
C560	4-NITROPHENOL	.20525	.19078	7.05		**
C565	DIBENZOFURAN	1.54786	1.63362	5.54		
C543	2,6-DINITROTOLUENE	.34616	.38664	11.70		
C570	2,4-DINITROTOLUENE	.57352	.56368	1.71		
C580	DIETHYLPHTHALATE	1.59211	1.59079	.08		
C585	4-CHLOROPHENYL-PHENYLETHE	.52091	.59094	13.44		
C590	FLUORENE	1.05352	1.15398	9.54		
C595	4-NITROANILINE	.44148	.38266	13.32		
C610	4,6-DINITRO-2-METHYLPHENO	.18622	.22496	20.80		
C615	N-NITROSODIPHENYLAMINE	.48060	.56748	18.08	*	
C620	AZOBENZENE	.20956	.18483	11.80		
C625	4-BROMOPHENYL-PHENYLETHER	.22504	.24523	8.97		
C630	HEXACHLOROBENZENE	.34829	.34960	.38		
C635	PENTACHLOROPHENOL	.23706	.22315	5.88	*	
C640	PHENANTHRENE	1.04986	1.17112	11.55		
C645	ANTHRACENE	1.02536	1.10780	8.04		
C650	DI-N-BUTYLPHTHALATE	1.57983	1.75202	10.90		
C655	FLUORANTHENE	1.23398	1.30443	5.71	*	
C660	BENZIDINE	.09544	.02913	69.48		
CS30	TERPHENYL-d14	1.14336	1.01839	10.93		

RF - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No:
Calibration Date: 10/09/95
Contractor: RESAN PACE, INC.
Time: 10:01
Contract No:
Laboratory ID: >F2729
Instrument ID: FMS-HP
Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % Diff for CCC is 20%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C715 PYRENE	1.83252	1.58581	13.46		
C720 BUTYLBENZYLPHTHALATE	1.19309	1.05293	11.75		
C725 3,3'-DICHLOROBENZIDINE	.66704	.49738	25.44		
C730 BENZO(A)ANTHRACENE	1.39789	1.35984	2.72		
C745 BIS(2-ETHYLHEXYL)PHTHALAT	1.06421	1.06355	.06		
C740 CHRYSENE	1.43904	1.18352	17.76		
C760 DI-N-OCTYLPHTHALATE	1.71485	2.15587	25.72	*	
C765 BENZO(B)FLUORANTHENE	1.21029	1.15205	4.81		
C770 BENZO(K)FLUORANTHENE	.86488	1.21393	40.36		
C775 BENZO(A)PYRENE	1.01861	1.08614	6.63	*	
C780 INDENO(1,2,3-CD)PYRENE	1.24358	1.10700	10.98		
C785 DIBENZ(A,H)ANTHRACENE	1.02429	.87684	14.40		
C790 BENZO(G,H,I)PERYLENE	1.06272	.93647	11.88		

RF - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/09/95

Contractor: RESAN Time: 10:01

Contract No: Laboratory ID: >F2729

Instrument ID: FMS-HP Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is .05 Maximum % Diff for CCC is 20%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C300 PYRIDINE	1.42242	1.39341	2.04		
C550 2-FLUOROPHENOL	1.41792	1.33039	6.17		
C545 PHENOL-d5	1.54687	1.61858	4.64		
C535 2-CHLOROPHENOL-d4	1.36769	1.42636	4.29		
C540 1,2-DICHLOROBENZENE-d4	.75768	.84352	11.33		
C340 1,4-DICHLOROBENZENE	1.42696	1.50224	5.28	*	
C355 2-METHYLPHENOL	1.10151	1.14603	4.04		
C367 3,4-METHYLPHENOLS	1.16537	1.19165	2.25		
C375 HEXACHLOROETHANE	.63809	.71061	11.37		
C410 NITROBENZENE	.43366	.45074	3.94		
C520 NITROBENZENE-d5	.42554	.43356	1.88		
C460 HEXACHLOROBUTADIENE	.21501	.22311	3.77	*	
C555 2,4,6-TRIBROMOPHENOL	.29903	.25998	13.06		
C525 2-FLUOROBIPHENYL	1.18142	1.24577	5.45		
C515 2,4,6-TRICHLOROPHENOL	.47311	.46792	1.10	*	
C520 2,4,5-TRICHLOROPHENOL	.49180	.47922	1.51		
C570 2,4-DINITROTOLUENE	.57352	.56368	1.71		
C630 HEXACHLOROBENZENE	.34829	.34960	.38		
C635 PENTACHLOROPHENOL	.23706	.22313	5.88	*	
C550 TERPHENYL-d14	1.14336	1.01839	10.93		

RF - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/10/95

Contractor: RESAN PACE, INC. Time: 10:56

Contract No: Laboratory ID: >F2743

Instrument ID: FMS-HP Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % Diff for CCC is 20%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C310 N-NITROSODIMETHYLAMINE	.96863	.78715	18.74		
CS50 2-FLUOROPHENOL	1.41792	1.21988	13.97		
CS45 PHENOL-d5	1.54687	1.56617	1.25		
CS70 2-CHLOROPHENOL-d4	1.36769	1.35460	.96		
CS75 1,2-DICHLOROBENZENE-d4	.75768	.82090	8.34		
C315 PHENOL	1.72949	1.80025	4.09	*	
C320 ANILINE	1.24738	1.37510	10.24		
C325 BIS(2-CHLOROETHYL)ETHER	1.77684	1.52327	14.27		
C330 2-CHLOROPHENOL	1.36857	1.33088	2.75		
C335 1,3-DICHLOROBENZENE	1.57248	1.50044	4.58		
C340 1,4-DICHLOROBENZENE	1.42696	1.47249	3.19	*	
C345 BENZYL ALCOHOL	.74671	.73532	1.53		
C350 1,2-DICHLOROBENZENE	1.27164	1.39733	9.88		
C355 2-METHYLPHENOL	1.10151	1.06473	3.34		
C360 BIS(2-CHLOROISOPROPYL)ETH	2.12632	1.77081	16.72		
C365 4-METHYLPHENOL	1.16537	1.14573	1.69		
C370 N-NITROSO-DI-N-PROPYLAMIN	.98767	.90017	8.86		**
C375 HEXACHLOROETHANE	.63809	.70910	11.13		
C410 NITROBENZENE	.43366	.45536	5.00		
C415 ISOPHORONE	.94539	.91528	3.19		
CS20 NITROBENZENE-d5	.42554	.44477	4.52		
C420 2-NITROPHENOL	.25197	.23977	4.84	*	
C425 2,4-DIMETHYLPHENOL	.38779	.38715	.16		
C430 BENZOIC ACID	.17730	.14164	20.11		
C435 BIS(2-CHLOROETHOXY)METHAN	.53960	.53064	1.66		
C440 2,4-DICHLOROPHENOL	.32720	.32204	1.58	*	
C445 1,2,4-TRICHLOROBENZENE	.36421	.36558	.38		
C450 NAPHTHALENE	.95398	.98428	3.18		
C455 4-CHLOROANILINE	.43235	.39445	8.77		
C460 HEXACHLOROBUTADIENE	.21501	.22334	3.88	*	
C465 4-CHLORO-3-METHYLPHENOL	.36180	.36703	1.45	*	
C470 2-METHYLNAPHTHALENE	.61488	.64113	4.27		

RF - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/10/95

Contractor: RESAN PACE, INC. Time: 10:56

Contract No: Laboratory ID: >FZ743

Instrument ID: FMS-HP Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % Diff for CCC is 20%

	Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C555	2,4,6-TRIBROMOPHENOL	.29903	.25076	16.14		
C525	2-FLUOROBIPHENYL	1.18142	1.26552	7.12		
C510	HEXACHLOROCYCLOPENTADIENE	.31454	.32255	2.61		**
C515	2,4,6-TRICHLOROPHENOL	.47311	.44216	6.54	*	
C520	2,4,5-TRICHLOROPHENOL	.49408	.44949	9.03		
C525	2-CHLORONAPHTHALENE	1.13012	1.15783	2.46		
C530	2-NITROANILINE	.54131	.51374	5.09		
C535	DIMETHYLPHTHALATE	1.59809	1.52037	4.86		
C540	ACENAPHTHYLENE	1.63291	1.76559	8.13		
C545	3-NITROANILINE	.41668	.36784	11.72		
C550	ACENAPHTHENE	1.05706	1.08339	2.41	*	
C555	2,4-DINITROPHENOL	.26352	.21435	18.66		**
C560	4-NITROPHENOL	.20525	.20296	1.11		**
C565	DIBENZOFURAN	1.54786	1.59271	2.90		
C543	2,6-DINITROTOLUENE	.34616	.37558	8.50		
C570	2,4-DINITROTOLUENE	.57352	.53179	7.28		
C530	DIETHYLPHTHALATE	1.59211	1.59214	.00		
C585	4-CHLOROPHENYL-PHENYLETHE	.52091	.58042	11.42		
C590	FLUORENE	1.05352	1.15829	9.94		
C595	4-NITROANILINE	.44148	.35332	19.97		
C610	4,6-DINITRO-2-METHYLPHENO	.18622	.21977	18.02		
C615	N-NITROSODIPHENYLAMINE	.48000	.54684	13.78	*	
C620	AZOBENZENE	.20956	.18006	14.08		
C625	4-BROMOPHENYL-PHENYLETHER	.22504	.24063	6.93		
C630	HEXACHLOROBENZENE	.34829	.34434	1.13		
C635	PENTACHLOROPHENOL	.23706	.20277	14.47	*	
C640	PHENANTHRENE	1.04986	1.14879	9.42		
C645	ANTHRACENE	1.02536	1.10368	7.64		
C650	DI-N-BUTYLPHTHALATE	1.57983	1.72037	8.90		
C655	FLUORANTHENE	1.23398	1.28473	4.11	*	
C660	BENZIDINE	.09544	.02462	74.21		
C550	TERPHENYL-d14	1.14336	.97900	14.38		

RF - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: | Calibration Date: 10/10/95

Contractor: RESAN PACE, INC. | Time: 10:56

Contract No: | Laboratory ID: >F2743

Instrument ID: FMS-HP | Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % Diff for CCC is 20%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C715 PYRENE	1.83252	1.56295	14.71		
C720 BUTYLBENZYLPHTHALATE	1.19309	1.00846	15.48		
C725 3,3'-DICHLOROBENZIDINE	.66704	.49385	25.96		
C730 BENZO(A)ANTHRACENE	1.39789	1.33417	4.56		
C745 BIS(2-ETHYLHEXYL)PHTHALAT	1.06421	1.09730	3.11		
C740 CHRYSENE	1.43904	1.17484	18.36		
C760 DI-N-OCTYLPHTHALATE	1.71485	2.10773	22.91	*	
C765 BENZO(B)FLUORANTHENE	1.21029	1.29562	7.05		
C770 BENZO(K)FLUORANTHENE	.86488	1.02800	18.86		
C775 BENZO(A)PYRENE	1.01861	1.08369	6.39	*	
C780 INDENO(1,2,3-CD)PYRENE	1.24358	1.12797	9.30		
C785 DIBENZ(A,H)ANTHRACENE	1.02429	.90436	11.71		
C790 BENZO(G,H,I)PERYLENE	1.06272	.93197	12.30		

RF - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/10/95

Contractor: RESAN Time: 10:56

Contract No: Laboratory ID: >F2743

Instrument ID: FMS-HP Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is .05 Maximum % Diff for CCC is 20%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C300 PYRIDINE	1.42242	1.25351	11.87		
C550 2-FLUOROPHENOL	1.41792	1.21988	13.97		
C545 PHENOL-d5	1.54687	1.56617	1.25		
C535 2-CHLOROPHENOL-d4	1.36769	1.35460	.96		
C540 1,2-DICHLOROBENZENE-d4	.75768	.82090	8.34		
C340 1,4-DICHLOROBENZENE	1.42696	1.47249	3.19	*	
C355 2-METHYLPHENOL	1.10151	1.06473	3.34		
C367 3,4-METHYLPHENOLS	1.16537	1.14573	1.69		
C375 HEXACHLOROETHANE	.63809	.70910	11.13		
C410 NITROBENZENE	.43366	.45536	5.00		
C520 NITROBENZENE-d5	.42554	.44477	4.52		
C460 HEXACHLOROBUTADIENE	.21501	.22334	3.88	*	
C555 2,4,6-TRIBROMOPHENOL	.29903	.25076	16.14		
C525 2-FLUOROBIPHENYL	1.18142	1.26552	7.12		
C515 2,4,6-TRICHLOROPHENOL	.47311	.44216	6.54	*	
C520 2,4,5-TRICHLOROPHENOL	.49180	.44949	8.60		
C570 2,4-DINITROTOLUENE	.57352	.53179	7.28		
C630 HEXACHLOROBENZENE	.34829	.34434	1.13		
C635 PENTACHLOROPHENOL	.23706	.20277	14.47	*	
C530 TERPHENYL-d14	1.14336	.97900	14.38		

RF - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN31

Lab File ID (Standard): >F2709 Date Analyzed: 10/05/95

Instrument ID: FMS Time Analyzed: 12:51

	IS1(DCB)		IS2(NPT)		IS3(ANT)		IS4(PHN)		IS5(CRY)		IS6(PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	26550	6.62	92373	8.75	51834	11.81	83099	14.37	65249	19.05	89572	22.54
UPPER LIMIT	53100	7.12	184746	9.25	103668	12.31	166198	14.87	130498	19.55	179144	23.04
LOWER LIMIT	13275	6.12	46187	8.25	25917	11.31	41550	13.87	32625	18.55	44786	22.04
CLIENT I.D.												
90001-282	24562	6.62	82033	8.74	44359	11.79	68254	14.37	63579	19.03	63167	22.50

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10
IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag internal standard area values outside of UPPER and LOWER LIMIT with an asterisk

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8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN31

Lab File ID (Standard): >F2729 Date Analyzed: 10/09/95

Instrument ID: FMS Time Analyzed: 10:01

	IS1(DCB)		IS2(NPT)		IS3(ANT)		IS4(PHN)		IS5(CRY)		IS6(PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	25147	6.61	87476	8.74	49774	11.80	77223	14.37	63081	19.05	72320	22.52
UPPER LIMIT	50294	7.11	174952	9.24	99548	12.30	154446	14.87	126162	19.55	144640	23.02
LOWER LIMIT	12574	6.11	43738	8.24	24887	11.30	38612	13.87	31541	18.55	36160	22.02
CLIENT I.D.												
BA2482	25075	6.61	84078	8.73	46678	11.79	73344	14.37	65687	19.03	64358	22.51
LSA2482	22885	6.62	82728	8.73	47540	11.80	72335	14.37	66152	19.03	64245	22.50
CLJ44-CU-076	24475	6.62	81270	8.73	45108	11.79	72182	14.36	62569	19.03	59281	22.50
CLJ44-CU-077	22770	6.61	75821	8.73	42069	11.79	66977	14.36	57311	19.03	52920	22.50
CLJ44-CC-079	22813	6.61	77227	8.73	42708	11.79	66732	14.36	56235	19.03	56445	22.49

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10
IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag internal standard area values outside of UPPER and LOWER LIMIT with an asterisk

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN31

Lab File ID (Standard): >F2743 Date Analyzed: 10/10/95

Instrument ID: FMS Time Analyzed: 10:56

	IS1(DCB)		IS2(NPT)		IS3(ANT)		IS4(PHN)		IS5(CRY)		IS6(PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	19863	6.61	69052	8.74	39282	11.80	60837	14.37	50658	19.05	57790	22.51
UPPER LIMIT	39726	7.11	138104	9.24	78564	12.30	121674	14.87	101316	19.55	115580	23.01
LOWER LIMIT	9932	6.11	34526	8.24	19641	11.30	30419	13.87	25329	18.55	28895	22.01
CLIENT I.D.												
CLJ44-CC-081-RB	22585	6.61	74772	8.73	41690	11.80	65988	14.36	56456	19.04	54056	22.51
BA2488	19584	6.61	65890	8.72	36389	11.79	57229	14.35	48745	19.02	48709	22.48
LSA2488	18485	6.61	65813	8.73	36271	11.79	56265	14.37	48711	19.03	47461	22.49

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10
IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag internal standard area values outside of UPPER and LOWER LIMIT with an asterisk

PACE New England — **GCMS Semi Volatiles** — **RUN LOG**

Voltage 1500 | Tune Meth MSFDFT | Initial Cal 10/2/95 | Date 10/2/95
Threshold 30 | Sample Meth MSFFST | Batch File Fac#2A, B, C | Analyst MT
uASOP 5200 | Volume Inj 1ul | Int Std A-1482 | Instr F **MS-HP**

Maintenance: Septum ✓ Liner ✓ Inlet Disk ✓ Column Clip ✓ Other

Btl #	File #	Sample	Matrix	ID File	Dil	SDG	Comments	MI	A	R	Arcv	P
	>F2644	DFTPP50	A-1213				m/e198=17K inj 1011 scan 93+94		✓	✓	A1/3??	
	46	ABN STD50	A-1488	IFac#2			SSTD050	✓✓	✓	✓		
	47	160	A-1485				SSTD160		✓	✓		
	48	120	A-1486				SSTD120		✓	✓		
	49	80	A-1487				SSTD080		✓	✓		
	50	20	A-1489	↓			SSTD020	✓	✓	✓		
	51	45461-1	ABNL	IFT##2	1/1				✓	✓		
	52	-2							✓	✓		1
	53	-3		↓					✓	✓		
	54	BA2467		IF1002		LN22			✓	✓		
	55	LSA2467					no surrs!		✓	✓		
	56	BA2468					phth 3ppb		✓	✓		
	57	LSA2468		↓					✓	✓		
	58	45514-10		IFT##2					✓	✓		
	59	-18							✓	✓		
	60	-12							✓	✓		
	61	-13							✓	✓		
	62	-14				↓			✓	✓		
	63	4546--7					Acsurr's fail - REX					
	64	-18	↓	↓	↓		Acsurr's low, but passing		✓	✓		
							TCLP spkcal - CFTCLP/IFTCLP (IF---files)					
				10/3/95			CFNA } - PAHcmpds - IFNA } use A files					

PACE New England

GCMS Semi Volatiles
RUN LOG

Voltage 1500 | Tune Meth MSFDFT | Initial Cal 10/2/95 | Date 10/5/95
Threshold 30 | Sample Meth MSFEST | Batch File FOC045A | Analyst NT
OASOP 5200 | Volume Inj 1ul | Int Std A-1490 | Instr F MS-HP

Maintenance: Septum ✓ Liner ✓ Inlet Disk ✓ Column Clip ✓ Other

Btl #	File #	Sample	Matrix	ID File	Dil	SDG	Comments	MI	A	R	Arcv	P
✓	>F2707	DFTPP 50	A-1213				m/e 198 = 15K inj 1234 scan 85+86+87		✓	✓	A1/329	
✓	09	ABN STD 50	A-1488	IF0402 IFTCLP			compliant 8270	✓NS	✓	✓		
✓	10	BA2473	ABNL	IF1005	1/1	Rust			✓	✓		
✓	11	LSA2473		↓	↓				✓	✓		
	12	45461-7RE		IFT005	↓				✓	✓		
	13	-9		↓	1/5	↓			✓	✓		
✓	14	BA2478		IF1005	1/1	LIN27			✓	✓		
✓	15	LSA2478		↓	↓	↓			✓	✓		
	16	45563-9		IFT005	↓	↓			✓	✓		
	17	-10		↓	↓	↓			✓	✓		
	18	-11		↓	↓	↓			✓	✓		
	19	-12		↓	↓	↓			✓	✓		
	20	-13		↓	↓	↓			✓	✓		
✓	21	90001-282		↓	↓	↓			✓	✓		
	22	45547-2	↓	IF1005	1/5				✓	✓		
	23	MeCl2 check	BK880	↓	1/1	↓			✓	✓		
	24	MeCl2 check	BK873	↓	↓	↓			✓	✓		
	25	surr. check	E-1419	↓	↓	↓			✓	✓		
10/6/95 NT	26	surr. check	E-1419	↓	↓	↓			✓	✓		

10/6/95

PACE New England

GCMS Semi Volatiles
RUN LOG

0000016

Voltage 1500 Tune Meth MSFDFT Initial Cal 10/2/95 Date 10/9/95
Threshold 30 Sample Meth MSFFST Batch File Fxc09A Analyst LK
QASOP 5200 Volume Inj 1ul Int Std A-1490 Instr F MS-HP

Maintenance: Septum _____ Liner _____ Inlet Disk _____ Column Clip _____ Other none

Bd #	File #	Sample	Matrix	ID File	Dil	SDG	Comments	MI	A	R	Arcv	P
	7F2727	DFTPP 50	A-1213				m/e 198 = 15K inj 0943		✓	✓	A1/351	
/	7F2709	DFTPP 50	A-1213	—	—		scan 2415+2861 ref					
/	29	ABN STD 50	A-1488	IFxx12 IFTCLP			compliant 8270		✓	✓		
/	30	BA2482	ABNL	IF1009	1/1				✓	✓		
/	31	LSA2482		↓					✓	✓		
	32	45563-19		IFTxxL		LJN27	all BS surr's low = REX					
	33	45590-3				LJN29			✓	✓		
	34	45594-7				LJN31			✓	✓		
	35	-8				↓			✓	✓		
	36	-9							✓	✓		
	37	45576-1		↓	↓	Pure ME			✓	✓		
	38	45544-3		IF1009	1/50				✓	✓		
	39	BA2483			1/1				✓	✓		
	40	LSA2483	↓	↓	↓				✓	✓		

10/9/95

PACE New England

GCMS Semi Volatiles
RUN LOG

Voltage 1500 | Tune Meth MSFNFT | Initial Cal 10/2/95 | Date 10/10/95
Threshold 30 | Sample Meth MSFFST | Batch File Fox.10A | Analyst MA
OASOP 5200 | Volume Inj 1ul | Int Std A-1490 | Instr F MS-HP

Maintenance: Septum _____ Liner _____ Inlet Disk _____ Column Clip _____ Other none

Btl #	File #	Sample	Matrix	ID File	Dil	BDG	Comments	MI	A	R	Arcv	P
✓	7F2741	DFTPP50	A-1213				m/e 198 E 111C inj 1040 scan 85		✓	✓	11/3/95	
✓	43	ABN STD50	A-1192	1Fox#2 1F12LP			compliant 8270	MI	✓	✓		
	44	45594-12	ABNL	1FT0007	1/1	L1N31			✓	✓		
	45	45563-19RE	↓	↓	↓	L5N27			✓	✓		
✓	46	BA2488		1F1010					✓	✓		
✓	47	LSA2488		↓					✓	✓		
	48	45576-1MS		1FT0007					✓	✓		
	49	-1MSD	↓	↓					✓	✓		
✓	50	BA2484	ABNsoil	1F1010					✓	✓		
✓	51	BA2485	ABNL						✓	✓		
✓	52	LSA2485			↓				✓	✓		
	53	45602-4			1/5				✓	✓		
	54	45586-2			1/5				✓	✓		
	55	45627-3			1/5				✓	✓		
	56	45601-2	ABNsoil		1/10				✓	✓		

10/10/95

Laboratory number: 45594-010
Sample Designation: CLJ44-CC-079
Date Extracted: 10/09/95
Date Analyzed: 10/09/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis.
Moisture content was 12 % , elevating the reporting limits
by a factor of 1.13 .

PCB'S	CONCENTRATION (ug/g)	REPORTING LIMIT (ug/g)
PCB-1242 (Arochlor 1242)	BDL	0.1
PCB-1254 (Arochlor 1254)	BDL	0.1
PCB-1221 (Arochlor 1221)	BDL	0.1
PCB-1232 (Arochlor 1232)	BDL	0.1
PCB-1248 (Arochlor 1248)	BDL	0.1
PCB-1260 (Arochlor 1260)	BDL	0.1
PCB-1016 (Arochlor 1016)	BDL	0.1

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHODS 3550 AND 8080

BDL = Below reporting limit

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SOIL PESTICIDE SURROGATE RECOVERY

Client: OHM REMEDIATION SERVICES CORP. Lab No.: 45594
Project: CAMP GEIGER/LJN31
Level: Soil

CLIENT SAMPLE NO.	S1 (TCX) #	S2 (DCB) #	OTHER	TOT OUT
CLJ44-CC-079	78	88		0
BP4503	97	91		0
LSP4503MS	105	95		0

	QC LIMITS
S1 (TCX) = Tetrachloro-m-xylene	20 - 150
S2 (DCB) = Decachlorobiphenyl	20 - 150

Column to be used to flag recovery values with an asterisk
* Values outside of designated QC limits
D Surrogates diluted out

Laboratory number: BP4503
Sample Designation: LAB BLANK
Date Extracted: 10/09/95
Date Analyzed: 10/09/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis.

PCB'S	CONCENTRATION (ug/g)	REPORTING LIMIT (ug/g)
PCB-1242 (Arochlor 1242)	BDL	0.1
PCB-1254 (Arochlor 1254)	BDL	0.1
PCB-1221 (Arochlor 1221)	BDL	0.1
PCB-1232 (Arochlor 1232)	BDL	0.1
PCB-1248 (Arochlor 1248)	BDL	0.1
PCB-1260 (Arochlor 1260)	BDL	0.1
PCB-1016 (Arochlor 1016)	BDL	0.1

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHODS 3550 AND 8080

BDL = Below reporting limit

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PCB'S

MATRIX SPIKE RECOVERY

Laboratory Number: LS-P4503
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/09/95
Matrix: SOLID

COMPOUND	ug/g IN SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
AR-1254	0	1.01	0.93	92

METHOD REFERENCE: EPA SW846, 3RD EDITION
METHODS 3550 AND 8080

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PACE, Incorporated

INITIAL CALIBRATION SUMMARY

for /DATA/GC01/METHOD/PCB1254063.MTH
Method created: 10/09/95 08:51:22
Method updated: 10/09/95 12:18:01

Result files used for Calibration data:
Level 1 /DATA/GC01/RESULT/G1W19063.RES
Level 2 /DATA/GC01/RESULT/G1W19064.RES
Level 3 /DATA/GC01/RESULT/G1W19065.RES
Level 4 /DATA/GC01/RESULT/G1W19066.RES
Level 5 /DATA/GC01/RESULT/G1W19067.RES

#	Time	Analyte	Correlation	B_0 Intercept	B1 Slope	B2 Quadratic
1	6.22	TCX	.99982	-432.75	1136710.50	-520529.44
2	14.63	AR1254	.99987	472.97	43323.29	-4590.29
3	16.32	AR1254	.99997	397.48	60206.39	-4996.13
4	16.87	AR1254	.99998	171.86	50034.66	-4128.39
5	17.40	AR1254	.99998	108.63	28634.31	-2482.35
6	18.77	AR1254	.99991	478.39	41496.34	-1614.64
7	29.96	DCB	.99997	399.28	434226.00	-175350.88

$$R = B0 + B1X + B2X^2$$

PACE, Incorporated

INITIAL CALIBRATION SUMMARY

for /DATA/GC11/METHOD/PCB1254063.MTH
Method created: 10/09/95 09:59:53
Method updated: 10/09/95 11:24:02

Result files used for Calibration data:
Level 1 /DATA/GC11/RESULT/G11W19063.RES
Level 2 /DATA/GC11/RESULT/G11W19064.RES
Level 3 /DATA/GC11/RESULT/G11W19065.RES
Level 4 /DATA/GC11/RESULT/G11W19066.RES
Level 5 /DATA/GC11/RESULT/G11W19067.RES

#	Time	Analyte	Correlation	B_0 Intercept	B_1 Slope	B_2 Quadratic
1	5.66	TCX	.99973	3245.69	150302.70	-8.4040..3
2	12.24	AR1254	.99982	664.99	43789.68	2918.14
3	13.54	AR1254	.99984	589.54	42578.68	3347.41
4	15.03	AR1254	1.0000	50.85	68996.31	-4987.64
5	15.89	AR1254	.99999	16.84	47193.82	-2850.00
6	16.91	AR1254	.99998	102.55	22812.46	1007.65
	25.48	DCB	.99997	1028.97	560987.87	249431.56

$R = B_0 + B_1X + B_2X^2$

PACE, Incorporated
Continuing Calibration Report

Wed Oct 11, 1995 10:00:31 am

/DATA/GC01/RESULT/G1W19113.RES
/DATA/GC01/METHOD/PCB1254063.MTH

Sample: AR1254 0.5PPM P8867
Injected: Mon Oct 9, 1995 12:20:13 pm

RetTime	Analyte	Found	Nominal	%D	Recovery
6.20	TCX	.108	.100	8.2	108.2
14.61	AR1254	.497	.500	.5	99.5
16.30	AR1254	.502	.500	.4	100.4
16.85	AR1254	.486	.500	2.8	97.2
17.38	AR1254	.480	.500	4.0	96.0
18.76	AR1254	.487	.500	2.6	97.4
29.90	DCB	.100	.100	.4	99.6

PACE, Incorporated
Continuing Calibration Report Wed Oct 11, 1995 10:00:44 am

/DATA/GC11/RESULT/G11W19113.RES
/DATA/GC11/METHOD/PCB1254063_1.MTH

Sample: AR1254 0.5PPM P8867
Injected: Mon Oct 9, 1995 12:20:13 pm

RetTime	Analyte	Found	Nominal	%D	Recovery
5.65	TCX	.092	.100	8.2	91.8
12.93	AR1254	.527	.500	5.5	105.5
13.53	AR1254	.519	.500	3.8	103.8
15.02	AR1254	.480	.500	4.0	96.0
15.79	AR1254	.492	.500	1.6	98.4
16.90	AR1254	.520	.500	3.9	103.9
25.46	DCB	.098	.100	1.5	98.5

PACE, INC. NEW ENGLAND - NEW HAMPSHIRE LAB
Organics Extraction
SOLIDS PREP LOG

PROTOCOL: EPA SW846 LOG BOOK NO: 4

SOP #: QA5517,QA5526,QA5500,QA5520 STEAMBATH TEMP: N/A (Range 80-90°C) METHOD: SONC/3550

MATRIX: SOLIDS REVIEWED BY/DATE: ~~JAK~~ DLK 10/9/95 TEST/LEVEL: PCB/ med

COUNT	DATE/INIT	BLANK/SPIKES SAMPLE #	INIT WT (g)	Na_2SO_4 (g)	LCS MS/MSD	SURR # AMT/CONC INITIALS	SPIKE # AMT/CONC.	INTER VOL (ml)	ALIQUOT VOL (ml)	FINAL VOL (ml)	SPECIAL CLEANUP (F,G,S,SA)	QUATTRO init/ date
—	MC	BP 4503	5.0	10.0		51398 SCM		100	1.0	1.0	N/A	MC
—	10/9/95	LSP 4503	5.0		LSP 4503	2.0 ppm	1420, 100u, 50.4 ppm					10/11/95
~~—~~	~~—~~	~~45601-2~~										
16		45622-2	5.06		4383-7 MS/MSD		N/A					
17	↓	45594-10	5.06	↓	↓	↓	↓	↓	↓	↓	↓	↓

MC 10/9 10/11 MC DCS

COMMENTS: F = Florisil, G = GPC, S = Sulfur using copper powder, SA = Sulfuric acid

PACE, INCORPORATED
GC Instrument Run Log

Circle one:
CLP/PHC/OPP/HERB/P-P

Reviewed by _____ Date _____

Date	init	result file	Sample	MI	V	Method	column	Sequence
9/14/05		Changed ramp	to TCP Ramp ⇒ 120°(0) 5°/min			200°(6) 60°/min	260°(9) ⇒ RT: 18 min	
9/14/05	RW	01111W18 752	TCP 0.1 PPM PB3559	N	Y	XP001	112/110	01111W14
		753	5015.5A Pre-Steroid Check					
		753	5015.5B Post-Steroid Check					
9/15/05	—	Changed back	to Post Ramp ⇒ 160°(0) 5°/min			260°(12 min)	⇒ 32 min RT	
9/15/05	RW	01111W18 754	2 Tests each AC1660 0.5 PPM PB823	N	Y	PCB1660026	112/110	01111W19
		755	4490E 9 PLP-5 Bottle Shake Test	N	Y			
		756	↓ -10 ↓ ↓					
		757						
9/20/05	RW	01111W18 758	Pre-GPC 9/20/05			GPC001 Post136		SS
		759	Post-Cal					
		760	Pre Cal (2nd)					
		761	Post-Cal					
		762	Pre-GPC					
		763	4490E 9 PLP-5 Unextracted Sample	N	Y	PCB1660026		SS
		764	↓ -10 ↓ ↓					
9/22/05	RW	765	4535-9 PLP-W Sulfur Check			PBS136		
		766	4530Z-9 ↓ ↓			↓		
		767	4530-9 PLP-W Pesticides					
9/22/05	→ Changed Inner Septa due to Endrin + DDT Breakdown							
9/22/05		Also, Need	to re-calibrate instrument with new PCB's					
9/23/05	RW	01111S12 768	GVAL 0.5PPM PB5536	N	Y	Post136	112/110	SS
		769						
		770						
9/25/05	Signal 1 = 18.0		Signal 2 = 13.9	-	-	-	-	-
9/25/05	RW	01111W18 771	AR1242 0.05PPM PB802	N	Y	PCB1242038	112/110	01111W25
		772	0.2PPM PB804					
		773	0.5PPM PB805					
		774	1.0 PPM PB806					
		775	2.0 PPM PB818					
		776	AR1248 0.05PPM PB807	N	Y	PCB1248055		

PACE, INCORPORATED
GC Instrument Run Log

Circle one:
CLP/PHC/OPP/HERB (P-P)

Reviewed by _____ Date_____

Date	init	result file	Sample	MI	V	Method	column	Sequence
6/13/05	RM	61111r0777	AR1248 0.2PPM P8809	N	Y	PCB1248055	112/110	61111r0425
		778	0.5PPM P8810	↓	↓	↓		
		779	1.0PPM P8811					
		780	2.0PPM P8819					
		781	AR1254 0.05PPM P8812	N	Y	PCB1254062		
		782	0.2PPM P8814	↓	↓	↓		
		783	0.5PPM P8815					
↓		784	1.0PPM P8816					
6/14/05		785	2.0PPM P8817					
		786	AR1660 0.05PPM P8820	N	Y	PCB1660027		
		787	0.2PPM P8822	↓	↓	↓		
		788	0.5PPM P8823					
		789	1.0PPM P8824					
		790	2.0PPM P8825	↓	↓			
		791	P8826 0.1PPM Eval	N	Y	PEST137		
		792	P8859 IND 0.5AB MTH 608	N	Y	PEST608004		
		793	P8860 1AB	↓	↓	↓		
		794	P8861 2AB					
		795	P8862 3AB					
		796	P8863 5AB	N	N			
		797	P8835 IND 0.5AB	N	Y	PEST137		
		798	P8836 1AB	↓	↓	↓		
		799	P8837 2AB					
		800	P8838 3AB					
		801	P8839 5AB	↓	↓	↓		
		802	P8840 IND 5AB MTH 608	N	Y	PEST608004		
			P8841 0.5PPM 10X	N	Y	PEST137		
		803	—	-	-	-		
		804	BP4473 PIP-W MTH 608	N	N	PEST608004		C1/110426
		805	LSP4473 PIP-W MTH 608	↓	↓	↓	Squirt Bottle Contaminated	
		806	4536-1 PIP-W TIPP/608/BAC/V ASAP					
↓	↓	807	↓ -9 ↓ ↓ ↓				↓	↓

PACE, INCORPORATED
GC Instrument Run Log

0000082

Circle one: CLP/PHC/OPP/HERB/(P-P)

Reviewed by _____ Date _____

Date	init	result file	Sample	MI	V	Method	column	Sequence
10/7/95	[illegible]	G1111W19084	AR1248 0.5PPM P8866 I - 106/86/73 II - 94/99/91	N	Y	PCB1248056	112/110	GC01111066
		085	AR1254 P8867 I - 104/85/94 II - 101/90/92	N	Y*	PCB1254063		
		086	AR1660 P8868 I - 102/101/91/[illegible] II - 101/103/76/[illegible]	N	Y	PCB1660028		
		087	45559-15 PCB LS Bechtel/V1016					
		088	BP4521 PCB-LS					
		089	LSP4521 ↓					
		090	45558-1 PCB-LS Bechtel/V1016					
		091	-1MS					
		092	-1MSD					
↓		093	-2					
10/8/95		094	-3					
		095	-4					
		096	-5					
		097	AR1242 0.5PPM P8865 I - 114/117/114 II - 133/126/113	N	N	PCB1242039		
		098	AR1248 P8866 I - 112/100/102 II - 100/103/103	N	Y	PCB1248056		
		099	AR1254 P8867 I - 115/106/104 II - 112/107/105	N	Y	PCB1254063		
		100	AR1660 P8868 I - 107/106/77/98 II - 105/108/100/99	N	Y	PCB1660028		
		101	45558-6 PCB-LS Bechtel/V1016					
		102	-7					
		103	-8					
		104	-9					
		105	-10					
		106	-11					
		107	-12					
		108	-13					
		109	-14					
↓		110	-15	N	N	PCB1242038		
		10/9/95 -	Signal 1 = 19.2 Signal 2 = 14.0					
10/9/95		111	AR1242 0.5ppm P8865 I - 102/92/101 II - 120/101/98	N	Y*	PCB1242039		
		112	AR1248 P8866 I - 104/106/101 II - 104/102/97	N	Y	PCB1248056		
↓	↓	113	AR1254 ↓ P8867 I - 108/98/100 II - 92/103/99	N	Y	PCB1254063	↓	

PACE, INCORPORATED
GC Instrument Run Log

Circle one:
CLP/PHC/OPP/HERB/(P-P)

Reviewed by _____ Date_____

Date	init	result file	Sample	MI	V	Method	column	Sequence
10/4/95	BW	G1111W1114	AR1660 0.5ppm PB866 1- 97/106/96/98 2- 101/101/98/97	N	Y	PCB1660028	112/110	GC01/111006
		115	45558-15 PCB-LS Bechtel/V1016	N	Y	↓		↓
		116	BP4503 PCB ms	N	Y	PCB1254063		GC01/111009
		117	LSP4503 PCB ms	N	Y			
		118	45594-10 PCB ms ORM/Nussac/V1010	N	Y			
		119	45227-2 PCB ms Shell/BAC/D1016					
		120	BP4504 PCB oil					
		121	LSP4504 PCB oil 1:10dil					
		122	45201-2 PCB oil Shell/BAC/D1013/1:10dil					
↓	↓	123	AR1254 0.5ppm PB867			↓		
10/6/95	BW	124	AR1242 0.5ppm PB865 1- 103/99/104 2- 115/101/100	N	Y	PCB1242039		GC01/111010
		125	AR1248 PB866 1- 100/105/103 2- 105/107/100	N	Y	PCB1248056		
		126	AR1254 PB867 1- 108/102/104 2- 93/105/102	N	Y	PCB1254063		
		127	AR1660 PB868 1- 103/107/100/100 2- 107/104/101/99	N	Y	PCB1660028		
		128	BP4499 PCB-W					
		129	LSP4499 PCB-W					
		130	45558-16 PCB-W Bechtel/V1012					
		131	BP4506 PCB-MS			PCB1254063		
		132	LSP4506					
		133	45233-1 Client/BAC/D1017					
		134	-2					
		135	AR1254 0.5ppm PB867					
		136	PACE NT CLP/PCB/Screen 45598-1					
		137	-2					
10/11/95		138	-3					
		139	-4					
		140	-5					
		141	-6					
		142	-7					
		143	-8					
↓	↓	144	-9				↓	↓

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

4CC079

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN31

Matrix (soil/water): SOIL Lab Sample ID: 45594-010

Level (low/med): LOW Date Received: 10/05/95

% Solids: 88.3

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				
7440-70-2	Calcium				NR
7440-47-3	Chromium				
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	6.3			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
SOLID. FULL SAMPLE ID = CLJ44-CC-079

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

4CU076

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN31

Matrix (soil/water): WATER Lab Sample ID: 45594-007

Level (low/med): LOW Date Received: 10/05/95

% 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				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	17.8	U		P
7440-39-3	Barium	41.4	B		P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	5.0	B		P
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	10.8	U		P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.12	B		CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	23.7	U		P
7440-22-4	Silver	1.9	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
TCLP EXTRACT. FULL SAMPLE ID = CLJ44-CU-076

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR NON-VOLATILE CONSTITUENTS

Laboratory Number : 45594-007
Field Identification : CLJ44-CU-076
Extraction Date : 10/05/95
TCLP Blank : 90,001-282

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

A 5.0 gm portion of the sample was stirred with 96.5 mL deionized water. The pH at the end of 5 minutes was 5.05. 3.5 mL 1.0N HCl was added and the mixture was then heated to 50C for ten minutes. Upon cooling the pH was 1.67, therefore Extraction Fluid #1 was used.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 100 gm of sample was added to the extractor with 2000 mL Extraction Fluid #1.

Extraction Time : 17.00 hrs

Final pH : 4.90

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

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U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

4CU077

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN31

Matrix (soil/water): WATER Lab Sample ID: 45594-008

Level (low/med): LOW Date Received: 10/05/95

% 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				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	17.8	U		P
7440-39-3	Barium	100	B		P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	3.7	U		P
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	11.3			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	23.7	U		P
7440-22-4	Silver	1.9	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
TCLP EXTRACT. FULL SAMPLE ID = CLJ44-CU-077

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR NON-VOLATILE CONSTITUENTS

Laboratory Number : 45594-008
Field Identification : CLJ44-CU-077
Extraction Date : 10/05/95
TCLP Blank : 90,001-282

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

A 5.0 gm portion of the sample was stirred with 96.5 mL deionized water. The pH at the end of 5 minutes was 5.36. 3.5 mL 1.0N HCl was added and the mixture was then heated to 50C for ten minutes. Upon cooling the pH was 1.62, therefore Extraction Fluid #1 was used.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 100 gm of sample was added to the extractor with 2000 mL Extraction Fluid #1.

Extraction Time : 17.00 hrs

Final pH : 4.86

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

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1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

C081RB

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN31

Matrix (soil/water): WATER Lab Sample ID: 45594-011

Level (low/med): LOW Date Received: 10/05/95

% 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				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	1.5	U		F
7440-39-3	Barium	2.7	U		P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	3.7	U		P
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	1.2	U		F
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	U		F
7440-22-4	Silver	1.9	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
WATER. FULL SAMPLE ID = CLJ44-CC-081-RB

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

TCC079

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN31

Matrix (soil/water): WATER Lab Sample ID: 45594-009

Level (low/med): LOW Date Received: 10/05/95

% 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				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	17.8	U		P
7440-39-3	Barium	86.1	B		P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	3.7	U		P
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	24.6			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	23.7	U		P
7440-22-4	Silver	1.9	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
TCLP EXTRACT. FULL SAMPLE ID = CLJ44-CC-079

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR NON-VOLATILE CONSTITUENTS

Laboratory Number : 45594-009
Field Identification : CLJ44-CC-079
Extraction Date : 10/05/95
TCLP Blank : 90,001-282

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

A 5.0 gm portion of the sample was stirred with 96.5 mL deionized water. The pH at the end of 5 minutes was 8.27. 3.5 mL 1.0N HCl was added and the mixture was then heated to 50C for ten minutes. Upon cooling the pH was 1.66, therefore Extraction Fluid #1 was used.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 100 gm of sample was added to the extractor with 2000 mL Extraction Fluid #1.

Extraction Time : 17.00 hrs

Final pH : 5.13

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

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2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN31

Initial Calibration Source: VHG\SPEX

Continuing Calibration Source: SOL+\IV\SPEX

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									NR
Antimony									NR
Arsenic	1000.0	982.32	98.2	10000.0	9106.08	91.1	9235.01	92.4	P
Barium	1000.0	1003.07	100.3	40000.0	39199.37	98.0	39311.34	98.3	P
Beryllium									NR
Cadmium	500.0	489.11	97.8	1000.0	943.05	94.3	960.97	96.1	P
Calcium									NR
Chromium	1000.0	1040.51	104.1	4000.0	3989.13	99.7	4005.41	100.1	P
Cobalt									NR
Copper									NR
Iron									NR
Lead	1000.0	986.33	98.6	10000.0	9415.60	94.2	9418.23	94.2	P
Magnesium									NR
Manganese									NR
Mercury	4.0	4.24	106.0	5.0	4.76	95.2	4.74	94.8	CV
Nickel									NR
Potassium									NR
Selenium	1000.0	998.12	99.8	10000.0	9431.28	94.3	9657.60	96.6	P
Silver	200.0	202.88	101.4	1000.0	1012.01	101.2	1016.78	101.7	P
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN31

Initial Calibration Source: VHG\SPEX

Continuing Calibration Source: SOL+\IV\SPEX

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									NR
Antimony									NR
Arsenic				10000.0	9178.85	91.8	9169.24	91.7	P
Barium				40000.0	39137.10	97.8	38705.81	96.8	P
Beryllium									NR
Cadmium				1000.0	960.64	96.1	960.52	96.1	P
Calcium									NR
Chromium				4000.0	3994.53	99.9	3974.33	99.4	P
Cobalt									NR
Copper									NR
Iron									NR
Lead				10000.0	9433.57	94.3	9402.16	94.0	P
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium				10000.0	9545.08	95.5	9495.50	95.0	P
Silver				1000.0	1009.93	101.0	1005.52	100.6	P
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN31

Initial Calibration Source: VHG\SPEX

Continuing Calibration Source: SOL+\IV\SPEX

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									NR
Antimony									NR
Arsenic				10000.0	9387.97	93.9	9443.33	94.4	P
Barium				40000.0	39838.58	99.6	39902.91	99.8	P
Beryllium									NR
Cadmium				1000.0	977.71	97.8	982.28	98.2	P
Calcium									NR
Chromium				4000.0	4081.82	102.0	4068.89	101.7	P
Cobalt									NR
Copper									NR
Iron									NR
Lead				10000.0	9595.94	96.0	9609.40	96.1	P
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium				10000.0	9824.07	98.2	9699.10	97.0	P
Silver				1000.0	1025.76	102.6	1029.62	103.0	P
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN31

Initial Calibration Source: VHG\SPEX

Continuing Calibration Source: SOL+\IV\SPEX

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									NR
Antimony									NR
Arsenic				10000.0	9878.44	98.8	9526.81	95.3	P
Barium				40000.0	41439.47	103.6	40493.54	101.2	P
Beryllium									NR
Cadmium				1000.0	1018.16	101.8	1002.28	100.2	P
Calcium									NR
Chromium				4000.0	4247.69	106.2	4152.51	103.8	P
Cobalt									NR
Copper									NR
Iron									NR
Lead				10000.0	9972.89	99.7	9789.25	97.9	P
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium				10000.0	10161.05	101.6	9986.97	99.9	P
Silver				1000.0	1061.94	106.2	1040.62	104.1	P
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN31

Initial Calibration Source: VHG\SPEX

Continuing Calibration Source: SOL+\IV\SPEX

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									NR
Antimony									NR
Arsenic	40.0	43.44	108.6	40.0	45.35	113.4	41.52	103.8	F
Barium									
Beryllium									NR
Cadmium									
Calcium									NR
Chromium									
Cobalt									NR
Copper									NR
Iron									NR
Lead	40.0	40.08	100.2	40.0	39.36	98.4	39.20	98.0	F
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium	40.0	38.29	95.7	40.0	36.75	91.9	37.96	94.9	F
Silver									
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN31

Initial Calibration Source: VHG\SPEX

Continuing Calibration Source: SOL+\IV\SPEX

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									NR
Antimony									NR
Arsenic				40.0	43.05	107.6	42.76	106.9	F
Barium									
Beryllium									NR
Cadmium									
Calcium									NR
Chromium									
Cobalt									NR
Copper									NR
Iron									NR
Lead				40.0	39.53	98.8	39.94	99.8	F
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium				40.0	32.22	80.6			F
Silver									
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN31

Initial Calibration Source: VHG\SPEX

Continuing Calibration Source: SOL+\IV\SPEX

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									NR
Antimony									NR
Arsenic				40.0	43.60	109.0	43.12	107.8	F
Barium									
Beryllium									NR
Cadmium									
Calcium									NR
Chromium									
Cobalt									NR
Copper									NR
Iron									NR
Lead				40.0	39.62	99.0			F
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium	40.0	39.70	99.2	40.0	38.88	97.2			F
Silver									
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN31

Initial Calibration Source: VHG\SPEX

Continuing Calibration Source: SOL+\IV\SPEX

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									NR
Antimony									NR
Arsenic				40.0	44.23	110.6	43.40	108.5	F
Barium									
Beryllium									NR
Cadmium									
Calcium									NR
Chromium									
Cobalt									NR
Copper									NR
Iron									NR
Lead									
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium									
Silver									
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

3
BLANKS

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN31

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic	17.8	U	17.8	U	17.8	U	20.7				P
Barium	2.7	U	5.5	B	11.2	B	11.1	B			P
Beryllium											NR
Cadmium	1.5	U	1.5	U	1.5	U	1.5	U			P
Calcium											NR
Chromium	3.7	U	3.7	U	3.7	U	3.7	U			P
Cobalt											NR
Copper											NR
Iron											NR
Lead	10.8	U	10.8	U	12.1		10.8	U	1.080	U	P
Magnesium											NR
Manganese											NR
Mercury	0.1	U	0.1	U	0.1	U					CV
Nickel											NR
Potassium											NR
Selenium	23.7	U	23.7	U	23.7	U	23.7	U			P
Silver	1.9	U	-2.6	B	1.9	U	1.9	U			P
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

3
BLANKS

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN31

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic			24.8		17.8	U	17.8	U	17.800	U	P
Barium			11.5	B	7.4	B	13.2	B	2.700	U	P
Beryllium											NR
Cadmium			1.5	U	1.5	U	1.5	U	1.500	U	P
Calcium											NR
Chromium			3.7	U	3.7	U	3.7	U	3.700	U	P
Cobalt											NR
Copper											NR
Iron											NR
Lead			10.8	U	10.8	U	10.8	U	10.800	U	P
Magnesium											NR
Manganese											NR
Mercury									0.100	B	CV
Nickel											NR
Potassium											NR
Selenium			23.7	U	23.7	U	23.7	U	23.700	U	P
Silver			1.9	U	1.9	B	1.9	U	-2.720	B	P
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

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3
BLANKS

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN31

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic			17.8	U	27.6						P
Barium			14.2	B	15.0	B					P
Beryllium											NR
Cadmium			1.5	U	1.5	U					P
Calcium											NR
Chromium			3.7	U	3.7	U					P
Cobalt											NR
Copper											NR
Iron											NR
Lead			10.8	U	10.8	U					P
Magnesium											NR
Manganese											NR
Mercury											
Nickel											NR
Potassium											NR
Selenium			23.7	U	23.7	U					P
Silver			-2.1	B	-2.6	B					P
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

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3
BLANKS

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN31

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic	1.6	B	1.5	U	1.5	U	1.5	U	1.500	U	F
Barium											
Beryllium											NR
Cadmium											
Calcium											NR
Chromium											
Cobalt											NR
Copper											NR
Iron											NR
Lead	1.2	U	1.2	U	1.2	U	1.2	U	1.200	U	F
Magnesium											NR
Manganese											NR
Mercury											
Nickel											NR
Potassium											NR
Selenium	1.0	U	1.0	U	1.2	B	1.2	B	1.200	B	F
Silver											
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

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3
BLANKS

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN31

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic			1.5	U	1.5	U	1.5	U			F
Barium											
Beryllium											NR
Cadmium											
Calcium											NR
Chromium											
Cobalt											NR
Copper											NR
Iron											NR
Lead			1.2	U	-1.2	B					F
Magnesium											NR
Manganese											NR
Mercury											
Nickel											NR
Potassium											NR
Selenium	1.0	U	1.0	U							F
Silver											
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

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3
BLANKS

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN31

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic			1.5	U	1.5	U					F
Barium											
Beryllium											NR
Cadmium											
Calcium											NR
Chromium											
Cobalt											NR
Copper											NR
Iron											NR
Lead											
Magnesium											NR
Manganese											NR
Mercury											
Nickel											NR
Potassium											NR
Selenium											
Silver											
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

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4
ICP INTERFERENCE CHECK SAMPLE

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN31

ICP ID Number: TJA01 ICS Source: VHG

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum	500000	500000	502195	495378.2	99.1	518934	511753.5	102.4
Antimony								
Arsenic			-194	-120.1		-138	-88.0	
Barium		500	-4	471.2	94.2	-4	488.4	97.7
Beryllium								
Cadmium		1000	4	891.2	89.1	4	925.9	92.6
Calcium	500000	500000	491639	481412.5	96.3	502503	497925.6	99.6
Chromium		500	-1	458.2	91.6	0	477.4	95.5
Cobalt								
Copper								
Iron	200000	200000	187433	183769.6	91.9	194076	193111.5	96.6
Lead		1000	34	909.4	90.9	48	969.8	97.0
Magnesium	500000	500000	494025	487523.7	97.5	511354	505478.3	101.1
Manganese								
Mercury								
Nickel								
Potassium								
Selenium			-16	-16.6		-12	-56.1	
Silver		1000	-3	942.0	94.2	0	978.2	97.8
Sodium								
Thallium								
Vanadium								
Zinc								

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LABORATORY CONTROL SAMPLE

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN31

Solid LCS Source: SOL+\SPX\MAL

Aqueous LCS Source: SOL+\SPX\MAL

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic	2000.0	1826.14	91.3						
Barium	2000.0	1875.10	93.8						
Beryllium									
Cadmium	50.0	53.04	106.1						
Calcium									
Chromium	200.0	199.18	99.6						
Cobalt									
Copper									
Iron									
Lead	500.0	459.02	91.8	50.0	42.3		40.0	60.0	84.6
Magnesium									
Manganese									
Mercury	8.0	7.88	98.5						
Nickel									
Potassium									
Selenium	2000.0	1844.25	92.2						
Silver	50.0	47.01	94.0						
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

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LABORATORY CONTROL SAMPLE

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN31

Solid LCS Source:

Aqueous LCS Source: SOL+\SPX\MAL

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic	50.0	46.26	92.5						
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	50.0	55.60	111.2						
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium	50.0	46.18	92.4						
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

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10
INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN31

ICP ID Number: TJA01 Date: 07/25/95

Flame AA ID Number:

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum	308.22		200.0	10.5	P
Antimony	206.84		60.0	10.5	P
Arsenic	193.70		10.0	17.8	P
Barium	493.41		200.0	2.7	P
Beryllium	313.04		5.0	0.3	P
Cadmium	228.80		5.0	1.5	P
Calcium	317.93		5000.0	10.7	P
Chromium	267.72		10.0	3.7	P
Cobalt	228.62		50.0	1.2	P
Copper	324.75		25.0	2.5	P
Iron	259.94		100.0	9.4	P
Lead	220.35		3.0	10.8	P
Magnesium	279.08		5000.0	15.5	P
Manganese	257.61		15.0	0.8	P
Mercury			0.2		
Nickel	231.60		40.0	6.1	P
Potassium	766.49		5000.0	365.9	P
Selenium	196.03		5.0	23.7	P
Silver	328.07		10.0	1.9	P
Sodium	589.00		5000.0	6.4	P
Thallium			10.0		
Vanadium	292.40		50.0	3.5	P
Zinc	213.86		20.0	3.2	P

Comments:

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INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN31

ICP ID Number: Date: 10/04/95

Flame AA ID Number:

Furnace AA ID Number: PE01

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony			60.0		
Arsenic	193.70	BZ	10.0	1.5	F
Barium			200.0		
Beryllium			5.0		
Cadmium			5.0		
Calcium			5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper			25.0		
Iron			100.0		
Lead			3.0		
Magnesium			5000.0		
Manganese			15.0		
Mercury			0.2		
Nickel			40.0		
Potassium			5000.0		
Selenium	196.00	BZ	5.0	1.0	F
Silver			10.0		
Sodium			5000.0		
Thallium			10.0		
Vanadium			50.0		
Zinc			20.0		

Comments:

U.S. EPA - CLP

10
INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN31

ICP ID Number: Date: 10/20/95

Flame AA ID Number:

Furnace AA ID Number: PE03

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony			60.0		
Arsenic			10.0		
Barium			200.0		
Beryllium			5.0		
Cadmium			5.0		
Calcium			5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper			25.0		
Iron			100.0		
Lead	283.30	BZ	3.0	1.2	F
Magnesium			5000.0		
Manganese			15.0		
Mercury			0.2		
Nickel			40.0		
Potassium			5000.0		
Selenium			5.0		
Silver			10.0		
Sodium			5000.0		
Thallium			10.0		
Vanadium			50.0		
Zinc			20.0		

Comments:

U.S. EPA - CLP

10
INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN31

ICP ID Number: Date: 08/30/95

Flame AA ID Number: PE02

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony			60.0		
Arsenic			10.0		
Barium			200.0		
Beryllium			5.0		
Cadmium			5.0		
Calcium			5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper			25.0		
Iron			100.0		
Lead			3.0		
Magnesium			5000.0		
Manganese			15.0		
Mercury	253.70		0.2	0.1	CV
Nickel			40.0		
Potassium			5000.0		
Selenium			5.0		
Silver			10.0		
Sodium			5000.0		
Thallium			10.0		
Vanadium			50.0		
Zinc			20.0		

Comments:
PE02 IS A MERCURY COLD VAPOR INSTRUMENT.

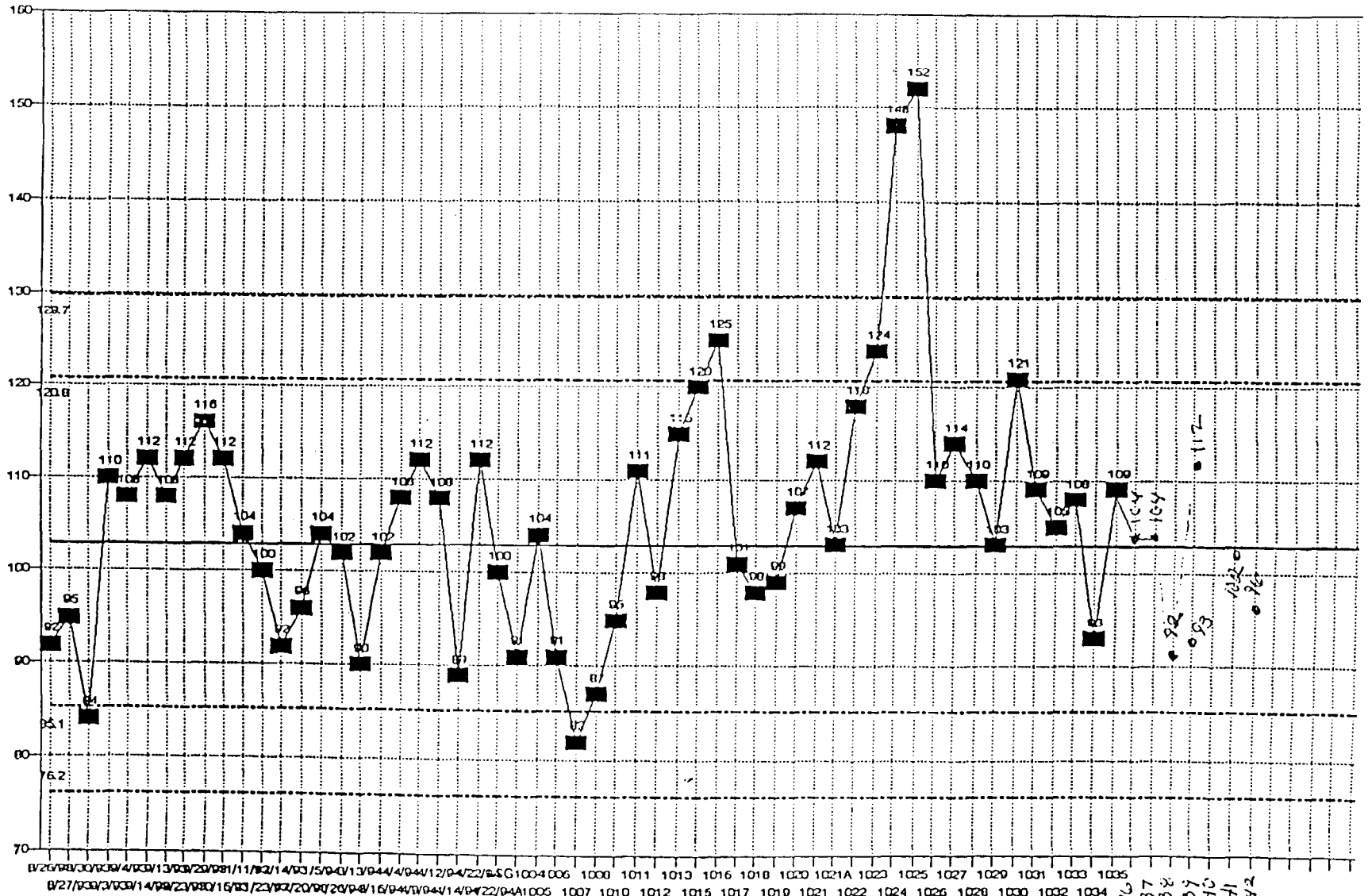
PACE New England, Inc.

Metals Results for TCLP Blank 282

ELEMENT	BLANK RESULT	
Arsenic	< 0.20	mg/L
Barium	< 0.10	mg/L
Cadmium	< 0.005	mg/L
Chromium	< 0.01	mg/L
Lead	< 0.05	mg/L
Mercury	< 0.0003	mg/L
Selenium	< 0.20	mg/L
Silver	< 0.02	mg/L

All results are methods 3010 and 6010,
except mercury (method 7470).

TOTAL GAS LCS RECOVERIES
LIMITS SET 4/13/94

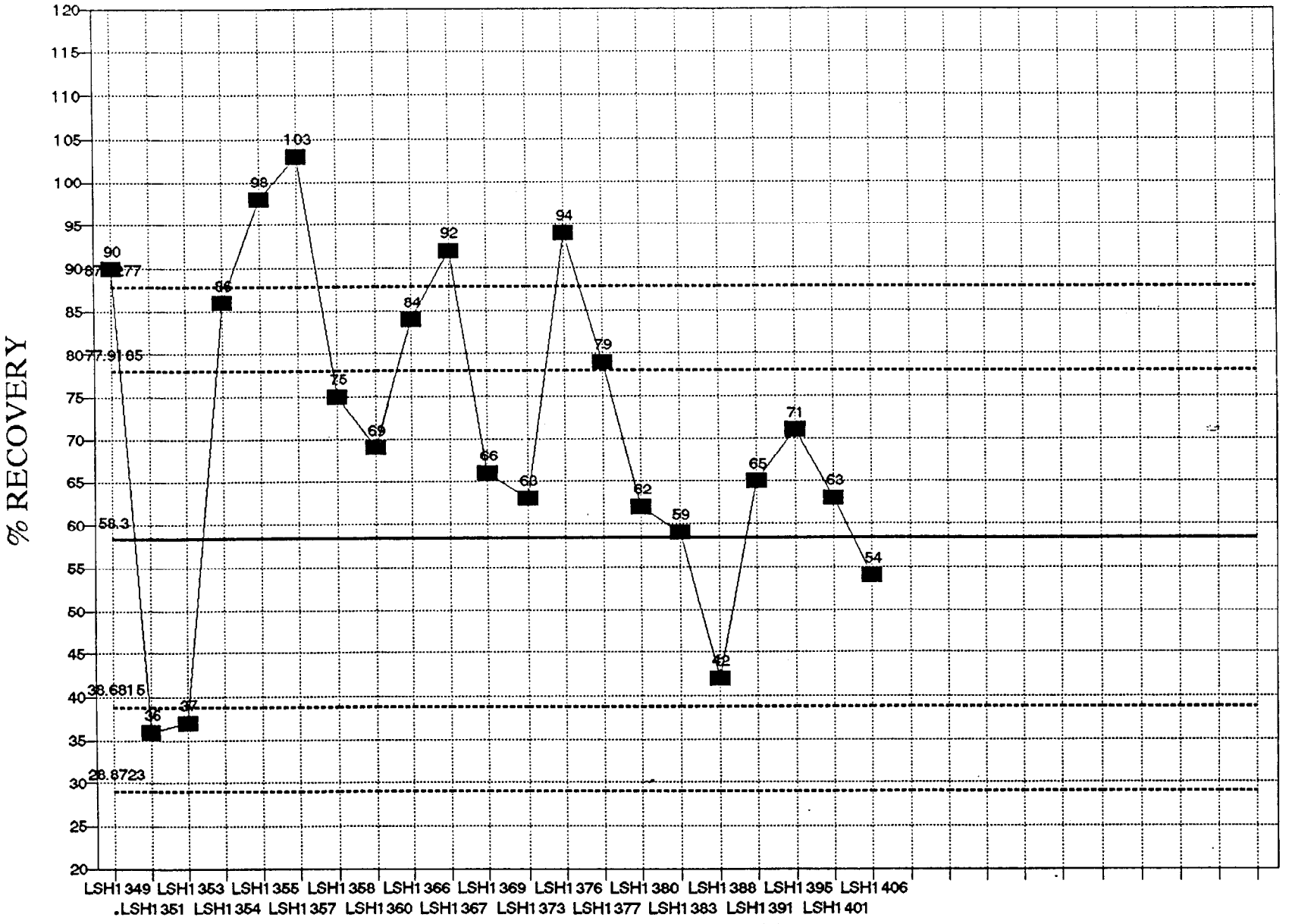


STD DEV = 8.93 MEAN = 103

00001163

PHC LOW SOLIDS - DIESEL

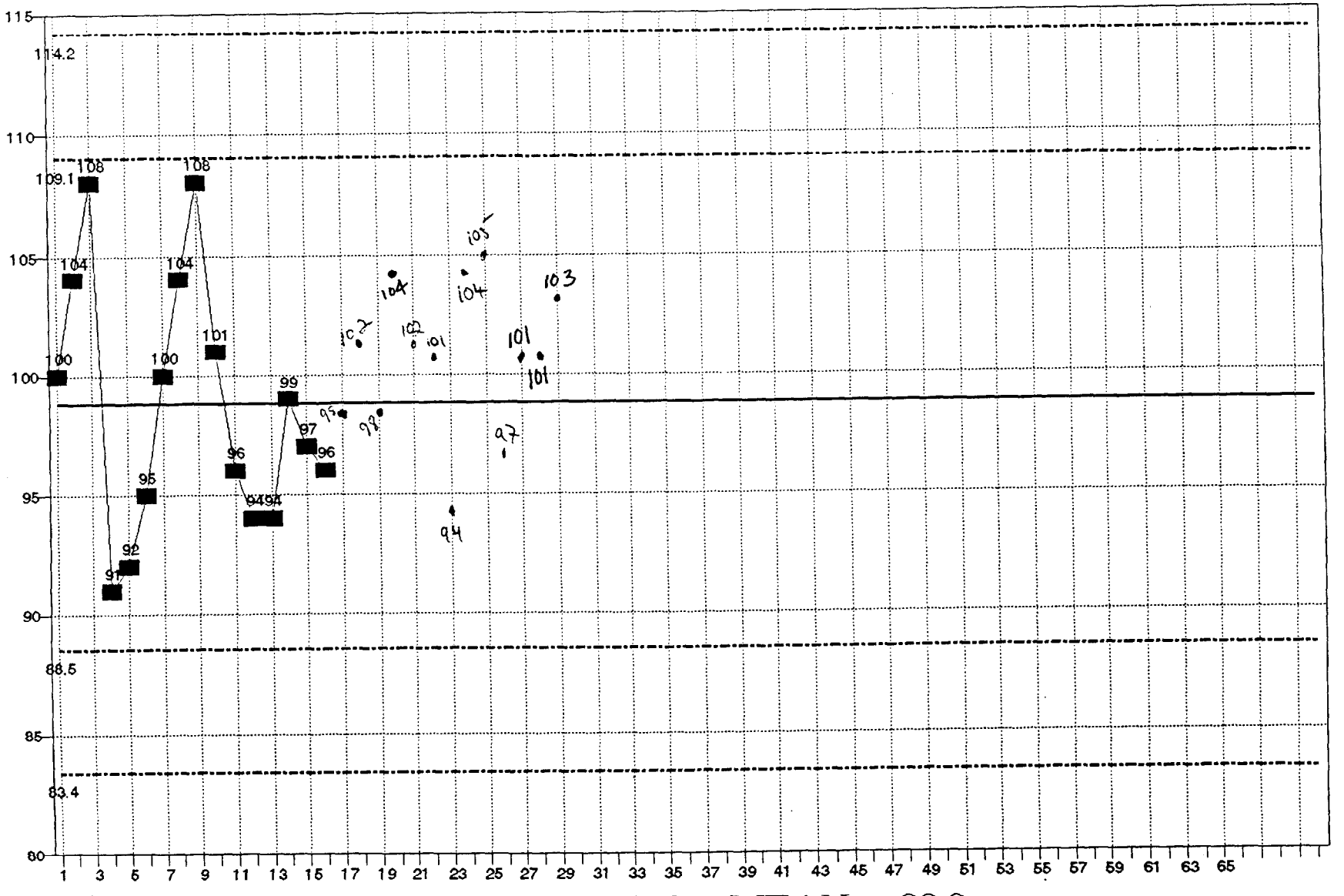
SPK REC LIMS SET6/6/95-PPCBCHT\PHCS1294



MEAN = 58.30 STD DEV =9.81

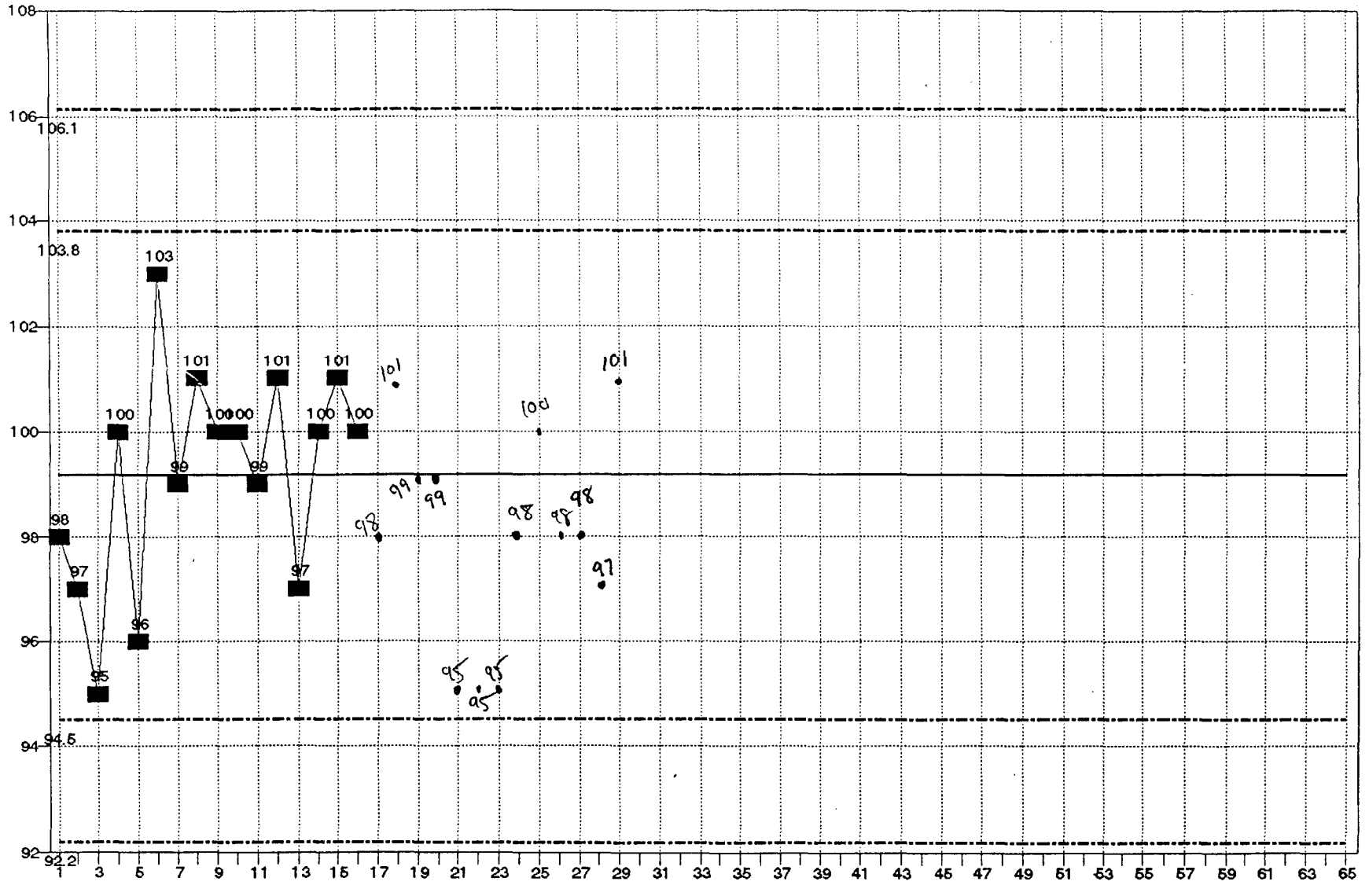
00001164

VOA TCLP - SURR DCE
LIMIT SET 7/93



STD DEV = 5.13 MEAN = 98.8

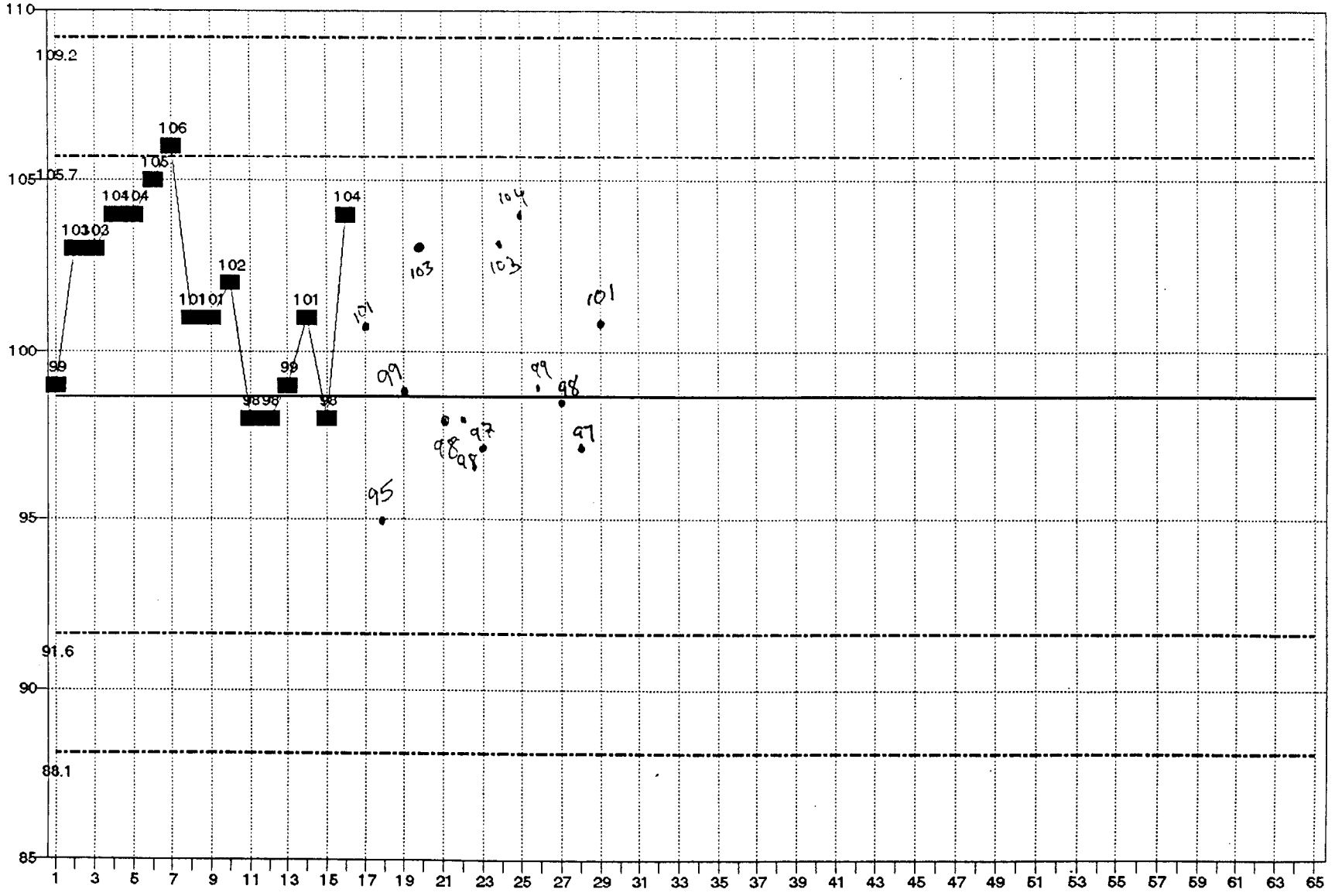
VOA TCLP - SURR TOL
LIMIT SET 7/93



STD DEV = 2.32 MEAN = 99.1

00000196

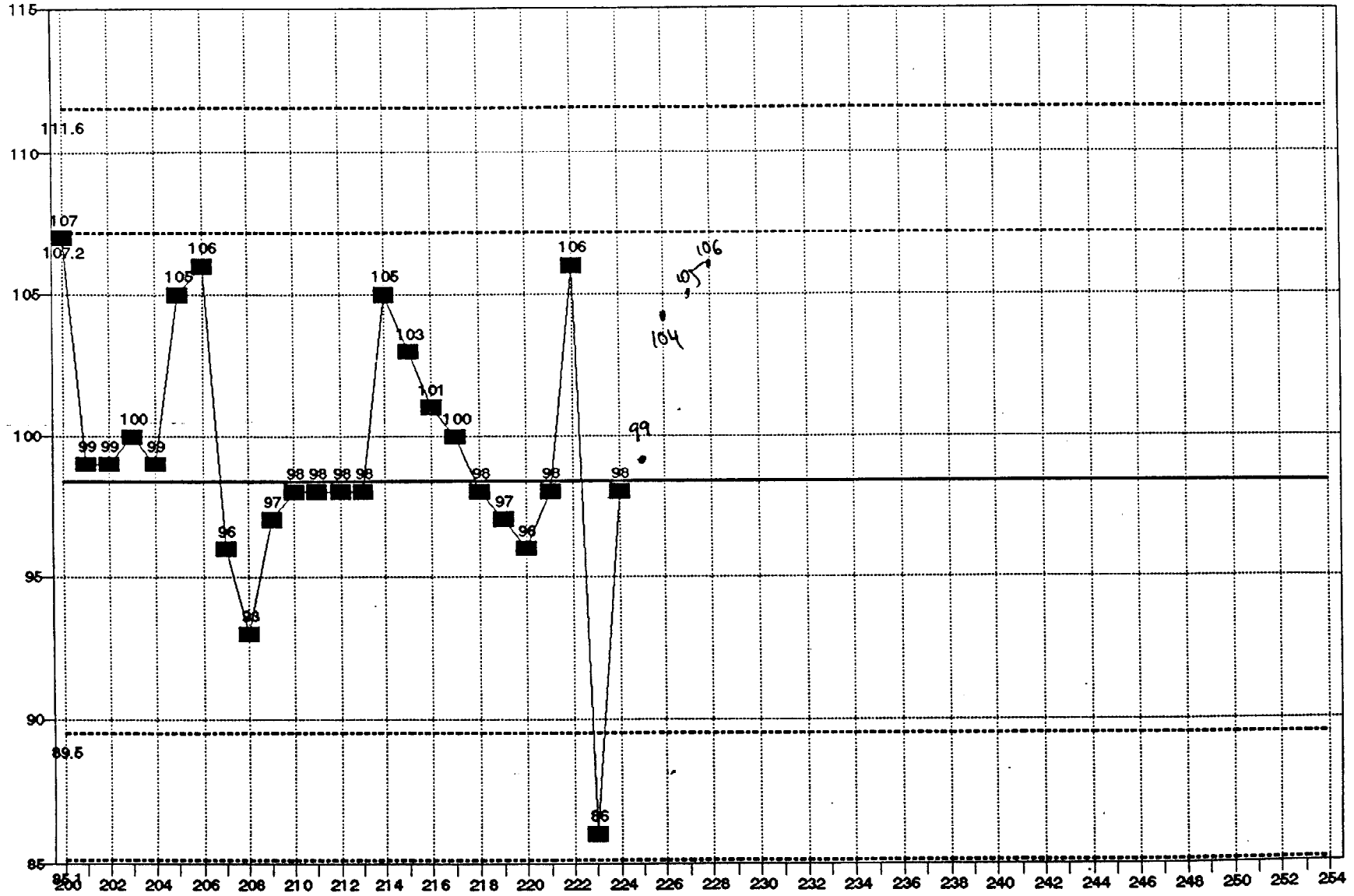
VOA TCLP - SURR BFB
LIMIT SET 7/93



STD DEV =3.51 MEAN = 98.6

1	TCLP BLANK	340	03/16/94
2	TCLP BLANK	340	03/17/94
3	TCLP BLANK	341	03/17/94
4	TCLP BLANK	341	03/18/94
5	TCLP BLANK	342	03/18/94
6	TCLP BLANK	341	03/22/94
7	TCLP BLANK	343	03/25/94
8	TCLP BLANK	343	03/28/94
9	TCLP BLANK	344	03/28/94
10	TCLP BLANK	345	03/28/94
11	TCLP BLANK	346	04/07/94
12	TCLP BLANK	347	04/19/94
13	TCLP BLANK	349	05/11/94
14	TCLP BLANK	350	05/16/94
15	TCLP BLANK	352	05/17/94
16	TCLP BLANK	354	06/06/94
17	TCLP BLANK	357	7/12/94
18	TCLP BLANK	358	7/15/94
19	TCLP BLANK	360	7/27/94
20	TCLP BLANK	369	11/10/94
21	TCLP BLANK	386	
22	TCLP BLANK	388	
23	TCLP BLANK	389	
24	TCLP BLANK	390	
25	TCLP BLANK	392	
26	TCLP BLANK	399	
27	TCLPBLK	400	10/5/95
28	TCLPBLK	401	10/6/95
29	TCLPBLK	402	10/11/95

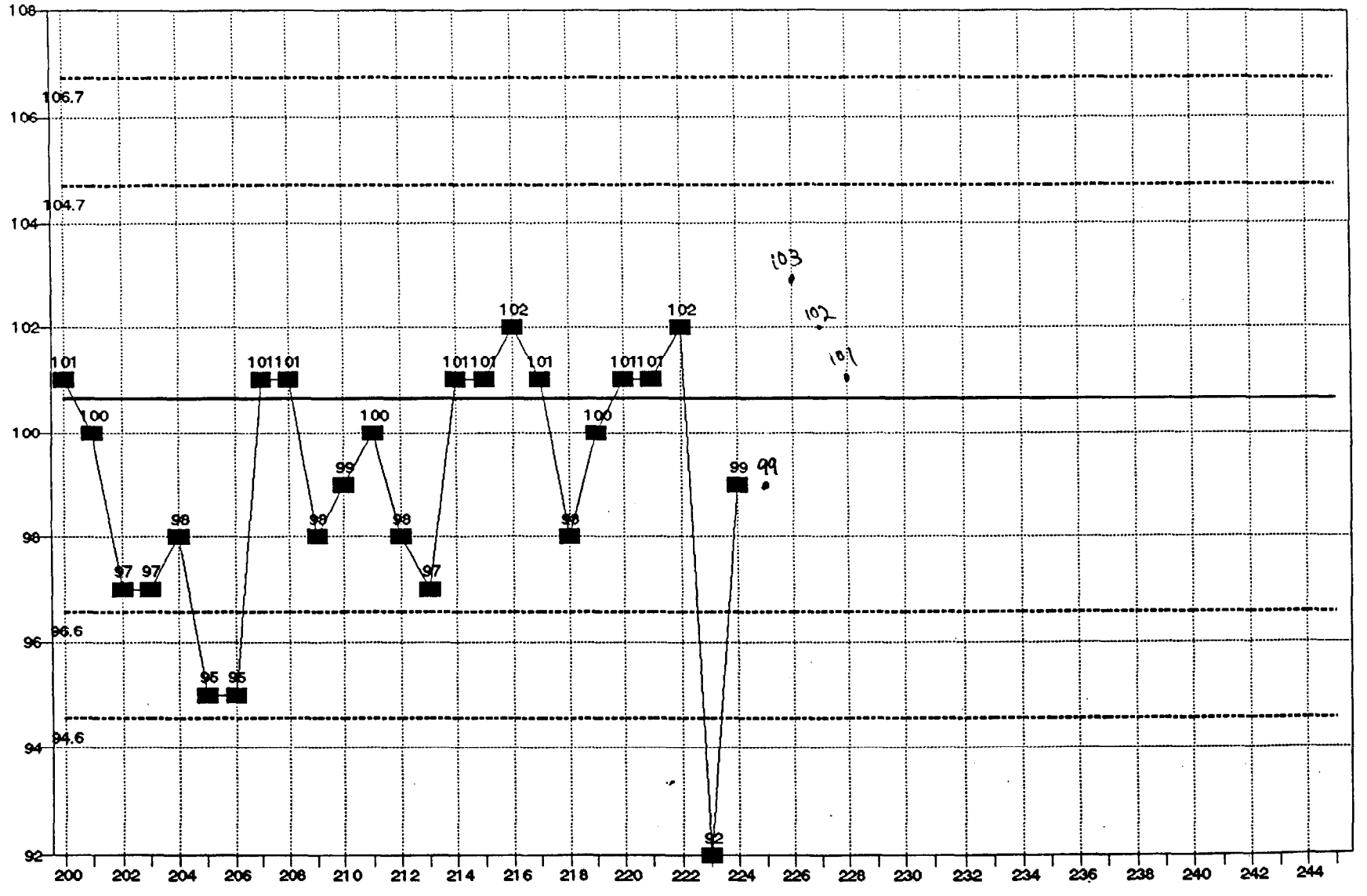
VOA WATERS - SURR DCE
LIMITS SET 4/95



STD DEV = 4.40 MEAN = 98.4

00001691

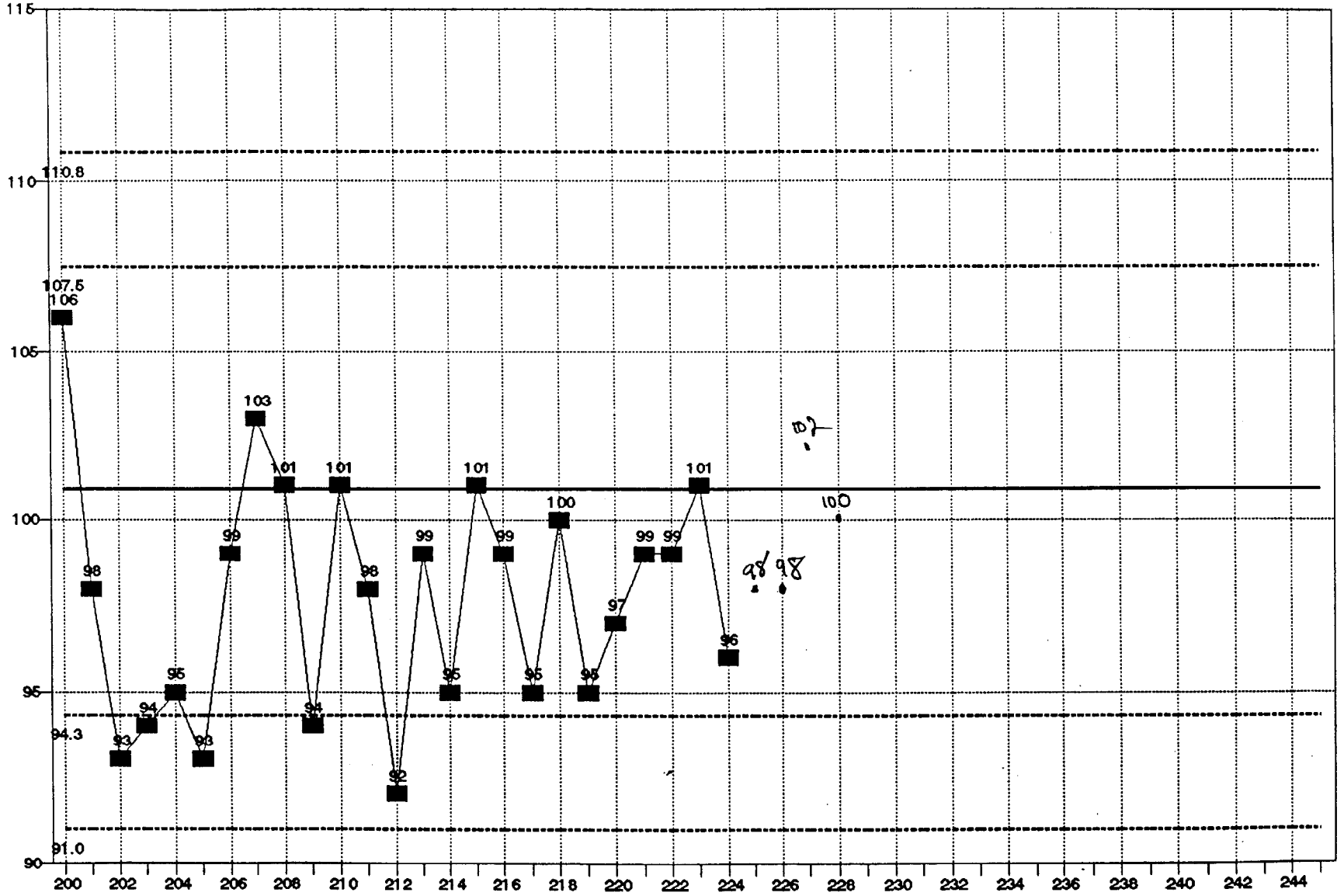
VOA WATERS - SURR TOL
LIMIT SET 4/95



STD DEV = 2.03 MEAN = 100.6

00000170

VOA WATERS - SURR BFB
LIMIT SET 4/95



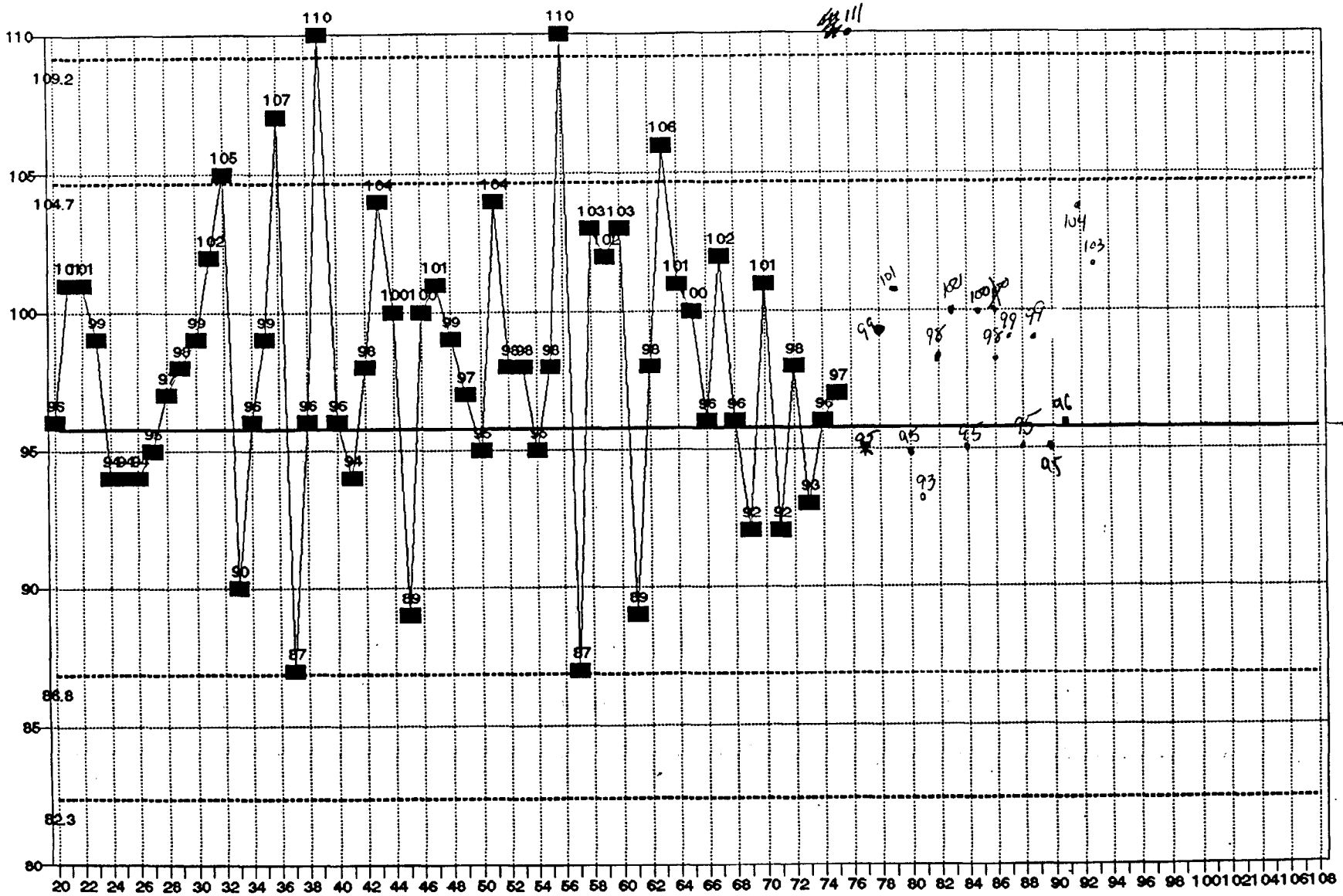
STD DEV =3.31 MEAN = 100.9

00000171

VOLATILES -- WATER SURROGATE CONTROL CHARTS
POINT / BLANK

69 BC041493A	117 BE070794A	165 BC041295A	213 BG100195B2
70 BE052593B	118 BE070894A	166 BI042095B	214 BG100395A1
71 BE060193A	119 BC063094A	167 BI042195A	215 BG100495B2
72 BE060393A	120 BC072794A	168 BI042495A	216 BG100595A1
73 BC062193A	121 BD072794A	169 BC042595B	217 BG100695A1
74 BE051393A	122 BD072894A	170 BI042595A	218 BG100695A2
75 BC062493A	123 BD072994A	171 BI042795A	219 BG100995A1
76 BD051993A	124 BE081194A	172 BI050195A	220 BG101095D2
77 BD052093B	125 BC081994A	173 BC050595A	221 BG100495A1
78 BC063093A	126 BE101194A	174 BC050695A	222 BD101195A2
79 BC061093A	127 BE101294B	175 BG050295B	223 BG100295B2
80 BE051393A	128 BG101494A	176 BC062995B1	224 BG100395B2
81 BD072293A	129 BC110294B	177 BC063095B1	225 BG101195A1
82 BD072393A	130 BC110394B	178 BC072495A1	226 BD101395A1
83 BD072693A	131 BC110794B	179 BC072695A1	227 BD101495A1
84 BD072793A	132 BC110894B	180 BI080895A1	228 BD101795A1
85 BD073093A	133 BC110994A	181 BI080995A1	229
86 BC080493A	134 BC111594B	182 BC080295A1	230
87 BC080593A	135 BC111794B	183 BC080495A1	231
88 BE091793A	136 BC111894B	184 BC080795A1	232
89 BC092093B	137 BG111094A	185 BC080895A1	233
90 BC093093B	138 BC120194B	186 BI081095A1	234
91 BG093093A	139 BC120294B	187 BI081195A1	235
92 BE120693A	140 BC120594B	188 BI080995A1	236
93 BE120793A	141 BC120694B	189 BC081195A1	237
94 BE121793A	142 BC120794B	190 BC081495A1	238
95 BC122793B	143 BC121594B	191 BI081495A1	239
96 BC122893A	144 BG120394B	192 BI081595A1	240
97 BG021094A	145 BC122294B	193 BI081695A1	241
98 BG021194A	146 BC122994B	194 BI081795A1	242
99 BG021494A	147 BE121694A	195 BI081895A1	243
100 BG021594A	148 BE020995B	196 BI082195A1	244
101 BC022394B	149 BE021395A	197 BC081695A1	245
102 BC022494C	150 BE021595A	198 BI082295A1	246
103 BC022594B	151 BE021695A	199 BC081595A1	247
104 BG022594B	152 BC032295A	200 BC082595A1	248
105 BG022894A	153 BC032395A	201 BG091495A1	249
106 BG030394A	154 BC032495A	202 BG091595A1	250
107 BD022194A	155 BC032795A	203 BG091895A1	251
108 BC031194A	156 BC040695A	204 BG091995A1	252
109 BC031594B	157 BC041195B	205 BG092095A2	253
110 BG040794A	158 BC041395A	206 BG092195B1	254
111 BC041294B	159 BC041495A	207 BC092195A1	255
112 BG042894A	160 BG041095B	208 BC092095A1	256
113 BG042994A	161 BG041495B	209 BG092795A1	257
114 BC050994C	162 BI041395A	210 BG092795B2	258
115 BG060394A	163 BI041895B	211 BG092895B2	259
116 BC050394B	164 BI041995A	212 BG092995A1	260

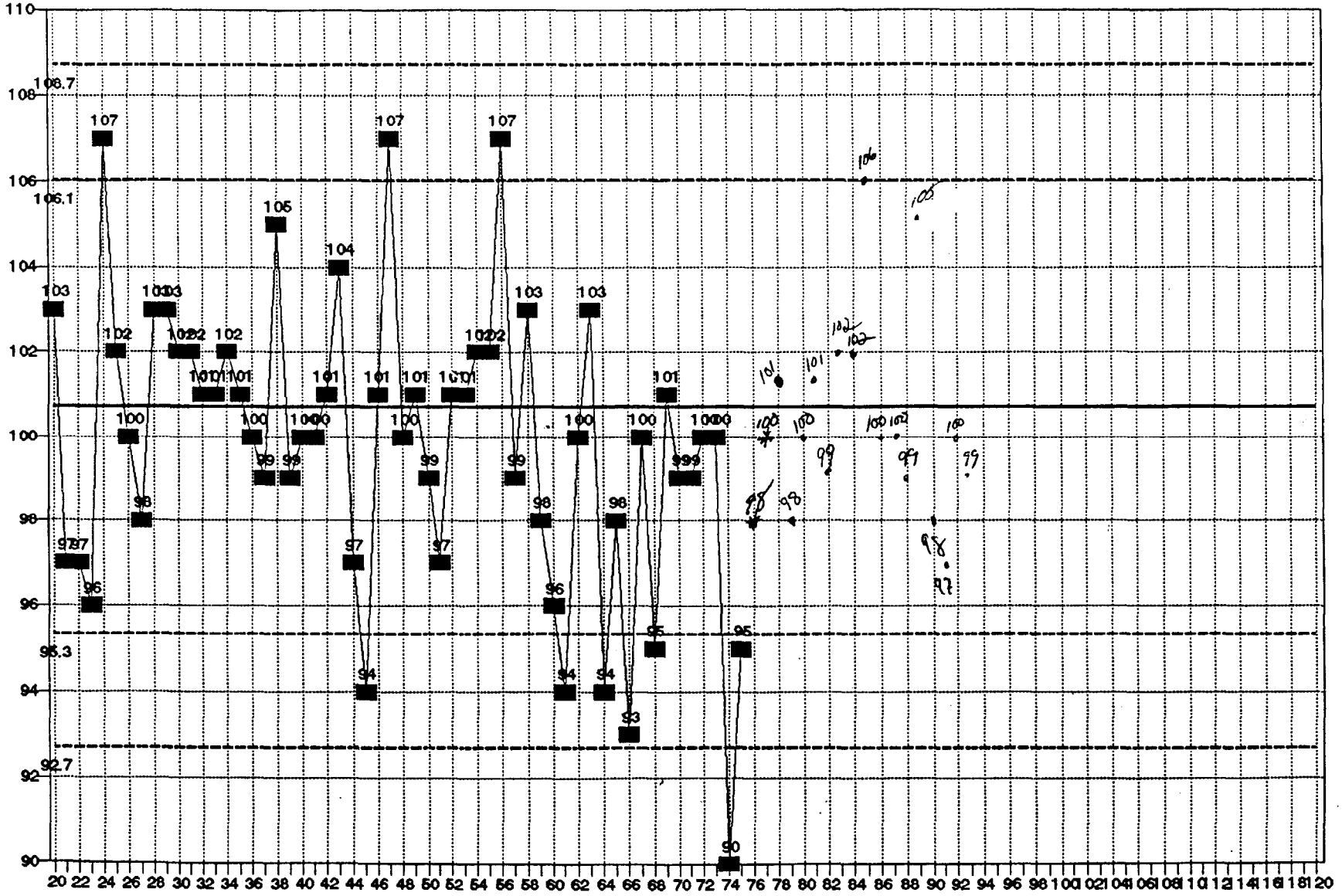
VOA LOW SOLIDS - SURR DCE
EPA SW846 LIMIT SET 9/94



STD DEV = 4.47 MEAN = 95.8

00000173

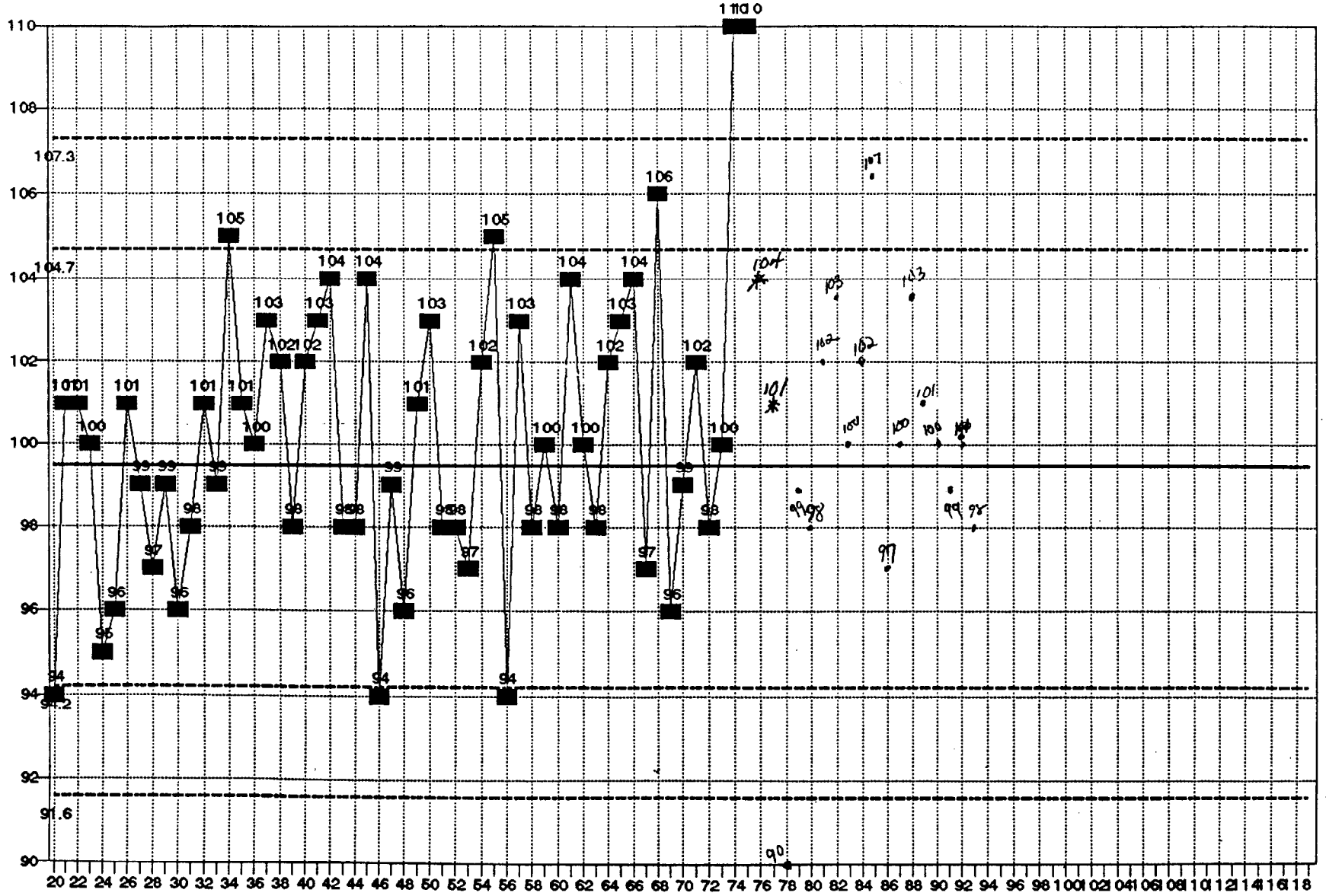
VOA LOW SOLIDS - SURR TOL-D8
EPA SW846 LIMITS SET 9/94



STD DEV = 2.68 MEAN = 100.7

00001774

VOA LOW SOLIDS - SURR BFB
EPA SW846 LIMITS SET 9/94

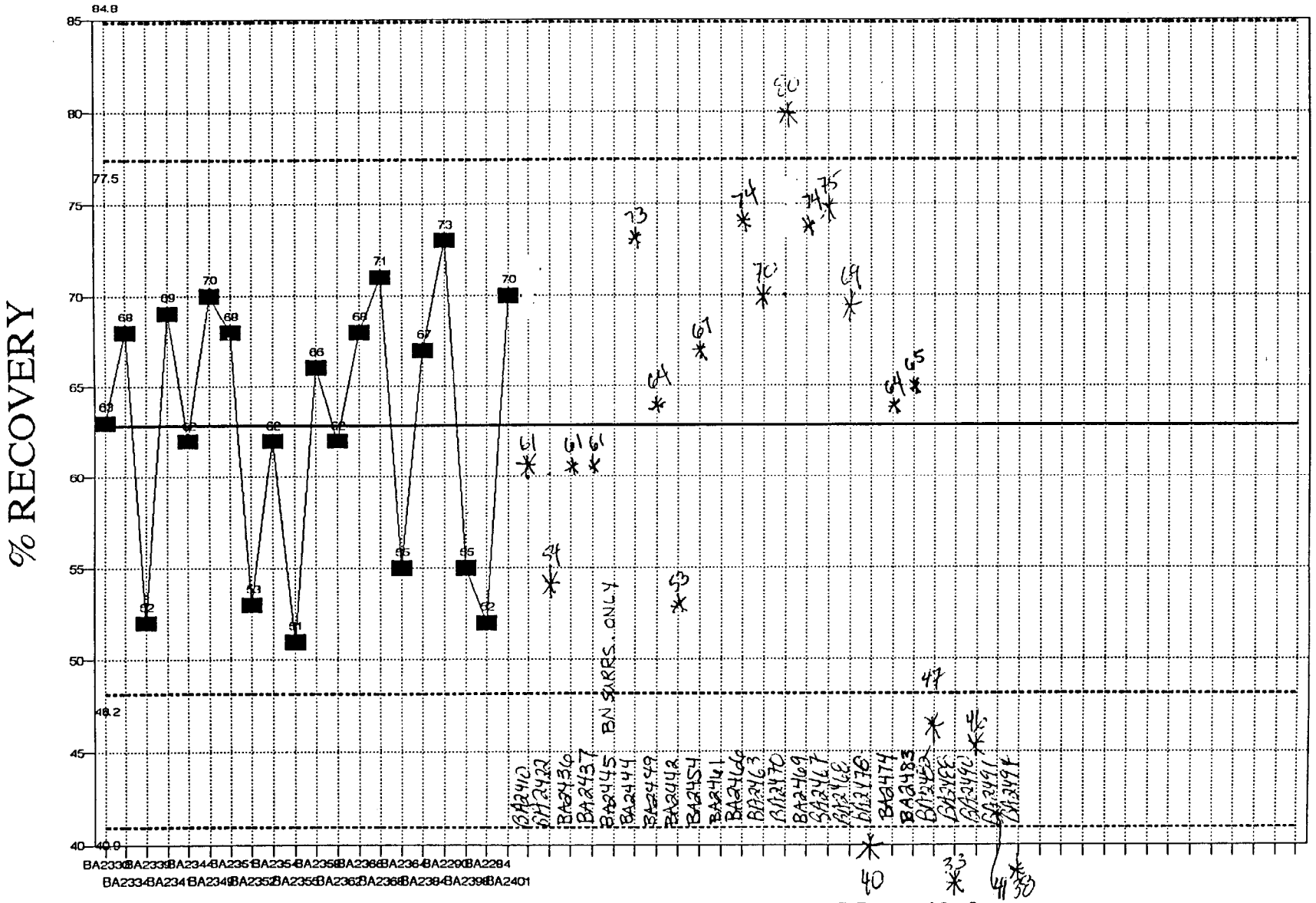


STD DEV = 2.62 MEAN = 99.4

SW846 8240 LOW LEVEL SOLIDS

1	BC081794A	51	BC101894A
2	BC081894A	52	BC101994A
3	BC082594A	53	BG102094A
4	BC082694A	54	BG102194A
5	BC083094A	55	BG102494A
6	BG081994A	56	BG100594D
7	BG082394B	57	BG100794A
8	BG082494A	58	BG101194A
9	BG082594A	59	BG102594A
10	BG082694C	60	BE101794A
11	BG082994A	61	BG101294B
12	BC083194A	62	BG112394C
13	BC090194A	63	BG120694C
14	BC090294A	64	BG120794B
15	BG083094A	65	BG120894B
16	BG083194A	66	BG120994B
17	BG090194A	67	BG121494A
18	BG090294A	68	BG121594A
19	BG090694A	69	BG121694A
20	BG090894A	70	BG121994A
21	BC090694A	71	BG122094B
22	BC090894B	72	BG122394A
23	BC090994A	73	BG122794A
24	BG090994A	74	BG123094B
25	BG091294A	75	∅
26	BG091394A	76	BC021094B
27	BG091494B	77	BC021394A
28	BG091594A	78	BG040695B
29	BG091694A	79	BG040795B
30	BG091994A	80	BG040995A
31	BE092094A	81	BC061395C (93, 101, 102)
32	BE092194A	82	BC061495C (98, 99, 103)
33	BC092194B	83	BC061595A (100, 102, 100)
34	BC092294B	84	BC061695A (95, 102, 102)
35	BC092394B	85	BC062795A (100, 106, 107)
36	BC092694B	86	BC062895B2 (98, 100, 97)
37	BG100794A	87	BC062995A1 (99, 100, 100)
38	BE092294A	88	BC072595A1 (95, 99, 103)
39	BE092394A	89	BC0814 95A1 (99, 105, 101)
40	BC092794B	90	BC090515A1 (95, 98, 100)
41	BC101094A	91	BC090995A1 (96, 97, 99)
42	BC101194A	92	BG101395B1 (104, 100, 106) BE101495 (3)
43	BG101194A	93	BG101095A1 (103, 99, 98)
44	BC101294A	94	
45	BG101294A	95	
46	BG101394A	96	
47	BE101894A	97	
48	BE101994A	98	
49	BG101994C	99	
50	BC101794A	100	

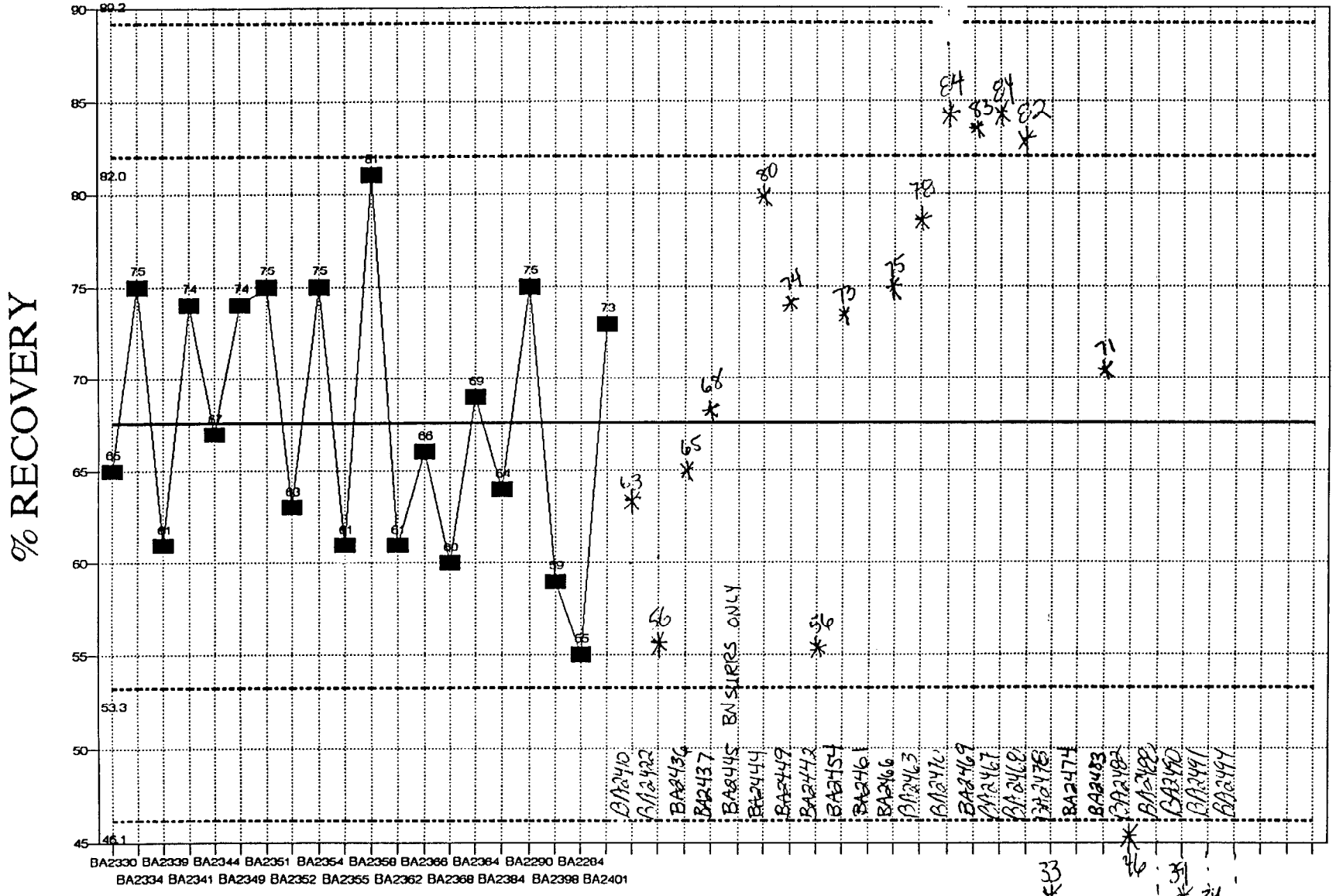
ABN WATER 3520/8270B, 2-FLUOROPHENOL SURR, LIMITS SET 8/95



STD DEV = 7.31 MEAN = 62.8

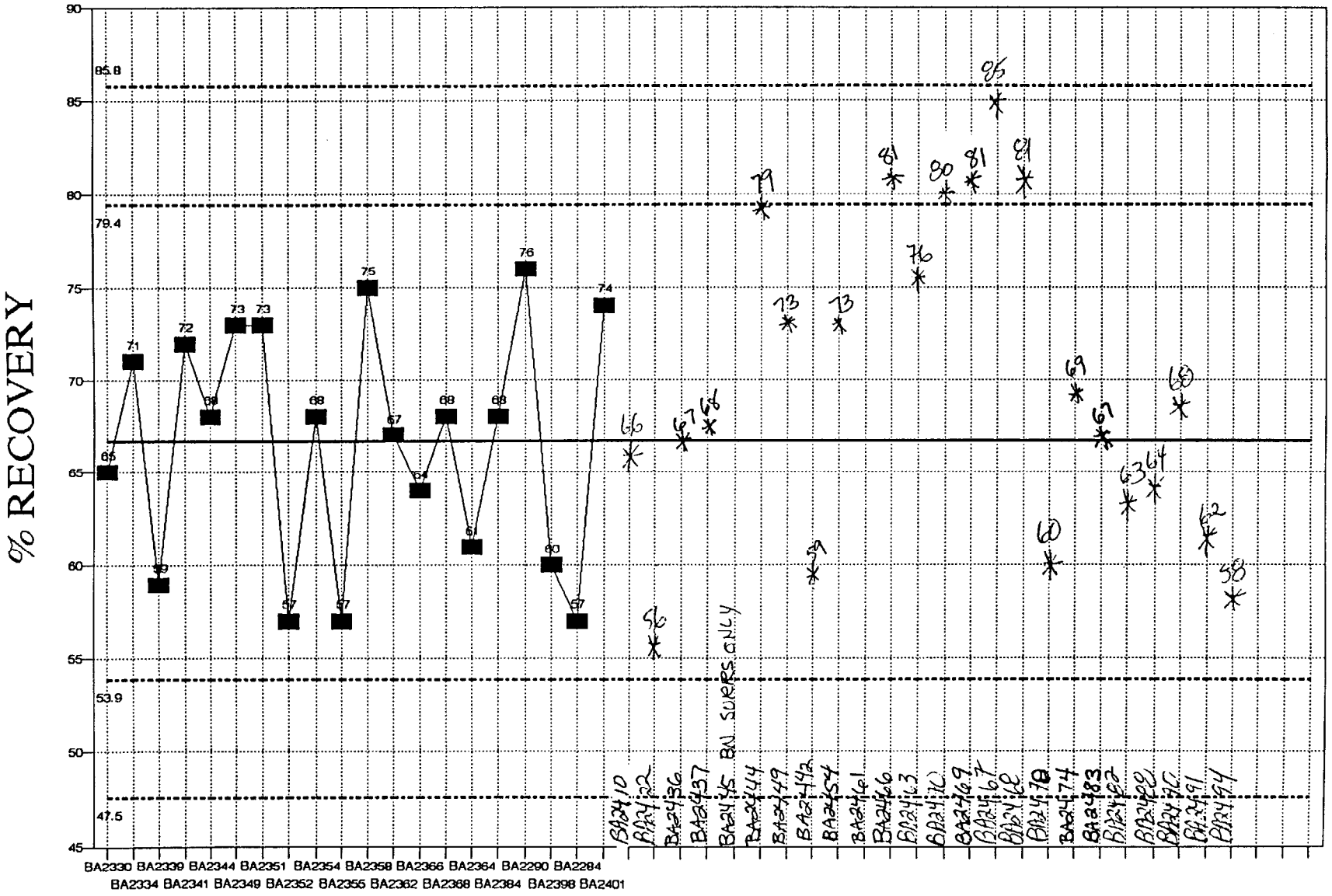
00000177

ABN WATER 3520/8270B, PHENOL-D5
SURR, LIMITS SET 8/95



STD DEV = 7.17 MEAN = 67.6

ABN WATER 3520/8270B, 2-CHLOROPHENOL-D4
SURR, LIMITS SET 8/95

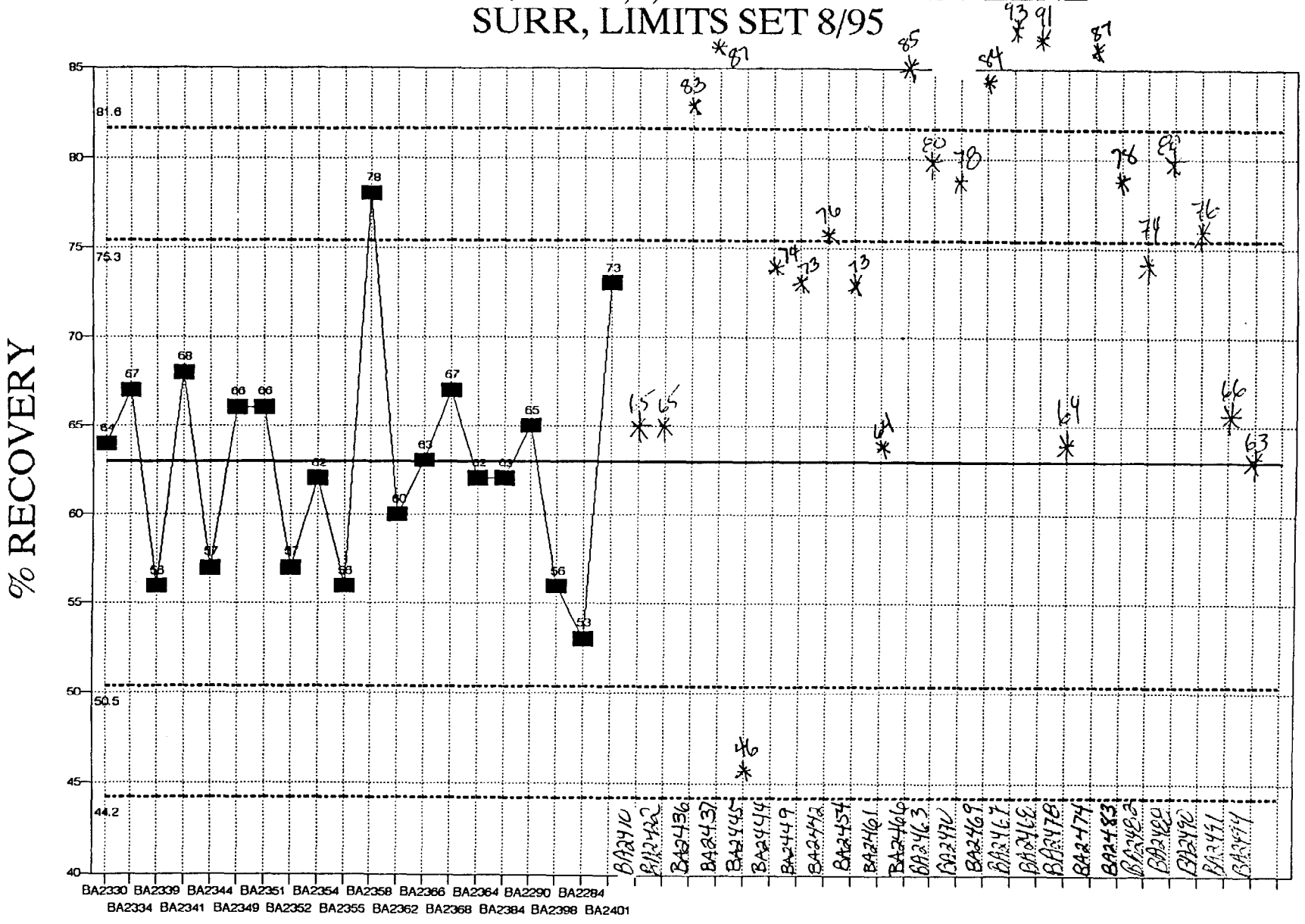


STD DEV = 6.37 MEAN = 66.6

38

00001179

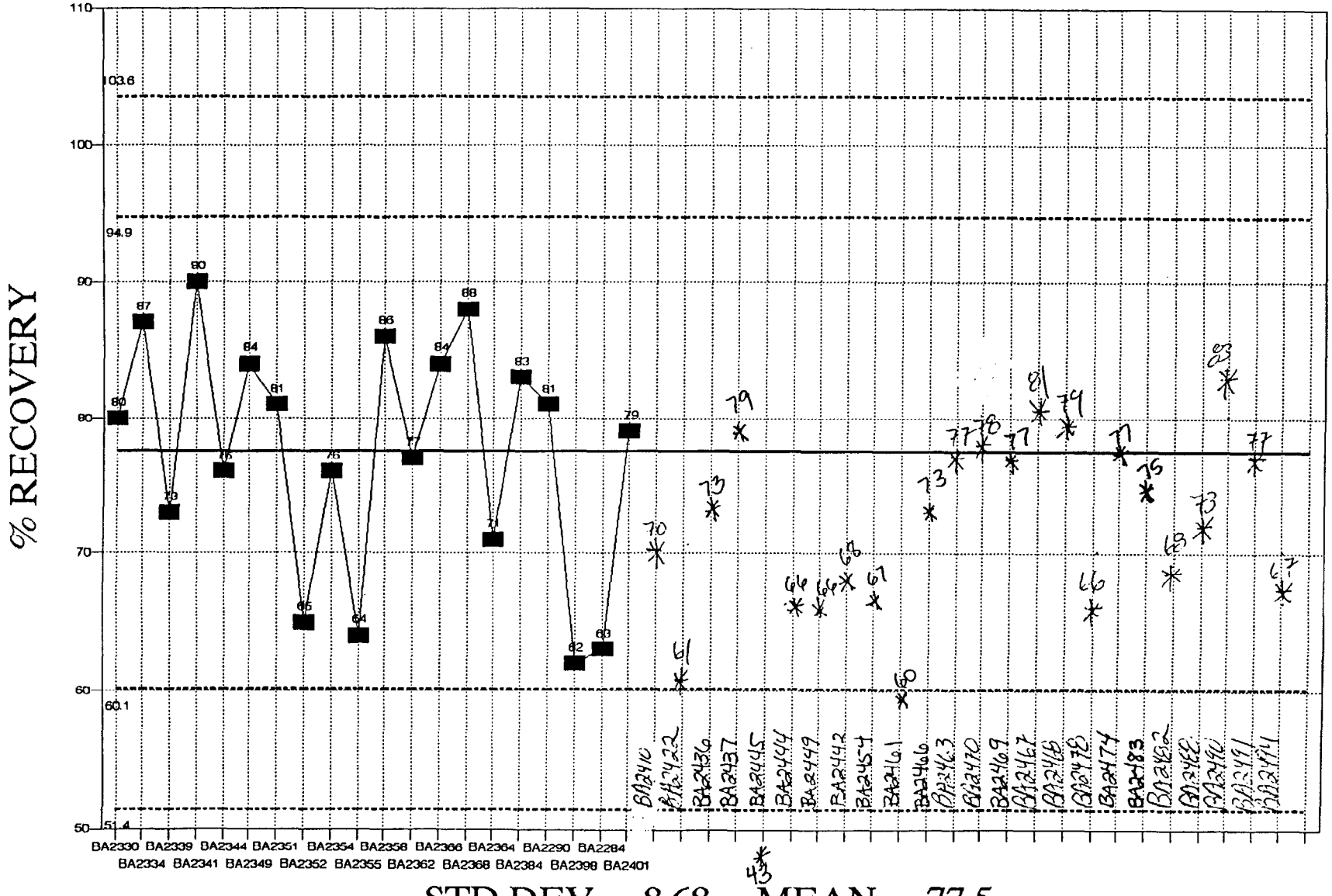
ABN H2O 3520/8270B,1,2-DICHLOROBENZENE-SURR, LIMITS SET 8/95



STD DEV = 6.22 MEAN = 62.9

00000180

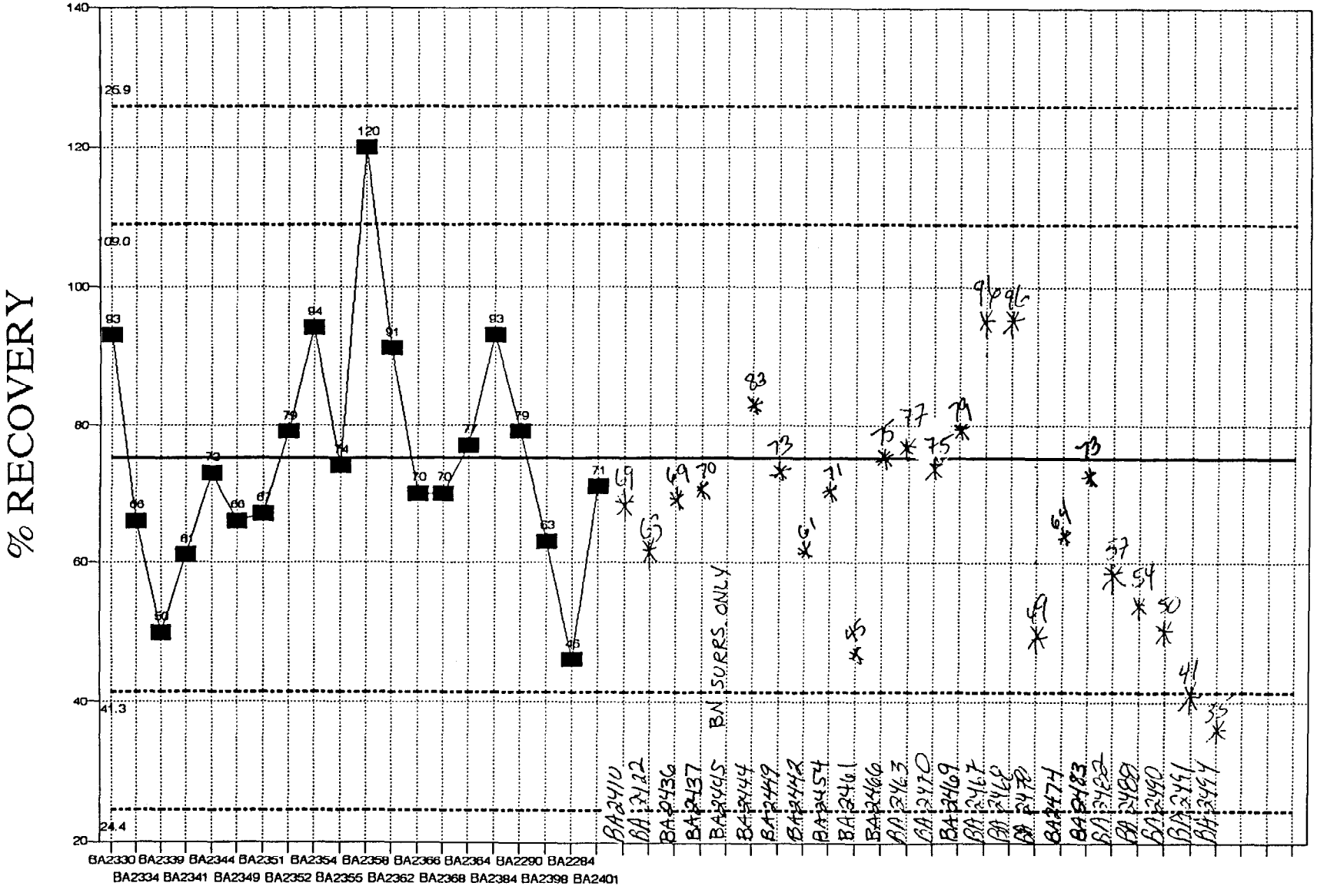
ABN H2O 3520/8270B, NITROBENZENE-D5
SURR, LIMITS SET 8/95



STD DEV = 8.68 MEAN = 77.5

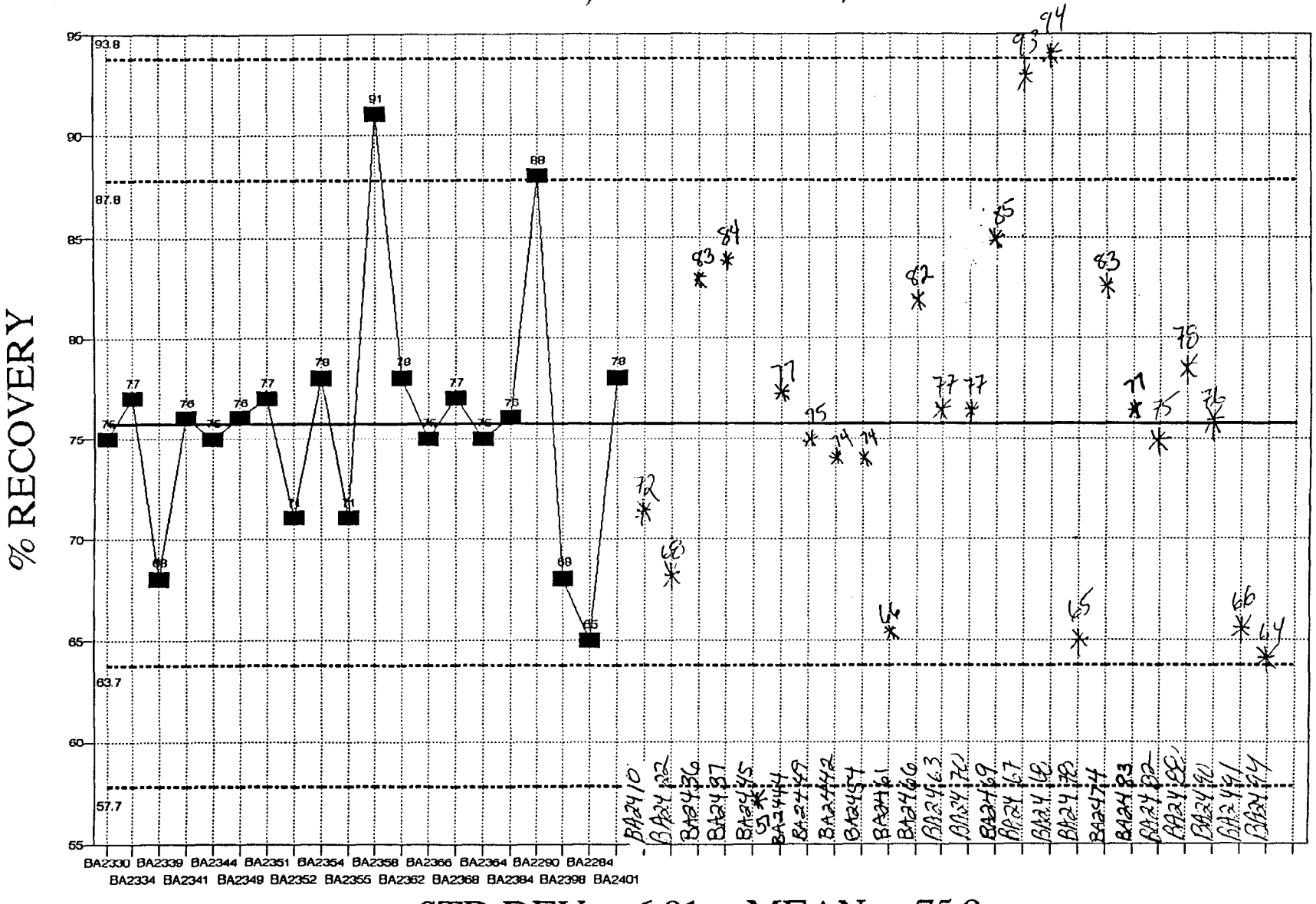
0000181

ABN H2O 3520/8270B,2,4,6-TRIBROMOPHENOL SURR, LIMITS SET 8/95



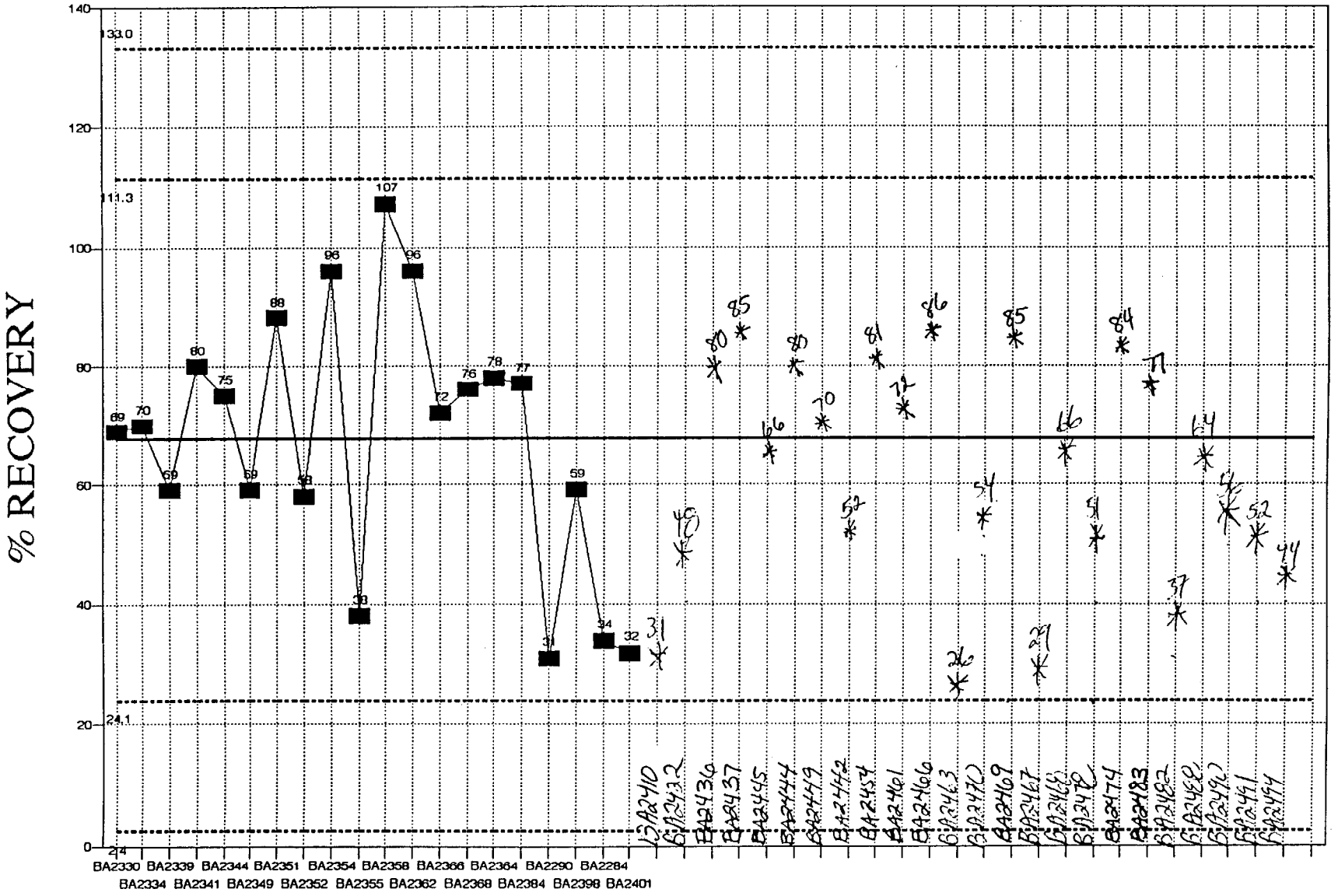
STD DEV = 16.9 MEAN = 75.2

ABN H2O 3520/8270B, 2-FLUOROBIPHENYL SURR, LIMITS SET 8/95



STD DEV = 6.01 MEAN = 75.8

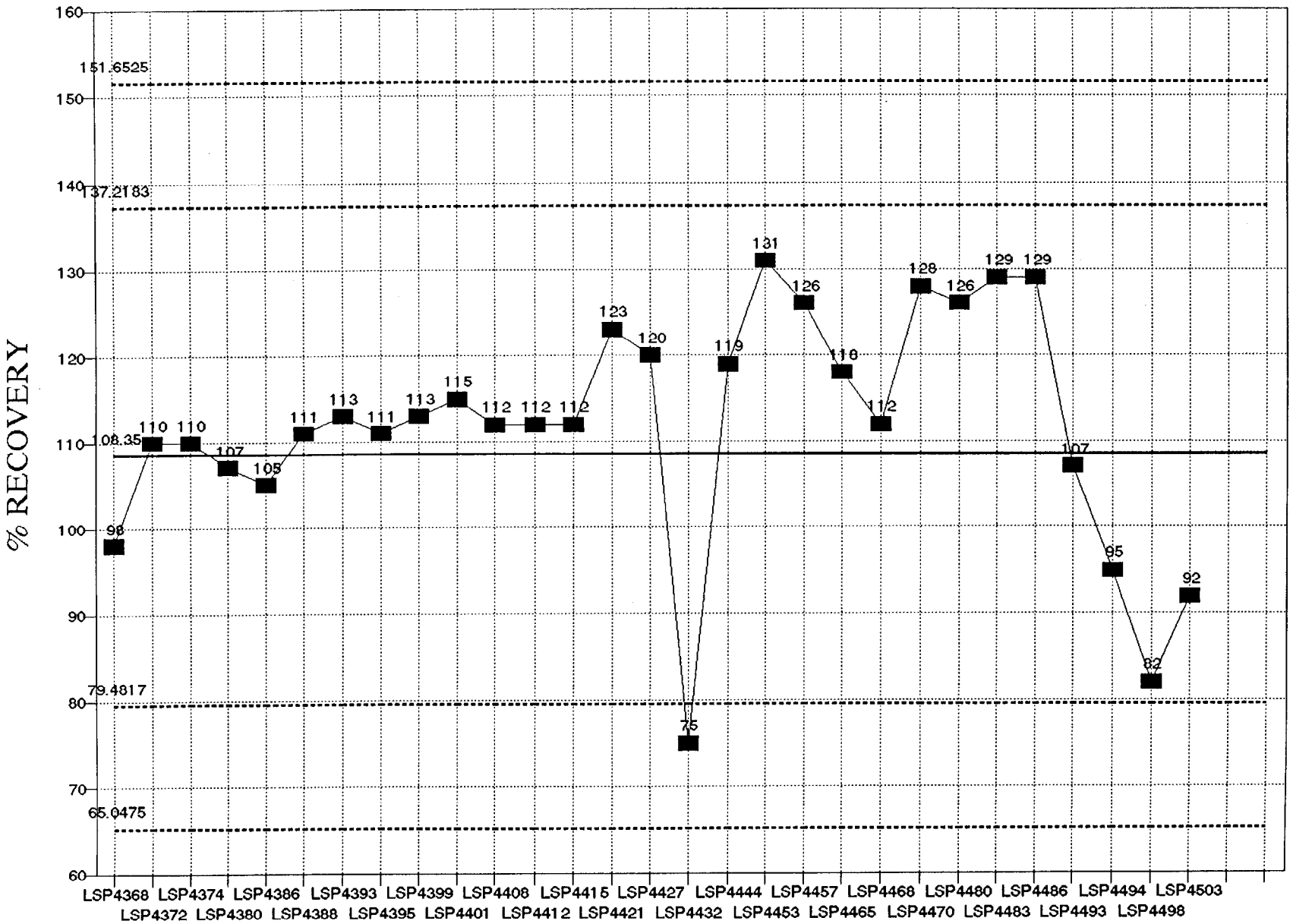
ABN H2O 3520/8270B, TERPHENYL-D14
SURR, LIMITS SET 8/95



STD DEV = 21.8 MEAN = 67.7

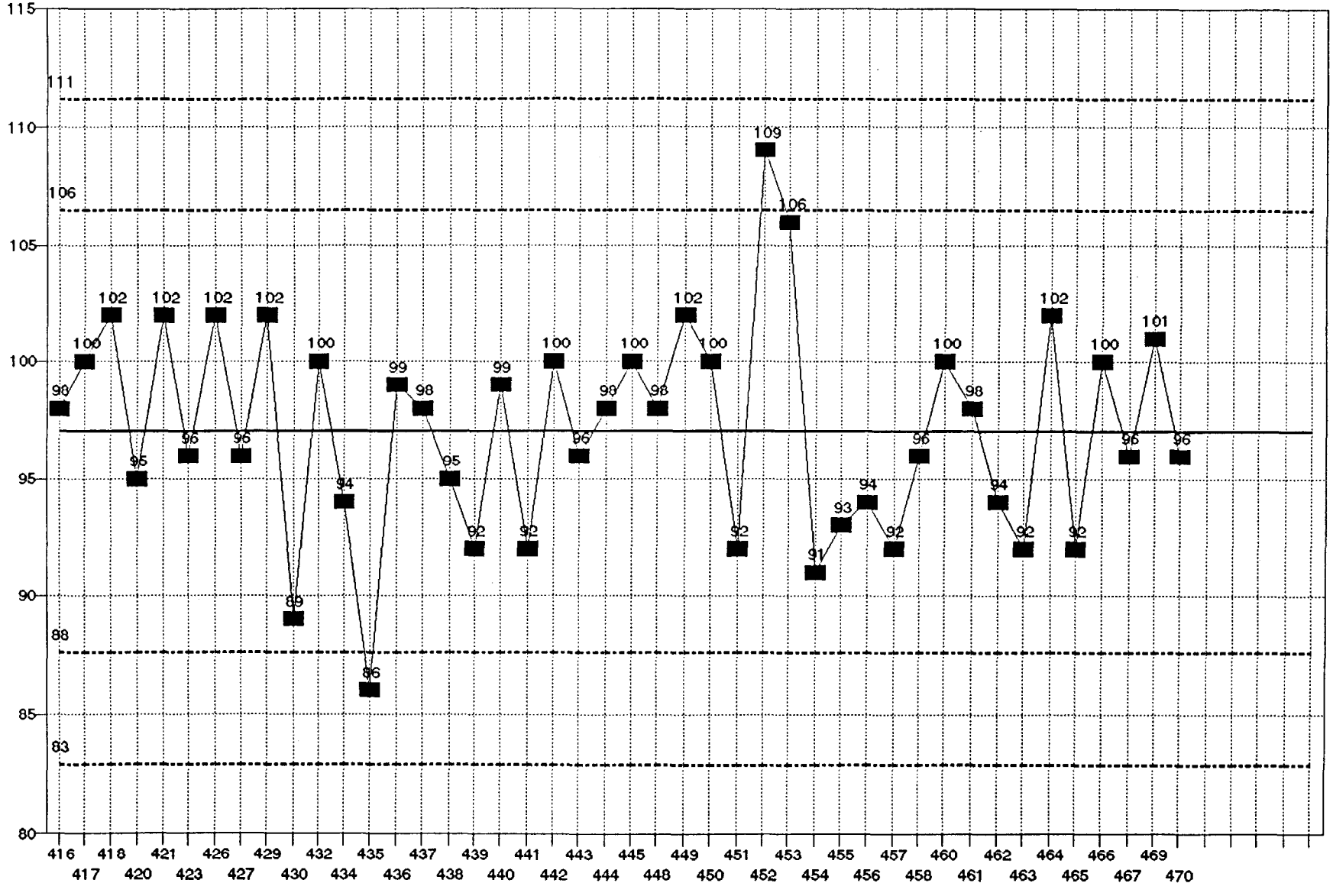
PCB MEDIUM SOLIDS AROCHLOR 1254

SPK LIMITS SET 8/95-PPCBCHT\AR1254S



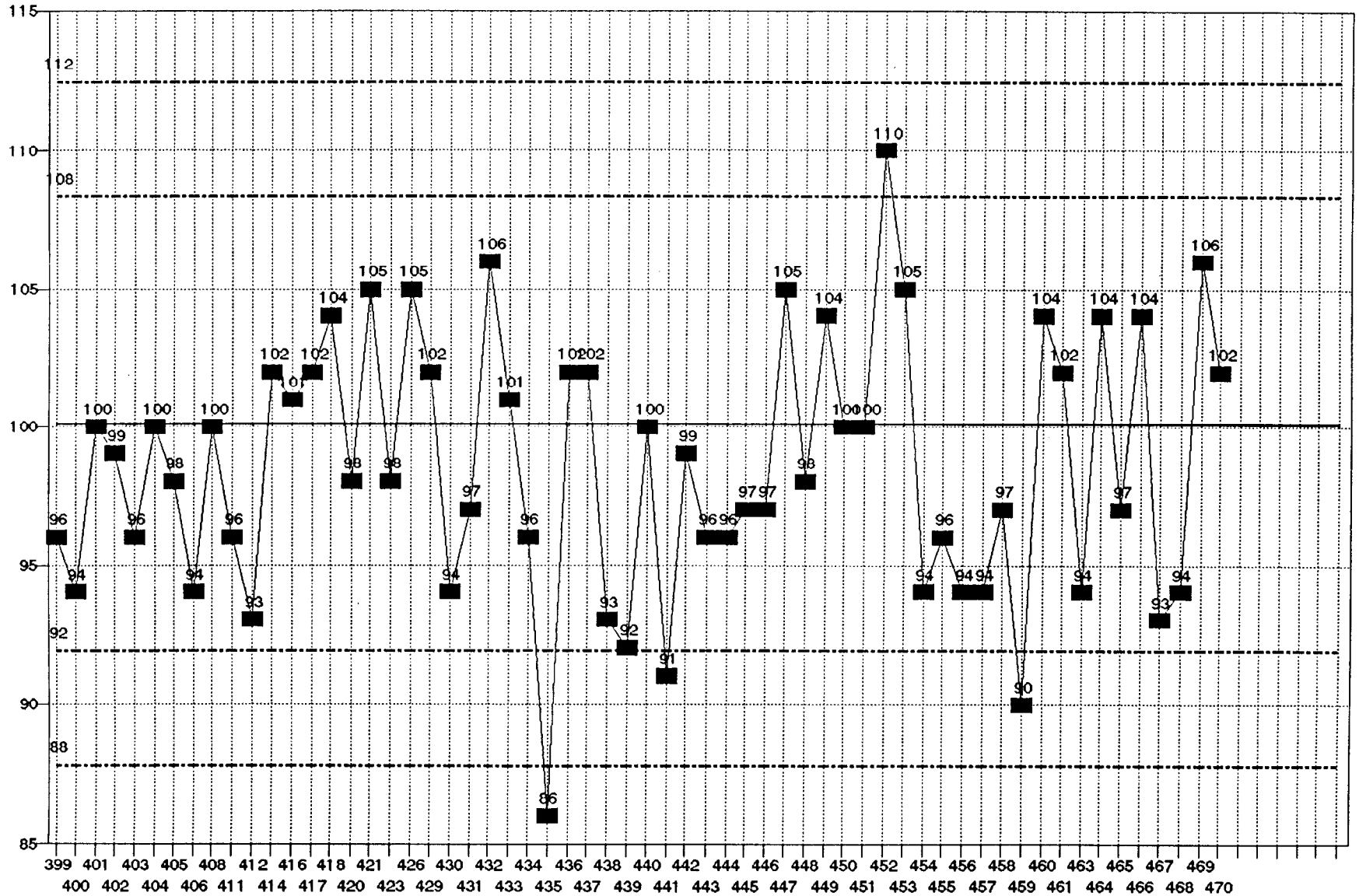
MEAN = 108.35 STD DEV = 14.43

As COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



STD DEV = 5 MEAN = 97

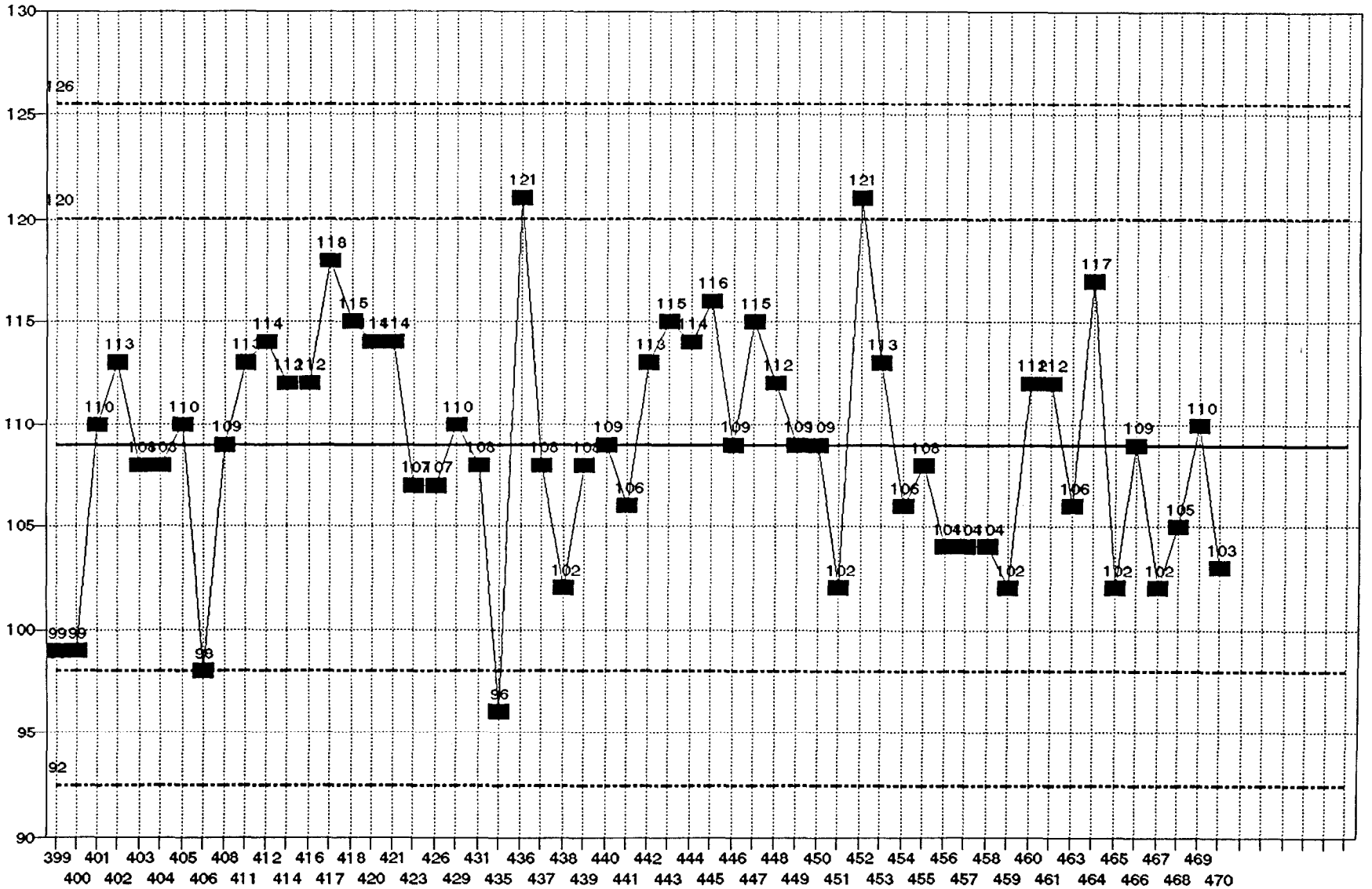
Ba COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 9/95



STD DEV = 4 MEAN = 100

00000187

Cd COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 7/95



STD DEV = 5.51 MEAN = 109

00000188

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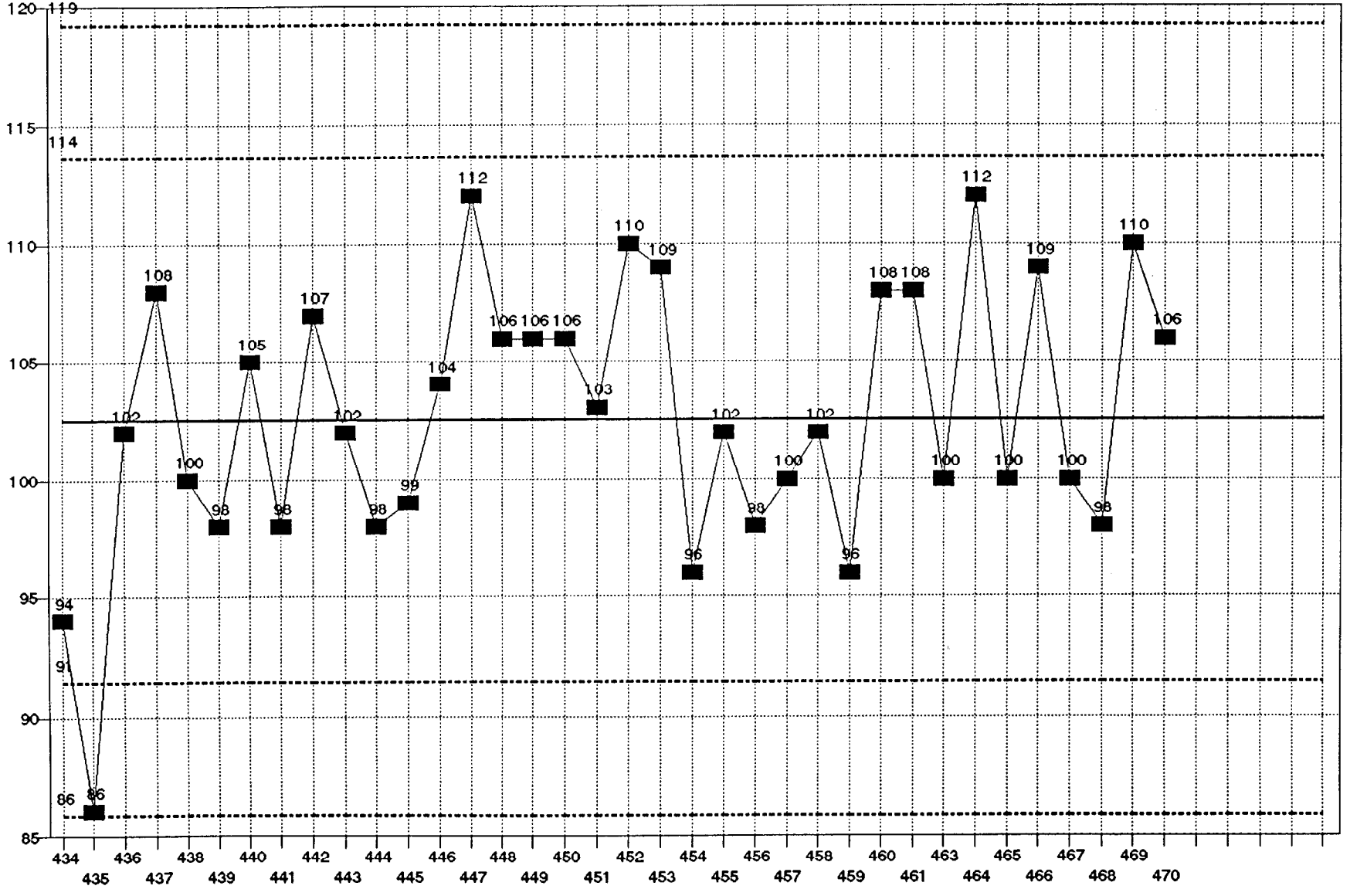
LIMITS SET 10/95



STD DEV = 6 MEAN = 103

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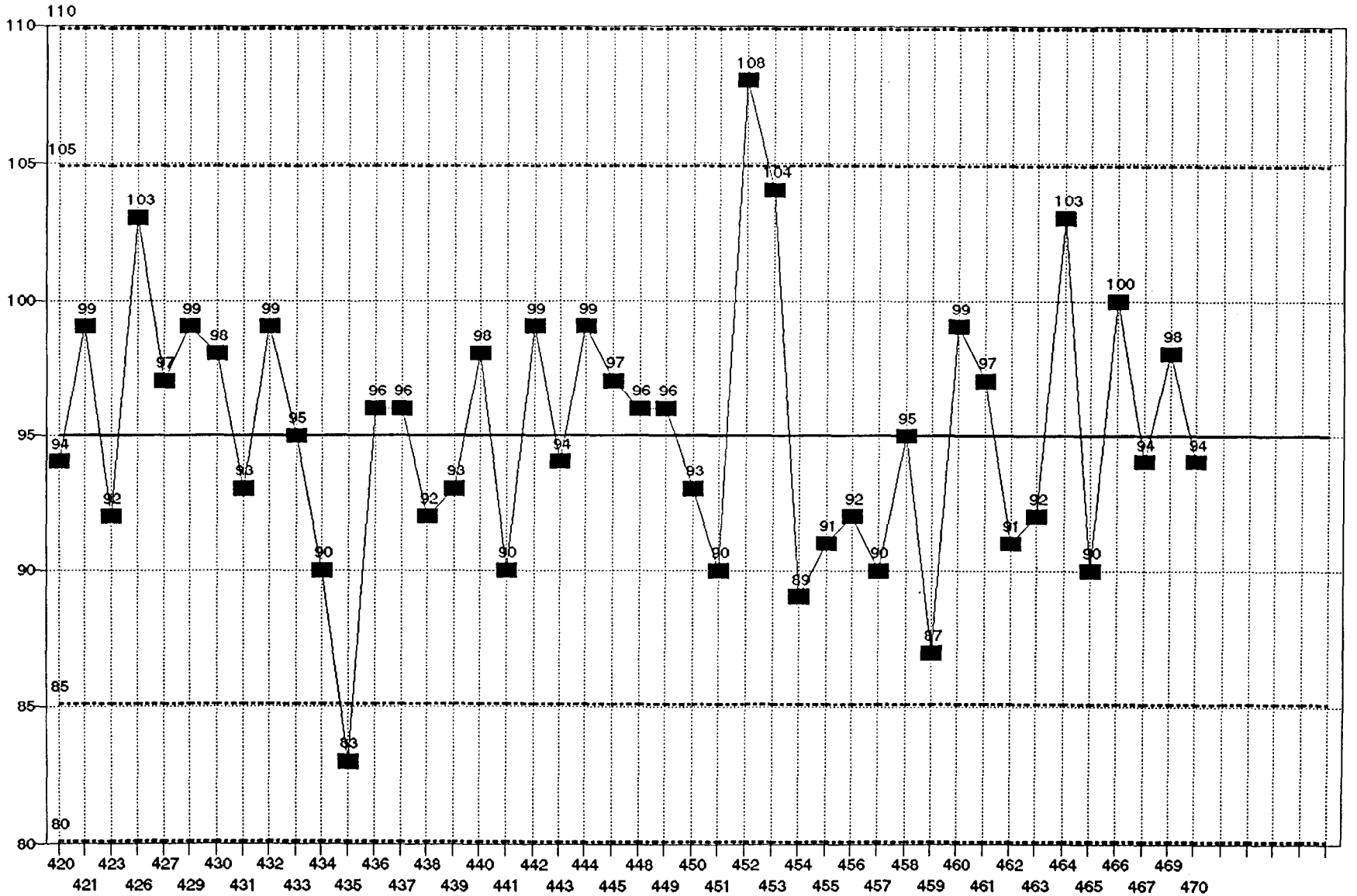
LIMITS SET 10/95



STD DEV = 5 MEAN = 95

00000190

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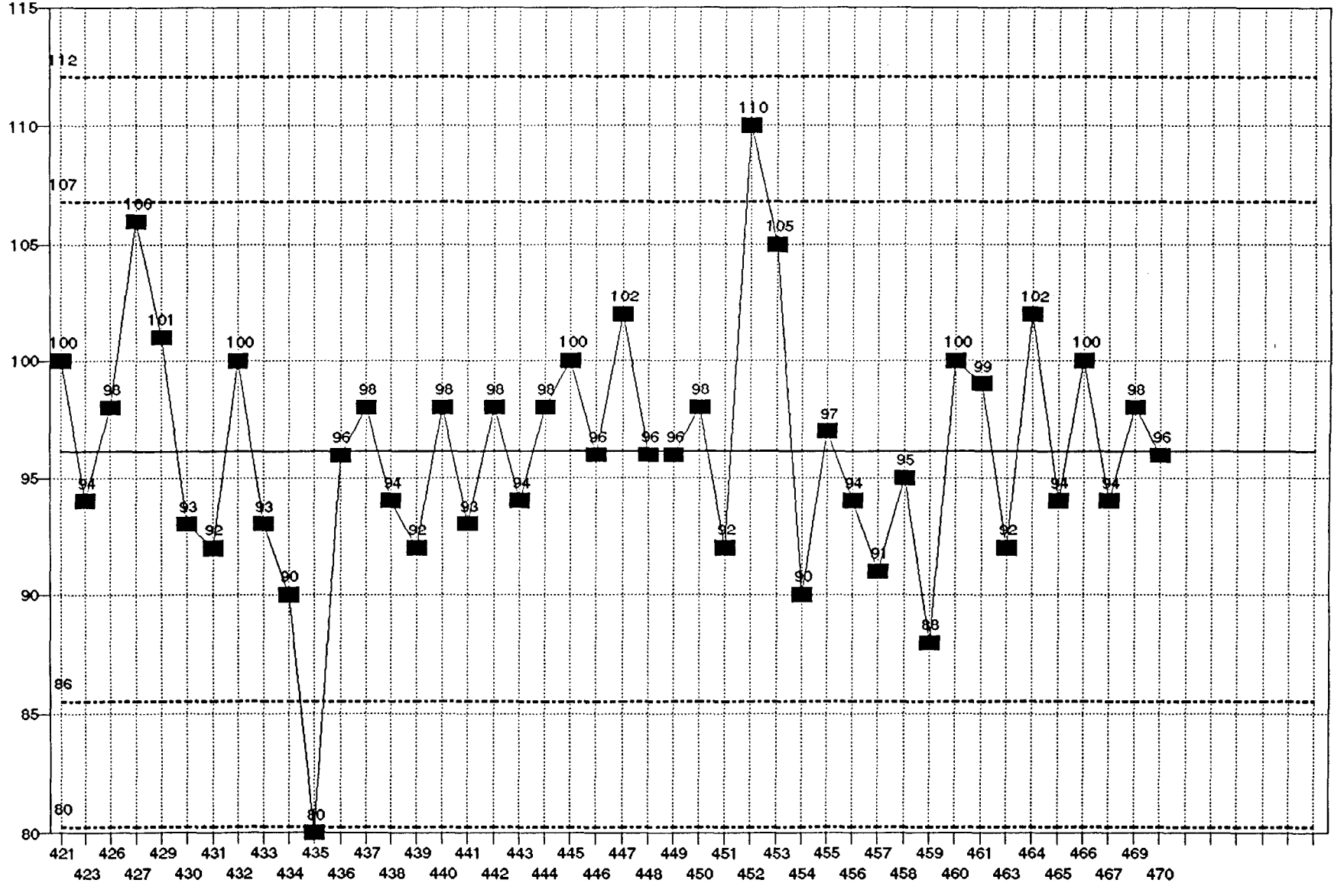
LIMITS SET 10/95



STD DEV = 5 MEAN = 96

00001910

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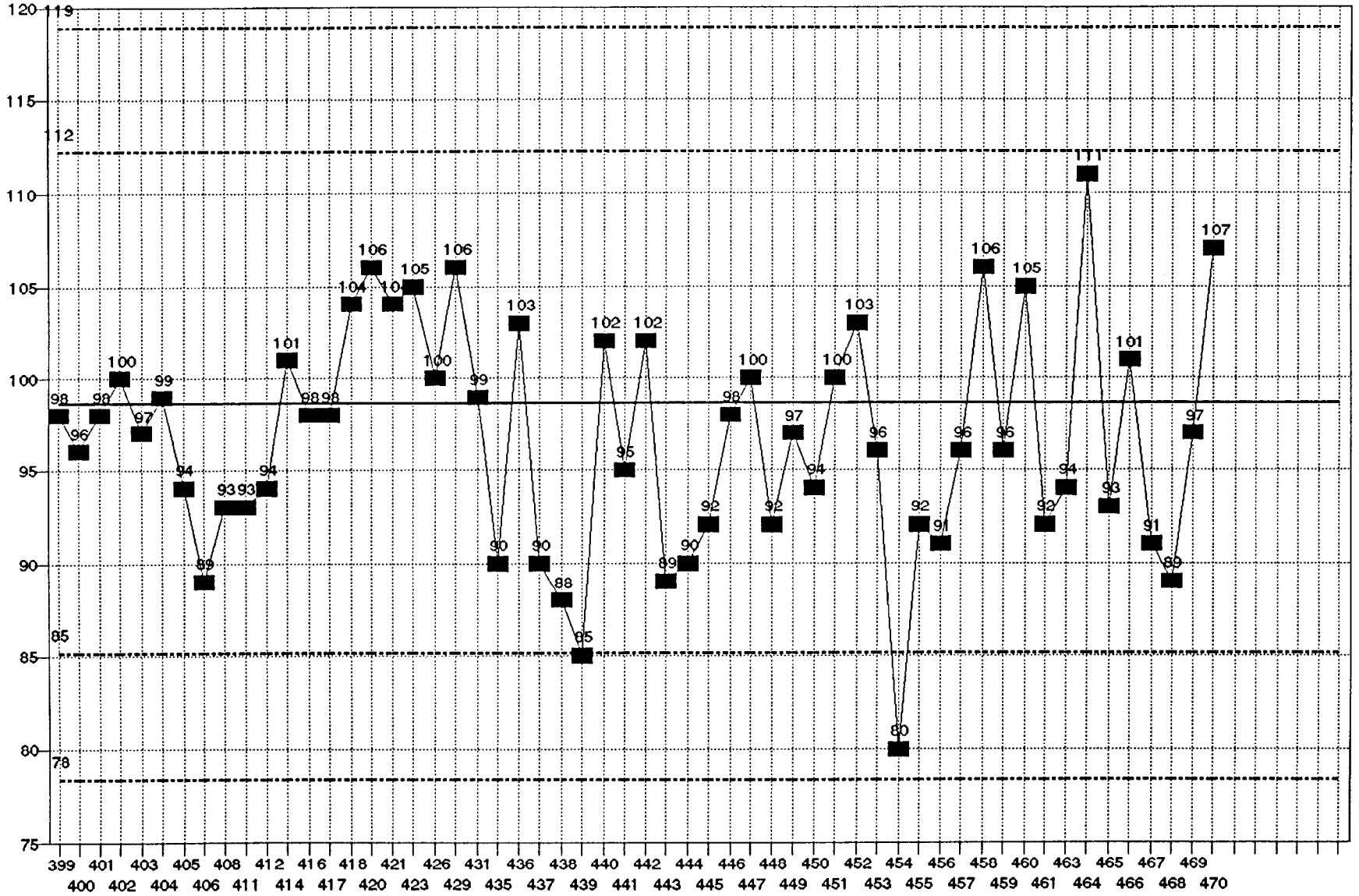
LIMITS SET 8/95



STD DEV = 7 MEAN = 99

0000192

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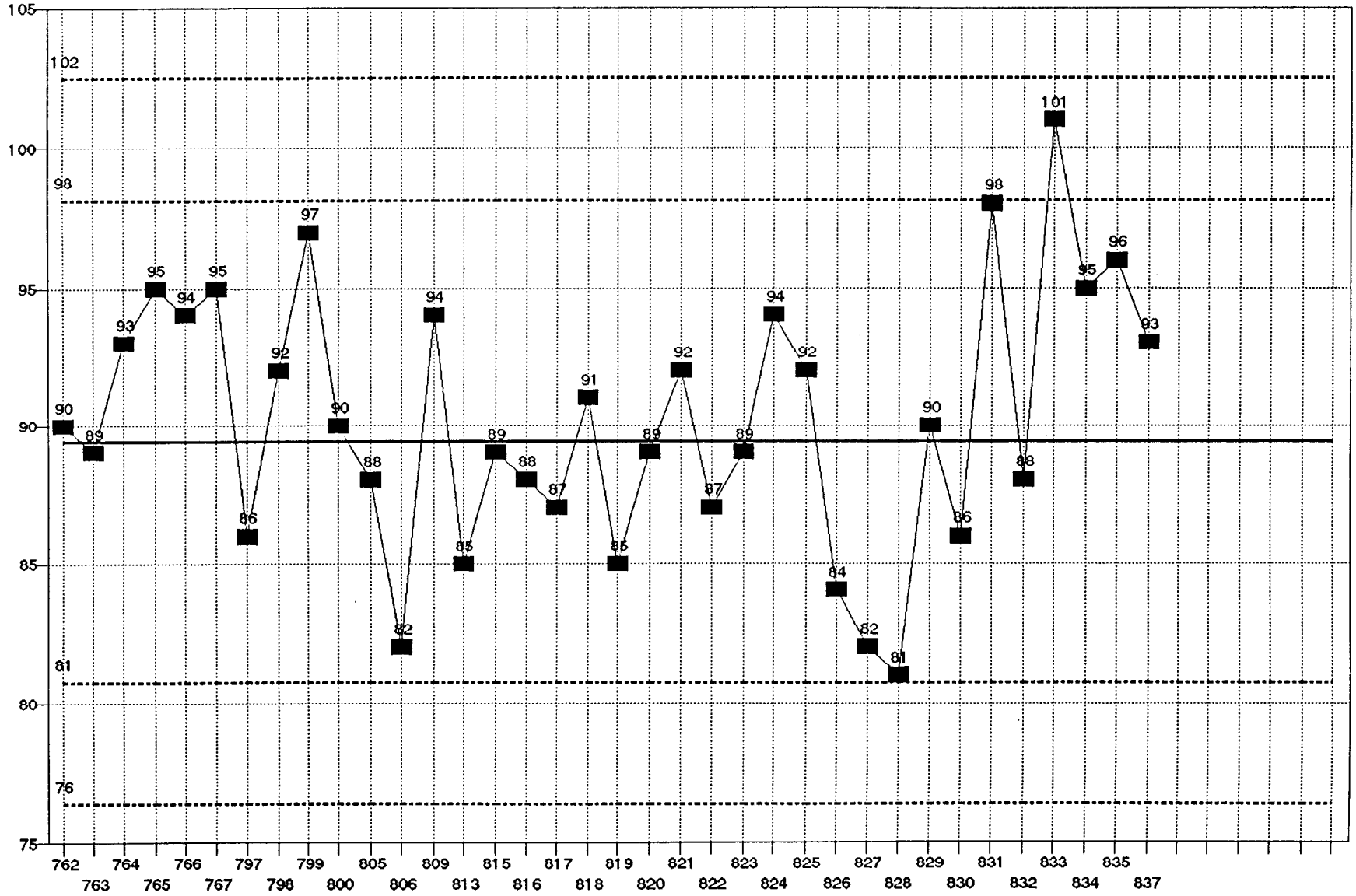
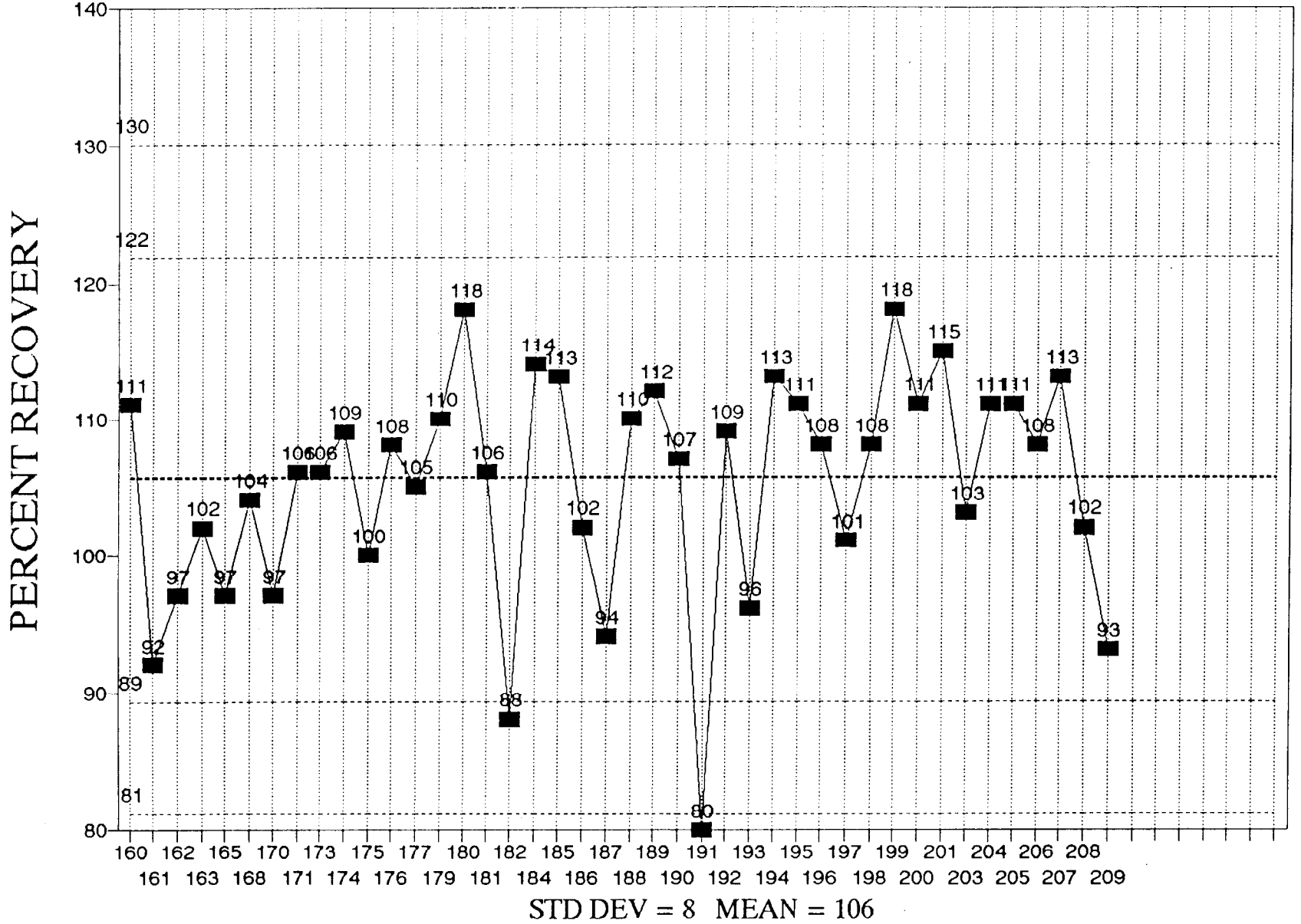
LIMITS SET 10/95



STD DEV = 4 MEAN = 89

FURNACE ARSENIC WATER LCS RECOVERIES
LIMITS SET 10/95



00001194

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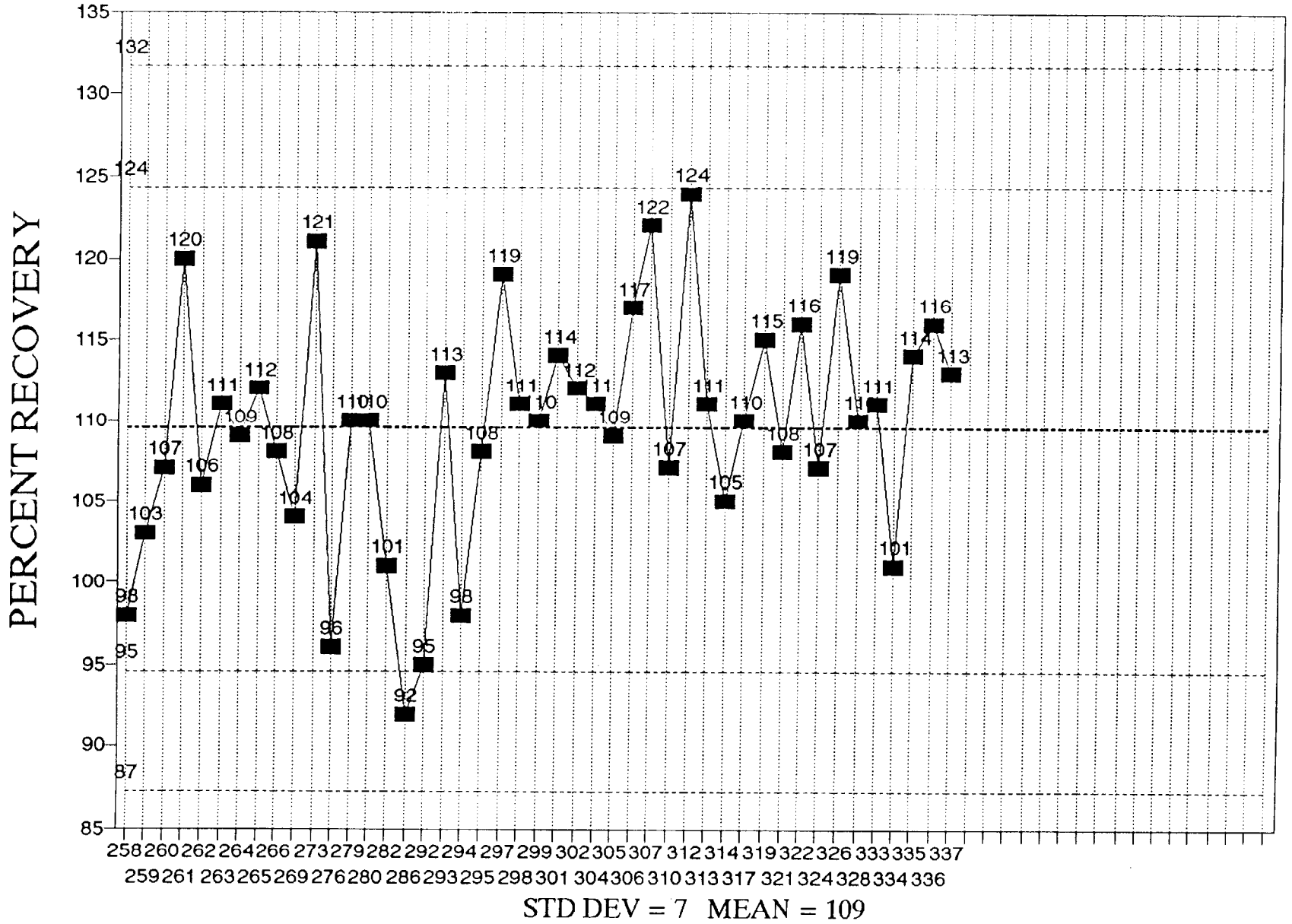
LIMITS SET 10/95



0000195

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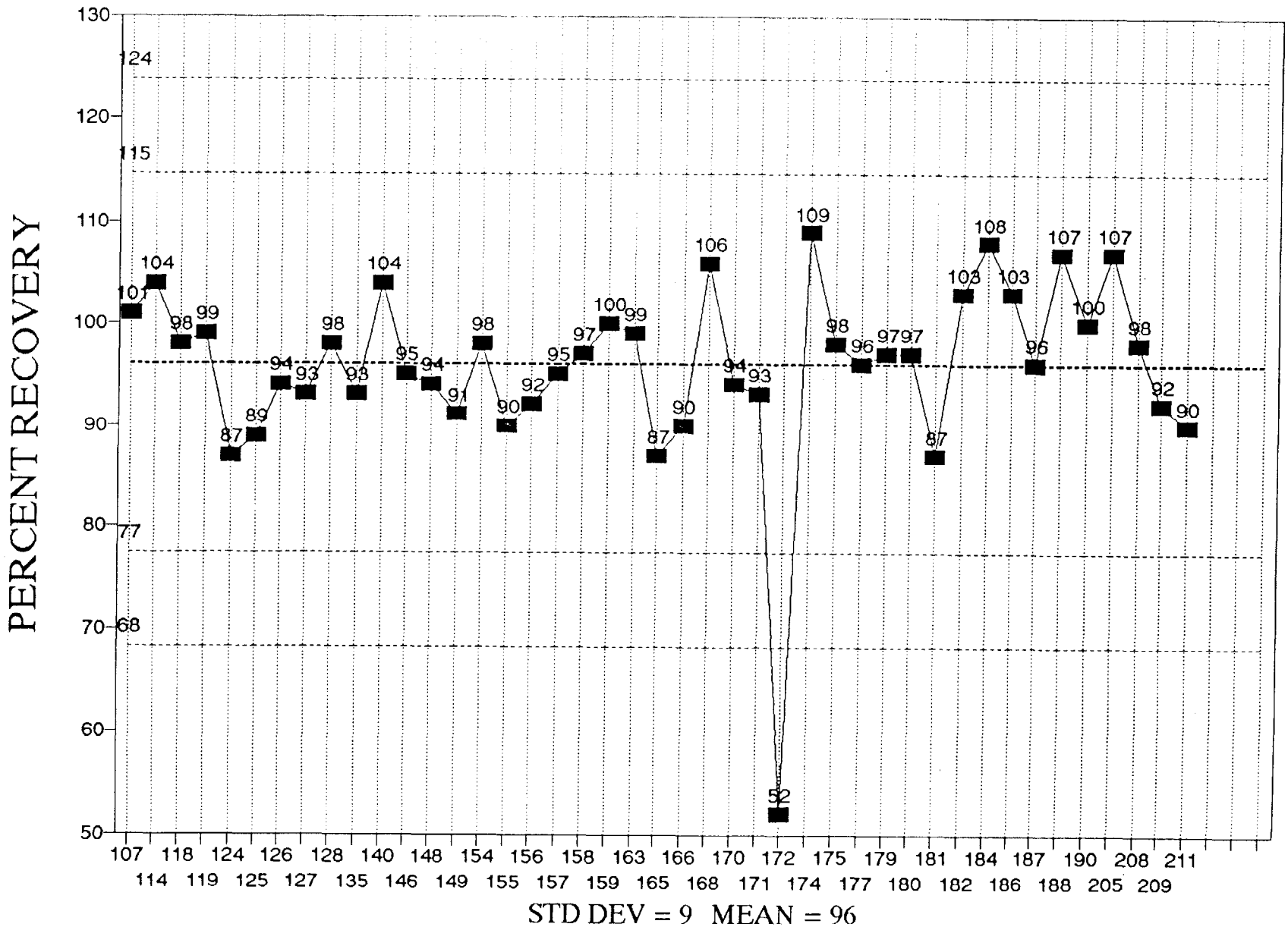
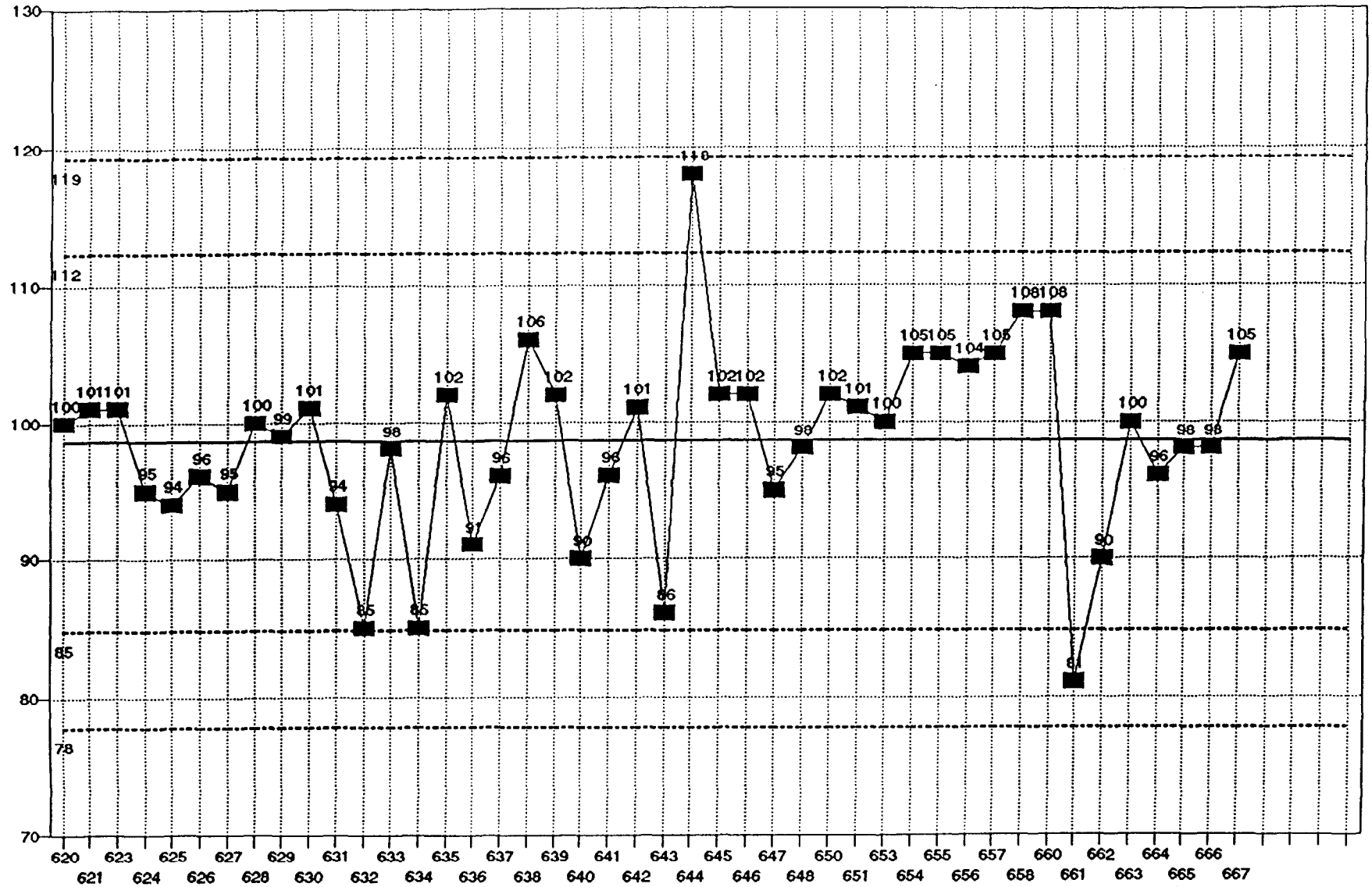
LIMITS SET 10/95



STD DEV = 9 MEAN = 96

Hg COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



STD DEV = 7 MEAN = 99

LAB COPY

OHM Remediation Services Corp.

CHAIN-OF-CUSTODY RECORD

Form 001
Field Technical Service
Rev. 08/8

166413

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526

PROJECT NAME	PROJECT LOCATION
Camp Lejeune D.O. 44	Camp Geiger, NC

PROJ. NO.	PROJECT CONTACT	PROJECT TELEPHONE NO.
16487	Rakesh Mishra	910-451-2599

CLIENT'S REPRESENTATIVE	PROJECT MANAGER/SUPERVISOR
	Jim Dunn / Randy Smith

45594

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS) TPH-GRO	TPH-DRO	TCLP Metals, TCLP Semi-Volatile	TCLP Volatile	RCRA Haz Waste Char.	O&G	PCB's, Total Lead	Volatile + BTEX (8240)	REMARKS
1	CLJ44-CC-076	10/4	0640	X		Clean Soil from Pile 18 of Area A.	4	-1 X	-4 X	-7 X	-7 X	-7 X				
2	CLJ44-CC-077	10/4	0645	X		Clean Soil from Pile 19 of Area A.	4	-2 X	-5 X	-6 X	-8 X	-8 X				
3	CLJ44-CC-078	10/4	0655	X		Contaminated Soil from Pile 44 of Area A.	4	X	X				X			
4	CLJ44-CC-079	10/4	0700	X		Contaminated Soil from Pile 45 of Area A.	4	X	X	-9 X	-9 X	-9 X	X	-15 X	-16 X	
5	CLJ44-CC-080	10/4	0705	X		Contaminated Soil from Pile 46 of Area A.	4	X	X				X			
6	CLJ44-CC-081-RB	10/4	0715	X		Rinsate Blank	5	X	X	X	X	X				Metals -11; BNA-12; VOA-13; RCRA Char -14
7	CLJ44-CC-082-TB	10/4				Trip Blank	3	X			X				X	
8																
9																
10																

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-7		FedEx	10/4	1100
2		FedEx	Gretchen Franchman Pace	10/5/05	1015
3					
4					

REMARKS Send Samples to Pace Lab
Items 1, 2 & 4 3 days TAT
Items 3, 5, 6, 7 24 hr. TAT

SAMPLER'S SIGNATURE

00001986

LAB COPY

OHM Remediation Services Corp.

CHAIN-OF-CUSTODY RECORD

Form 0019
Field Technical Services
Rev. 08/89

166413

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526

PROJECT NAME: Camp Lejeune D.O. 44	PROJECT LOCATION: Camp Geiger, NC
PROJ. NO.: 16487	PROJECT CONTACT: Rakesh Mishra
PROJECT TELEPHONE NO.: 910-451-2599	
CLIENT'S REPRESENTATIVE	PROJECT MANAGER/SUPERVISOR: Jim Dunn / Randy Smith

ITEM NO	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS): TPH-GRO	TPH-DRO	TCLP Metals	TCLP Semi-Volatile	RCRA Haz Waste Char.	O&G	PCB, Total Lead	Volatile +BTEX (8240)	REMARKS
1	CJJ44-CC-076	10/4	0640	X		Clean Soil from Pile 18 of Area A.	4	X	X	X	X	X				
2	CJJ44-CC-077	10/4	0645	X		Clean Soil from Pile 19 of Area A.	4	X	X	X	X	X				
3	CJJ44-CC-078	10/4	0655	X		Contaminated Soil from Pile 44 of Area A.	4	X	X				X			
4	CJJ44-CC-079	10/4	0700	X		Contaminated Soil from Pile 45 of Area A.	4	X	X	X	X	X	X	X	X	
5	CJJ44-CC-080	10/4	0705	X		Contaminated Soil from Pile 46 of Area A.	4	X	X				X			
6	CJJ44-CC-081-RB	10/4	0715	X		~~Rinsate Blank~~	5	X	X	X	X	X				
7	CJJ44-CC-082-TB	10/4				~~Trip Blank~~	3	X			X				X	
8																
9																
10																

Final Page

ANSWER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-7		FedEx	10/4	1100
2		FedEx	Gretchen Franchi m Pace	10/5/95	1015
3					
4					

REMARKS: Send Samples to Pace Lab
Items 1, 2 & 4 3 days TAT
Items 3, 5, 6, 7 24 hr. TAT

SAMPLER'S SIGNATURE

6610099

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THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

Ocletober 26, 1995

OHM Remediation Services Corporation
5335 Triangle Parkway
Suite 450
Norcross, GA 30092

SAMPLE DELIVERY GROUP NARRATIVE

Case: OHMRC
SDG: LJN32
Laboratory: PACE New England - New Hampshire of Hampton, NH
Lab Numbers: 45613
Protocol: SW846 Methods. NEESA E deliverables. No diskette.

Sample Receipt: These samples were received at PACE, Inc. on October 6, 1995. Laboratory sample numbers were assigned for test parameters as listed on the Sample Table which follows this narrative. The sample shipment was checked for custody seal integrity and cooler temperature. Samples were checked for appropriate preservation and accuracy against the Chains-of-Custody provided. Other than the exceptions noted below, samples were received between 2-6° C and in good condition. PACE Sample Receipt Condition Reports can be found with the Chains-of-Custody.

Shipment received 10/6/95 (45613): Samples were received in one cooler and were assigned PACE# 45613 and 45614. A temperature blank was not included with the shipment, therefore the cooler temperature could not be verified upon receipt of samples at PACE. The samples were received cool, and had been packed on ice. Samples assigned PACE Lab# 45614 were logged in for a 3-day turnaround per the request on the COC. Samples assigned PACE Lab# 45613 were logged in for 24-hour turnaround per the request on the COC.

GRO Analysis: The surrogate was not quantitated in laboratory number 45613-2 due to matrix interference.

Volatiles Analysis: The method 8240 blank "BG100995A1" contained low levels of methylene chloride. The sample results for this analyte should be used with due consideration.

DRO Analysis: Laboratory control sample results for "LSH1414" are plotted on a control chart which has limits that were established using low level solid extract results. The result for diesel may be outside the control limits possibly due to the difference of the extraction. When enough points are collected for the medium level solid extraction, a new control chart will be created with different acceptance limits.

Oil and Grease Analysis: Analyses proceeded without difficulty. Matrix spikes and duplicates met all acceptance criteria.

Statement of Compliancy and Data Authorization

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

James D. Cutter — 10/26/95

PACE Incorporated, New England-New Hampshire — October 26, 1995

P.O. Box 2130
1 Lafayette Road
Hampton, NH 03842
TEL: 603-926-7777
800-992-0724
FAX: 603-926-7939

SAMPLE TABLE

CLIENT ID.	MATRIX	PACE #	PARAMETERS
CLJ44-CC-086	SOLID	45613-001	TOTAL GASOLINE
		45613-006	OIL & GREASE BY GRAVIMETRY
			TOTAL DIESEL
CLJ44-CC-087	SOLID	45613-002	TOTAL GASOLINE
		45613-007	OIL & GREASE BY GRAVIMETRY
			TOTAL DIESEL
CLJ44-CC-089-TB	WATER	45613-003	TOTAL GASOLINE
		45613-004	GC/MS VOA

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pace INCORPORATED
ENVIRONMENTAL LABORATORIES

NEW ENGLAND - NEW HAMPSHIRE LABORATORY
SAMPLE RECEIPT CONDITION REPORT
Tel. (603) 926-7777
FAX (603) 926-7939

LAB# 45613
PAGE 1 of 1
COOLER ____ of ____
COC# ____
SDG# LJN32
CASE# CHMRC

(E3) KaL 10/6/95

CLIENT Ecology OHM

DATE/TIME RECEIVED 10/6/95 0945 LIMS ENTRY BY GMC

DELIVERED BY Fed-Ex TRANSCRIPTION REVIEW BY TC 10/6/95

RECEIVED BY KaL LIMS REVIEW BY/PM GMC

		NA	YES	EXCEPTION	COMMENT	RESOLUTION
1.	CUSTODY SEALS PRESENT/INTACT	☑	☐	☐		
2.	CHAIN OF CUSTODY PRESENT IN THIS COOLER	☐	☑	☐		
3.	CHAIN OF CUSTODY SIGNED	☐	☑	☐		
4.	CHAIN OF CUSTODY MATCHES SAMPLES	☐	☑	☐		
5.	SAMPLES RECEIVED AT 2° - 6° C (Ice/Ice Packs Present? (Y) or N)	☐	☐	☑	No temp Blank Rec'd - samples Cold to touch	
6.	VOLATILES FREE OF HEAD SPACE	☐	☑	☐		
7.	TRIP BLANK PRESENT IN THIS COOLER	☐	☑	☐		
8.	PROPER SAMPLE CONTAINERS AND VOLUME	☐	☑	☐		
9.	SAMPLES WITHIN HOLD TIME	☐	☑	☐		
10.	SAMPLES PROPERLY PRESERVED	☐	☑	☐		

11. ANALYTICAL PROGRAMS (circle one) COMMERCIAL CLP EPA-CLP NYASP NJ ISRA (NEESA) AFCEE Other ____

12. NUMBER OF PACE FILTRATIONS: ____

13. CORRECTIVE ACTIONS REPORT # ____

Log-in Notes: 24hr. TAT

CLIENT AUTHORIZATION SIGNATURE ____ DATE ____

Field Identification: CLJ44-CC-086 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	36	13	45613-001	10/06/95	BG1043	8015(mod)/2
Total Diesel (ug/g)	1900	12	45613-006	10/09/95		8015(mod),3350/2
Oil and Grease by Gravimetry (ug/g)	920	290	45613-006	10/09/95	BG1388	9071,503D/2,3

Field Identification: CLJ44-CC-087 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	430	26	45613-002	10/06/95	BG1043	8015(mod)/2
Total Diesel (ug/g)	6500	110	45613-007	10/09/95		8015(mod),3350/2
Oil and Grease by Gravimetry (ug/g)	5900	270	45613-007	10/09/95	BG1388	9071,503D/2,3

Field Identification: CLJ44-CC-089-TB Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/L)	BDL	100	45613-003	10/06/95	BG1043	8015(mod)/2

Results for solid samples expressed on a dry weight basis.

References: 2) EPA SW 846, 3rd Edition
3) Standard Methods, 16th Edition

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QUALITY CONTROL DATA
TOTAL GASOLINE

BLANK DATA

Laboratory Number: BG1043
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/06/95
Matrix: SOLID

COMPOUND	CONCENTRATION ug/g	DETECTION LIMIT ug/g
GASOLINE	BDL	12

MATRIX SPIKE RECOVERY

Laboratory Number: LS-G1043
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/06/95
Matrix: SOLID

COMPOUND	ug/g IN SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
GASOLINE	0	50	50	100

METHOD REFERENCE: METHOD 8015 (MODIFIED)

pace INCORPORATED THE ASSURANCE OF QUALITY

QUALITY CONTROL DATA
TOTAL GASOLINE

BLANK DATA

Laboratory Number: BG100695TGA
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/06/95
Matrix: WATER

COMPOUND	CONCENTRATION ug/L	DETECTION LIMIT ug/L
GASOLINE	BDL	100

MATRIX SPIKE DUPLICATE RECOVERY

Laboratory Number: LW100695TGA
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/06/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
GASOLINE	0	500	537	107

METHOD REFERENCE: METHOD 8015 (MODIFIED)

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THE ASSURANCE OF QUALITY

QUALITY CONTROL
OIL & GREASE

BLANK DATA

Laboratory Number: B-G1388
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/09/95
Matrix: SOLID

PARAMETER	CONCENTRATION ug/g	DETECTION LIMIT ug/g
OIL & GREASE	BDL	250

MATRIX SPIKE RECOVERY

Laboratory Number: LS-G1388
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/09/95
Matrix: SOLID

PARAMETER	ug/g IN SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
OIL & GREASE	0	1275	1100	86

METHOD REFERENCE: EPA SW846, 3RD EDITION
METHOD 9071
STANDARD METHODS, 16TH EDITION, METHOD 503D

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THE ASSURANCE OF QUALITY

QUALITY CONTROL DATA
PETROLEUM HYDROCARBONS BY GCFID

BLANK DATA

Laboratory Number: B-H1414
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/09/95
Matrix: SOLID

HYDROCARBON TYPE	CONCENTRATION ug/g	DETECTION LIMIT ug/g
DIESEL	BDL	10

MATRIX SPIKE RECOVERY

Laboratory Number: LSH1414
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/09/95
Matrix: SOLID

COMPOUND	ug/g SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
DIESEL	0	101	80.8	80

METHOD REFERENCE: EPA SW 846, 3RD EDITION METHOD 8015 (MODIFIED) AND 3350

pace INCORPORATED THE ASSURANCE OF QUALITY

Laboratory number: 45613-004
Sample Designation: CLJ44-CC-089-TB
Date Analyzed: 10/09/95
Matrix: WATER

Instrument File Name: >G5001

VOLATILE ORGANICS	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Chloromethane	BDL	10
Bromomethane	BDL	10
Vinyl chloride	BDL	10
Chloroethane	BDL	5
Methylene chloride	BDL	10
Acetone	BDL	25
Carbon disulfide	BDL	5
Tetrahydrofuran	BDL	25
Trichlorofluoromethane	BDL	5
1,1-Dichloroethene	BDL	5
1,1-Dichloroethane	BDL	5
1,2-Dichloroethene (total)	BDL	5
Chloroform	BDL	5
1,2-Dichloroethane	BDL	5
2-Butanone	BDL	25
1,1,1-Trichloroethane	BDL	5
Carbon Tetrachloride	BDL	5
Vinyl acetate	BDL	10
Bromodichloromethane	BDL	5
1,2-Dichloropropane	BDL	5
cis-1,3-Dichloropropene	BDL	5
trans-1,3-Dichloropropene	BDL	5
Trichloroethene	BDL	5
Dibromochloromethane	BDL	5
1,1,2-Trichloroethane	BDL	5
Benzene	BDL	5
Bromoform	BDL	5
4-Methyl-2-Pentanone	BDL	25
2-Hexanone	BDL	25
Tetrachloroethene	BDL	5
1,1,2,2-Tetrachloroethane	BDL	5
Toluene	BDL	5
Chlorobenzene	BDL	5
Ethylbenzene	BDL	5
Styrene	BDL	5
Xylene (total)	BDL	5

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8240

BDL = Below reporting limit

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2A

WATER VOLATILES SURROGATE RECOVERY

Client: OHM REMEDIATION SERVICES CORP. Lab No.: 45613
Project: CAMP GEIGER/LJN32

CLIENT SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
CLJ44-CC-089-TB	99	101	101		0
BG100995A1	100	95	97		0

	QC LIMITS
S1 (TOL) = Toluene-d8	86 - 114
S2 (BFB) = Bromofluorobenzene	72 - 132
S3 (DCE) = 1,2-Dichloroethane-d4	70 - 138

Column to be used to flag recovery values with an asterisk
* Values outside of designated QC limits
D Surrogates diluted out

pace INCORPORATED THE ASSURANCE OF QUALITY

Laboratory number: BG100995A1
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/09/95
Matrix: WATER

VOLATILE ORGANICS	CONCENTRATION (ug/L)	DETECTION LIMIT (ug/L)
Chloromethane	BDL	10
Bromomethane	BDL	10
Vinyl chloride	BDL	10
Chloroethane	BDL	5
Methylene chloride	BDL	10
Acetone	BDL	25
Carbon disulfide	BDL	5
1,1-Dichloroethene	BDL	5
Tetrahydrofuran	BDL	25
1,1-Dichloroethane	BDL	5
1,2-Dichloroethene (total)	BDL	5
Chloroform	BDL	5
Methyl ethyl ketone	BDL	25
1,2-Dichloroethane	BDL	5
1,1,1-Trichloroethane	BDL	5
Carbon Tetrachloride	BDL	5
Vinyl acetate	BDL	10
Bromodichloromethane	BDL	5
cis-1,3-Dichloropropene	BDL	5
trans-1,3-Dichloropropene	BDL	5
Trichloroethene	BDL	5
Benzene	BDL	5
Dibromochloromethane	BDL	5
1,1,2-Trichloroethane	BDL	5
1,2-Dichloropropane	BDL	5
2-Chloroethyl vinyl ether	BDL	5
Bromoform	BDL	5
Methyl isobutyl ketone	BDL	25
2-Hexanone	BDL	25
1,1,2,2-Tetrachloroethane	BDL	5
Tetrachloroethene	BDL	5
Toluene	BDL	5
Chlorobenzene	BDL	5
Ethylbenzene	BDL	5
m-Xylene	BDL	5
o,p-Xylene	BDL	5
Styrene	BDL	5

METHOD REFERENCE: EPA SW 846 3RD EDITION
METHOD 8240

BDL = Below detection limit
J = Probable presence below listed detection limit.

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MATRIX SPIKE RECOVERY
VOLATILE ORGANIC COMPOUNDS

Laboratory Number: LCG100995A1
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/09/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
1,1-DICHLOROETHENE	0	50	51	102
TRICHLOROETHYLENE	0	50	51	102
BENZENE	0	50	52	104
TOLUENE	0	50	48	96
CHLOROBENZENE	0	50	50	101

METHOD REFERENCE: EPA SW 846, 3RD EDITION
METHOD 8240

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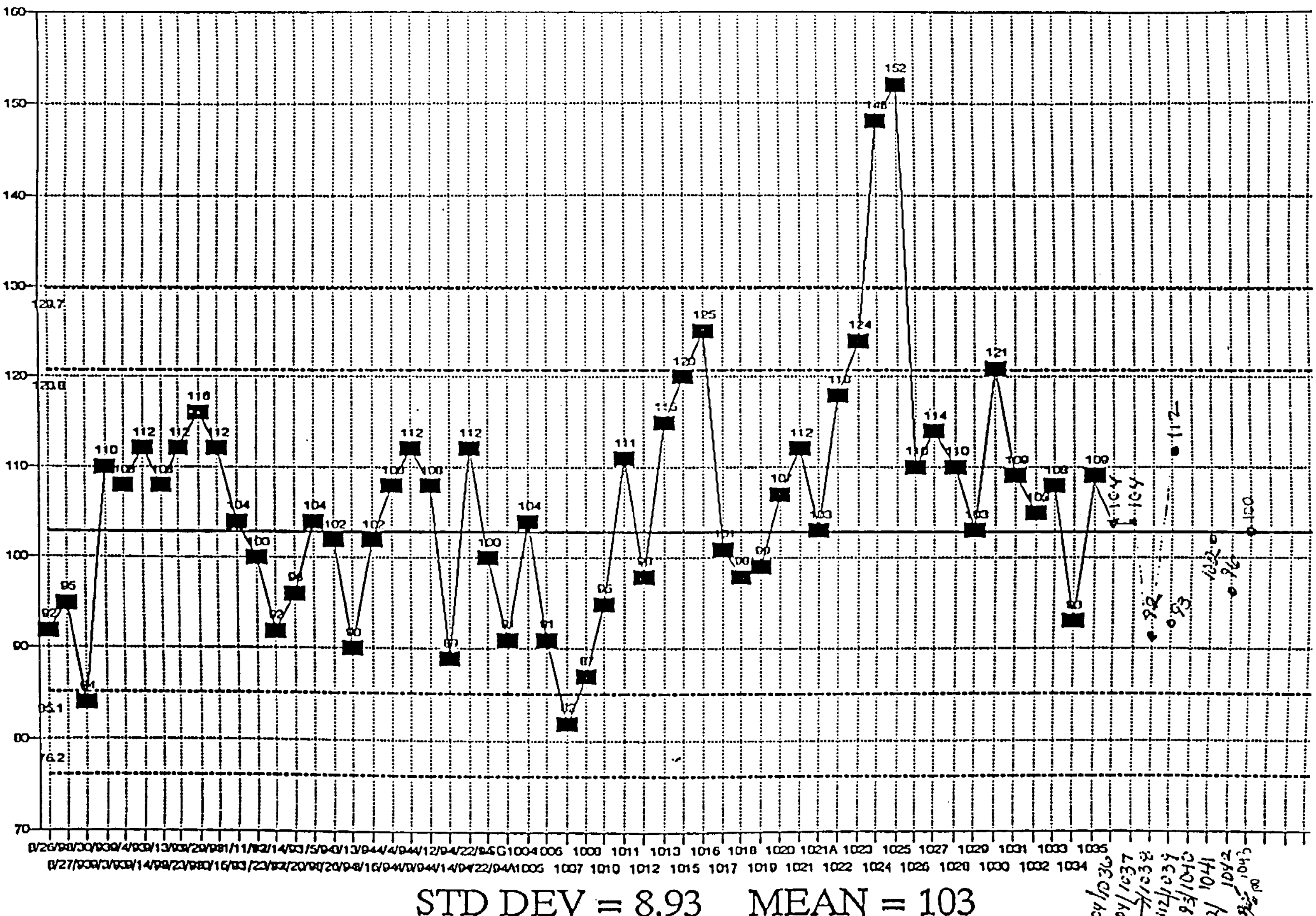
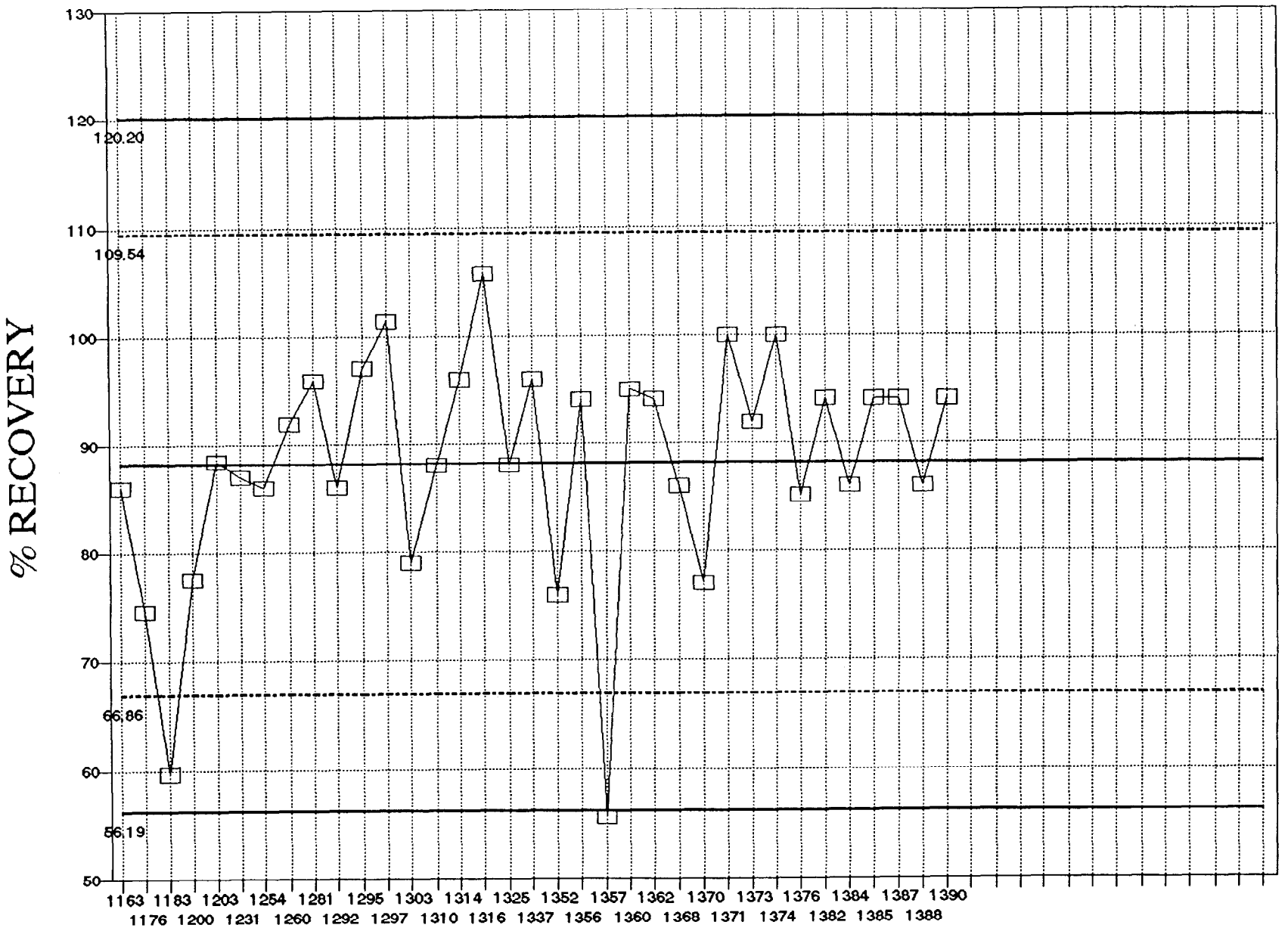
TOTAL GAS LCS RECOVERIES
LIMITS SET 4/13/94



STD DEV = 8.93 MEAN = 103

0000013

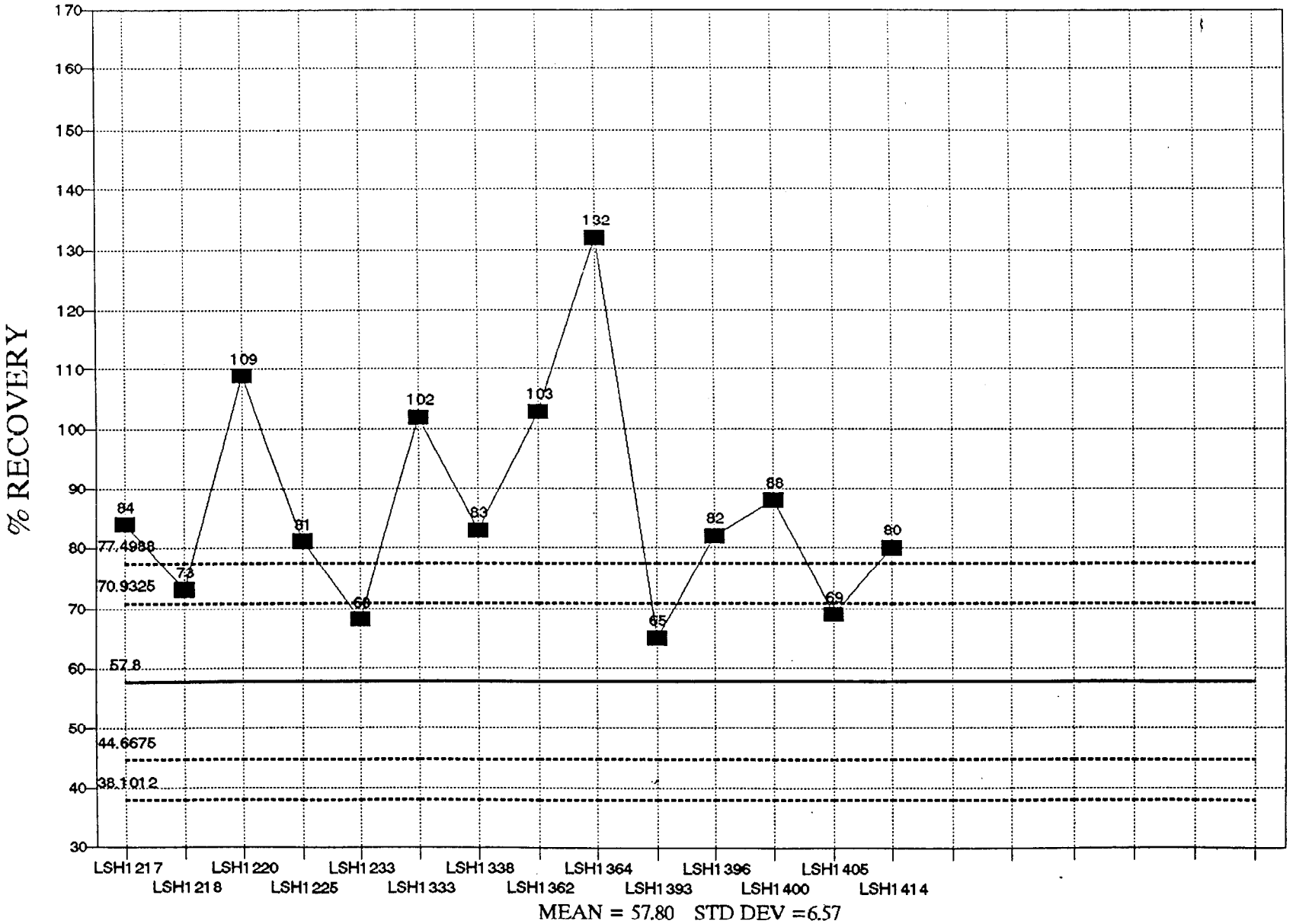
O&G GRAV-S LCS RECOVERIES



MEAN = 87.5 STD DEV = 11.3

PHC MEDIUM SOLIDS - DIESEL

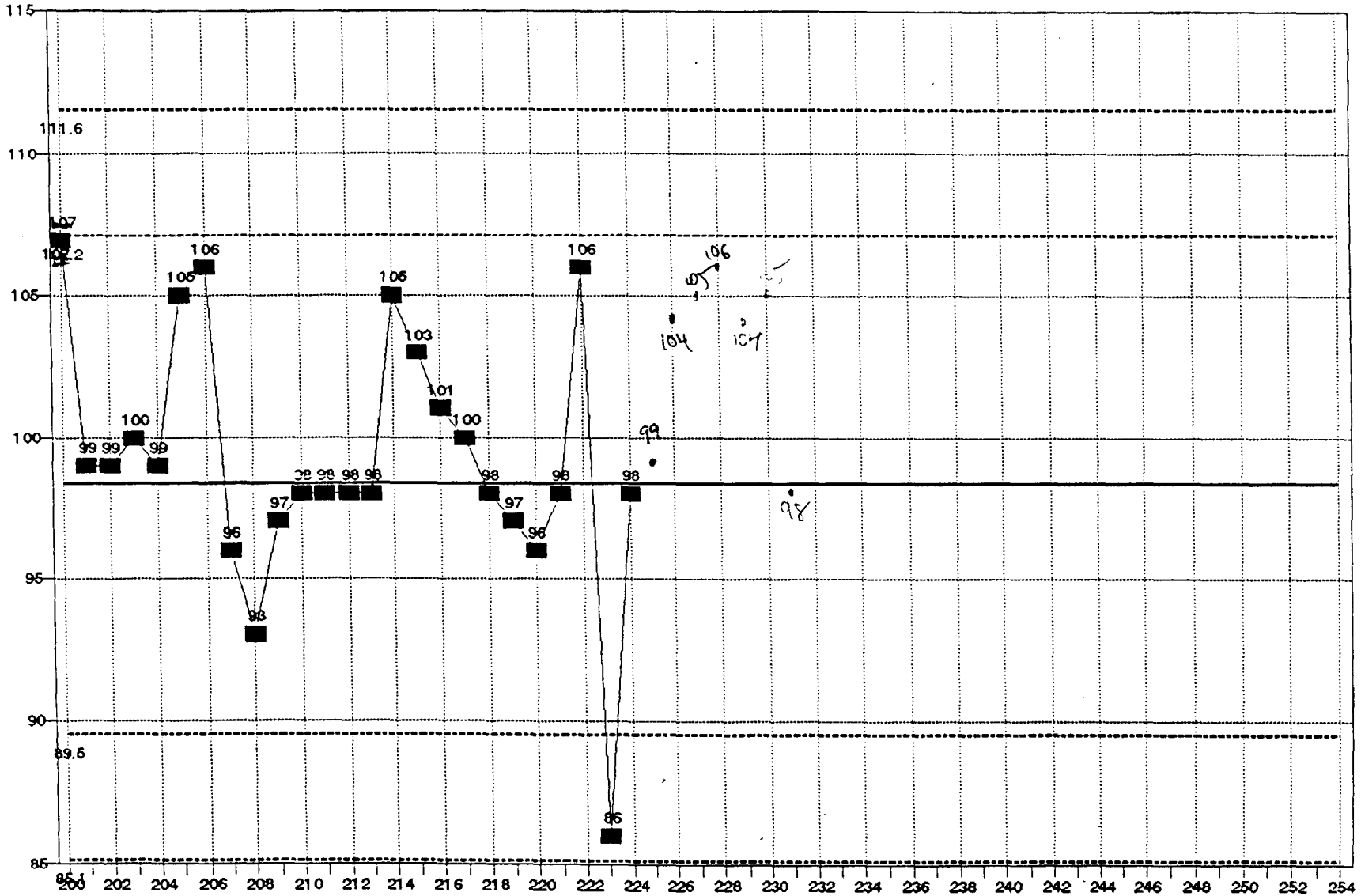
SPK REC LIMS SET195-PPCBCHT\PHCMS195



MEAN = 57.80 STD DEV =6.57

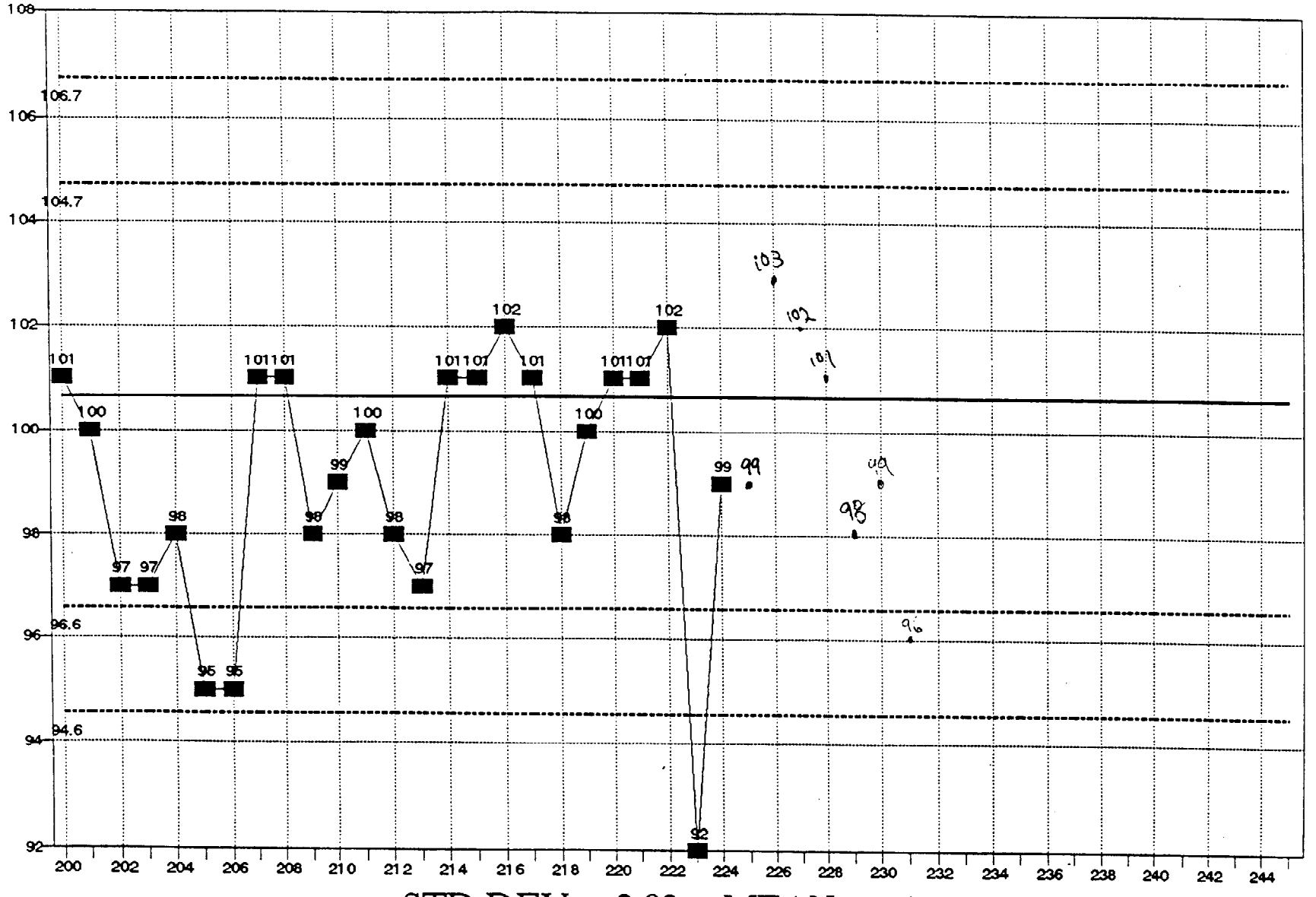
0000015

VOA WATERS - SURR DCE
LIMITS SET 4/95



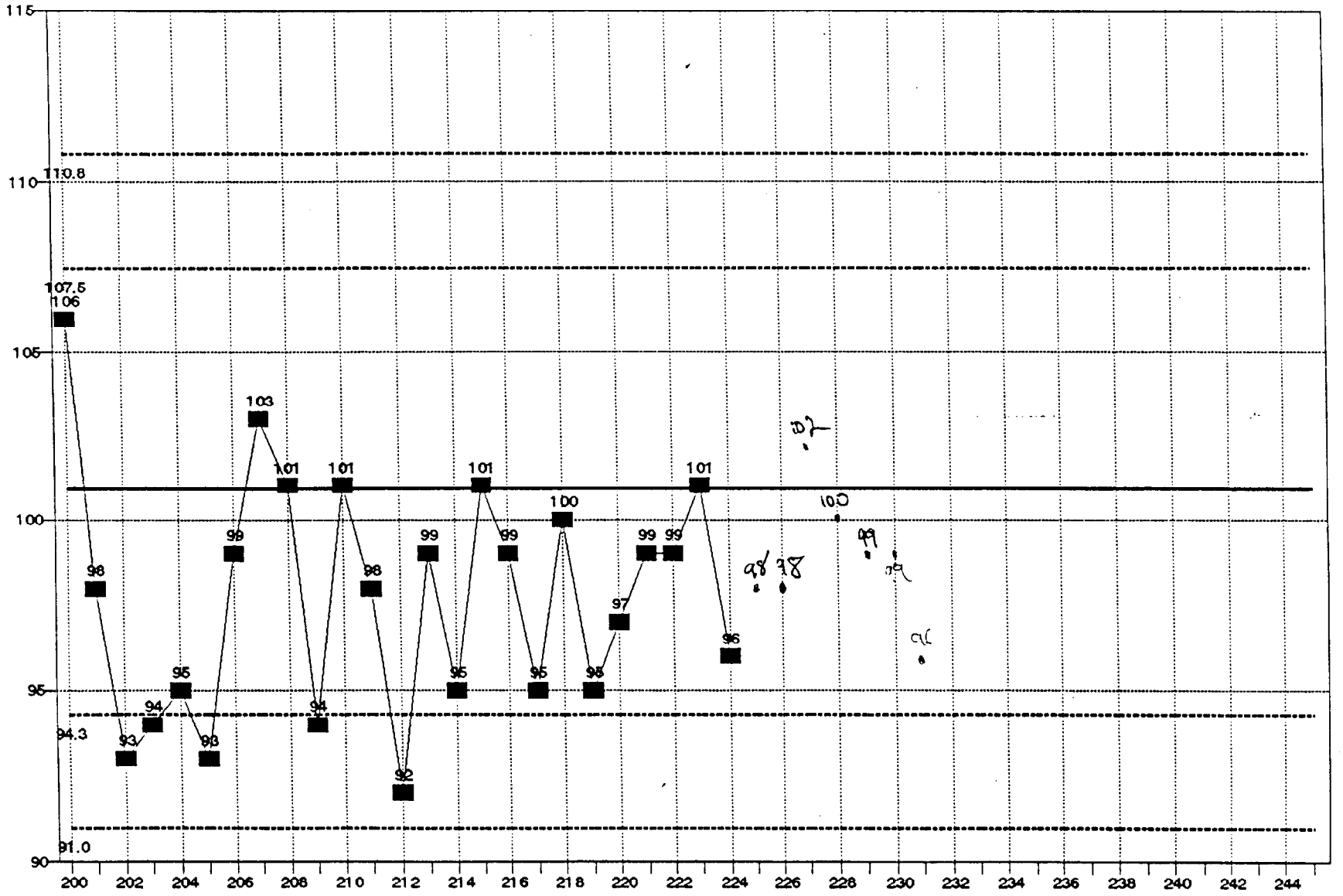
STD DEV = 4.40 MEAN = 98.4

VOA WATERS - SURR TOL
LIMIT SET 4/95



STD DEV = 2.03 MEAN = 100.6

VOA WATERS - SURR BFB
LIMIT SET 4/95



STD DEV =3.31 MEAN = 100.9

VOLATILES -- WATER SURROGATE CONTROL CHARTS

POINT / BLANK

69	BC041493A	117	BE070794A	165	BC041295A	213	BG100195B2
70	BE052593B	118	BE070894A	166	BI042095B	214	BG100395A1
71	BE060193A	119	BC063094A	167	BI042195A	215	BG100495B2
72	BE060393A	120	BC072794A	168	BI042495A	216	BG100595A1
73	BC062193A	121	BD072794A	169	BC042595B	217	BG100695A1
74	BE051393A	122	BD072894A	170	BI042595A	218	BG100695A2
75	BC062493A	123	BD072994A	171	BI042795A	219	BG100995A1
76	BD051993A	124	BE081194A	172	BI050195A	220	BG101095D2
77	BD052093B	125	BC081994A	173	BC050595A	221	BG100495A1
78	BC063093A	126	BE101194A	174	BC050695A	222	BD101195A2
79	BC061093A	127	BE101294B	175	BG050295B	223	BG100295B2
80	BE051393A	128	BG101494A	176	BC062995B1	224	BG100395B2
81	BD072293A	129	BC110294B	177	BC063095B1	225	BG101195A1
82	BD072393A	130	BC110394B	178	BC072495A1	226	BD101395A1
83	BD072693A	131	BC110794B	179	BC072695A1	227	BD101495A1
84	BD072793A	132	BC110894B	180	BI080895A1	228	BD101795A1
85	BD073093A	133	BC110994A	181	BI080995A1	229	BD101995A1
86	BC080493A	134	BC111594B	182	BC080295A1	230	[illegible]
87	BC080593A	135	BC111794B	183	BC080495A1	231	[illegible]
88	BE091793A	136	BC111894B	184	BC080795A1	232	
89	BC092093B	137	BG111094A	185	BC080895A1	233	
90	BC093093B	138	BC120194B	186	BI081095A1	234	
91	BG093093A	139	BC120294B	187	BI081195A1	235	
92	BE120693A	140	BC120594B	188	BI080995A1	236	
93	BE120793A	141	BC120694B	189	BC081195A1	237	
94	BE121793A	142	BC120794B	190	BC081495A1	238	
95	BC122793B	143	BC121594B	191	BI081495A1	239	
96	BC122893A	144	BG120394B	192	BI081595A1	240	
97	BG021094A	145	BC122294B	193	BI081695A1	241	
98	BG021194A	146	BC122994B	194	BI081795A1	242	
99	BG021494A	147	BE121694A	195	BI081895A1	243	
100	BG021594A	148	BE020995B	196	BI082195A1	244	
101	BC022394B	149	BE021395A	197	BC081695A1	245	
102	BC022494C	150	BE021595A	198	BI082295A1	246	
103	BC022594B	151	BE021695A	199	BC081595A1	247	
104	BG022594B	152	BC032295A	200	BC082595A1	248	
105	BG022894A	153	BC032395A	201	BG091495A1	249	
106	BG030394A	154	BC032495A	202	BG091595A1	250	
107	BD022194A	155	BC032795A	203	BG091895A1	251	
108	BC031194A	156	BC040695A	204	BG091995A1	252	
109	BC031594B	157	BC041195B	205	BG092095A2	253	
110	BG040794A	158	BC041395A	206	BG092195B1	254	
111	BC041294B	159	BC041495A	207	BC092195A1	255	
112	BG042894A	160	BG041095B	208	BC092095A1	256	
113	BG042994A	161	BG041495B	209	BG092795A1	257	
114	BC050994C	162	BI041395A	210	BG092795B2	258	
115	BG060394A	163	BI041895B	211	BG092895B2	259	
116	BC050394B	164	BI041995A	212	BG092995A1	260	

OHM Remediation Services Corp.

LAB COPY

CHAIN-OF-CUSTODY RECORD

Form 0019
Field Technical Services
Rev. 08/89

166414

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526

PROJECT NAME	PROJECT LOCATION
Camp Lejeune D.O.44	Camp Geiger, NC

PROJ. NO.	PROJECT CONTACT	PROJECT TELEPHONE NO.
16487	Rakesh Mishra	910-451-2599

CLIENT'S REPRESENTATIVE	PROJECT MANAGER/SUPERVISOR
	Jim Dunn / Randy Smith

ITEM NO	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS): TPH-GRO	TPH-DRO	TCLP Metals, TCLP Semi-Volatile	TCLP Volatile	RCRA Haz waste Char	O&G	PCB, Total Lead	Volatile + BTEX (8245)	REMARKS
1	CJ44-CU-083	10/5	0800	X		Clean Soil from Pile 20 of Area A.	4	X	X	X	X	X				Please Do not analyze
2	CJ44-CU-083D	10/5	0800	X		Duplicate Clean Soil from Pile 20 of Area A.	4	X	X	X	X	X				Rinsate Blank.
3	CJ44-CU-084	10/5	0810	X		Clean Soil from Pile 21 of Area A.	4	X	X	X	X	X				
4	CJ44-CU-085	10/5	0815	X		Clean Soil from Pile 22 of Area A.	4	X	X	X	X	X				
5	CJ44-CC-086	10/5	0825	X		Contaminated Soil from Pile 41 of Area A.	4	X	X				X			
6	CJ44-CC-087	10/5	0830	X		Contaminated Soil from Pile 48 of Area A.	4	X	X				X			
7	CJ44-CC-088 -RB	10/5	0845	X		Rinsate Blank	5	X	X	X	X	X				
8	CJ44-CC-089 -TB					Trip Blank		X			X				X	
9																
10																

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-8	[signature]	FedEx	10/5	1100
2		FedEx	Kim Lawson/Pace OH	10/6/05	0945
3					
4					

REMARKS Send Samples to Pace Lab.
Items 1-4 3 days TAT.
Items 5-8 24 hr. TAT.

SAMPLER'S SIGNATURE [signature]

0000020

OHM Remediation Services Corp.

LAB COPY

CHAIN-OF-CUSTODY RECORD

Form 0019
Field Technical Services
Rev. 08/89

166414

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526

PROJECT NAME	PROJECT LOCATION
Camp Lejeune D.O.44	Camp Geiger, NC
PROJ. NO.	**PROJECT CONTACT** / **PROJECT TELEPHONE NO.**
16481	Rakesh Mishra / 910-451-2599
CLIENT'S REPRESENTATIVE	**PROJECT MANAGER/SUPERVISOR**
	Jim Dunn / Randy Smith

45613

ITEM NO	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS) TPH-GRO	TPH-DRO	TCLP Metals + TCLP Semi-Volatile	TCLP Volatile	RCRA Haz waste Char	O&G	PCB + Total Lead	Volatile + BTEX (8245)	REMARKS
1	CG44-CU-083	10/5	0800	X		Clean Soil from Pile 20 of Area A.	4	X	X	X	X	X				Please Do not analyze
2	CG44-CU-083D	10/5	0800	X		Duplicate Clean Soil from Pile 20 of Area A.	4	X	X	X	X	X				Rinsate Blank.
3	CG44-CU-084	10/5	0810	X		Clean Soil from Pile 21 of Area A.	4	X	X	X	X	X				
4	CG44-CU-085	10/5	0815	X		Clean Soil from Pile 22 of Area A.	4	X	X	X	X	X				
5	CG44-CC-086	10/5	0825	X		Contaminated Soil from Pile 47 of Area A.	4	X[1]	X[1]				X[1]			
6	CG44-CC-087	10/5	0830	X		Contaminated Soil from Pile 48 of Area A.	4	X[2]	X[2]				X[2]			
7	CG44-CC-088-RB	10/5	0845	X		Rinsate Blank	5	X	X	X	X	X				
8	CG44-CC-089-TB					Trip Blank		X[3]			X[4]				X[4]	
9																
10																

Final Page

TRANSFER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-8	[signature]	FedEx	10/5	1100
2		FedEx	[signature] / Pace NH	10/6/95	0945
3					
4					

REMARKS Send Samples to Pace Lab.
Items 1-4 3days TAT.
Items 5-8 24 hr. TAT.

SAMPLER'S SIGNATURE [signature]

00000021

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

October 26, 1995

OHM Remediation Services Corporation
5335 Triangle Parkway
Suite 450
Norcross, GA 30092

SAMPLE DELIVERY GROUP NARRATIVE

Case: OHMRC
SDG: LJN33
Laboratory: PACE New England - New Hampshire of Hampton, NH
Lab Numbers: 45614
Protocol: SW846 Methods. NEESA C deliverables. No diskette.

Sample Receipt: These samples were received at PACE, Inc. on October 6, 1995. Laboratory sample numbers were assigned for test parameters as listed on the Sample Table which follows this narrative. The sample shipment was checked for custody seal integrity and cooler temperature. Samples were checked for appropriate preservation and accuracy against the Chains-of-Custody provided. Other than the exceptions noted below, samples were received between 2-6° C and in good condition. PACE Sample Receipt Condition Reports can be found with the Chains-of-Custody.

Shipment received 10/6/95 (45614): Samples were received in one cooler and were assigned PACE# 45613 and 45614. A temperature blank was not included with the shipment, therefore the cooler temperature could not be verified upon receipt of samples at PACE. The samples were received cool, and had been packed on ice. Samples assigned PACE Lab# 45614 were logged in for a 3-day turnaround per the request on the COC. Samples assigned PACE Lab# 45613 were logged in for 24-hour turnaround per the request on the COC.

GRO Analysis: Analyses proceeded without difficulty. Matrix spikes and duplicates met all acceptance criteria.

DRO Analysis: The method 8015 blank contained low levels of non-target interference. The sample results should be used with due consideration.

Laboratory number 45614-7 and -8 for diesel range organics contained petroleum hydrocarbon products which did not match diesel.

TCLP VOA Analysis: Analyses proceeded without difficulty. Matrix spikes and duplicates met all acceptance criteria.

TCLP Semivolatile Analysis: The laboratory control sample "LSA2490" was spiked at half its normal amount. Recoveries were adjusted accordingly. Data quality is not affected.

Samples were analyzed within holding time and in accordance with SW846 methods. NEESA control charts revealed low recoveries for surrogates 2-fluorophenol and phenol-d5. This was a consequence of using the separatory funnel extraction method in order to meet rapid turnaround times. Separatory funnels do not extract these two surrogates as well as continuous extractors do, as shown by the control charts. However, data quality was maintained.

TCLP Metals Analysis: The TCLP samples were analyzed within holding time and in accordance with SW846 methods for the list of eight metals (Ag, As, Ba, Cd, Cr, Hg, Pb, Se). Sample QC analyses were not requested for this SDG. Due to software restrictions, the sample field identifications were shortened to six characters. The correct full identifications have been included as comments on the Form I sample data. NEESA control charts showed acceptable recoveries for laboratory control samples.

P.O. Box 2130
1 Lafayette Road
Hampton, NH 03842
TEL: 603-926-7777
800-992-0724
FAX: 603-926-7939

The samples were prepared in one ICP batch and one mercury batch. Analyses were conducted in two sequences on two instruments:

TJA01 10/10/95 for As, Ba, Cd, Cr, Pb, Se, Ag.
PE02 10/11/95 for Hg.

Standards met all SW846 compliance criteria. Method blanks were free of contaminants but a few instrument blanks contained low levels of mercury, arsenic, or selenium. Because TCLP regulatory limits are so much higher than CLP reporting limits, the blank contamination was not believed to impact data useability. The laboratory control samples showed acceptable analyte recoveries. No difficulties were encountered during metals analysis.

Conventional Parameter Analysis: Analyses proceeded without difficulty. Matrix spikes and duplicates met all acceptance criteria.

Statement of Compliancy and Data Authorization

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

James D. Cutter — 10/26/95

PACE Incorporated, New England-New Hampshire — October 26, 1995

P.O. Box 2130
1 Lafayette Road
Hampton, NH 03842
TEL: 603-926-7777
800-992-0724
FAX: 603-926-7939

pace INCORPORATED
ENVIRONMENTAL LABORATORIES

NEW ENGLAND - NEW HAMPSHIRE LABORATORY
SAMPLE RECEIPT CONDITION REPORT
Tel. (603) 926-7777
FAX (603) 926-7939

LAB# 45614
PAGE ____ of ____
COOLER ____ of ____
COC# ____
SDG# LJN33
CASE# CHMRC

(E3) 10/6/95 LJ

CLIENT Enviro CHM

DATE/TIME RECEIVED 10/6/95 0945 LIMS ENTRY BY GMF

DELIVERED BY Fed-Ex TRANSCRIPTION REVIEW BY JL 10/6/95

RECEIVED BY [illegible] LIMS REVIEW BY/PM GMF

	NA	YES	EXCEPTION	COMMENT	RESOLUTION
1. CUSTODY SEALS PRESENT/INTACT	☑	☐	☐		
2. CHAIN OF CUSTODY PRESENT IN THIS COOLER	☐	☑	☐		
3. CHAIN OF CUSTODY SIGNED	☐	☑	☐		
4. CHAIN OF CUSTODY MATCHES SAMPLES	☐	☑	☐		
5. SAMPLES RECEIVED AT 2° - 6° C (Ice Packs Present? Y or N)	☐	☐	☑	Temp Blank - Groups Cold to Touch	
6. VOLATILES FREE OF HEAD SPACE	☐	☑	☐		
7. TRIP BLANK PRESENT IN THIS COOLER	☐	☑	☐		
8. PROPER SAMPLE CONTAINERS AND VOLUME	☐	☑	☐		
9. SAMPLES WITHIN HOLD TIME	☐	☑	☐		
10. SAMPLES PROPERLY PRESERVED	☐	☑	☐		

11. ANALYTICAL PROGRAMS (circle one) COMMERCIAL CLP EPA-CLP NYASP NJ ISRA (NEESA C) AFCEE Other ____

12. NUMBER OF PACE FILTRATIONS: ____

13. CORRECTIVE ACTIONS REPORT # ____

Log-in Notes:
3 day TAT

CLIENT AUTHORIZATION SIGNATURE ____ DATE ____

SAMPLE TABLE

CLIENT ID.	MATRIX	PACE #	PARAMETERS
CLJ44-CU-083	SOLID	45614-001	TOTAL GASOLINE
		45614-005	TOTAL DIESEL
		45614-009	GC/MS VOA
			ACID EXTRACTABLES
			BASE/NEUTRAL EXTRACTABLES
			TCLP VOA EXTRACT
			TCLP ORGANICS EXTRACT
			CORROSIVITY
			FLASH POINT
			RELEASABLE CYANIDE
			RELEASABLE SULFIDE
			TCLP METALS EXTRACTION
			Ba, Cd, Cr, Pb, Hg, Ag, As, Se
CLJ44-CU-083D	SOLID	45614-002	TOTAL GASOLINE
		45614-006	TOTAL DIESEL
		45614-010	GC/MS VOA
			ACID EXTRACTABLES
			BASE/NEUTRAL EXTRACTABLES
			TCLP VOA EXTRACT
			TCLP ORGANICS EXTRACT
			CORROSIVITY
			FLASH POINT
			RELEASABLE CYANIDE
			RELEASABLE SULFIDE
			TCLP METALS EXTRACTION
			Ba, Cd, Cr, Pb, Hg, Ag, As, Se
CLJ44-CU-084	SOLID	45614-003	TOTAL GASOLINE
		45614-007	TOTAL DIESEL
		45614-011	GC/MS VOA
			ACID EXTRACTABLES
			BASE/NEUTRAL EXTRACTABLES
			TCLP VOA EXTRACT
			TCLP ORGANICS EXTRACT
			CORROSIVITY
			FLASH POINT
			RELEASABLE CYANIDE
			RELEASABLE SULFIDE
			TCLP METALS EXTRACTION
			Ba, Cd, Cr, Pb, Hg, Ag, As, Se
CLJ44-CU-085	SOLID	45614-004	TOTAL GASOLINE
		45614-008	TOTAL DIESEL
		45614-012	GC/MS VOA
			ACID EXTRACTABLES

SAMPLE TABLE
(CONTINUED)

CLIENT ID.	MATRIX	PACE #	PARAMETERS
CLJ44-CU-085	SOLID	45614-012	BASE/NEUTRAL EXTRACTABLES TCLP VOA EXTRACT TCLP ORGANICS EXTRACT CORROSIVITY FLASH POINT RELEASABLE CYANIDE RELEASABLE SULFIDE TCLP METALS EXTRACTION Ba, Cd, Cr, Pb, Hg, Ag, As, Se

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Field Identification: CLJ44-CU-083 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	14	45614-001	10/06/95	BG1043	8015(mod)/2
Total Diesel (ug/g)	280	3.7	45614-005	10/09/95		8015(mod),3350/2
Corrosivity (pH, units)	4.8		45614-009	10/09/95	368	2.1.2/2
Releasable Sulfide (mg/Kg)	BDL	50	45614-009	10/09/95	311	7.3.4.2/2
Releasable Cyanide (mg/Kg)	BDL	1	45614-009	10/09/95	311	7.3.3.2/2
Flash Point (degrees F)	>150	50	45614-009	10/09/95	343	1010/2

Field Identification: CLJ44-CU-083D Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	13	45614-002	10/06/95	BG1043	8015(mod)/2
Total Diesel (ug/g)	210	3.6	45614-006	10/10/95		8015(mod),3350/2
Corrosivity (pH, units)	4.8		45614-010	10/09/95	368	2.1.2/2
Releasable Sulfide (mg/Kg)	BDL	50	45614-010	10/09/95	311	7.3.4.2/2
Releasable Cyanide (mg/Kg)	BDL	1	45614-010	10/09/95	311	7.3.3.2/2
Flash Point (degrees F)	>150	50	45614-010	10/09/95	343	1010/2

Field Identification: CLJ44-CU-084 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	13	45614-003	10/06/95	BG1043	8015(mod)/2
Total Diesel (ug/g)	18	3.6	45614-007	10/10/95		8015(mod),3350/2
Corrosivity (pH, units)	7.9		45614-011	10/09/95	368	2.1.2/2
Releasable Sulfide (mg/Kg)	BDL	50	45614-011	10/09/95	311	7.3.4.2/2
Releasable Cyanide (mg/Kg)	BDL	1	45614-011	10/09/95	311	7.3.3.2/2
Flash Point (degrees F)	>150	50	45614-011	10/09/95	343	1010/2

Field Identification: CLJ44-CU-085 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	13	45614-004	10/06/95	BG1043	8015(mod)/2
Total Diesel (ug/g)	23	3.7	45614-008	10/10/95		8015(mod),3350/2
Corrosivity (pH, units)	8.2		45614-012	10/09/95	368	2.1.2/2
Releasable Sulfide (mg/Kg)	BDL	50	45614-012	10/09/95	311	7.3.4.2/2
Releasable Cyanide (mg/Kg)	BDL	1	45614-012	10/09/95	311	7.3.3.2/2
Flash Point (degrees F)	>150	50	45614-012	10/09/95	343	1010/2

Results expressed on a dry weight basis with the exception of releasables, which are expressed on a weight as received basis.

References: 2) EPA SW 846, 3rd Edition

QUALITY CONTROL DATA
TOTAL GASOLINE

BLANK DATA

Laboratory Number: BG1043
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/06/95
Matrix: SOLID

COMPOUND	CONCENTRATION ug/g	DETECTION LIMIT ug/g
GASOLINE	BDL	12

MATRIX SPIKE RECOVERY

Laboratory Number: LS-G1043
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/06/95
Matrix: SOLID

COMPOUND	ug/g IN SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
GASOLINE	0	50	50	100

METHOD REFERENCE: METHOD 8015 (MODIFIED)

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Calibration Curve for TGAS

Titles

Test: TGAS
Date: 09/26/95
X-Axis: CONC
Y-Axis: AREA

	Conc.	Abs.	Calc-Abs.
1	100	3570006	3856227
2	200	6327539	6710581
3	500	14045613	15273642
4	1000	33382006	29545409
5	2000	55388382	58088945
6	3000	87393738	86632480

Regression Output:

Constant		1001874
Std Err of Y Est		2466208
R Squared		0.995491
No. of Observations		6
Degrees of Freedom		4
X Coefficient(s)	28543.54	
Std Err of Coef.	960.4553	
Slope =	28543.54	
Y-Intercept =	1001874	

Calibration Curve for BFB SURR

Titles

Test: BFB SURR
Date: 09/26/95
X-Axis: CONC
Y-Axis: AREA

	Conc.	Abs.	Calc-Abs.
1	10	223616	204423.4
2	20	432761	401291.7
3	50	906999	991896.7
4	100	2010474	1976238

Regression Output:

Constant		7555.031
Std Err of Y Est		69779.55
R Squared		0.994898
No. of Observations		4
Degrees of Freedom		2
X Coefficient(s)	19686.83	
Std Err of Coef.	996.8508	
Slope =	19686.83	
Y-Intercept =	7555.031	

PACE INCORPORATED

CARBON SIX-CARBON TEN
Sample Name : 1:TB1006 5ml

Report No :381.00

Instrument : GC05

Subseq/Sample/Bottle: 1/ 2/ 2

Sequence File: /DATA/GC05/SEQUENCE/G51006.SEQ
Method File : /DATA/GC05/METHOD/TGAS0926.MTH
Result File : /DATA/GC05/RESULT/G5CF115931.RES

Run Time : 37.83 Minutes Injected on 1012 060ct1995
Report Time : 1029 260ct1995
Run Status : RunStatusOK
EndOffBaseline

Timed Events	Time	Events	Logic	Value	EventUpdate
1	.860	EndIntegrateAtB	NoLogic	-1	True
2	8.890	SetBLandIntegra	NoLogic	-1	True
3	29.590	EndIntegrateAtB	NoLogic	-1	True
4	36.650	SetBLandIntegra	NoLogic	-1	True

Dil-Fact : 100.00% Sample Amt: 0.0000 Standard Amt: 1.0000

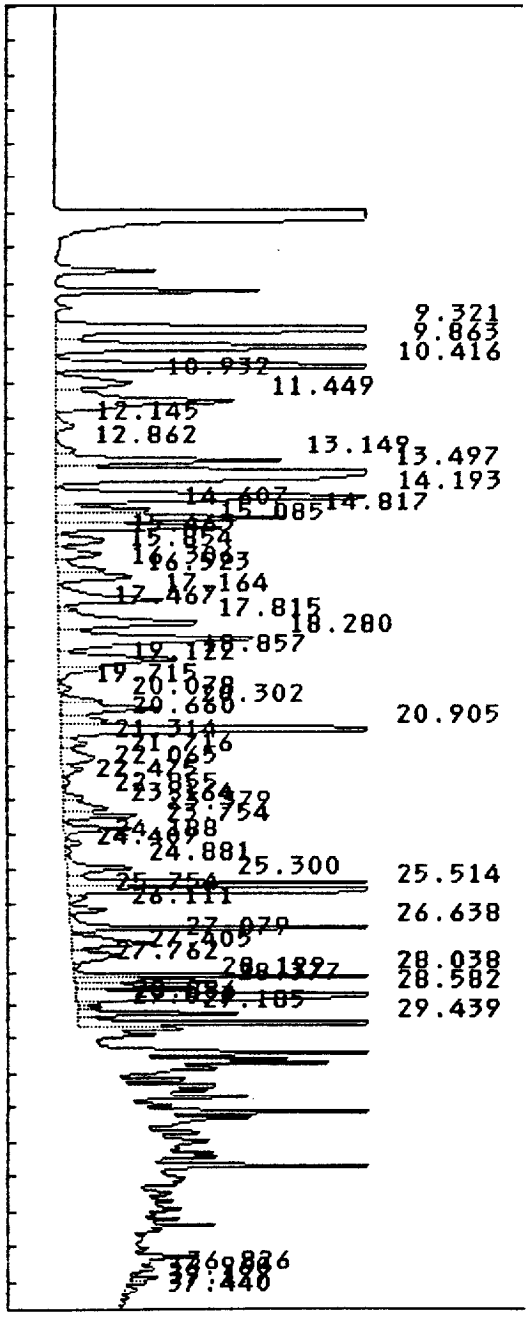
Pk#	RT	ID-tm	Factor	Area	Code	UG/L	Name
1	9.32			2415526	BV	72.4658	
2	9.86			1638108	VV	49.1433	
3	10.42			1368368	VV	41.0510	
4	10.93			513704	VV	51.6068	C7 N-HEPTANE
5	11.45			993065	VV	29.7920	
6	12.14			89815	VV	2.6944	
8	13.15			794966	VV	23.8490	
9	13.50			2449733	VV	73.4920	
10	14.19			1647289	VV	49.4187	
11	14.61			334021	VV	10.0206	
12	14.82			861856	VV	25.8557	
13	15.09			530824	VV	15.9247	
14	15.46			220661	VV	6.6198	
15	15.85			184320	VV	5.5296	
16	16.31			196956	VV	5.9087	
17	16.52			323472	VV	9.7042	
18	17.16			459695	VV	13.7909	
19	17.47			53343	VV	1.6003	
20	17.82			737420	VV	22.1226	
21	18.28			1117439	VV	33.5232	
22	18.86			597127	VV	17.9138	
23	19.12			173732	VV	5.2120	
24	19.72			38507	PV	1.1552	
25	20.08			159776	VV	4.7933	
26	20.30			426273	VV	12.7882	
27	20.66			173577	VV	5.2073	
28	20.91			2232715	VV	66.9815	
29	21.31			102568	VV	3.0770	
30	21.72			209770	VV	6.2931	
31	22.07			94772	VV	2.8432	

PACE INCORPORATED

Pk#	RT	ID-tm	Factor	Area	Code	UG/L	Name
32	22.47			28969	VV	.8691	
33	22.86			71321	VV	2.1396	
34	23.16			194950	VV	5.8485	
35	23.38			254226	VV	7.6268	
36	23.75			224736	PV	6.7421	
37	24.19			51698	VV	1.5509	
38	24.41			19924	VV	.5977	
39	24.88			275405	VV	8.2621	
40	25.30			622691	VV	18.6807	
41	25.51			2130213	VV	63.9064	
42	25.75			68663	VV	2.0599	
43	26.11			100413	VV	3.0124	
44	26.64			823470	VV	24.7041	
45	27.08			376267	VV	11.2880	
46	27.40			220028	VV	6.6008	
47	27.76			15131	VV	.4539	
48	28.04	#28.02		1225487	PV	1225487.0000	4 BROMOFLUOROBENZENE 62/50
49	28.20			344890	VV	10.3467	
50	28.38			245262	VV	7.3579	
51	28.58			1569119	VV	47.0736	
52	28.89			51336	VV	1.5401	
53	29.04			56035	VV	1.6811	
54	29.18			321759	VV	9.6528	
55	29.44			1291232	VB	38.7370	
56	36.83			35641	BV	1.0692	
57	36.96			38234	VV	1.1470	
58	37.18			39267	PV	1.1780	
59	37.44			13799	PV	.4140	

Total Area DRO only : 31849568

1638/1000



VSTD1000 5ml
G51006
TGA5092C
GSCF115931

TGAS

Total Gas: Gas Range Organics (GRO)

PACE N.E.
REV00

Batch 1043
Method 8015 mod SW-846 3rd Ed
Matrix solid

	RESULT	SURR
Slope	28543.54	19686.8
Intercept	1001874	7555.03

IDC	*	ANAL Inits	PREP Date Prepared	DATE Date Analyzed	* Init Wt g	* PegVol Loaded ML	* LCS SPK LEV	* AREA	* SURR AREA	* Instr Result ug/L	VAL Obs Conc.	DL Det Limit	* * Rpted Conc.	% Rec	* Diff	SURR SURR
BG1043A	BW	CF	10/06/95	10/06/95	4	100		2249701	1338126	-3.16355	-0.4	12.5	< 12.5			67.586
LSG1043	LCS1	CF	10/06/95	10/06/95	4	100	50	13440486	1133417	396.0684	49.51	12.5	49.51	99.02		57.188
BG100695TGA		CF	10/06/95	10/06/95				1928594	1296309	-12.9483			<			65.462
VSTD1000		CF	10/06/95	10/06/95				31849568	1225487	1037.79						61.865
LW100695TGA		CF	10/06/95	10/06/95				17419792	1086270	537.132						54.793
BG100995TGA		CF	10/09/95	10/09/95				2860731		65.12356						-0.383
VSTD1000		CF	10/09/95	10/09/95				29042200	885646	951.3424						44.602
45613-1	S2	CF	10/06/95	10/06/95	4.4	100		10139964	1371496	272.0964	30.92	11.36	30.92			69.28
45613-2	S3	CF	10/06/95	10/09/95	4.2	50		49364024		1694.329	403.4	23.81	403.4			-0.383
45614-1	S4	CF	10/06/95	10/06/95	4.1	100		3662559	1301945	47.60236	5.805	12.2	< 12.2			65.749
45614-2	S5	CF	10/06/95	10/06/95	4.4	100		2428390	1192196	8.209213	0.933	11.36	< 11.36			60.174
45614-3	S6	CF	10/06/95	10/06/95	4.3	100		2116907	1137987	-0.80417	-0.09	11.63	< 11.63			57.420
45614-4	S7	CF	10/06/95	10/06/95	4.3	100		3007202	945667	37.12437	4.317	11.63	< 11.63			47.651
45613-3	S8	CF	10/06/95	10/06/95				2192381	1024294	5.823139						51.645
	S9									-35.0999	ERR	ERR	** ERR			-0.383
	S10									-35.0999	ERR	ERR	** ERR			-0.383
	S11									-35.0999	ERR	ERR	** ERR			-0.383
	S12									-35.0999	ERR	ERR	** ERR			-0.383
	S13									-35.0999	ERR	ERR	** ERR			-0.383
	S14									-35.0999	ERR	ERR	** ERR			-0.383
	S15									-35.0999	ERR	ERR	** ERR			-0.383
	S16									-35.0999	ERR	ERR	** ERR			-0.383
	S17									-35.0999	ERR	ERR	** ERR			-0.383
	S18									-35.0999	ERR	ERR	** ERR			-0.383
	S19									-35.0999	ERR	ERR	** ERR			-0.383
	S20									-35.0999	ERR	ERR	** ERR			-0.383

PACE New England
VOA SOILS PREP

TOTAL GASOLINE

Date/Init	Smpl Ct.	SAMPLE #	Prep Wt. (g)	Pan #	Pan Wt. (g)	Wet Wt. + Pan (g)	Dry Wt. + Pan (g)	% Solid	COMMENTS
CF 10/5/95		BV1042	4.0						MeOH Lot#
		LS1042	4.0						
		45589-1	4.5						
		-1ms	4.4						
		-1msD	4.3						
		-2	4.2						
		-3	4.3						
		45590-1	4.2						
		45593-1	4.5						
		2	4.0						
		3	4.5						
		45594-1	4.0						
		-2	4.3						
CF 10/6/95		BV1043	4.0						
		LS1043	4.0						
		~~45563-4~~ H_2O	—						
		~~45563~~ done	—						
		45613-1	~~4.2~~ 4.1						
		2	4.2						
		45614-1	4.1						
		2	4.4						
		3	4.3						
		-4	4.3						

CF 10/10/95

Spike VG462

PACE New England
VOA Screening Analyst/Date CF 10/6/95

Run time at 37.8' (next sample)

GC05		G510016 SCRNA			GC04		6CRNA01 G510016 SCRNB		
FRN	tube	Sample#	Vol.	Comments	FRN	tube	Sample#	Vol.	Comments
G5CF115930	1	BG10016 95TCA	5ml	BDL	G4CF114680	1	45581-2	5ml	5ml
31	2	VSTD1000	5ml	100%/1000	68	2	3	5ml	5ml
32	3	CW10016 95TCA	5ml	50%/100	70	3	4	5ml	5ml
33	4	45593-1	100ml	✓	71	4	45590-3	5ml	5ml
34	5	-2	↓	✓	71 72	5	45594-7	↓	5ml
35	6	-3	↓	✓	73	6	8	↓	5ml
36	7	45589-4	5ml	1,4-c2 ✓	72 74	7	9	↓	5ml
37	8	45593-4	↓	1,1,1 ✓	75	8	45576-1	↓	5ml
38	9	-5	↓	1,1,2 ✓	73 76	9	45554-1	500µl	5ml
39	10	BG1043	100ml	✓	77	10	2	↓	5ml
G135CF115941	1	45613-1	↓	✓	74 78	11	45528-1	↓	5ml
42	2	2	↓	✓ 50ml	79	12	45529-1	↓	5ml
43	3	45614-1	↓	✓	75 80	13	45600-1	↓	5ml
44	4	2	↓	✓	81	14	2	↓	5ml
45	5	3	↓	✓	76 82	15	3	↓	5ml
46	6	4	↓	✓		16	4		
47	7	LS1043	↓	✓	77	17	45602-1		5ml
48	8	~~45613-2~~ 45613-3	5ml	1,1,2 ✓		18	45599-3		
49	9	45565-21	5ml	1,1,1 ✓	78	19	45606-1		5ml
						20	2		
					79	21	3		5ml
						22	4		
				10/9/95	80	23	45596-23		5ml
						24	24		
				CF	81	25	25		5ml
						26	26		
					82	27	27		5ml
						28	28		
					83	29	29		5ml
						30	30		

QUALITY CONTROL DATA
PETROLEUM HYDROCARBONS BY GCFID

BLANK DATA

Laboratory Number: B-H1413
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/09/95
Matrix: SOLID

HYDROCARBON TYPE	CONCENTRATION ug/g	DETECTION LIMIT ug/g
DIESEL	4	3

MATRIX SPIKE RECOVERY

Laboratory Number: LSH1413
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/09/95
Matrix: SOLID

COMPOUND	ug/g SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
DIESEL	0	33.6	22.8	68

METHOD REFERENCE: EPA SW 846, 3RD EDITION METHOD 8015 (MODIFIED) AND 3350

pace INCORPORATED THE ASSURANCE OF QUALITY

PACE, INC. NEW ENGLAND - NEW HAMPSHIRE LAB
Organics Extraction

INITIALS/DATE: MC, 10/9/95

PHC SOLIDS PREP LOG

PROTOCOL: EPA SW846

LOG BOOK NO: 5

SOP #: QA5547

STEAMBATH TEMP: 85°C (Range 80-90°C)

METHOD: SONC/3550

MATRIX: SOLIDS

REVIEWED BY/DATE: JEW / 10/12/95

TEST/LEVEL: PHC / low

COUNT	BLANK SPIKES SAMPLE #	INIT WT. (g)	NaSO4 (g) MIX WELL	SURR 0.5 ML E 1416 101 PPM	SPIKE 0.2 ML E 1344 591 PPM	ADD 100 mL MeCl2	SONICATE 3 MIN	DECANT THRU NaSO4 FUNNEL	ADD 100mL MeCl2 REPEAT (2X)	CONC TO 10 ML INTR VOL	ALIQUOT VOL (mL)	CONC. 1 mL Final Vol.	QUATTRO init/date
—	BH1413	30.0	60.0		N/A					10.0	10.0	1.0	MC
—	LSH1413	30.00			✓								10/9/95
5	45614-5	30.69			N/A								
6	-6	30.60											
7	-7	30.66											
8	-8	30.31	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓

MC JEW 10/12/95

COMMENTS: No QC assigned yet
Assigned QC 45646-11 MSJ/MSDJ

F:\APPS\WP51\NANCY\EXPHCS

PACE, Incorporated

INITIAL CALIBRATION SUMMARY

for /DATA/GC12/METHOD/DIESEL008.MTH
Method created: 09/29/95 13:59:30
Method updated: 10/10/95 14:05:36

Result files used for Calibration data:
Level 1 /DATA/GC12/RESULT/G12H01481.RES
Level 2 /DATA/GC12/RESULT/G12H01482.RES
Level 3 /DATA/GC12/RESULT/G12H01483.RES
Level 4 /DATA/GC12/RESULT/G12H01484.RES
Level 5 /DATA/GC12/RESULT/G12H01485.RES

#	Time	Analyte	Correlation	B_0 Intercept	B_1 Slope	B_2 Quadratic
1	3.72	SOLVENT PEAK	.00000	0.00	**********	**********
2	21.89	DIESEL FUEL	.99999	-58356.00	4739.50	.03

$$R = B_0 + B_1 X + B_2 X^2$$

PACE, Incorporated
Continuing Calibration Report

Thu Oct 26, 1995 11:18:39 am

/DATA/GC12/RESULT/G12L01616.RES
/DATA/GC12/METHOD/DIESEL008.MTH

Sample: DRO 2013PPM P8870
Injected: Mon Oct 9, 1995 8:42:48 am

RetTime	Analyte	Found	Nominal	%D	Recovery
13.10	DIESEL FUEL	2224.21	2013.000	10.5	110.5

PACE, Incorporated

INITIAL CALIBRATION SUMMARY

for /DATA/GC06/METHOD/DIESEL016.MTH
Method created: 09/28/95 09:17:56
Method updated: 09/29/95 15:21:21

Result files used for Calibration data:
Level 1 /DATA/GC06/RESULT/G6H18073.RES
Level 2 /DATA/GC06/RESULT/G6H18072.RES
Level 3 /DATA/GC06/RESULT/G6H18071.RES
Level 4 /DATA/GC06/RESULT/G6H18070.RES
Level 5 /DATA/GC06/RESULT/G6H18069.RES

#	Time	Analyte	Correlation	B_0 Intercept	B1 Slope	B2 Quadratic
1	3.73	SOLVENT PEAK	.00000	0.00	**********	**********
2	20.45	DIESEL FUEL	.99990	-225552.00	4495.09	.01

$$R = B0 + B1X + B2X^2$$

PACE, Incorporated
Continuing Calibration Report

Thu Oct 26, 1995 11:19:48 am

/DATA/GC06/RESULT/G6H18209.RES
/DATA/GC06/METHOD/DIESEL016A.MTH

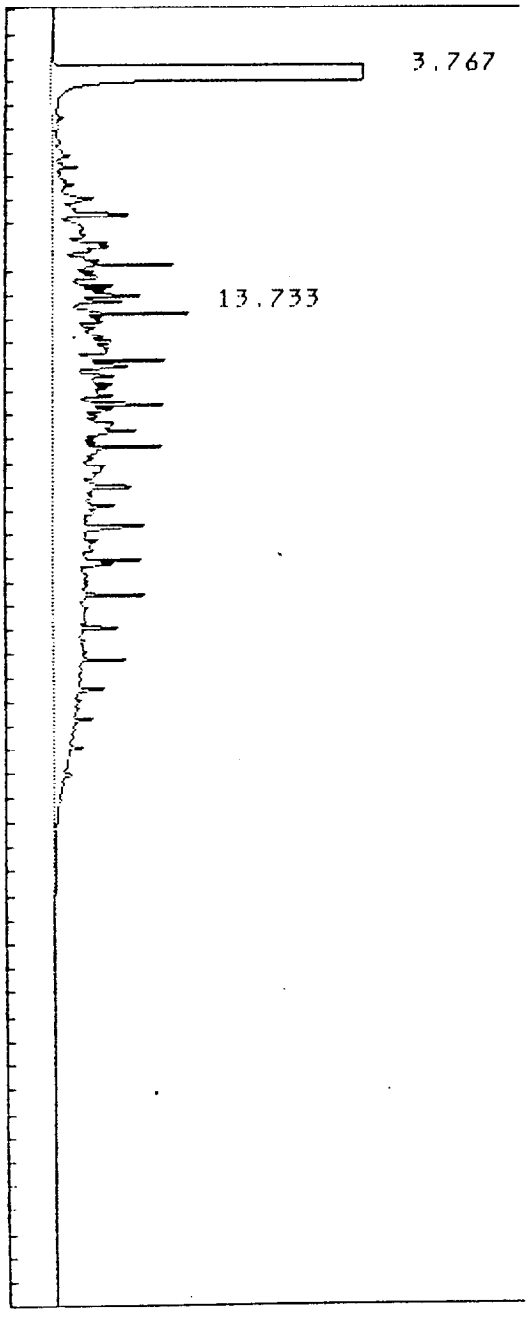
Sample: DRO 2013PPM P8870
Injected: Tue Oct 10, 1995 4:45:33 pm

RetTime	Analyte	Found	Nominal	%D	Recovery
13.83	DIESEL FUEL	1675.96	2013.000	16.7	83.3

PACE INCORPORATED

PHC GC-FID : SPB-5 COLUMN # 130, RANGE 3000 - 100000 Page 1
Sample Name : DRO 2013PPM P8843 Report No : 40.01

Instrument : GC06 Subseq/Sample/Bottle: 1/ 4/ 4



Sequence File: /DATA/GC06/SEQUENCE/G60929.SEQ
Method File : /DATA/GC06/METHOD/DIESEL016.MTH
Result File : /DATA/GC06/RESULT/G6H18071.RES

Run Time : 55.00 Minutes Injected on 1202 29Sep1995
Report Time : 1519 29Sep1995
Run Status : EndOffBaseline
SignalOverload
SpecialInteg

Timed Events	Time	Events	Logic	Value	EventUpdate
1	1.700	ResetBL	NoLogic	-1	True
2	4.963	SumPeaks	EventOn	-1	True
3	35.000	SumPeaks	EventOff	-1	True
4	36.000	ResetBL	NoLogic	-1	True

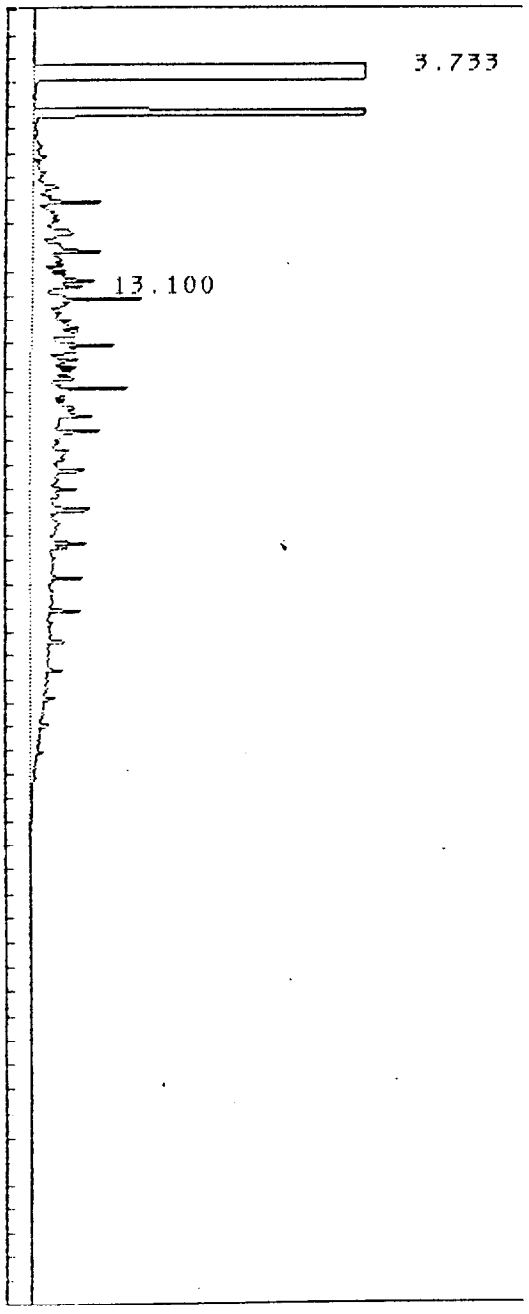
Dil-Fact : 100.00% Sample Amt: 0.0000 Standard Amt: 1.0000

Pk#	RT	ID-tm	Factor	Area	Code	UG/ML	Name
1	3.77	#3.73		36747336	FF	0.0000	SOLVENT PEAK
2	13.73	#20.45		7849440	FF	1793.3690	DIESEL FUEL

PACE INCORPORATED

PHC GC-FID : SPB-5 COLUMN # 130, RANGE 20000 - 250000 Page 1
Sample Name : DIESEL 2013PM P8843 Report No : 81.01

Instrument : GC12 Subseq/Sample/Bottle: 1/ 4/ 4



Sequence File: /DATA/GC12/SEQUENCE/G120928.SEQ
Method File : /DATA/GC12/METHOD/DIESEL00BLOW.MTH
Result File : /DATA/GC12/RESULT/G12L01552.RES

Run Time : 55.03 Minutes Injected on 2057 28Sep1995
Report Time : 1409 29Sep1995
Run Status : RunStatusOK
EndOffBaseline
SpecialInteg

Timed Events	Time	Events	Logic	Value	EventUpdate
1	2.120	ResetBL	NoLogic	-1	True
2	5.200	EndIntegrateAtB	NoLogic	-1	True
3	6.314	SetBLandIntegra	NoLogic	-1	True
4	6.441	ResetBL	NoLogic	-1	True
5	6.609	SumPeaks	EventOn	-1	True
6	38.580	SumPeaks	EventOff	-1	True
7	38.990	ResetBL	NoLogic	-1	True

Dil-Fact : 100.00% Sample Amt: 0.0000 Standard Amt: 1.0000

Pk#	RT	ID-tm	Factor	Area	Code	UG/ML	Name
1	3.73	#3.72		38165064	FF	0.0000	SOLVENT PEAK
2	13.10	#21.89		12583160	FF	2424.4810	DIESEL FUEL

/2013

CF = 6251

pc 10/3/95

PACE, INCORPORATED
GC Instrument Run Log

Reviewed by _____ Date _____

Circle one:
CLP/PHC/OPP/HERB/P-P

Date	init	result file	Sample	MI	V	Method	column	Sequence
9/27/95	PL	G12L01 535	Diesel 2013 ppm P8843 2%D	Y	Y	Diesel007	131	G120925
		536	Gas/Lube 5042/5104/5ppm P8722 14/7/6	Y	Y	CALIB005A		1
		537	BH1388 PHC-S					G120927
		538	LSH1388					
		539	45428-6					
		540	-7					
		541	-8					
		542	-9					
		543	-10					
		544	45430-1					
		545	GAS/LUBE 5042/5104/5ppm P8722	N	N			rr
9/28/95	PL	546	- Changed liner -			Changed Septum		
			GAS/LUBE P8722 Conc >20%	Y	N			
		547	GAS/LUBE P8722 5Z/43/16	Y	N			
		548	COLUMN COMPENSATION	N	Y	CALIB010		G120928
		549	MeCl2	N	Y	1		
		550	Diesel 50ppm P8845	Y	Y	Diesel008		
		551	503 P8844					
		552	2013 P8843					
		553	5034 P8842					
		554	20130 P8841					
		555	Gas/Lube 5042/5104/5ppm P8722			CALIB010		
		556	kerosene 5215ppm P8610					
		557	MSP/HYD FLD 2546/5155ppm G8605					
		558	#6 Fuel oil 10000ppm P8578					
		559	MOF 5061ppm P8611					
		560	JP4/C18 521/24ppm P8591					
	PL	561	Crude 5000ppm P8535	N	N			—
9/29/95		562	BH1389 PHC-W	Y	Y			
		563	LSH 1389					
		564	BH 1391 PHC-S					

PACE, INCORPORATED
GC Instrument Run Log

0000054

Reviewed by _____ Date _____

Circle one:
CLP/PHC/OPP/HERB/P-P

Date	init	result file	Sample	MI	V	Method	column	Sequence
10/6/95	PL	— Replaced gold seal + ring		—	—	Removed	INJ INSULATOR	
		G12L01593	Gas/Lube P8722 very low conc.	N	N	CALIB010	131	SS.
		594	" " "	N	N	"		
		—	Replaced INJ INSULATOR	—	—			
		595	Gas/Lube P872	N	Y			
		596	MeCl2	N		CALIB011		G12L1006
		597	Diesel 50PPM P8845	Y				Did not use
		598	503 P8844					
		599	2013 P8870					
		600	5034 P8842					
		601	20134 P8841					
		602	Gas/Lube 5342/5204/5110m P8722					
		603	Kerosene 52150PPM					
		604	MSO/HYD FLD 2596/5155PPM					
		605	#6 Fuel Oil 10000PPM P8578					
		606	MOOF 5061PPM P8611					
		607	C-Range 102010m P8433					
		608	SP-4/C18 501/241PPM P8551					
		609	BH1408 PHC-W					
		610	LSH1408 "					
		611	BH1406 PHC-S					
		612	LSH1406 "					
		613	45525-20 PHC-W CH552					
		614	45484-1 PHC-S					
		615	45484-2 "					
10/9/95	RZ	616	DRO 2013 PPM P8870 1:10	Y	Y	Diesel		
		G12L01617	4563-6 DRO OHM 1:10				131	G12L1007A
		618	-7 1:10					
		619	-6RE					
		620	-7RE					
		621	-7RE 1:10					

PACE, INCORPORATED
GC Instrument Run Log

0000055

Reviewed by _____ Date _____

Circle one:
CLP/PHC/DPP/HEPB/P-P

Date	init	result file	Sample	MI	V	Method	column	Sequence
10/11/95	BS	G12H01622	B1H1414 DRO-LS 01HM	Y	Y	Diesel008	131	G12L0077
		623	LS1H1414 ↓					
		624	B1H1413 DRO-LS 01HM					
		625	LS1H1413					
		626	45614-5 ↓					
		627	DRO 2013PPM P8870 65%	Y	Y			
		628	45614-6 DRO-LS 01HM					
10/10/95		629	-7					
↓	↓	630	-8 ↓					
10/10/95	AL	—	changed liner	—	—	—		
		G12L01631	$MeCl_2$	N	Y	CALB010 BC		S.S.
		632	"					
		633						
		634						
		635						
		636	↓					
10/11/95	PL	637	↓					
		638	COLUMN COMPENSATION					
		639	$MeCl_2$					
		640	COLUMN COMPENSATION					
		641	$MeCl_2$					
		642	$MeCl_2$					G12L0011
		643	Diesel 50PPM P8845	Y	Y	Diesel009		
		644	503 P8844					
		645	2013 P8870					
		646	5034 P8842					
		647	20134 P8841 ↓					
		648	Gas / Lube 5042/5104/5PPM P8722			CALB012		
		649	Kerosene 52HPPM P8610					
		650	MSP/HYD FLO 2546/5154PPM P8809					
		651	#6 Fuel Oil 10000PPM P8578					

PACE, INCORPORATED
GC Instrument Run Log

0000078

Reviewed by _____ Date _____

Circle one:
CLP / PHC / OPP / HERB / P-P

Date	init	result file	Sample	MI	V	Method	column	Sequence
[illegible]	[illegible]	[illegible]1718805-8	Lwinjection	N	N	Diesel016	(154/157)	G9 0928A
		G9 039	45480-44 Bechtel DRO-S D10/3	Y	Y		154	G9
		G6 039	Lw injection	N	N		157	G6
		G9 040	45480-45 Bechtel DRO-S D10/3	Y	Y		154	G9
		G6 040	Lw injection	N	N		157	G6
		G9 041	BH 1393 DRO-S OHM	Y	Y		154	G9
		G6 041	Lw injection	N	N		157	G6
		G9 042	LSIH 393 DRO-S OHM	Y	Y		154	G9
		G6 042	Lw injection (3)	N	N		157	G6
		G9 043	45515-4 DRO-S OHM V9/29 1:10	Y	Y		154	G9
		G6 043	Lw injection	N	N		157	G6
		G9 044	DRO 2013ppm P8843	Y	Y		154	G9
		G6 044	Lw injection	N	N		157	G6
		G9 045	45515-5 DRO-S OHM V9/29 1:10	Y	Y		154	G9
		G6 045	Lw injection	N	N		157	G6
		G9 046	45515-6 DRO-S OHM V9/29 1:10	Y	Y		154	G9
		G6 046	Lw injection	N	N		157	G6
		G9 047	Mecl2	Y	Y		154	G9
		G6 047	Lw injection	N	N		157	G6
[illegible]	[illegible]	G9 048	BH1392 DRO-S Bechtel D10/3	Y	Y	Diesel016	154	G9 0929
		G6 048	Mecl2				157	G6
		G9 049	LSIH 1392 DRO-S Bechtel D10/3				154	G9
		G6 049	DRO 2013ppm P8841				157	G6
		G9 050	45515-4 OHM				154	G9
		G6 050	DRO 5634 ppm P8842				157	G6
		G9 051	45515-5 OHM				154	G9
		G6 051	DRO 2013 ppm P8843				157	G6
		G9 052	45515-6 OHM				154	G9
		G6 052	DRO 503ppm P8844				157	G6
		G9 053	45480-32 DRO-S Bechtel D10/3				154	G9
		G6 053	DRO 50ppm P8845				157	G6

PACE, INCORPORATED
GC Instrument Run Log

Reviewed by _____ Date _____

Circle one:
CLP/PHC/OPP/HERB/P-P

Date	init	result file	Sample	MI	V	Method	column	Sequence
10/11/15	HS	G61118199	45559-1MS DRO-S Bechtel	Y	Y	Diesel	157	G6 1109
		G9 200	2013ppm Diesel P8870. 79				154	G9
		G6 200	45559-1MSD DRO-S Bechtel				157	G6
		G9 201	45626-7 DRO-S Bechtel				154	G9
		G6 201	45559-3 ↓ need Dilution		N		157	G6
		G9 202	45626-8 DRO-S Bechtel		Y		154	G9
		G6 202	45559-4 ↓				157	G6
		G9 203	45626-9				154	G9
		G6 203	45559-5				157	G6
		G9 204	45626-10 need Dilution		N		154	G9
		G6 204	45559-6		Y		157	G6
		G9 205	45626-11				154	G9
		G6 205	45559-7				157	G6
		G9 206	45626-12				154	G9
		G6 206	45559-8				157	G6
		G9 207	45626-13				154	G9
		G6 207	45559-9				157	G6
		G9 208	45626-14				154	G9
↓		G6 208	45559-10 ↓				157	G6
		G9 209	45626-15 ↓				154	G9
		G6 209	DRO 2013ppm P8870 17%D				157	G6
		G9 210	45626-16 DRO-S Bechtel				154	G9
		G6 210	B1H1416 DRO-S				157	G6
		G9 211	2013 PPm Diesel P8870 25%D				154	G9
		G6 211	L5H1416 DRO-S				157	G6
		G9 212	45626-17 Bechtel				154	G9
		G6 212	45614-6 CHM				157	G6
		G9 213	45626-18 Bechtel				154	G9
		G6 213	45614-7 CHM				157	G6
		G9 214	45626-19 Bechtel need 1:10		N		154	G9
↓	↓	G6 214	45614-8 ↓ CHM		Y	↓	157	G9 ↓

QUALITY CONTROL
Corrosivity
Method: 7.2 SW846 3rd Edition

QC Batch: 368 For: 45614
Matrix: SOLID

LABORATORY CONTROL SAMPLES:

	True Value Units	Observed Value Units
LCS1	7.0	7.02

PACE INC. NE-NH LAB
QUALITY CONTROL
Releasable Sulfide
Method: 7.3.4.2 EPA SW846, 3rd Edition

QC Batch: 311
Matrix: SOLID

METHOD BLANK:

	Result ug/g
	< 50.00

LABORATORY CONTROL SAMPLES:

	True Value ug/g	Observed Value ug/g	Accuracy Recovery %
LCS1	1462.0	1455.3	99.5

FIELD SAMPLE:

Precision Lab No.	Replicate 1 ug/g	Replicate 2 ug/g	Average ug/g	Relative Percent Difference %
45614-9	< 50.00	< 50.00	NC	NC

QUALITY CONTROL QUALIFIER STATEMENT
The sample results used to generate quality control information for solid samples are uncorrected for dry weight. This does not affect the results reported for percent of spike recovery and relative percent difference.

NC = Not calculable due to result below detection limit.

PACE INC. NE-NH LAB
QUALITY CONTROL
Releasable Cyanide
Method: 7.3.3.2 SW846, 3rd Edition

QC Batch: 311
Matrix: SOIL

METHOD BLANK:

	Result ug/g
	< 1.00

LABORATORY CONTROL SAMPLES:

	True Value ug/g	Observed Value ug/g	Accuracy Recovery %
LCS1	40.0	5.750	14.4

FIELD SAMPLE:

Lab No.	Replicate 1 ug/g	Replicate 2 ug/g	Average ug/g	Precision Relative Percent Difference %
45614-9	< 1.00	< 1.00	NC	NC

QUALITY CONTROL QUALIFIER STATEMENT
The sample results used to generate quality control information for solid samples are uncorrected for dry weight. This does not affect the results reported for percent of spike recovery and relative percent difference.

NC = Not calculable due to result below detection limit.

QUALITY CONTROL
Flashpoint
Method: D93-80, ASTM

QC Batch: 343
Matrix: SOLID

LABORATORY CONTROL SAMPLES:

	True Value Deg F	Observed Value Deg F
LCS1	81.0	82.00

FIELD SAMPLE:

Precision

Lab No.	Replicate 1 Deg F	Replicate 2 Deg F
45614-12	> 150.00	> 150.00

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR VOLATILE CONSTITUENTS

Laboratory Number : 45614-009
Field Identification : CLJ44-CU-083
Extraction Date : 10/09/95
TCLP Blank : 90,002-403

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

Extraction Fluid #1 was used as specfied in the method.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 25 g of sample was added to the extractor with 500 mL of Extraction Fluid #1.

Extraction Time : 19 hrs

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid #1: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

pace INCORPORATED THE ASSURANCE OF QUALITY

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
ANALYSIS FOR VOLATILE CONSTITUENTS

Laboratory number: 45614-009
Sample Designation: CLJ44-CU-083
Date Analyzed: 10/11/95 18:27
QC Batch: BG101195A1
TCLP Batch: 403
Matrix: TCLP EXTRACT

VOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Vinyl chloride	BDL	0.2	0.01
1,1-Dichloroethene	BDL	0.7	0.005
1,2-Dichloroethane	BDL	0.5	0.005
Chloroform	BDL	6.0	0.005
Methyl ethyl ketone	BDL	200	0.025
Carbon Tetrachloride	BDL	0.5	0.005
Trichloroethene	BDL	0.5	0.005
Benzene	BDL	0.5	0.005
Tetrachloroethene	BDL	0.7	0.005
Chlorobenzene	BDL	100	0.005

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8240

Results uncorrected for matrix spike recovery.

BDL = Below reporting limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR VOLATILE CONSTITUENTS

Laboratory Number : 45614-010
Field Identification : CLJ44-CU-083D
Extraction Date : 10/09/95
TCLP Blank : 90,002-403

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

Extraction Fluid #1 was used as specfied in the method.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 25 g of sample was added to the extractor with 500 mL of Extraction Fluid #1.

Extraction Time : 19 hrs

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid #1: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

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THE ASSURANCE OF QUALITY

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
ANALYSIS FOR VOLATILE CONSTITUENTS

Laboratory number: 45614-010
Sample Designation: CLJ44-CU-083D
Date Analyzed: 10/11/95 00:06
QC Batch: BG101095D2
TCLP Batch: 403
Matrix: TCLP EXTRACT

VOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Vinyl chloride	BDL	0.2	0.01
1,1-Dichloroethene	BDL	0.7	0.005
1,2-Dichloroethane	BDL	0.5	0.005
Chloroform	BDL	6.0	0.005
Methyl ethyl ketone	BDL	200	0.025
Carbon Tetrachloride	BDL	0.5	0.005
Trichloroethene	BDL	0.5	0.005
Benzene	BDL	0.5	0.005
Tetrachloroethene	BDL	0.7	0.005
Chlorobenzene	BDL	100	0.005

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8240

Results uncorrected for matrix spike recovery.

BDL = Below reporting limit

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TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR VOLATILE CONSTITUENTS

Laboratory Number	:	45614-011
Field Identification	:	CLJ44-CU-084
Extraction Date	:	10/09/95
TCLP Blank	:	90,002-403

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

Extraction Fluid #1 was used as specfied in the method.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 25 g of sample was added to the extractor with 500 mL of Extraction Fluid #1.

Extraction Time : 19 hrs

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid #1: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

pace INCORPORATED THE ASSURANCE OF QUALITY

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
ANALYSIS FOR VOLATILE CONSTITUENTS

Laboratory number: 45614-011
Sample Designation: CLJ44-CU-084
Date Analyzed: 10/11/95 00:45
QC Batch: BG101095D2
TCLP Batch: 403
Matrix: TCLP EXTRACT

VOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Vinyl chloride	BDL	0.2	0.01
1,1-Dichloroethene	BDL	0.7	0.005
1,2-Dichloroethane	BDL	0.5	0.005
Chloroform	BDL	6.0	0.005
Methyl ethyl ketone	BDL	200	0.025
Carbon Tetrachloride	BDL	0.5	0.005
Trichloroethene	BDL	0.5	0.005
Benzene	BDL	0.5	0.005
Tetrachloroethene	BDL	0.7	0.005
Chlorobenzene	BDL	100	0.005

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8240

Results uncorrected for matrix spike recovery.

BDL = Below reporting limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR VOLATILE CONSTITUENTS

Laboratory Number : 45614-012
Field Identification : CLJ44-CU-085
Extraction Date : 10/09/95
TCLP Blank : 90,002-403

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

Extraction Fluid #1 was used as specfied in the method.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 25 g of sample was added to the extractor with 500 mL of Extraction Fluid #1.

Extraction Time : 19 hrs

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid #1: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

pace INCORPORATED THE ASSURANCE OF QUALITY

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
ANALYSIS FOR VOLATILE CONSTITUENTS

Laboratory number: 45614-012
Sample Designation: CLJ44-CU-085
Date Analyzed: 10/11/95 19:07
QC Batch: BG101195A1
TCLP Batch: 403
Matrix: TCLP EXTRACT

VOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Vinyl chloride	BDL	0.2	0.01
1,1-Dichloroethene	BDL	0.7	0.005
1,2-Dichloroethane	BDL	0.5	0.005
Chloroform	BDL	6.0	0.005
Methyl ethyl ketone	BDL	200	0.025
Carbon Tetrachloride	BDL	0.5	0.005
Trichloroethene	BDL	0.5	0.005
Benzene	BDL	0.5	0.005
Tetrachloroethene	BDL	0.7	0.005
Chlorobenzene	BDL	100	0.005

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8240

Results uncorrected for matrix spike recovery.

BDL = Below reporting limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

WATER VOLATILES SURROGATE RECOVERY

Client: OHM REMEDIATION SERVICES CORP. Lab No.: 45614
Project: CAMP GEIGER/LJN33

CLIENT SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
CLJ44-CU-083	98	105	97		0
CLJ44-CU-083D	89	92	90		0
CLJ44-CU-084	86	94	82		0
CLJ44-CU-085	100	101	103		0
BG101095D2	101	97	96		0
BG101195A1	99	98	99		0
TCLP BLANK #403	100	102	107		0

		QC LIMITS
S1	(TOL) = Toluene-d8	86 - 114
S2	(BFB) = Bromofluorobenzene	72 - 132
S3	(DCE) = 1,2-Dichloroethane-d4	70 - 138

Column to be used to flag recovery values with an asterisk
* Values outside of designated QC limits
D Surrogates diluted out

pace INCORPORATED THE ASSURANCE OF QUALITY

Laboratory number: TCLP BLANK #403
Client ID: TCLP BLANK
Date Analyzed: 10/11/95
Matrix: TCLP EXTRACT

Parameter	Result (ug/L)	Regulatory Limit (ug/L)	Detection Limit (ug/L)
Vinyl chloride	BDL	200	10
1,1-Dichloroethene	BDL	700	5
1,2-Dichloroethane	BDL	500	5
Chloroform	BDL	6000	5
Methyl ethyl ketone	BDL	200000	25
Carbon Tetrachloride	BDL	500	5
Trichloroethene	BDL	500	5
Benzene	BDL	500	5
Tetrachloroethene	BDL	700	5
Chlorobenzene	BDL	100000	5

METHOD REFERENCE: EPA SW846 3rd EDITION
METHOD 8240

BDL = Below detection limit

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Laboratory number: BG101095D2
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/10/95
Matrix: WATER

VOLATILE ORGANICS	CONCENTRATION (ug/L)	DETECTION LIMIT (ug/L)
Chloromethane	BDL	10
Bromomethane	BDL	10
Vinyl chloride	BDL	10
Chloroethane	BDL	5
Methylene chloride	BDL	10
Acetone	BDL	25
Carbon disulfide	BDL	5
1,1-Dichloroethene	BDL	5
Tetrahydrofuran	BDL	25
1,1-Dichloroethane	BDL	5
1,2-Dichloroethene (total)	BDL	5
Chloroform	BDL	5
Methyl ethyl ketone	BDL	25
1,2-Dichloroethane	BDL	5
1,1,1-Trichloroethane	BDL	5
Carbon Tetrachloride	BDL	5
Vinyl acetate	BDL	10
Bromodichloromethane	BDL	5
cis-1,3-Dichloropropene	BDL	5
trans-1,3-Dichloropropene	BDL	5
Trichloroethene	BDL	5
Benzene	BDL	5
Dibromochloromethane	BDL	5
1,1,2-Trichloroethane	BDL	5
1,2-Dichloropropane	BDL	5
2-Chloroethyl vinyl ether	BDL	5
Bromoform	BDL	5
Methyl isobutyl ketone	BDL	25
2-Hexanone	BDL	25
1,1,2,2-Tetrachloroethane	BDL	5
Tetrachloroethene	BDL	5
Toluene	BDL	5
Chlorobenzene	BDL	5
Ethylbenzene	BDL	5
m-Xylene	BDL	5
o,p-Xylene	BDL	5
Styrene	BDL	5

METHOD REFERENCE: EPA SW 846 3RD EDITION
METHOD 8240

BDL = Below detection limit
J = Probable presence below listed detection limit.

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: BG101195A1
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/11/95
Matrix: WATER

VOLATILE ORGANICS	CONCENTRATION (ug/L)	DETECTION LIMIT (ug/L)
Chloromethane	BDL	10
Bromomethane	BDL	10
Vinyl chloride	BDL	10
Chloroethane	BDL	5
Methylene chloride	BDL	10
Acetone	BDL	25
Carbon disulfide	BDL	5
1,1-Dichloroethene	BDL	5
Tetrahydrofuran	BDL	25
1,1-Dichloroethane	BDL	5
1,2-Dichloroethene (total)	BDL	5
Chloroform	BDL	5
Methyl ethyl ketone	BDL	25
1,2-Dichloroethane	BDL	5
1,1,1-Trichloroethane	BDL	5
Carbon Tetrachloride	BDL	5
Vinyl acetate	BDL	10
Bromodichloromethane	BDL	5
cis-1,3-Dichloropropene	BDL	5
trans-1,3-Dichloropropene	BDL	5
Trichloroethene	BDL	5
Benzene	BDL	5
Dibromochloromethane	BDL	5
1,1,2-Trichloroethane	BDL	5
1,2-Dichloropropane	BDL	5
2-Chloroethyl vinyl ether	BDL	5
Bromoform	BDL	5
Methyl isobutyl ketone	BDL	25
2-Hexanone	BDL	25
1,1,2,2-Tetrachloroethane	BDL	5
Tetrachloroethene	BDL	5
Toluene	BDL	5
Chlorobenzene	BDL	5
Ethylbenzene	BDL	5
m-Xylene	BDL	5
o,p-Xylene	BDL	5
Styrene	BDL	5

METHOD REFERENCE: EPA SW 846 3RD EDITION
METHOD 8240

BDL = Below detection limit
J = Probable presence below listed detection limit.

pace INCORPORATED
THE ASSURANCE OF QUALITY

MATRIX SPIKE RECOVERY
VOLATILE ORGANIC COMPOUNDS

Laboratory Number: LCG101095A2
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/10/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
1,1-DICHLOROETHENE	0	50	48	95
TRICHLOROETHYLENE	0	50	50	100
BENZENE	0	50	48	97
TOLUENE	0	50	48	96
CHLOROBENZENE	0	50	51	101

METHOD REFERENCE: EPA SW 846, 3RD EDITION
METHOD 8240

pace INCORPORATED
THE ASSURANCE OF QUALITY

MATRIX SPIKE RECOVERY
VOLATILE ORGANIC COMPOUNDS

Laboratory Number: LCG101195A1
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/11/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
1,1-DICHLOROETHENE	0	50	48	95
TRICHLOROETHYLENE	0	50	48	96
BENZENE	0	50	48	95
TOLUENE	0	50	49	98
CHLOROBENZENE	0	50	53	106

METHOD REFERENCE: EPA SW 846, 3RD EDITION
METHOD 8240

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5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN33

Lab File ID: >G5028 BFB Injection Date: 10/10/95

Instrument ID: GMS BFB Injection Time: 10:46

ION ABUNDANCE CRITERIA for G5028 are reported on a separate sheet.

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
VSTD050	VSTD050	G5032	10/10/95	13:19
VSTD200	VSTD200	G5033	10/10/95	14:31
VSTD100	VSTD100	G5034	10/10/95	15:11
VSTD020	VSTD020	G5035	10/10/95	15:50
VSTD010	VSTD010	G5036	10/10/95	16:30

GC/MS PERFORMANCE STANDARD

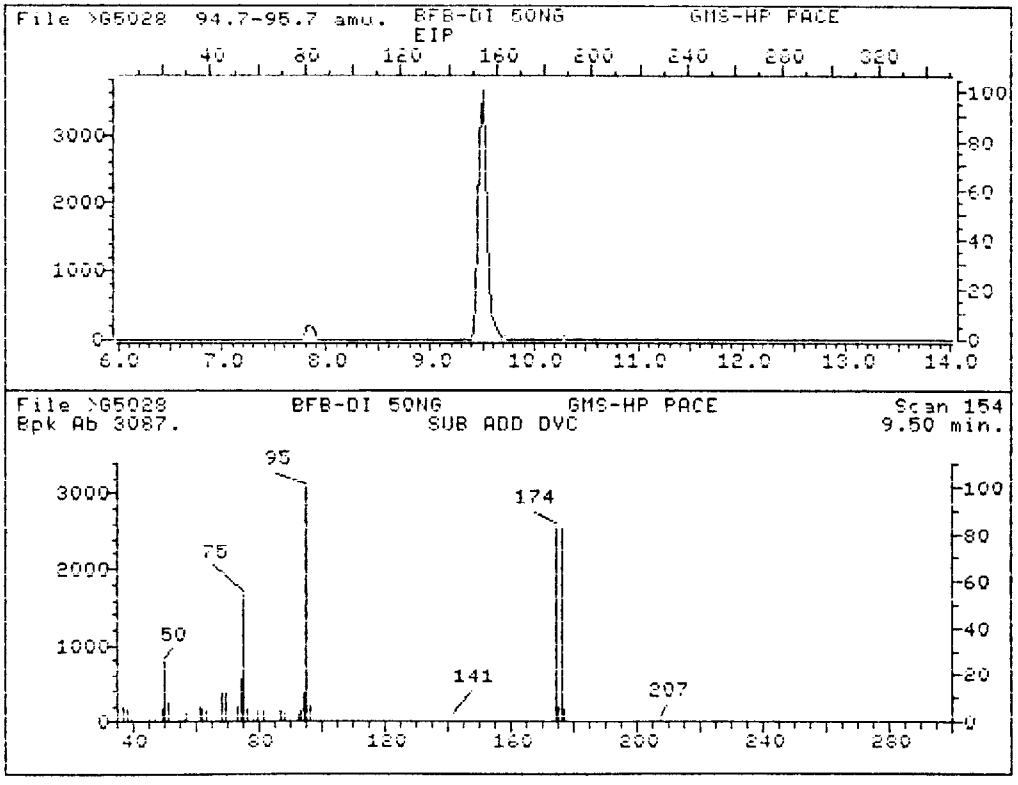
Bromofluorobenzene (BFB) '88

10/10/95

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	24.98	24.98	Ok
75	30-60% of mass 95	53.59	53.59	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.22	7.22	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	83.04	83.04	Ok
175	5-9% of mass 174	5.67	6.83	Ok
176	95-101% of mass 174	82.49	99.34	Ok
177	5-9% of mass 176	5.47	6.64	Ok

Injection Date: 10/10/95
Injection Time: 10:46
Data File: >G5028
Scan: 154

THIS IS THE RESULT OF AVERAGING 153.00 154.00 155.00
AND SUBTRACTING BACKGROUND SCAN 100



5A

VOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN33

Lab File ID: >G5037 BFB Injection Date: 10/10/95

Instrument ID: GMS BFB Injection Time: 17:33

ION ABUNDANCE CRITERIA for G5037 are reported on a separate sheet.

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
VSTD050	VSTD050	G5038	10/10/95	17:57
BG101095D2	90184-155	G5042	10/10/95	22:07
LCG101095A2	90184-155MS	G5043	10/10/95	22:47
CLJ44-CU-083D	45614-010	G5045	10/11/95	00:06
CLJ44-CU-084	45614-011	G5046	10/11/95	00:45

pace INCORPORATED
THE ASSURANCE OF QUALITY

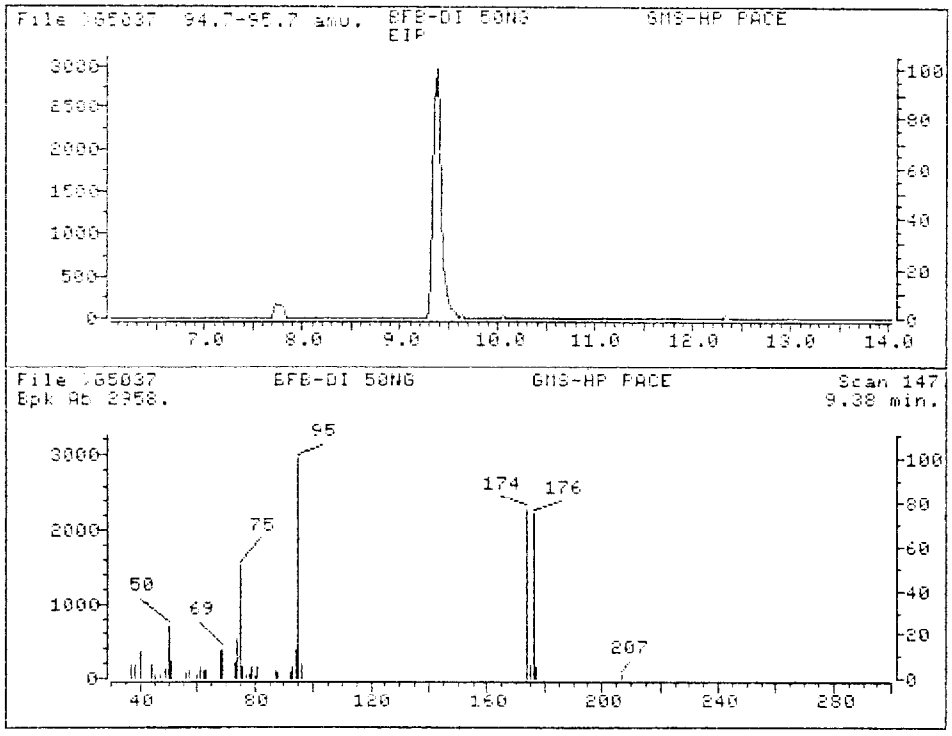
DCL
10/20/95

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB) '88

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
50	15-40% of mass 95	23.83	23.83	Ok
75	30-60% of mass 95	51.12	51.12	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	6.80	6.80	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	76.94	76.94	Ok
175	5-9% of mass 174	5.78	7.51	Ok
176	95-101% of mass 174	74.71	97.10	Ok
177	5-9% of mass 176	5.44	7.29	Ok

Injection Date: 10/10/95
Injection Time: 17:33
Data File: >G5037
Scan: 147



5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN33

Lab File ID: >G5060 BFB Injection Date: 10/11/95

Instrument ID: GMS BFB Injection Time: 12:25

ION ABUNDANCE CRITERIA for G5060 are reported on a separate sheet.

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
VSTD050	VSTD050	G5062	10/11/95	13:37
BG101195A1	90184-157	G5063	10/11/95	14:17
LCG101195A1	90184-157MS	G5064	10/11/95	15:47
TCLPBLK403 5ML	90184-159	G5067	10/11/95	17:48
CLJ44-CU-083	45614-009	G5068	10/11/95	18:27
CLJ44-CU-085	45614-012	G5069	10/11/95	19:07

pace INCORPORATED THE ASSURANCE OF QUALITY

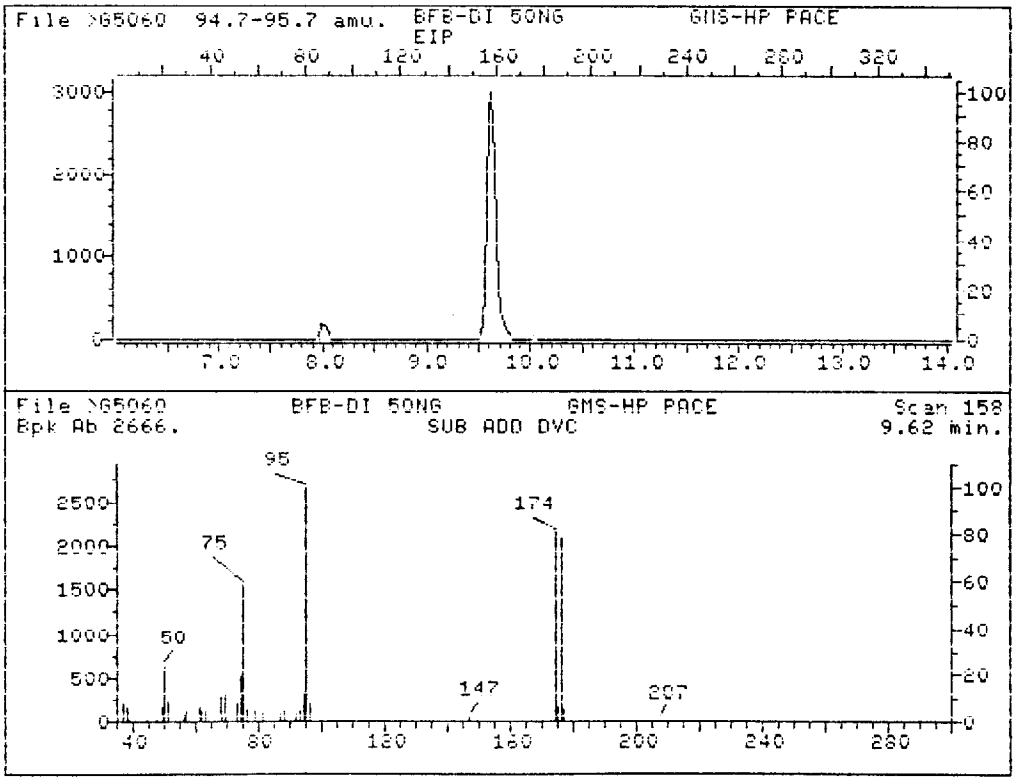
GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB) '88

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	24.13	24.13	Ok
75	30-60% of mass 95	57.86	57.86	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.69	7.69	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	80.51	80.51	Ok
175	5-9% of mass 174	5.68	7.05	Ok
176	95-101% of mass 174	77.97	96.85	Ok
177	5-9% of mass 176	5.41	6.94	Ok

Injection Date: 10/11/95
Injection Time: 12:25
Data File: >G5060
Scan: 158

THIS IS THE RESULT OF AVERAGING 157.00 158.00 159.00
AND SUBTRACTING BACKGROUND SCAN 100



Initial Calibration Data
HSL Compounds

Case No: Instrument ID: GMS-HP

Contractor: RESAN Calibration Date: 10/12/95 10/13/95

Contract No: 68020026

NR 10/20/95 (3)

I61010/C61010

Minimum $\overline{RF}$ for SPCC is .3 Maximum % RSD for CCC is 30%

Laboratory ID:	>G5036	>G5035	>G5032	>G5034	>G5033					
Compound	RF 10.00	RF 20.00	RF 50.00	RF 100.00	RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C010 CHLOROMETHANE	.62521	.78350	.60877	.52057	.68253	.411	.64412	15.087		**
C015 BROMOMETHANE	1.75362	1.96731	1.59012	1.18887	1.10953	.490	1.52189	24.091		
C020 VINYL CHLORIDE	1.05509	1.27402	1.08221	.82200	.90190	.427	1.02705	17.041	*	
C025 CHLOROETHANE	.71779	.82828	.66337	.49527	.56335	.501	.65361	19.939		
C030 METHYLENE CHLORIDE	2.39816	2.09949	1.61894	1.18222	1.25851	.708	1.71147	30.862		
C035 ACETONE	.42515	.32323	.25468	.28730	.18291	.613	.29465	30.348		
C040 CARBON DISULFIDE	1.95681	2.56732	2.33935	1.94723	2.25066	.713	2.21227	11.942		
C042 TRICHLOROFLUOROMETHANE	3.28337	4.00807	3.42867	2.75089	3.12930	.540	3.32006	13.859		
C045 1,1-DICHLOROETHENE	1.39012	1.55280	1.34777	1.09749	1.21907	.633	1.32145	13.084	*	
C058 TETRAHYDROFURAN	.09233	.12262	.09562	.08722	.09497	1.012	.09855	14.060		
C050 1,1-DICHLOROETHANE	2.66957	3.13121	2.69247	2.12056	2.30828	.632	2.58442	15.102		**
C054 1,2-DICHLOROETHENE(cis)	1.73405	2.05903	1.75087	1.38044	1.52645	.941	1.69017	15.212		
C053 1,2-DICHLOROETHENE(trans)	1.50166	1.68850	1.60342	1.28595	1.48820	.760	1.55354	14.148		
MTBE	3.22798	3.68684	3.03873	2.60686	2.92999	.739	3.09808	12.877		
C060 CHLOROFORM	3.57865	4.31098	3.65806	2.97701	3.30368	.971	3.56567	13.877	*	
C110 2-BUTANONE	.50393	.58886	.47991	.49330	.38716	.910	.49063	14.646		
C065 1,2-DICHLOROETHANE	2.54540	2.95654	2.46581	1.98712	2.15851	1.124	2.42268	15.464		
CS15 1,2-DICHLOROETHANE-d4	1.67454	1.37238	1.96501	1.45526	1.70942	1.105	1.63532	14.252		
C115 1,1,1-TRICHLOROETHANE	.60608	.78364	.64558	.57772	.67930	.885	.65842	12.136		
C120 CARBON TETRACHLORIDE	.50666	.67754	.56872	.50185	.59363	.927	.56968	12.652		
C125 VINYL ACETATE	.39338	.49458	.39424	.30822	.38641	.704	.39537	16.741		
C130 BROMODICHLOROMETHANE	.60554	.80208	.67389	.61967	.73273	1.127	.68678	11.890		
C140 1,2-DICHLOROPROPANE	.33659	.40783	.32994	.28764	.32240	1.087	.33688	13.038	*	
C143 CIS-1,3-DICHLOROPROPENE	.42842	.56867	.48216	.42499	.50180	1.225	.48121	12.304		
C150 TRICHLOROETHENE	.40605	.48718	.40336	.36224	.40649	1.057	.41306	11.003		
C155 DIBROMOCHLOROMETHANE	.44979	.63435	.53794	.50632	.59543	1.439	.54477	13.344		
C160 1,1,2-TRICHLOROETHANE	.30007	.36316	.28618	.26389	.29315	1.345	.30129	12.333		
C165 BENZENE	.93952	1.03450	.85139	.73816	.84710	.954	.88213	12.599		
C172 TRANS-1,3-DICHLOROPROPENE	.34575	.47500	.40948	.37457	.44871	1.316	.41070	12.829		
C176 2-CHLOROETHYLVINYLETHER	.13166	.16651	.13398	.14116	.09360	1.183	.13338	19.636		

RF - Response Factor (Subscript is amount in ug/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No:

Instrument ID: GMS-HP

Contractor: RESAN

Calibration Date: 10/12/95 10/13/95

Contract No: 68020026

I6101O / C6101O

Minimum RF for SPCC is .3

Maximum % RSD for CCC is 30%

Laboratory ID:	>G5036	>G5035	>G5032	>G5034	>G5033					
Compound	RF 10.00	RF 20.00	RF 50.00	RF 100.00	RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C180 BROMOFORM	.31855	.44325	.38181	.38213	.43879	1.740	.39290	12.983		**
CS05 TOLUENE-d8	.75985	.74092	.98841	.77066	.98544	.818	.84906	14.877		
C205 4-METHYL-2-PENTANONE	.45335	.58949	.44891	.44248	.42656	.766	.47216	14.057		
C210 2-HEXANONE	.17977	.24950	.18580	.22118	.20307	.870	.20786	13.628		
C220 TETRACHLOROETHENE	.42057	.57263	.47697	.39954	.47583	.906	.46911	14.308		
C225 1,1,2,2-TETRACHLOROETHANE	.65165	.82801	.62679	.54891	.62781	1.144	.65664	15.738		**
C230 TOLUENE	1.50525	1.71623	1.38387	1.15947	1.37616	.827	1.42620	14.255	*	
C235 CHLOROBENZENE	.98944	1.18304	.94068	.80604	.92353	1.005	.96855	14.199		**
C240 ETHYLBENZENE	.42441	.55499	.43569	.37800	.44789	1.013	.44820	14.569	*	
C245 STYRENE	.85267	1.10580	.89439	.75687	.90193	1.081	.90233	14.137		
C251 XYLENE (O)	.47529	.62909	.51279	.41972	.48298	1.077	.50397	15.400		
C250 XYLENE (total)	.54553	.69376	.57116	.48890	.55534	1.023	.57094	13.196		(Conc=20.0,40.0,100.0,200
CS10 BROMOFLUOROBENZENE	.64801	.60647	.79974	.62096	.76319	1.155	.68767	12.777		

RF - Response Factor (Subscript is amount in ug/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/10/95

Contractor: RESAN Time: 17:57

Contract No: 68020026 Laboratory ID: >G5038

Instrument ID: GMS-HP Initial Calibration Date: 10/12/95 10/10/95

IG0C10

Minimum RF for SPCC is .3 Maximum % Diff for CCC is 25%

Compound	RF	RF	%Diff	CCC	SPCC
C010 CHLOROMETHANE	.64412	.63332	1.68		**
C015 BROMOMETHANE	1.52189	1.40696	7.55		
C020 VINYL CHLORIDE	1.02705	.96500	6.04	*	
C025 CHLOROETHANE	.65361	.58245	10.89		
C030 METHYLENE CHLORIDE	1.71147	1.38730	18.94		
C035 ACETONE	.29465	.20583	30.14		
C040 CARBON DISULFIDE	2.21227	2.19545	.76		
C042 TRICHLOROFLUOROMETHANE	3.32006	3.01580	9.16		
C045 1.1-DICHLOROETHENE	1.32145	1.21073	8.38	*	
C058 TETRAHYDROFURAN	.09855	.09354	5.08		
C050 1.1-DICHLOROETHANE	2.58442	2.39063	7.50		**
C054 1.2-DICHLOROETHENE(cis)	1.69017	1.60024	5.32		
C053 1.2-DICHLOROETHENE(trans)	1.55354	1.60763	3.48		
MTBE	3.09808	2.84228	8.26		
C060 CHLOROFORM	3.56567	3.32317	6.80	*	
C110 2-BUTANONE	.49063	.39733	19.02		
C065 1.2-DICHLOROETHANE	2.42268	2.21548	8.55		
CS15 1.2-DICHLOROETHANE-d4	1.63532	1.66357	1.73		
C115 1.1.1-TRICHLOROETHANE	.65842	.59269	9.98		
C120 CARBON TETRACHLORIDE	.56968	.49969	12.29		
C125 VINYL ACETATE	.39537	.30805	22.09		
C130 BROMODICHLOROMETHANE	.68678	.60881	11.35		
C140 1.2-DICHLOROPROPANE	.33688	.30454	9.60	*	
C143 CIS-1.3-DICHLOROPROPENE	.48121	.43234	10.16		
C150 TRICHLOROETHENE	.41306	.37271	9.77		
C155 DIBROMOCHLOROMETHANE	.54477	.50166	7.91		
C160 1.1.2-TRICHLOROETHANE	.30129	.27744	7.92		
C165 BENZENE	.88213	.78073	11.50		
C172 TRANS-1.3-DICHLOROPROPENE	.41070	.36430	11.30		
C176 2-CHLOROETHYLVINYLETHER	.13338	.13486	1.11		
C180 BROMOFORM	.39290	.36929	6.01		**
CS05 TOLUENE-d8	.84906	.84039	1.02		

RF - Response Factor from daily standard file at 50.00 ug/L

RF - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/10/95

Contractor: RESAN Time: 17:57

Contract No: 68020026 Laboratory ID: >G5038

Instrument ID: GMS-HP Initial Calibration Date: ~~10/12/95~~ 10/10/95

Minimum $\overline{RF}$ for SPCC is .3 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
C205 4-METHYL-2-PENTANONE	.47216	.42381	10.24			
C210 2-HEXANONE	.20786	.17182	17.34			
C220 TETRACHLOROETHENE	.46911	.43356	7.58			
C225 1,1,2,2-TETRACHLOROETHANE	.65664	.58459	10.97		**	
C230 TOLUENE	1.42820	1.25923	11.83	*		
C235 CHLOROBENZENE	.96855	.87773	9.38		**	
C240 ETHYLBENZENE	.44820	.42376	5.45	*		
C245 STYRENE	.90233	.82440	8.64			
C251 XYLENE (O)	.50397	.46826	7.09			
C250 XYLENE (total)	.57094	.52522	8.01			(Conc=100.00)
C510 BROMOFLUOROBENZENE	.68767	.66955	2.64			

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No:

Calibration Date: 10/11/95

Contractor: RESAN

Time: 13:37

Contract No: 68D20026

Laboratory ID: >G5062

Instrument ID: GMS-HP

Initial Calibration Date: 10/12/95 10/10/95

IG-1011

Minimum $\overline{RF}$ for SPCC is .3

Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C010 CHLOROMETHANE	.64412	.62377	3.16		**
C015 BROMOMETHANE	1.52189	1.51253	.61		
C020 VINYL CHLORIDE	1.02705	1.03311	.59	*	
C025 CHLOROETHANE	.65361	.63206	3.30		
C030 METHYLENE CHLORIDE	1.71147	1.41615	17.25		
C035 ACETONE	.29465	.42980	45.87		
C040 CARBON DISULFIDE	2.21227	2.28491	3.28		
C042 TRICHLOROFLUOROMETHANE	3.32006	3.19636	3.73		
C045 1,1-DICHLOROETHENE	1.32145	1.28243	2.95	*	
C058 TETRAHYDROFURAN	.09855	.10792	9.50		
C050 1,1-DICHLOROETHANE	2.58442	2.58666	.09		**
C054 1,2-DICHLOROETHENE(cis)	1.69017	1.72798	2.24		
C053 1,2-DICHLOROETHENE(trans)	1.55354	1.55716	.23		
MTBE	3.09808	3.17301	2.42		
C060 CHLOROFORM	3.56567	3.53323	.91	*	
C110 2-BUTANONE	.49063	.69800	42.27		
C065 1,2-DICHLOROETHANE	2.42268	2.44526	.93		
CS15 1,2-DICHLOROETHANE-d4	1.63532	1.92646	17.80		
C115 1,1,1-TRICHLOROETHANE	.65842	.63537	3.50		
C120 CARBON TETRACHLORIDE	.56968	.56582	.68		
C125 VINYL ACETATE	.39537	.39977	1.11		
C130 BROMODICHLOROMETHANE	.68678	.68823	.21		
C140 1,2-DICHLOROPROPANE	.33688	.34045	1.06	*	
C143 CIS-1,3-DICHLOROPROPENE	.48121	.48085	.08		
C150 TRICHLOROETHENE	.41306	.42152	2.05		
C155 DIBROMOCHLOROMETHANE	.54477	.56083	2.95		
C160 1,1,2-TRICHLOROETHANE	.30129	.31264	3.77		
C165 BENZENE	.88213	.86517	1.92		
C172 TRANS-1,3-DICHLOROPROPENE	.41070	.42033	2.34		
C176 2-CHLOROETHYLVINYLETHER	.13338	.14027	5.16		
C180 BROMOFORM	.39290	.41078	6.59		**
CS05 TOLUENE-d8	.84906	.98752	16.31		

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No:

Calibration Date: 10/11/95

Contractor: RESAN

Time: 13:37

IG1011

Contract No: 68020026

Laboratory ID: >G5062

Instrument ID: GMS-HP

Initial Calibration Date: ~~10/12/95~~ 10/10/95

AVE 10/20/95 (3)

Minimum RF for SPCC is .3

Maximum % Diff for CCC is 25%

Compound	RF	RF	%Diff	CCC	SPCC	
C205 4-METHYL-2-PENTANONE	.47216	.50629	7.23			
C210 2-HEXANONE	.20786	.27155	30.64			
C220 TETRACHLOROETHENE	.46911	.45612	2.77			
C225 1,1,2,2-TETRACHLOROETHANE	.65664	.64218	2.20		**	
C230 TOLUENE	1.42820	1.36021	4.76	*		
C235 CHLOROBENZENE	.96855	.93680	3.28		**	
C240 ETHYLBENZENE	.44820	.43914	2.02	*		
C245 STYRENE	.90233	.89765	.52			
C251 XYLENE (O)	.50397	.51485	2.16			
C250 XYLENE (total)	.57094	.56601	.86			(Conc=100.00)
CS10 BROMOFLUOROBENZENE	.68767	.78624	14.33			

RF - Response Factor from daily standard file at 50.00 ug/L

RF - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN33

Lab File ID (Standard): >G5038 Date Analyzed: 10/10/95

Instrument ID: GMS Time Analyzed: 17:57

	IS1(BCM)		IS2(DFB)		IS3(CBZ)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	82091	11.38	433022	13.54	340103	21.14
UPPER LIMIT	164182	11.88	866044	14.04	680206	21.64
LOWER LIMIT	41046	10.88	216511	13.04	170052	20.64
CLIENT I.D.						
BG101095D2	103992	11.50	509083	13.63	377447	21.15
LCG101095A2	90959	11.50	465043	13.61	349020	21.16
CLJ44-CU-083D	85450	11.51	447691	13.62	349088	21.19
CLJ44-CU-084	74666	11.50	358363	13.64	290504	21.18

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50%

Column used to flag internal standard area values outside of UPPER and LOWER LIMIT with an asterisk

8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN33

Lab File ID (Standard): >G5062 Date Analyzed: 10/11/95

Instrument ID: GMS Time Analyzed: 13:37

	IS1(BCM)		IS2(DFB)		IS3(CBZ)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	86713	11.55	435945	13.66	326902	21.24
UPPER LIMIT	173426	12.05	871890	14.16	653804	21.74
LOWER LIMIT	43357	11.05	217973	13.16	163451	20.74
CLIENT I.D.						
BG101195A1	78857	11.55	400232	13.68	304417	21.25
LCG101195A1	86194	11.60	430079	13.71	313713	21.24
TCLPBLK403 5ML	70534	11.50	384398	13.64	292395	21.21
CLJ44-CU-083	65884	11.53	333819	13.64	263868	21.21
CLJ44-CU-085	66991	11.52	348917	13.63	266308	21.20

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%

Column used to flag internal standard area values outside of UPPER and LOWER LIMIT with an asterisk

pace INCORPORATED THE ASSURANCE OF QUALITY

MSGSAM

Voltage = 2190

PACE New England

100ng/5TGN

GCMS/VOA Instr G **MS-HP** Analyst/Date ACK 10/10/95 STD Lot # V-6471A

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
>65028	#3444	—	—	BFB-DI	50ng	MVR1 M/e95 = 20%		Y	
				Scan: 153+154+155=100		OK '88+'91 V-6058			
				time: 1046					
>65029		IG0721	1	VSTD050	5mls	Not used			
30		↓	2	VSTD050	↓	↑ Vinyl chloride		N	
31		IG1010	3	BG1010954A1	↓	VBLKGA		N	
32		~~IG0721~~	2	VSTD050	5ml	IG1010 / CG1010		Y	
33			1	VSTD200		MS-C45		Y	
34			2	VSTD100				Y	
35			3	VSTD020				Y	
36			5	VSTD010				Y	
								Y	
>65037	#	—	—	BFB-DI	50ng	MVR1 M/e95 =		Y	
				Scan:					
				time: 17:53					
>65038		IG1010	6	VSTD050	5mls			Y	
39		IG1010	7	BG1010954A2	↓	VBLKGB		N	
40			8	BG1010954B2		VBLKGC			
41			8	LCG1010954A2	5ml				
42			9	46614-9		(PCNTCLP) V 10/11 BLK 0.3			
43			10	-10					
44			11	-11					
45			12	-12					
46			13	45640-18	↓	V 10/11 (PCNTCLP)			
47			14	BV1126 A	100ME	(PCNTCLP)			
48			15	45529-1	5ml	(PCNTCLP) V (3) 10/10/95			
49			16	-2	↓				
50			1	45537-1	20ME	(PCNTCLP) LR			
51			2	45539-1	100ME	↓			
52			3	45528-1	5ml	(PCNTCLP)			
53			4	45527-1					
54			5	45516-1	↓	(PCNTCLP)			

CONTINUATION FROM PREVIOUS PAGE

PACE New England

GCMS/VOA Instr GMS **MS-HP** Analyst/Date TN 10/10/95 STD Lot # V-GC171A

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
~~G5035~~ 36		IG0010	6	45547-1	5ml	(RG24)			
>G5036 37			7	45525-1	↓				
37 38			8	45541-1	↓				
38 39				BAKE					
>G50'									
					TN 6/16/95 (3)				
>G5037	#3#4	—	—	BFB-DI	5ong	MSU1 W295=17k	Y		
	'88	#scan	:147	'91 # SCAN: 146+147+148-100		OK '88+'91 V-G037			
				TIME: 17:33		# , #			
>G5038		IG1010	6	VSBD050	5ml		Y		
39		IG0010	7	BG101095 A2	↓	VBLKGB Dorsett pass Confirm	N		
40			7	BG101095 B2	↓	VBLKC	N		
41			7	BG101095 C2	↓	VBLKD	N		
42			7	BG101095 D2	5ml	VBLKE	Y	✓	
43			8	LCG 101095 A2	5ml			Y	✓
44			9	45614-9	↓	(RG24 ECD) Surr #2 RE 10/4 NIK403	N	N	
45			10	-10	↓	↓		Y	✓
46			11	-11	↓	↓		Y	✓
47			12	-12	↓	↓ Surr #2 RE	N	N	
48			13	45640-08	↓	V 10/4 (RG24 MCCLIN)	<2	Y	✓
49			14	BU 1126A	100ML	↑ Surr #2 RE	N	Y	
50			15	45529-1	5ml	Surr #2 RE (RG24 MCCLIN) (HS52	<2	N	
51			16	-2	↓	↓ + Surr #2 RE	<2	N	
52			1	45537-1	20ML	(RE240MS) LR HS RE		N	
53			2	45539-1	100ML	out of window ↓ ↓ HS RE		N	
54			3	45528-1	5ml	↓ Surr #2 RE (RG24 MCCLIN) (HS47	<2	N	
55			4	45527-1	↓	↓ (HS51	<2	N	
56			5	45516-1	↓	Past Hold time (RG24) RE DMS 10/10/95	<2	N	
57			6	45547-1	↓	↑ Surr #2 RE matrix	<2	N	✓
58			7	45525-1	↓	↑ Surr #2 RE matrix	<2	N	✓
~~59~~			8	~~45541-1~~	↓	NOT RUN			
>G5059 ~~60~~	TN (3)			BAKE					

Voltage = 2180 / ~~2080~~ NLR 10/18/95 (3)

PACE New England

GCMS/VOA Instr G **MS-HP** Analyst/Date NLR 10/11/95 STD Lot # V-6088

FRN	ArcV	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
>65060	344	—	—	BFB - DI	50ng	10/6/95 = 1SK		y	✓
				Scan: 157+158 +159-100		OK '8K + '91			
				time: 12:25		V-6088			
>65061		IG1010	1	VSTD050	5mls	Not used			
62		↓	2	VSTD050	↓			y	✓
63		IG1011	3	BG10119541	↓	VBLKGC m2=C6		y	✓
>65064		IG1011	4	LCG10119541	5mls			y	✓
65			5	BV1126A	100ml	REX ↓ Surr		N	
66			6	TCLPBLK402	5mls			y	✓
67			7	TCLPBLK403	↓			y	✓
68			8	45,614-9	5mls	(R624+TCLP) CJN33403		y	✓
69			9	-12	↓	↓		y	✓
70			10	45,529-1	5mls	(R624/Pickle) TCL2 RE1 5mls CH5532	>2	N	
71			11	-2	↓	↓	<2	y	✓
72			12	45,528-1	5mls	(R624/Pickle) CH5403	>2	y	✓
73			13	45,527-1	↓	↓ CH5551	>2	y	✓
74			14	-1ms			>2	y	✓
75	345		15	-1MSD	↓	↓	>2	y	✓
76			16	45,544-1	5mls	(R624) See DMS	<2		
77			1	BFB 50ng	5mls	Purged			
78			2	BFB 50ng	5mls	V-6088 Scan: 895+816+817-100 time: 0101 OK '8K+'91		y	✓
79		IG1010	3	VSTD050				y	✓
80		IG0011	4	BG10195A2		VBLKGG		y	✓
81			5	LCG10195A2	↓			y	✓
82			6	45,645-6	5mls	(R624/Pickle) V 10/12	72	y	✓
83			7	45,550-1	5mls	CH552	<2	y	✓
84			8	-2	5mls		72	y	✓
85			9	-3	3.3mls	RE 5mls	72	N	
86			10	-4	5mls		72	y	✓
87			11	-5	5mls		72	y	✓
88			12	-6	5mls	↓	<2	y	✓

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR NON-VOLATILE CONSTITUENTS

Laboratory Number : 45614-009
Field Identification : CLJ44-CU-083
Extraction Date : 10/09/95
TCLP Blank : 90,001-282

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

A 5.0 gm portion of the sample was stirred with 96.5 mL deionized water. The pH at the end of 5 minutes was 5.29. 3.5 mL 1.0N HCl was added and the mixture was then heated to 50C for ten minutes. Upon cooling the pH was 1.70, therefore Extraction Fluid #1 was used.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 100 gm of sample was added to the extractor with 2000 mL Extraction Fluid #1.

Extraction Time : 19.00 hrs

Final pH : 4.89

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

pace INCORPORATED THE ASSURANCE OF QUALITY

Laboratory number: 45614-009
Sample Designation: CLJ44-CU-083
Date Extracted: 10/11/95
Date Analyzed: 10/11/95 11:30
QC Batch: BA2490
TCLP Batch: 282
Matrix: TCLP EXTRACT

Instrument File Name: >F2760

SEMIVOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Pyridine	BDL	5.0	0.05
1,4-Dichlorobenzene	BDL	7.5	0.05
2,4-Dinitrotoluene	BDL	0.13	0.05
2-Methylphenol	BDL	200	0.05
3,4-Methylphenols	BDL	200	0.05
Hexachloroethane	BDL	3.0	0.05
Nitrobenzene	BDL	2.0	0.05
Hexachlorobenzene	BDL	0.13	0.05
Pentachlorophenol	BDL	100	0.05
Hexachlorobutadiene	BDL	0.5	0.05
2,4,6-Trichlorophenol	BDL	2.0	0.05
2,4,5-Trichlorophenol	BDL	400	0.05

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8270

BDL = Below reporting limit

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TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR NON-VOLATILE CONSTITUENTS

Laboratory Number : 45614-010
Field Identification : CLJ44-CU-083D
Extraction Date : 10/09/95
TCLP Blank : 90,001-282

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

A 5.0 gm portion of the sample was stirred with 96.5 mL deionized water. The pH at the end of 5 minutes was 5.21. 3.5 mL 1.0N HCl was added and the mixture was then heated to 50C for ten minutes. Upon cooling the pH was 1.70, therefore Extraction Fluid #1 was used.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 100 gm of sample was added to the extractor with 2000 mL Extraction Fluid #1.

Extraction Time : 19.00 hrs

Final pH : 4.89

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: 45614-010
Sample Designation: CLJ44-CU-083D
Date Extracted: 10/11/95
Date Analyzed: 10/11/95 12:06
QC Batch: BA2490
TCLP Batch: 282
Matrix: TCLP EXTRACT

Instrument File Name: >F2761

SEMIVOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Pyridine	BDL	5.0	0.05
1,4-Dichlorobenzene	BDL	7.5	0.05
2,4-Dinitrotoluene	BDL	0.13	0.05
2-Methylphenol	BDL	200	0.05
3,4-Methylphenols	BDL	200	0.05
Hexachloroethane	BDL	3.0	0.05
Nitrobenzene	BDL	2.0	0.05
Hexachlorobenzene	BDL	0.13	0.05
Pentachlorophenol	BDL	100	0.05
Hexachlorobutadiene	BDL	0.5	0.05
2,4,6-Trichlorophenol	BDL	2.0	0.05
2,4,5-Trichlorophenol	BDL	400	0.05

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8270

BDL = Below reporting limit

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TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR NON-VOLATILE CONSTITUENTS

Laboratory Number : 45614-011
Field Identification : CLJ44-CU-084
Extraction Date : 10/09/95
TCLP Blank : 90,001-282

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

A 5.0 gm portion of the sample was stirred with 96.5 mL deionized water. The pH at the end of 5 minutes was 7.77. 3.5 mL 1.0N HCl was added and the mixture was then heated to 50C for ten minutes. Upon cooling the pH was 1.70, therefore Extraction Fluid #1 was used.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 100 gm of sample was added to the extractor with 2000 mL Extraction Fluid #1.

Extraction Time : 19.00 hrs

Final pH : 5.18

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: 45614-011
Sample Designation: CLJ44-CU-084
Date Extracted: 10/11/95
Date Analyzed: 10/11/95 12:43
QC Batch: BA2490
TCLP Batch: 282
Matrix: TCLP EXTRACT

Instrument File Name: >F2762

SEMIVOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Pyridine	BDL	5.0	0.05
1,4-Dichlorobenzene	BDL	7.5	0.05
2,4-Dinitrotoluene	BDL	0.13	0.05
2-Methylphenol	BDL	200	0.05
3,4-Methylphenols	BDL	200	0.05
Hexachloroethane	BDL	3.0	0.05
Nitrobenzene	BDL	2.0	0.05
Hexachlorobenzene	BDL	0.13	0.05
Pentachlorophenol	BDL	100	0.05
Hexachlorobutadiene	BDL	0.5	0.05
2,4,6-Trichlorophenol	BDL	2.0	0.05
2,4,5-Trichlorophenol	BDL	400	0.05

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8270

BDL = Below reporting limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR NON-VOLATILE CONSTITUENTS

Laboratory Number : 45614-012
Field Identification : CLJ44-CU-085
Extraction Date : 10/09/95
TCLP Blank : 90,001-282

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

A 5.0 gm portion of the sample was stirred with 96.5 mL deionized water. The pH at the end of 5 minutes was 9.06. 3.5 mL 1.0N HCl was added and the mixture was then heated to 50C for ten minutes. Upon cooling the pH was 3.02, therefore Extraction Fluid #1 was used.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 100 gm of sample was added to the extractor with 2000 mL Extraction Fluid #1.

Extraction Time : 19.00 hrs

Final pH : 6.48

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: 45614-012
Sample Designation: CLJ44-CU-085
Date Extracted: 10/11/95
Date Analyzed: 10/11/95 13:20
QC Batch: BA2490
TCLP Batch: 282
Matrix: TCLP EXTRACT

Instrument File Name: >F2763

SEMIVOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Pyridine	BDL	5.0	0.05
1,4-Dichlorobenzene	BDL	7.5	0.05
2,4-Dinitrotoluene	BDL	0.13	0.05
2-Methylphenol	BDL	200	0.05
3,4-Methylphenols	BDL	200	0.05
Hexachloroethane	BDL	3.0	0.05
Nitrobenzene	BDL	2.0	0.05
Hexachlorobenzene	BDL	0.13	0.05
Pentachlorophenol	BDL	100	0.05
Hexachlorobutadiene	BDL	0.5	0.05
2,4,6-Trichlorophenol	BDL	2.0	0.05
2,4,5-Trichlorophenol	BDL	400	0.05

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8270

BDL = Below reporting limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

WATER SEMIVOLATILES SURROGATE RECOVERY

Client: OHM REMEDIATION SERVICES CORP. Lab No.: 45614
Project: CAMP GEIGER/LJN33

CLIENT SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	OTHER	TOT OUT
CLJ44-CU-083	81	77	53	55	58	53		0
CLJ44-CU-083D	85	81	53	60	62	51		0
CLJ44-CU-084	85	78	51	54	56	47		0
CLJ44-CU-085	79	76	54	52	53	46		0
BA2490	83	76	56	39	46	50		0
LSA2490MS	85	77	54	61	49	36		0
TCLP BLANK #282	82	78	60	50	55	56		0

		QC LIMITS
S1	(NBZ) = Nitrobenzene-d5	35 - 114
S2	(FBP) = 2-Fluorobiphenyl	43 - 116
S3	(TPH) = Terphenyl-d14	33 - 141
S4	(PHL) = Phenol-d5	10 - 110
S5	(2FP) = 2-Fluorophenol	21 - 110
S6	(TBP) = 2,4,6-Tribromophenol	10 - 123

Column to be used to flag recovery values with an asterisk
* Values outside of designated QC limits
D Surrogates diluted out

pace INCORPORATED THE ASSURANCE OF QUALITY

Laboratory number: TCLP BLANK #282
Sample Designation: TCLP BLANK
Date Analyzed: 10/05/95
Matrix: TCLP EXTRACT

Parameter	Result (ug/L)	Regulatory Limit (ug/L)	Detection Limit (ug/L)
Pyridine	BDL	5000	56
1,4-Dichlorobenzene	BDL	7500	56
2,4-Dinitrotoluene	BDL	130	56
2-Methylphenol	BDL	200000	56
3,4-Methylphenols	BDL	200000	56
Hexachloroethane	BDL	3000	56
Nitrobenzene	BDL	2000	56
Hexachlorobenzene	BDL	130	56
Pentachlorophenol	BDL	100000	56
Hexachlorobutadiene	BDL	500	56
2,4,6-Trichlorophenol	BDL	2000	56
2,4,5-Trichlorophenol	BDL	400000	56

METHOD REFERENCE: EPA SW 846, 3RD EDITION
METHOD 8270

BDL = Below detection limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: BA2490
Sample Designation: LAB BLANK
Date Extracted: 10/11/95
Date Analyzed: 10/11/95 13:56
QC Batch: BA2490
TCLP Batch:
Matrix: TCLP EXTRACT

Instrument File Name: >F2764

SEMIVOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Pyridine	BDL	5.0	0.01
1,4-Dichlorobenzene	BDL	7.5	0.01
2,4-Dinitrotoluene	BDL	0.13	0.01
2-Methylphenol	BDL	200	0.01
3,4-Methylphenols	BDL	200	0.01
Hexachloroethane	BDL	3.0	0.01
Nitrobenzene	BDL	2.0	0.01
Hexachlorobenzene	BDL	0.13	0.01
Pentachlorophenol	BDL	100	0.01
Hexachlorobutadiene	BDL	0.5	0.01
2,4,6-Trichlorophenol	BDL	2.0	0.01
2,4,5-Trichlorophenol	BDL	400	0.01

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8270

BDL = Below reporting limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

MATRIX SPIKE RECOVERY
ACID/BASE/NEUTRAL EXTRACTABLE ORGANIC COMPOUNDS

Laboratory Number: LS-A2490
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/11/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
PHENOL	0	200	113	57
2-CHLOROPHENOL	0	200	104	52
1,4-DICHLOROBENZENE	0	100	67	67
N-NITROSO-DI-N-PROPYLAMINE	0	100	86	86
1,2,4-TRICHLOROBENZENE	0	100	62	62
4-CHLORO-3-METHYLPHENOL	0	200	118	59
ACENAPHTHENE	0	100	76	76
4-NITROPHENOL	0	200	109	54
2,4-DINITROTOLUENE	0	100	68	68
PENTACHLOROPHENOL	0	200	83	42
PYRENE	0	100	58	58

METHOD REFERENCE: EPA SW 846, 3rd Edition
METHOD 8270

pace INCORPORATED
THE ASSURANCE OF QUALITY

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN33

Lab File ID: >F2644 DFTPP Injection Date: 10/02/95

Instrument ID: FMS DFTPP Injection Time: 10:11

ION ABUNDANCE CRITERIA for F2644 are reported on a separate sheet.

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
ABNSTD050	ABNSTD050	F2646	10/02/95	10:28
ABNSTD160	ABNSTD160	F2647	10/02/95	11:08
ABNSTD120	ABNSTD120	F2648	10/02/95	11:46
ABNSTD080	ABNSTD080	F2649	10/02/95	12:24
ABNSTD020	ABNSTD020	F2650	10/02/95	13:02

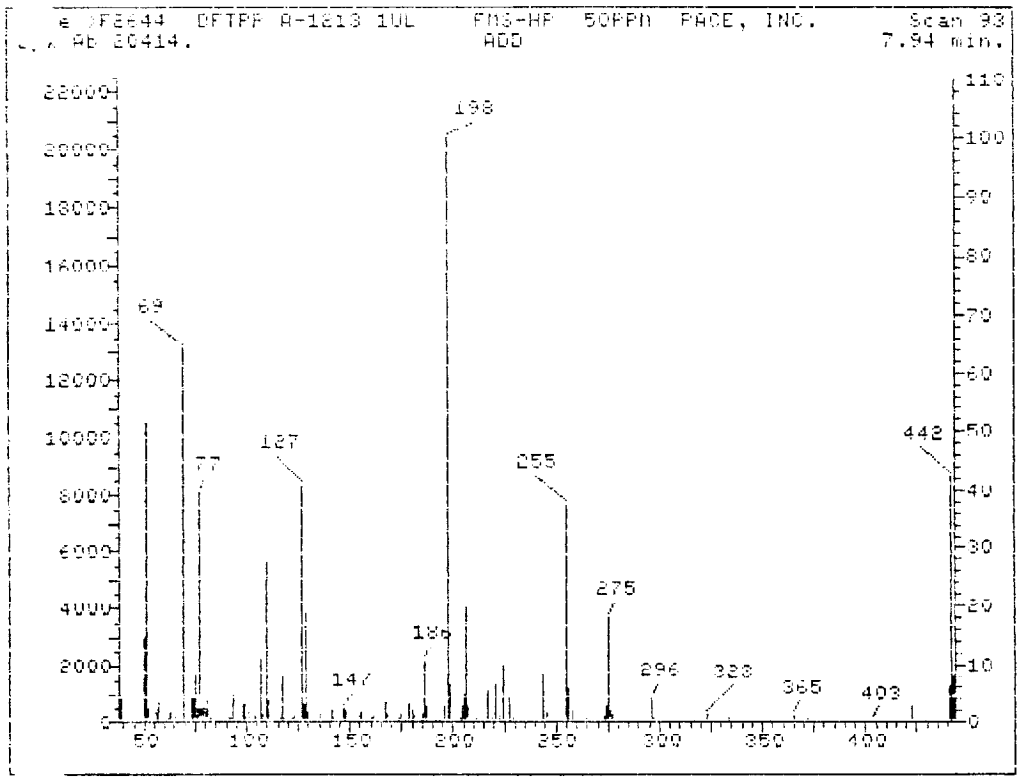
GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphosphine (DFTPP)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	51.57	51.57	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	64.22	64.22	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	40.70	40.70	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.39	6.39	Ok
275	10-30% of mass 198	17.91	17.91	Ok
365	Greater than 1% of mass 198	1.22	1.22	Ok
441	0-100% of mass 443	6.09	77.99	Ok
442	Greater than 40% of mass 198	42.29	42.29	Ok
443	17-23% of mass 442	7.81	18.48	Ok

Injection Date: 10/02/95
Injection Time: 10:11
Data File: >F2644
Scan: 93

10/2/95



5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN33

Lab File ID: >F2707 DFTPP Injection Date: 10/05/95

Instrument ID: FMS DFTPP Injection Time: 12:34

ION ABUNDANCE CRITERIA for F2707 are reported on a separate sheet.

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
ABNSTD050	ABNSTD050	F2709	10/05/95	12:51
90001-282	90001-282	F2721	10/05/95	20:22

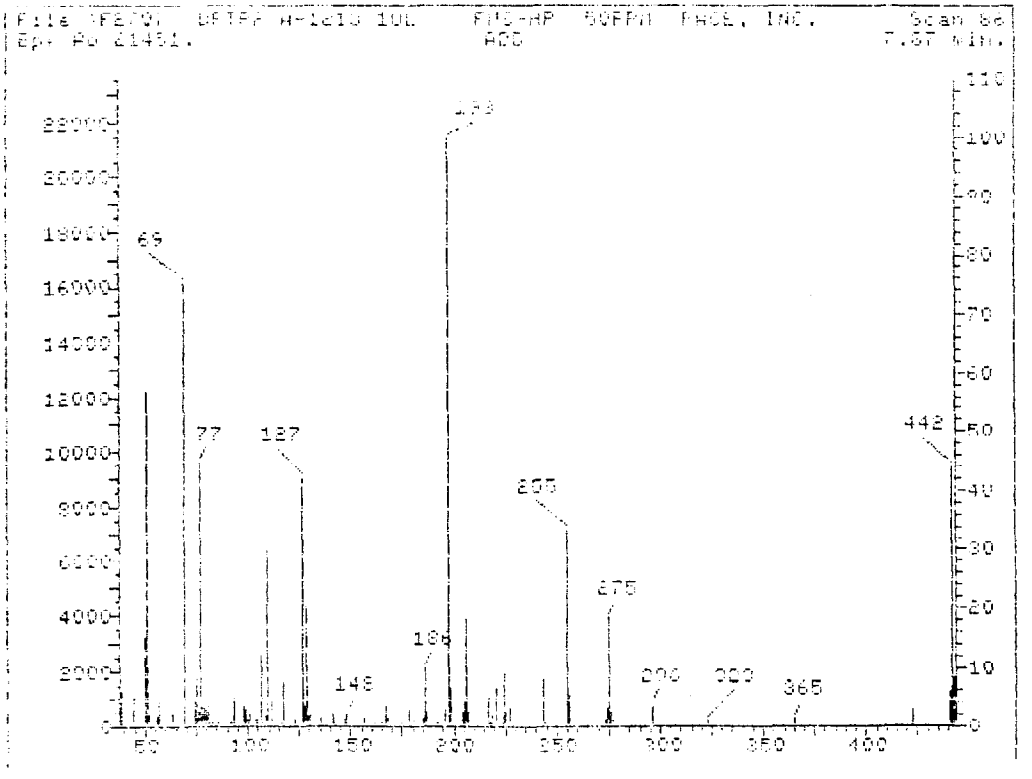
GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphosphine (DFTPP)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	57.01	57.01	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	75.38	75.38	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	42.11	42.11	Ok
197	Less than 1% of mass 198	.15	.15	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.56	6.56	Ok
275	10-30% of mass 198	18.25	18.25	Ok
365	Greater than 1% of mass 198	1.31	1.31	Ok
441	0-100% of mass 443	5.75	69.80	Ok
442	Greater than 40% of mass 198	43.94	43.94	Ok
443	17-23% of mass 442	8.24	18.76	Ok

Injection Date: 10/05/95
Injection Time: 12:34
Data File: >F2707
Scan: 86

THIS IS THE RESULT OF AVERAGING 85.00 86.00 87.00



5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN33

Lab File ID: >F2757 DFTPP Injection Date: 10/11/95

Instrument ID: FMS DFTPP Injection Time: 10:22

ION ABUNDANCE CRITERIA for F2757 are reported on a separate sheet.

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

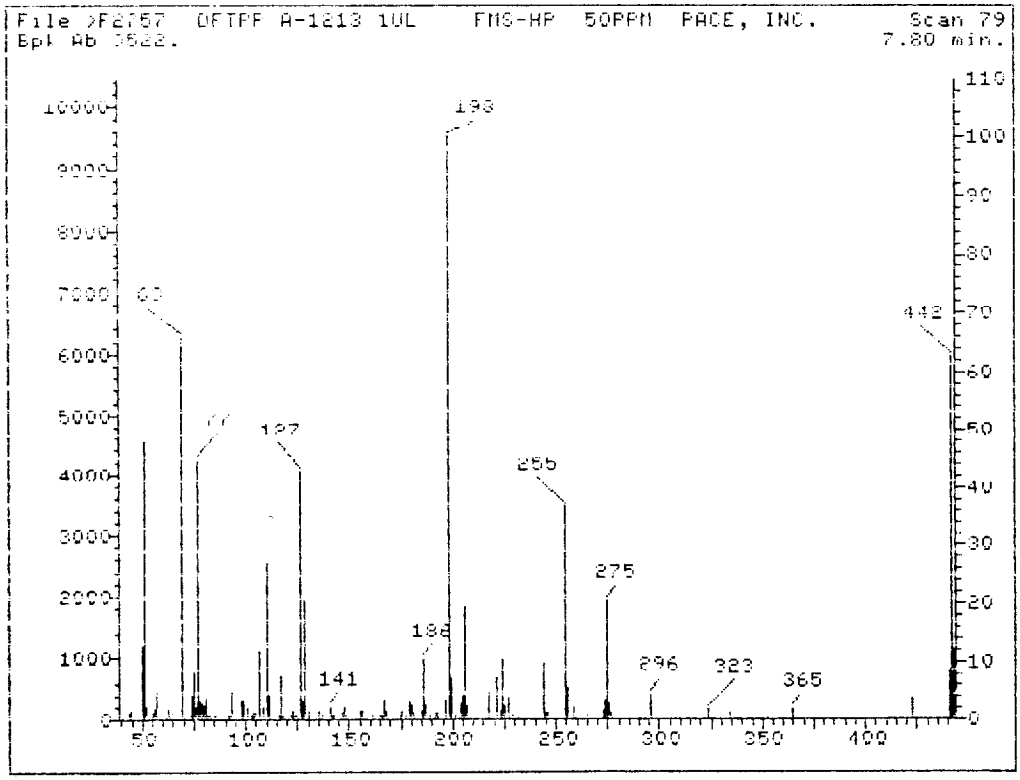
CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
ABNSTD050	ABNSTD050	F2759	10/11/95	10:38
CLJ44-CU-083	45614-009	F2760	10/11/95	11:30
CLJ44-CU-083D	45614-010	F2761	10/11/95	12:06
CLJ44-CU-084	45614-011	F2762	10/11/95	12:43
CLJ44-CU-085	45614-012	F2763	10/11/95	13:20
BA2490	90176-159	F2764	10/11/95	13:56
LSA2490	90176-159MS	F2765	10/11/95	14:33

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphosphine (DFTPP)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	47.58	47.58	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	65.68	65.68	Ok
70	Less than 2% of mass 69	.42	.64	Ok
127	40-60% of mass 198	42.53	42.53	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	7.02	7.02	Ok
275	10-30% of mass 198	20.31	20.31	Ok
365	Greater than 1% of mass 198	1.94	1.94	Ok
441	0-100% of mass 443	8.66	73.14	Ok
442	Greater than 40% of mass 198	62.59	62.59	Ok
443	17-23% of mass 442	11.85	18.93	Ok

Injection Date: 10/11/95
Injection Time: 10:22
Data File: >F2757
Scan: 79



Initial Calibration Data
HSL Compounds

Case No: Instrument ID: FMS-HP

tractor: RESAN PACE, INC. Calibration Date: 10/02/95

Contract No:

10/2/95 K

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % RSD for CCC is 30%

Compound	Laboratory ID: >FZ650 RF 20.00	>FZ646 RF 50.00	>FZ649 RF 80.00	>FZ648 RF 120.00	>FZ647 RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C510 N-NITROSODIMETHYLAMINE	.85101	.87174	.94544	1.04810	1.12684	.438	.96863	12.118		
C550 2-FLUOROPHENOL	1.30134	1.31492	1.44842	1.47645	1.54845	.718	1.41792	7.530		
C545 PHENOL-d5	1.62307	1.55502	1.55470	1.48353	1.51802	.933	1.54687	3.356		
C570 2-CHLOROPHENOL-d4	1.40826	1.39605	1.37536	1.31097	1.34781	.957	1.36769	2.860		
C575 1,2-DICHLOROBENZENE-d4	.89580	.85058	.77377	.65587	.61237	1.046	.75768	16.090		
C515 PHENOL	1.84389	1.71334	1.75253	1.63694	1.70075	.936	1.72949	4.410	*	
C520 ANILINE	1.42437	1.33356	1.28399	1.14276	1.05223	.932	1.24738	11.967		
C525 BIS(2-CHLOROETHYL)ETHER	1.62462	1.53828	1.76113	1.87441	2.08574	.948	1.77684	12.112		
C530 2-CHLOROPHENOL	1.44949	1.39792	1.37063	1.29151	1.33330	.961	1.36857	4.414		
C535 1,3-DICHLOROBENZENE	1.61310	1.60279	1.58248	1.53797	1.52607	.992	1.57246	2.466		
C540 1,4-DICHLOROBENZENE	1.49770	1.50281	1.42277	1.36661	1.34492	1.004	1.42696	5.096	*	
C545 BENZYL ALCOHOL	.76623	.74560	.80042	.74069	.68063	1.042	.74671	5.864		
C550 1,2-DICHLOROBENZENE	1.51078	1.41915	1.27983	1.12568	1.02277	1.050	1.27164	15.838		
C555 2-METHYLPHENOL	1.16581	1.10063	1.14172	1.05715	1.02222	1.074	1.10151	5.915		
C560 BIS(2-CHLOROISOPROPYL)ETH	2.09954	1.73624	2.29288	2.25262	2.25030	1.079	2.12632	10.826		
5 4-METHYLPHENOL	1.24814	1.18351	1.15286	1.09923	1.14312	1.113	1.16537	4.740		
C570 N-NITROSO-DI-N-PROPYLAMIN	1.01592	.94012	1.03585	1.01215	.93426	1.118	.98767	4.757		**
C575 HEXACHLOROETHANE	.68649	.68844	.66077	.61737	.53715	1.125	.63809	9.918		
C410 NITROBENZENE	.45256	.43078	.42487	.42728	.43282	.870	.43366	2.537		
C415 ISOPHORONE	.93620	.90170	.92262	.96427	1.00016	.916	.94539	4.040		
C520 NITROBENZENE-d5	.43421	.41447	.42240	.42065	.43599	.866	.42554	2.169		
C420 2-NITROPHENOL	.25908	.25165	.25554	.24567	.24889	.930	.25197	1.979	*	
C425 2,4-DIMETHYLPHENOL	.41207	.38664	.37923	.37309	.38793	.942	.38779	3.826		
C430 BENZOIC ACID	.15838	.15419	.19074	.19467	.18901	.979	.17730	10.814		
C435 BIS(2-CHLOROETHOXY)METHAN	.56694	.51971	.54135	.51911	.55086	.958	.53960	3.813		
C440 2,4-DICHLOROPHENOL	.37156	.34457	.31645	.30488	.29854	.978	.32720	9.301	*	
C445 1,2,4-TRICHLOROBENZENE	.41551	.39075	.34894	.34157	.32431	.992	.36421	10.340		
C450 NAPHTHALENE	1.09732	.99183	.92624	.88666	.86587	1.004	.95398	9.774		
C455 4-CHLOROANILINE	.45239	.43116	.42942	.42338	.42545	1.018	.43235	2.687		
C460 HEXACHLOROBUTADIENE	.26570	.24207	.20780	.18892	.17055	1.039	.21501	18.030	*	

RF - Response Factor (Subscript is amount in ug/mL)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

- Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No: Instrument ID: FMS-HP

tractor: RESAN PACE, INC. Calibration Date: 10/02/95

Contract No:

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % RSD for CCC is 30%

Laboratory ID:	>F2650	>F2646	>F2649	>F2648	>F2647					
Compound	RF 20.00	RF 50.00	RF 80.00	RF 120.00	RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C465 4-CHLORO-3-METHYLPHENOL	.38677	.37228	.34036	.35600	.35358	1.115	.36180	4.972	*	
C470 2-METHYLNAPHTHALENE	.72687	.66331	.56821	.56605	.54995	1.138	.61488	12.509		
C555 2,4,6-TRIBROMOPHENOL	.31739	.29989	.29616	.29468	.28703	1.117	.29903	3.771		
C525 2-FLUOROBIPHENYL	1.42846	1.25372	1.14628	1.07248	1.00615	.901	1.18142	14.042		
C510 HEXACHLOROCYCLOPENTADIENE	.20807	.35087	.31905	.33071	.36299	.878	.31434	19.665		**
C515 2,4,6-TRICHLOROPHENOL	.50124	.47984	.45034	.46134	.47276	.891	.47311	4.085	*	
C520 2,4,5-TRICHLOROPHENOL	.55523	.52090	.47910	.46534	.44984	.898	.49408	8.744		
C525 2-CHLORONAPHTHALENE	1.27827	1.16346	1.06980	1.07409	1.06500	.916	1.13012	8.167		
C530 2-NITROANILINE	.51748	.49610	.52227	.56791	.60277	.936	.54131	7.978		
C535 DIMETHYLPHTHALATE	1.70539	1.57418	1.51091	1.56178	1.63821	.967	1.59809	4.705		
C540 ACENAPHTHYLENE	2.00340	1.75355	1.52721	1.43911	1.44130	.978	1.63291	14.915		
C545 3-NITROANILINE	.42572	.41052	.39938	.42198	.42578	.998	.41668	2.762		
C550 ACENAPHTHENE	1.21980	1.10486	1.00806	.97921	.97738	1.006	1.05786	9.867	*	
C555 2,4-DINITROPHENOL	.17686	.24004	.27576	.30056	.32438	1.012	.26352	21.871		**
C560 4-NITROPHENOL	.18461	.22623	.20784	.20453	.20303	1.026	.20525	7.221		**
5 DIBENZOFURAN	1.84229	1.62096	1.50382	1.42368	1.34856	1.029	1.54786	12.474		
C565 2,6-DINITROTOLUENE	.41487	.38619	.33290	.30217	.29466	.977	.34616	15.208		
C570 2,4-DINITROTOLUENE	.57908	.56446	.56428	.57940	.58034	1.034	.57352	1.457		
C580 DIETHYLPHTHALATE	1.78078	1.63403	1.51804	1.51250	1.51520	1.071	1.59211	7.372		
C585 4-CHLOROPHENYL-PHENYLETHE	.71716	.62831	.48128	.40976	.36808	1.078	.52091	28.365		
C590 FLUORENE	1.37242	1.15040	.97149	.90042	.87289	1.080	1.05352	19.790		
C595 4-NITROANILINE	.43255	.41586	.44154	.47287	.44460	1.092	.44148	4.712		
C610 4,6-DINITRO-2-METHYLPHENO	.20021	.22047	.20216	.16785	.14041	.902	.18622	17.107		
C615 N-NITROSODIPHENYLAMINE	.60791	.54858	.45796	.41103	.37750	.903	.48060	19.961	*	
C620 AZOBENZENE	.26088	.16091	.23319	.20550	.18731	.906	.20956	18.589		
C625 4-BROMOPHENYL-PHENYLETHER	.26649	.24437	.22424	.19951	.19061	.944	.22504	13.927		
C630 HEXACHLOROBENZENE	.41453	.37317	.34107	.31286	.29980	.964	.34829	13.364		
C635 PENTACHLOROPHENOL	.21151	.23728	.24664	.24410	.24580	.985	.23706	6.224	*	
C640 PHENANTHRENE	1.21629	1.13125	1.01979	.91828	.96369	1.003	1.04986	11.662		
C645 ANTHRACENE	1.25508	1.13069	1.01345	.89538	.83220	1.009	1.02536	16.766		

RF - Response Factor (Subscript is amount in ug/mL)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

- Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No: Instrument ID: FMS-HP

tractor: RESAN PACE, INC. Calibration Date: 10/02/95

Contract No:

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % RSD for CCC is 30%

Laboratory ID:	>FZ650	>FZ646	>FZ649	>FZ648	>FZ647					
	RF	RF	RF	RF	RF					
Compound	20.00	50.00	80.00	120.00	160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C650 DI-N-BUTYLPHTHALATE	1.87936	1.63533	1.55114	1.42709	1.40625	1.074	1.57983	12.138		
C655 FLUORANTHENE	1.45032	1.34964	1.19649	1.09307	1.08040	1.148	1.23598	13.132	*	
C660 BENZIDINE	.07892	.06510	.10995	.11510	.10817	1.161	.09544	23.149		
C530 TERPHENYL-d14	1.05708	1.07111	1.09911	1.20852	1.28100	.900	1.14336	8.503		
C715 PYRENE	1.58859	1.64759	1.76357	1.98554	2.17730	.887	1.83252	13.388		
C720 BUTYLBENZYLPHTHALATE	1.01334	1.05355	1.17686	1.28474	1.43698	.947	1.19309	14.513		
C725 3,3'-DICHLOROBENZIDINE	.62485	.65055	.69647	.68982	.67352	.996	.66704	4.421		
C730 BENZO(A)ANTHRACENE	1.39429	1.46352	1.42564	1.57456	1.33144	.998	1.39789	5.586		
C745 BIS(2-ETHYLHEXYL)PHTHALAT	1.03681	1.07509	1.07977	1.06615	1.06525	1.000	1.06421	1.569		
C740 CHRYSENE	1.35964	1.35202	1.43098	1.48231	1.57025	1.003	1.43904	6.315		
C760 DI-N-OCTYLPHTHALATE	1.99784	1.83901	1.70021	1.55235	1.50484	.900	1.71485	12.132	*	
C765 BENZO(B)FLUORANTHENE	1.17952	1.27006	1.40803	1.02819	1.16566	.952	1.21029	11.595		
C770 BENZO(K)FLUORANTHENE	1.22957	.98086	.66547	.81143	.63707	.954	.86488	28.379		
C775 BENZO(A)PYRENE	1.08125	1.09468	1.02458	.95469	.93785	.993	1.01861	7.003	*	
C780 INDENO(1,2,3-CD)PYRENE	1.28468	1.30035	1.23850	1.20004	1.19433	1.192	1.24358	3.869		
5 DIBENZ(A,H)ANTHRACENE	1.05872	1.06536	1.01043	.98377	1.00299	1.192	1.02429	3.511		
C790 BENZO(G,H,I)PERYLENE	1.07462	1.09907	1.04669	1.03439	1.05885	1.246	1.06272	2.370		

RF - Response Factor (Subscript is amount in ug/mL)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

- Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

...e No: Instrument ID: FMS-HP

Contractor: RESAN Calibration Date: 10/02/95

Contract No:

10/2/95

Minimum $\overline{RF}$ for SPCC is .05 Maximum % RSD for CCC is 30%

Laboratory ID:	>F2650	>F2646	>F2649	>F2648	>F2647					
Compound	RF 20.00	RF 50.00	RF 80.00	RF 120.00	RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C300 PYRIDINE	1.32192	1.26642	1.50060	1.48860	1.53455	.437	1.42242	8.429		
C550 2-FLUOROPHENOL	1.30134	1.31492	1.44842	1.47645	1.54845	.718	1.41792	7.530		
C545 PHENOL-d5	1.62307	1.55502	1.55470	1.48353	1.51802	.933	1.54687	3.356		
C535 2-CHLOROPHENOL-d4	1.40826	1.39605	1.37536	1.31097	1.34781	.957	1.36769	2.860		
C540 1,2-DICHLOROBENZENE-d4	.89580	.85058	.77377	.65587	.61237	1.046	.75768	16.090		
C340 1,4-DICHLOROBENZENE	1.49770	1.50281	1.42277	1.36661	1.34492	1.004	1.42696	5.096	*	
C355 2-METHYLPHENOL	1.18581	1.10063	1.14172	1.05715	1.02222	1.074	1.10151	5.915		
C367 3,4-METHYLPHENOLS	1.24814	1.18351	1.15286	1.09923	1.14312	1.113	1.16537	4.740		
C375 HEXACHLOROETHANE	.68649	.68844	.66097	.61737	.53715	1.125	.63809	9.918		
C410 NITROBENZENE	.45256	.43078	.42487	.42728	.43282	.870	.43366	2.537		
C520 NITROBENZENE-d5	.43421	.41447	.42240	.42065	.43599	.866	.42554	2.169		
C460 HEXACHLOROBUTADIENE	.26570	.24207	.20780	.18892	.17055	1.039	.21501	18.030	*	
5 2,4,6-TRIBROMOPHENOL	.31739	.29989	.29616	.29468	.28703	1.117	.29903	3.771		
C525 2-FLUOROBIPHENYL	1.42846	1.25372	1.14628	1.07248	1.00615	.901	1.18142	14.042		
C515 2,4,6-TRICHLOROPHENOL	.50124	.47984	.45034	.46134	.47276	.891	.47311	4.085	*	
C520 2,4,5-TRICHLOROPHENOL	.55523	.52090	.47910	.46534	.43844	.898	.49180	9.417		
C570 2,4-DINITROTOLUENE	.57908	.56446	.56428	.57940	.58034	1.034	.57352	1.457		
C630 HEXACHLOROBENZENE	.41453	.37317	.34107	.31286	.29980	.964	.34829	13.364		
C635 PENTACHLOROPHENOL	.21151	.23728	.24664	.24410	.24580	.985	.23706	6.224	*	
C530 TERPHENYL-d14	1.05708	1.07111	1.09911	1.20652	1.28100	.900	1.14336	8.503		

RF - Response Factor (Subscript is amount in ug/mL)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%D - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/05/95

Contractor: KESAN PACE, INC. Time: 12:51

Contract No: Laboratory ID: >F2709

Instrument ID: FMS-HP Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % Diff for CCC is 20%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C310 N-NITROSODIMETHYLAMINE	.96863	.96102	.78		
C550 2-FLUOROPHENOL	1.41792	1.38163	2.56		
C545 PHENOL-d5	1.54687	1.73002	11.84		
C570 2-CHLOROPHENOL-d4	1.36769	1.43033	4.58		
C575 1,2-DICHLOROBENZENE-d4	.75768	.82684	9.59		
C315 PHENOL	1.72949	1.97731	14.33	*	
C320 ANILINE	1.24738	1.49915	20.18		
C325 BIS(2-CHLOROETHYL)ETHER	1.77684	1.74487	1.80		
C330 2-CHLOROPHENOL	1.36857	1.45256	6.14		
C335 1,3-DICHLOROBENZENE	1.57248	1.58147	.57		
C340 1,4-DICHLOROBENZENE	1.42696	1.49996	5.12	*	
C345 BENZYL ALCOHOL	.74671	.85116	13.99		
C350 1,2-DICHLOROBENZENE	1.27164	1.38941	9.26		
C355 2-METHYLPHENOL	1.10151	1.21540	10.34		
C360 BIS(2-CHLOROISOPROPYL)ETH	2.12632	2.23867	5.28		
C365 4-METHYLPHENOL	1.16537	1.26569	8.61		
C370 N-NITROSO-DI-N-PROPYLAMIN	.98767	1.01454	2.72		**
C375 HEXACHLOROETHANE	.63809	.72307	13.32		
C410 NITROBENZENE	.43366	.48283	11.34		
C415 ISOPHORONE	.94539	.99207	4.94		
C520 NITROBENZENE-d5	.42554	.47075	10.62		
C420 2-NITROPHENOL	.25197	.25950	2.99	*	
C425 2,4-DIMETHYLPHENOL	.38779	.41067	5.90		
C430 BENZOIC ACID	.17730	.14666	17.28		
C435 BIS(2-CHLOROETHOXY)METHAN	.53960	.56985	5.61		
C440 2,4-DICHLOROPHENOL	.32720	.34251	4.68	*	
C445 1,2,4-TRICHLOROBENZENE	.36421	.36683	.72		
C450 NAPHTHALENE	.95398	1.03685	8.69		
C455 4-CHLOROANILINE	.43235	.43821	1.36		
C460 HEXACHLOROBUTADIENE	.21501	.21967	2.17	*	
C465 4-CHLORO-3-METHYLPHENOL	.36180	.39491	9.15	*	
C470 2-METHYLNAPHTHALENE	.61488	.66175	7.62		

RF - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/05/95

Contractor: RESAN PACE, INC. Time: 12:51

Contract No: Laboratory ID: >F2709

Instrument ID: FMS-HP Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % Diff for CCC is 20%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C555 2,4,6-TRIBROMOPHENOL	.29905	.26167	12.50		
C525 2-FLUOROBIPHENYL	1.18142	1.21982	3.25		
C510 HEXACHLOROCYCLOPENTADIENE	.31434	.26647	15.23		**
C515 2,4,6-TRICHLOROPHENOL	.47511	.46215	2.72	*	
C520 2,4,5-TRICHLOROPHENOL	.49408	.48570	1.70		
C525 2-CHLORONAPHTHALENE	1.13012	1.16274	2.89		
C530 2-NITROANILINE	.54134	.60333	11.46		
C535 DIMETHYLPHTHALATE	1.59809	1.55532	2.68		
C540 ACENAPHTHYLENE	1.63291	1.77650	8.79		
C545 3-NITROANILINE	.41658	.43588	4.61		
C550 ACENAPHTHENE	1.05786	1.12518	6.36	*	
C555 2,4-DINITROPHENOL	.26552	.21107	19.90		**
C560 4-NITROPHENOL	.20525	.20509	1.05		**
C565 DIBENZOFURAN	1.54788	1.60302	3.56		
C570 2,6-DINITROTOLUENE	.34616	.37695	8.89		
C575 2,4-DINITROTOLUENE	.57352	.57735	.67		
C580 DIETHYLPHTHALATE	1.59211	1.62564	2.11		
C585 4-CHLOROPHENYL-PHENYLETHE	.52091	.57629	10.63		
C590 FLUORENE	1.05352	1.15045	9.20		
C595 4-NITROANILINE	.44148	.44366	.49		
C610 4,6-DINITRO-2-METHYLPHENO	.18622	.21362	14.72		
C615 N-NITROSODIPHENYLAMINE	.46060	.55608	15.71	*	
C620 AZOBENZENE	.20956	.19697	6.00		
C625 4-BROMOPHENYL-PHENYLETHER	.22504	.22902	1.77		
C630 HEXACHLOROBENZENE	.34829	.33977	2.45		
C635 PENTACHLOROPHENOL	.25706	.15707	16.87	*	
C640 PHENANTHRENE	1.04986	1.12864	7.50		
C645 ANTHRACENE	1.02536	1.13340	10.54		
C650 DI-N-BUTYLPHTHALATE	1.57983	1.77947	12.64		
C655 FLUORANTHENE	1.23398	1.30278	5.58	*	
C660 BENZIDINE	.09544	.04797	49.74		
C830 TERPHENYL-d14	1.14336	1.00507	12.10		

RF - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/05/95

Contractor: RESAN PACE, INC. Time: 12:51

Contract No: Laboratory ID: >F2709

Instrument ID: FMS-HP Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % Diff for CCC is 20%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C715 PYRENE	1.83252	1.66128	9.34		
C720 BUTYLBENZYLPHTHALATE	1.19309	1.12947	5.33		
C725 3,3'-DICHLOROBENZIDINE	.66704	.61847	7.28		
C730 BENZO(A)ANTHRACENE	1.39769	1.48373	6.14		
C735 BIS(2-ETHYLHEXYL)PHTHALAT	1.06421	1.16292	9.27		
C740 CHRYSENE	1.43904	1.27547	11.37		
C760 DI-N-OCTYLPHTHALATE	1.71485	2.09180	21.98	*	
C765 BENZO(B)FLUORANTHENE	1.21029	1.27456	5.31		
C770 BENZO(K)FLUORANTHENE	.86488	.96862	11.99		
C775 BENZO(A)PYRENE	1.01861	1.05909	3.97	*	
C780 INDENO(1,2,3-CD)PYRENE	1.24358	1.27531	2.55		
C785 DIBENZ(A,H)ANTHRACENE	1.02429	1.02522	.09		
C790 BENZO(G,H,I)PERYLENE	1.06272	1.07585	1.23		

RF - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: | Calibration Date: 10/05/95

Contractor: RESAR | Time: 12:51

Contract No: | Laboratory ID: >F2709

Instrument ID: FMS-HP | Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is .05 | Maximum % Diff for CCC is 20%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
0390 PYRIDINE	1.42242	1.57855	10.98		
0870 2-FLUOROPHENOL	1.41792	1.38163	2.56		
0545 PHENOL-d5	1.54687	1.73001	11.84		
0577 2-CHLOROPHENOL-d4	1.56769	1.45033	4.58		
0540 1,2-DICHLOROBENZENE-d4	.79768	.82884	9.39		
0740 1,4-DICHLOROBENZENE	1.42696	1.45996	5.12	*	
0355 2-METHYLPHENOL	1.10151	1.21540	10.34		
0767 3,4-METHYLPHENOLS	1.16557	1.26369	8.61		
0355 HEXACHLOROETHANE	.63809	.72307	13.32		
0410 NITROBENZENE	.43366	.48265	11.34		
0620 NITROBENZENE-d5	.42554	.47075	10.62		
0460 HEXACHLOROBUTADIENE	.21501	.21967	2.17	*	
0375 2,4,6-TRICHLOROPHENOL	.29703	.25167	12.58		
0915 2-FLUOROBIPHENYL	1.18142	1.21962	3.25		
0517 2,4,6-TRICHLOROPHENOL	.47311	.46215	2.32	*	
0520 2,4,5-TRICHLOROPHENOL	.49180	.48570	1.24		
0570 2,4-DINITROTOLUENE	.57352	.57755	.07		
0680 HEXACHLOROCYCLOPENTADIENE	.34829	.33977	2.45		
0395 PENTACHLOROPHENOL	.25766	.19707	16.67	*	
0959 TERPHENYL-d14	1.14736	1.00507	12.40		

RF - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/11/95

Contractor: RESAN PACE, INC. Time: 10:38

Contract No: Laboratory ID: >F2759

Instrument ID: FMS-HP Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % Diff for CCC is 20%

	Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C310	N-NITROSODIMETHYLAMINE	.96863	1.08765	12.29		
C550	2-FLUOROPHENOL	1.41792	1.48617	4.81		
C545	PHENOL-d5	1.54687	1.82420	17.93		
C570	2-CHLOROPHENOL-d4	1.36769	1.46189	6.89		
C575	1,2-DICHLOROBENZENE-d4	.75768	.81059	6.98		
C315	PHENOL	1.72949	2.10809	21.89	*	
C320	ANILINE	1.24738	1.57568	26.32		
C325	BIS(2-CHLOROETHYL)ETHER	1.77684	1.82922	2.95		
C330	2-CHLOROPHENOL	1.36857	1.45025	5.97		
C335	1,3-DICHLOROBENZENE	1.57248	1.56659	.37		
C340	1,4-DICHLOROBENZENE	1.42696	1.51180	5.95	*	
C345	BENZYL ALCOHOL	.74671	.89410	19.74		
C350	1,2-DICHLOROBENZENE	1.27164	1.37578	8.19		
C355	2-METHYLPHENOL	1.10151	1.24196	12.75		
C360	BIS(2-CHLOROISOPROPYL)ETH	2.12632	2.07999	2.18		
C365	4-METHYLPHENOL	1.16537	1.29250	10.91		
C370	N-NITROSO-DI-N-PROPYLAMIN	.98767	1.08811	10.17		**
C375	HEXACHLOROETHANE	.63809	.73585	15.32		
C410	NITROBENZENE	.43366	.48780	12.48		
C415	ISOPHORONE	.94539	1.02867	8.81		
C520	NITROBENZENE-d5	.42554	.47124	10.74		
C420	2-NITROPHENOL	.25197	.25191	.02	*	
C425	2,4-DIMETHYLPHENOL	.38779	.41442	6.87		
C430	BENZOIC ACID	.17730	.17454	1.56		
C435	BIS(2-CHLOROETHOXY)METHAN	.53960	.59381	10.05		
C440	2,4-DICHLOROPHENOL	.32720	.32203	1.58	*	
C445	1,2,4-TRICHLOROBENZENE	.36421	.34466	5.37		
C450	NAPHTHALENE	.95398	1.00218	5.05		
C455	4-CHLOROANILINE	.43235	.41475	4.07		
C460	HEXACHLOROBUTADIENE	.21501	.18339	14.71	*	
C465	4-CHLORO-3-METHYLPHENOL	.36180	.39450	9.04	*	
C470	2-METHYLNAPHTHALENE	.61488	.64171	4.36		

RF - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/11/95

Contractor: RESAN PACE, INC. Time: 10:38

Contract No: Laboratory ID: >F2759

Instrument ID: FMS-HP Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % Diff for CCC is 20%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
CS55 2,4,6-TRIBROMOPHENOL	.29903	.22044	26.28		
CS25 2-FLUOROBIPHENYL	1.18142	1.22486	3.68		
C510 HEXACHLOROCYCLOPENTADIENE	.31434	.27514	12.47		**
C515 2,4,6-TRICHLOROPHENOL	.47311	.45175	4.51	*	
C520 2,4,5-TRICHLOROPHENOL	.49408	.47284	4.30		
C525 2-CHLORONAPHTHALENE	1.13012	1.15870	2.53		
C530 2-NITROANILINE	.54131	.59935	10.72		
C535 DIMETHYLPHTHALATE	1.59809	1.53153	4.17		
C540 ACENAPHTHYLENE	1.63291	1.76991	8.39		
C545 3-NITROANILINE	.41668	.44505	6.81		
C550 ACENAPHTHENE	1.05786	1.12005	5.88	*	
C555 2,4-DINITROPHENOL	.26352	.25472	3.34		**
C560 4-NITROPHENOL	.20525	.20924	1.95		**
C565 DIBENZOFURAN	1.54786	1.56736	1.26		
C543 2,6-DINITROTOLUENE	.34616	.37074	7.10		
C570 2,4-DINITROTOLUENE	.57352	.57050	.53		
C580 DIETHYLPHTHALATE	1.59211	1.64863	3.55		
C585 4-CHLOROPHENYL-PHENYLETHE	.52091	.52909	1.57		
C590 FLUORENE	1.05352	1.10971	5.33		
C595 4-NITROANILINE	.44148	.44039	.25		
C610 4,6-DINITRO-2-METHYLPHENO	.18622	.22874	22.83		
C615 N-NITROSODIPHENYLAMINE	.48060	.55811	16.13	*	
C620 AZOBENZENE	.20956	.19052	9.09		
C625 4-BROMOPHENYL-PHENYLETHER	.22504	.21956	2.43		
C630 HEXACHLOROBENZENE	.34829	.29449	15.45		
C635 PENTACHLOROPHENOL	.23706	.20965	11.56	*	
C640 PHENANTHRENE	1.04986	1.16324	10.80		
C645 ANTHRACENE	1.02536	1.13735	10.92		
C650 DI-N-BUTYLPHTHALATE	1.57983	1.88668	19.42		
C655 FLUORANTHENE	1.23398	1.27091	2.99	*	
C660 BENZIDINE	.09544	.05463	42.76		
CS30 TERPHENYL-d14	1.14336	.95808	16.20		

RF - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No:

Calibration Date: 10/11/95

Contractor: RESAN PACE, INC.

Time: 10:38

Contract No:

Laboratory ID: >FZ759

Instrument ID: FMS-HP

Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % Diff for CCC is 20%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C715 PYRENE	1.83252	1.64328	10.33		
C720 BUTYLBENZYLPHTHALATE	1.19309	1.18330	.82		
C725 3,3'-DICHLOROBENZIDINE	.66704	.60493	9.31		
C730 BENZO(A)ANTHRACENE	1.39789	1.40233	.32		
C745 BIS(2-ETHYLHEXYL)PHTHALAT	1.06421	1.15779	8.79		
C740 CHRYSENE	1.43904	1.16588	18.98		
C760 DI-N-OCTYLPHTHALATE	1.71485	2.21995	29.45	*	
C765 BENZO(B)FLUORANTHENE	1.21029	1.19530	1.24		
C770 BENZO(K)FLUORANTHENE	.86488	.98052	13.37		
C775 BENZO(A)PYRENE	1.01861	1.06277	4.34	*	
C780 INDENO(1,2,3-CD)PYRENE	1.24358	1.27226	2.31		
C785 DIBENZ(A,H)ANTHRACENE	1.02429	1.03348	.90		
C790 BENZO(G,H,I)PERYLENE	1.06272	1.09452	2.99		

RF - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No:

Calibration Date: 10/11/95

Contractor: RESAN

Time: 10:38

Contract No:

Laboratory ID: >F2759

Instrument ID: FMS-HP

Initial Calibration Date: 10/02/95

Minimum $\overline{RF}$ for SPCC is .05

Maximum % Diff for CCC is 20%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C300 PYRIDINE	1.42242	1.59407	12.07		
C550 2-FLUOROPHENOL	1.41792	1.48617	4.81		
C545 PHENOL-d5	1.54687	1.82420	17.93		
C535 2-CHLOROPHENOL-d4	1.36769	1.46189	6.89		
C540 1,2-DICHLOROBENZENE-d4	.75768	.81059	6.98		
C340 1,4-DICHLOROBENZENE	1.42696	1.51180	5.95	*	
C355 2-METHYLPHENOL	1.10151	1.24196	12.75		
C367 3,4-METHYLPHENOLS	1.16537	1.29250	10.91		
C375 HEXACHLOROETHANE	.63809	.73585	15.32		
C410 NITROBENZENE	.43366	.48780	12.48		
C520 NITROBENZENE-d5	.42554	.47124	10.74		
C460 HEXACHLOROBUTADIENE	.21501	.18339	14.71	*	
C555 2,4,6-TRIBROMOPHENOL	.29903	.22044	26.28		
C525 2-FLUOROBIPHENYL	1.18142	1.22486	3.68		
C515 2,4,6-TRICHLOROPHENOL	.47311	.45175	4.51	*	
C520 2,4,5-TRICHLOROPHENOL	.49180	.47284	3.85		
C570 2,4-DINITROTOLUENE	.57352	.57050	.53		
C630 HEXACHLOROBENZENE	.34829	.29449	15.45		
C635 PENTACHLOROPHENOL	.23706	.20965	11.56	*	
C530 TERPHENYL-d14	1.14336	.95808	16.20		

RF - Response Factor from daily standard file at 50.00 ug/mL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN33

Lab File ID (Standard): >F2709 Date Analyzed: 10/05/95

Instrument ID: FMS Time Analyzed: 12:51

	IS1(DCB)		IS2(NPT)		IS3(ANT)		IS4(PHN)		IS5(CRY)		IS6(PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	26550	6.62	92373	8.75	51834	11.81	83099	14.37	65249	19.05	89572	22.54
UPPER LIMIT	53100	7.12	184746	9.25	103668	12.31	166198	14.87	130498	19.55	179144	23.04
LOWER LIMIT	13275	6.12	46187	8.25	25917	11.31	41550	13.87	32625	18.55	44786	22.04
CLIENT I.D.												
90001-282	24562	6.62	82033	8.74	44359	11.79	68254	14.37	63579	19.03	63167	22.50

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10
IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag internal standard area values outside of UPPER and LOWER LIMIT with an asterisk

pace INCORPORATED THE ASSURANCE OF QUALITY

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN33

Lab File ID (Standard): >F2759 Date Analyzed: 10/11/95

Instrument ID: FMS Time Analyzed: 10:38

	IS1(DCB)		IS2(NPT)		IS3(ANT)		IS4(PHN)		IS5(CRY)		IS6(PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	37924	6.55	133427	8.67	72628	11.72	111548	14.29	87827	18.97	123486	22.37
UPPER LIMIT	75848	7.05	266854	9.17	145256	12.22	223096	14.79	175654	19.47	246972	22.87
LOWER LIMIT	18962	6.05	66714	8.17	36314	11.22	55774	13.79	43914	18.47	61743	21.87
CLIENT I.D.												
CLJ44-CU-083	48040	6.55	163717	8.66	85772	11.72	132750	14.29	120760	18.95	135597	22.35
CLJ44-CU-083D	42913	6.54	149203	8.66	77886	11.72	121827	14.28	105716	18.95	124336	22.35
CLJ44-CU-084	41610	6.53	144530	8.66	77028	11.72	120219	14.28	110799	18.95	124113	22.34
CLJ44-CU-085	42685	6.54	147410	8.66	76010	11.72	118006	14.28	108310	18.94	125229	22.35
BA2490	42569	6.53	141796	8.66	75221	11.72	120225	14.28	106463	18.95	119086	22.35
LSA2490	40703	6.54	144438	8.66	78077	11.72	120721	14.28	106201	18.95	118816	22.36

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10
IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag internal standard area values outside of UPPER and LOWER LIMIT with an asterisk

PACE New England | **GCMS Semi Volatiles** | **0000012**

RUN LOG

Voltage 1500 | Tune Meth MSFBFT | Initial Cal 10/2/95 | Date 10/2/95

Threshold 30 | Sample Meth MSFFST | Batch File FactArt, B, C | Analyst MT

uASOP 5200 | Volume Inj 1ul | Int Std A-1482 | Instr F MS-HP

Maintenance: Septum ✓ Liner ✓ Inlet Disk ✓ Column Clip ✓ Other

Bd #	File #	Sample	Matrix	ID File	Dil	SDG	Comments	MI	A	R	Arcv	P
-	>F2644	BFTPP50	A-1213				m/e198=17K inj 1011 scan 93+94		✓	✓	A1/3	
✓	46	ABN STD50	A-1488	IFact2			SSTD050	✓X	✓	✓		
✓	47	160	A-1485				SSTD160		✓	✓		
✓	48	120	A-1486				SSTD120		✓	✓		
✓	49	80	A-1487				SSTD080		✓	✓		
✓	50	20	A-1489	↓			SSTD020	↓	✓	✓		
	51	45461-1	ABNL	IFT002	1/1				✓	✓		
	52	-2							✓	✓		1
	53	-3		↓					✓	✓		
✓	54	BA2467		IF1002		LIN22			✓	✓		
✓	55	LSA2467					no surrs!		✓	✓		
✓	56	BA2468					phth 3ppb		✓	✓		
✓	57	LSA2468		↓					✓	✓		
	58	45514-10		IFT002					✓	✓		
	59	-18							✓	✓		
	60	-12							✓	✓		
	61	-13							✓	✓		
	62	-14				↓			✓	✓		
	63	4542--7					Acsurr's fail - REX					
	64	-18	↓	↓	↓		Acsurr's low, but passing		✓	✓		
							TCLP spkcal - CFTCLP/IFTCLP (#F----files)					
			10/3/95				CFPNA } - PNAtemplds -					
							IFPNA } use A files					

PACE New England

GCMS Semi Volatiles
RUN LOG

0000015

Voltage 1500 Tune Meth MSFDFT Initial Cal 10/2/95 Date 10/5/95
Threshold 30 Sample Meth MSFFST Batch File FOC#SA Analyst NT
OASOP 5200 Volume Inj 1ul Int Std A-1490 Instr F MS-HP

Maintenance: Septum ✓ Liner ✓ Inlet Disk ✓ Column Clip ✓ Other

Bd #	File #	Sample	Matrix	ID File	Dil	SDG	Comments	MI	A	R	Arcv	P
✓	>F2707	DFTPP 50	A-1213				m/e 198 = 15K inj 1234 Scan 85+86+87		✓	✓	A1/329	
✓	09	ABN STD 50	A1488	IF 0402 IF TCLP			Compliant 8270	WS	✓	✓		
✓	10	BA2473	ABNL	IF1005	1/1	Rust			✓	✓		
✓	11	LSA2473	↓	↓	↓	↓			✓	✓		
	12	45461-7RE		IFT005					✓	✓		
	13	-9		↓	1/5				✓	✓		
✓	14	BA2478		IF1005	1/1	LSW27			✓	✓		
✓	15	LSA2478		↓	↓	↓			✓	✓		
	16	45563-9		IFT005					✓	✓		
	17	-10		↓					✓	✓		
	18	-11							✓	✓		
	19	-12							✓	✓		
	20	-13							✓	✓		
✓	21	90001-282	↓	↓	↓	↓			✓	✓		
	22	45547-2	↓	IF1005	1/5				✓	✓		
	23	MeCl2 check	BK880	↓	1/1				✓	✓		
	24	MeCl2 check	BK873		↓				✓	✓		
	25	surr check	E-1419	↓	↓				✓	✓		
10/6/95	26	surr check	E-1419	↓	↓				✓	✓		

10/6/95

PACE New England

GCMS Semi Volatiles
RUN LOG

0000018

Voltage 1500 Tune Meth MSFDFT Initial Cal 10/2/95 Date 10/11/95
Threshold 30 Sample Meth MSFFST Batch File FOC11A Analyst MT
QASOP 5200 Volume Inj 1ul Int Std A-1490 Instr F MS-HP

Maintenance: Septum ✓ Liner ✓ Inlet Disk ✓ Column Clip ✓ Other

Btl #	File #	Sample	Matrix	ID File	Dil	SDG	Comments	MI	A	R	Arcv	P
	7F2757	DFTPP 50	A-1213				m/e 198=23K inj 1022 scan 79		✓	✓	A1/329	
	59	ABN STD 50	A-1492	1FOC02 1FRLP			compliant 8270	✓	✓	✓		
	60	45614-9		1FT008	1/1				✓	✓		
	61	-10		↓	↓				✓	✓		
	62	-11							✓	✓		
	63	-12							✓	✓		
	64	BA 2490		1FI011					✓	✓		
	65	LSA2490		↓	↓				✓	✓		

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

4CU083

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN33

Matrix (soil/water): WATER Lab Sample ID: 45614-009

Level (low/med): LOW Date Received: 10/06/95

% 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				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	23.0			P
7440-39-3	Barium	61.9	B		P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	6.1	B		P
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	18.7			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	23.7	U		P
7440-22-4	Silver	1.9	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
TCLP EXTRACT. FULL FIELD ID = CLJ44-CU-083

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR NON-VOLATILE CONSTITUENTS

Laboratory Number : 45614-009
Field Identification : CLJ44-CU-083
Extraction Date : 10/09/95
TCLP Blank : 90,001-282

Sample description : NON-HOMOGENEOUS GRANULAR SOIL

Extraction Fluid Selection (1,2):

A 5.0 gm portion of the sample was stirred with 96.5 mL deionized water. The pH at the end of 5 minutes was 5.29. 3.5 mL 1.0N HCl was added and the mixture was then heated to 50C for ten minutes. Upon cooling the pH was 1.70, therefore Extraction Fluid #1 was used.

Sample Preparation (1):

Since the sample contained no free liquid, it was not filtered before extraction. 100 gm of sample was added to the extractor with 2000 mL Extraction Fluid #1.

Extraction Time : 19.00 hrs

Final pH : 4.89

% Solids as defined in method : 100

References:

1. 40 CFR Part 261, Appendix II, Nov. 24, 1992

2. Extraction Fluid: 0.57% by volume glacial acetic acid to which 0.1N NaOH has been added to yield a pH of 4.93 +/- 0.05.

pace INCORPORATED THE ASSURANCE OF QUALITY

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

4CU084

Lab Name: PACE INC., NE-NH Contract: NEESAC

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN33

Matrix (soil/water): WATER Lab Sample ID: 45614-011

Level (low/med): LOW Date Received: 10/06/95

% 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				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	19.9			P
7440-39-3	Barium	123	B		P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	3.7	U		P
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	10.8	U		P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	23.7	U		P
7440-22-4	Silver	1.9	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
TCLP EXTRACT. FULL FIELD ID = CLJ44-CU-084