02.08-05/01/97-02287

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

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

4CU085

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: 45614-012

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	18.9			P
7440-39-3	Barium	139	B		P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium	2.2	B		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-085

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

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

CU083D

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: 45614-010

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	17.8	U		P
7440-39-3	Barium	60.4	B		P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	5.3	B		P
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	30.1			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	25.2			P
7440-22-4	Silver	2.5	B		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-083D

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

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.: MLJN33

Initial Calibration Source: VHG\SPEX

Continuing Calibration Source: SOL+\IV\MALL

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	1000.14	100.0	10000.0	9180.20	91.8	8964.30	89.6	P
Barium	1000.0	1011.24	101.1	40000.0	39700.90	99.3	38739.44	96.8	P
Beryllium									NR
Cadmium	500.0	491.69	98.3	1000.0	943.99	94.4	930.81	93.1	P
Calcium									NR
Chromium	1000.0	1027.30	102.7	4000.0	3949.65	98.7	3869.07	96.7	P
Cobalt									NR
Copper									NR
Iron									NR
Lead	1000.0	996.48	99.6	10000.0	9327.42	93.3	9190.61	91.9	P
Magnesium									NR
Manganese									NR
Mercury	4.0	4.06	101.5	5.0	5.10	102.0			CV
Nickel									NR
Potassium									NR
Selenium	1000.0	1024.02	102.4	10000.0	9380.96	93.8	9200.39	92.0	P
Silver	200.0	202.15	101.1	1000.0	1001.54	100.2	976.53	97.7	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.: MLJN33

Initial Calibration Source: VHG\SPEX

Continuing Calibration Source: SOL+\IV\MALL

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	9100.11	91.0	9134.87	91.3	P
Barium				40000.0	39156.25	97.9	39849.41	99.6	P
Beryllium									NR
Cadmium				1000.0	947.89	94.8	950.44	95.0	P
Calcium									NR
Chromium				4000.0	3944.93	98.6	3956.57	98.9	P
Cobalt									NR
Copper									NR
Iron									NR
Lead				10000.0	9374.08	93.7	9366.19	93.7	P
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium				10000.0	9404.48	94.0	9402.78	94.0	P
Silver				1000.0	996.86	99.7	1000.66	100.1	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.: MLJN33

Initial Calibration Source: VHG\SPEX

Continuing Calibration Source: SOL+\IV\MALL

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	9416.45	94.2	9627.95	96.3	P
Barium				40000.0	40326.17	100.8	42251.54	105.6	P
Beryllium									NR
Cadmium				1000.0	956.28	95.6	987.14	98.7	P
Calcium									NR
Chromium				4000.0	3981.75	99.5	4146.40	103.7	P
Cobalt									NR
Copper									NR
Iron									NR
Lead				10000.0	9415.70	94.2	9755.76	97.6	P
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium				10000.0	9564.38	95.6	10017.82	100.2	P
Silver				1000.0	1016.61	101.7	1055.43	105.5	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.: MLJN33

Initial Calibration Source: VHG\SPEX

Continuing Calibration Source: SOL+\IV\MALL

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	9974.21	99.7	9947.14	99.5	P
Barium				40000.0	44364.19	110.9	43931.42	109.8	P
Beryllium									NR
Cadmium				1000.0	1024.31	102.4	1000.55	100.1	P
Calcium									NR
Chromium				4000.0	4328.63	108.2	4292.93	107.3	P
Cobalt									NR
Copper									NR
Iron									NR
Lead				10000.0	10162.47	101.6	10003.19	100.0	P
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium				10000.0	10332.00	103.3	10299.97	103.0	P
Silver				1000.0	1090.38	109.0	1074.28	107.4	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.: MLJN33

Initial Calibration Source: VHG\SPEX

Continuing Calibration Source: SOL+\IV\MALL

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	9963.02	99.6			P
Barium				40000.0	43737.10	109.3			P
Beryllium									NR
Cadmium				1000.0	1015.01	101.5			P
Calcium									NR
Chromium				4000.0	4314.35	107.9			P
Cobalt									NR
Copper									NR
Iron									NR
Lead				10000.0	10075.48	100.8			P
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium				10000.0	10335.08	103.4			P
Silver				1000.0	1068.64	106.9			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

3
BLANKS

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

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN33

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	20.7		17.8	U	18.8		17.800	U	P
Barium	2.7	U	7.9	B	13.7	B	11.3	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	10.8	U	10.8	U	10.800	U	P
Magnesium											NR
Manganese											NR
Mercury	-0.2		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	1.9	U	1.9	U	1.9	U	-2.200	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.: MLJN33

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	33.3		28.6				P
Barium			16.1	B	9.7	B	10.0	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			2.0	B	1.9	U	1.9	U			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.: MLJN33

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			36.6		17.8	U	23.0				P
Barium			18.4	B	16.4	B	17.0	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	30.8				P
Silver			1.9	U	1.9	U	1.9	U			P
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

U.S. EPA - CLP

4
ICP INTERFERENCE CHECK SAMPLE

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

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN33

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	517278	512755.4	102.6	540227	543888.7	108.8
Antimony								
Arsenic			-188	-145.9		-194	-178.8	
Barium		500	-4	492.6	98.5	-4	532.1	106.4
Beryllium								
Cadmium		1000	4	911.2	91.1	3	955.4	95.5
Calcium	500000	500000	506434	500658.0	100.1	525531	531285.3	106.3
Chromium		500	-1	470.8	94.2	0	500.1	100.0
Cobalt								
Copper								
Iron	200000	200000	192474	190408.5	95.2	202554	205180.4	102.6
Lead		1000	28	921.0	92.1	27	979.9	98.0
Magnesium	500000	500000	507254	503471.1	100.7	528720	533500.9	106.7
Manganese								
Mercury								
Nickel								
Potassium								
Selenium			73	73.3		128	115.6	
Silver		1000	2	953.6	95.4	0	1005.1	100.5
Sodium								
Thallium								
Vanadium								
Zinc								

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

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

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN33

Solid LCS Source:

Aqueous LCS Source: SOL+\SLL\MAL

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic	2000.0	1865.47	93.3						
Barium	2000.0	1939.56	97.0						
Beryllium									
Cadmium	50.0	51.18	102.4						
Calcium									
Chromium	200.0	199.77	99.9						
Cobalt									
Copper									
Iron									
Lead	500.0	450.72	90.1						
Magnesium									
Manganese									
Mercury	8.0	7.92	99.0						
Nickel									
Potassium									
Selenium	2000.0	1876.16	93.8						
Silver	50.0	46.43	92.9						
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

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.: MLJN33

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:

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.: MLJN33

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.

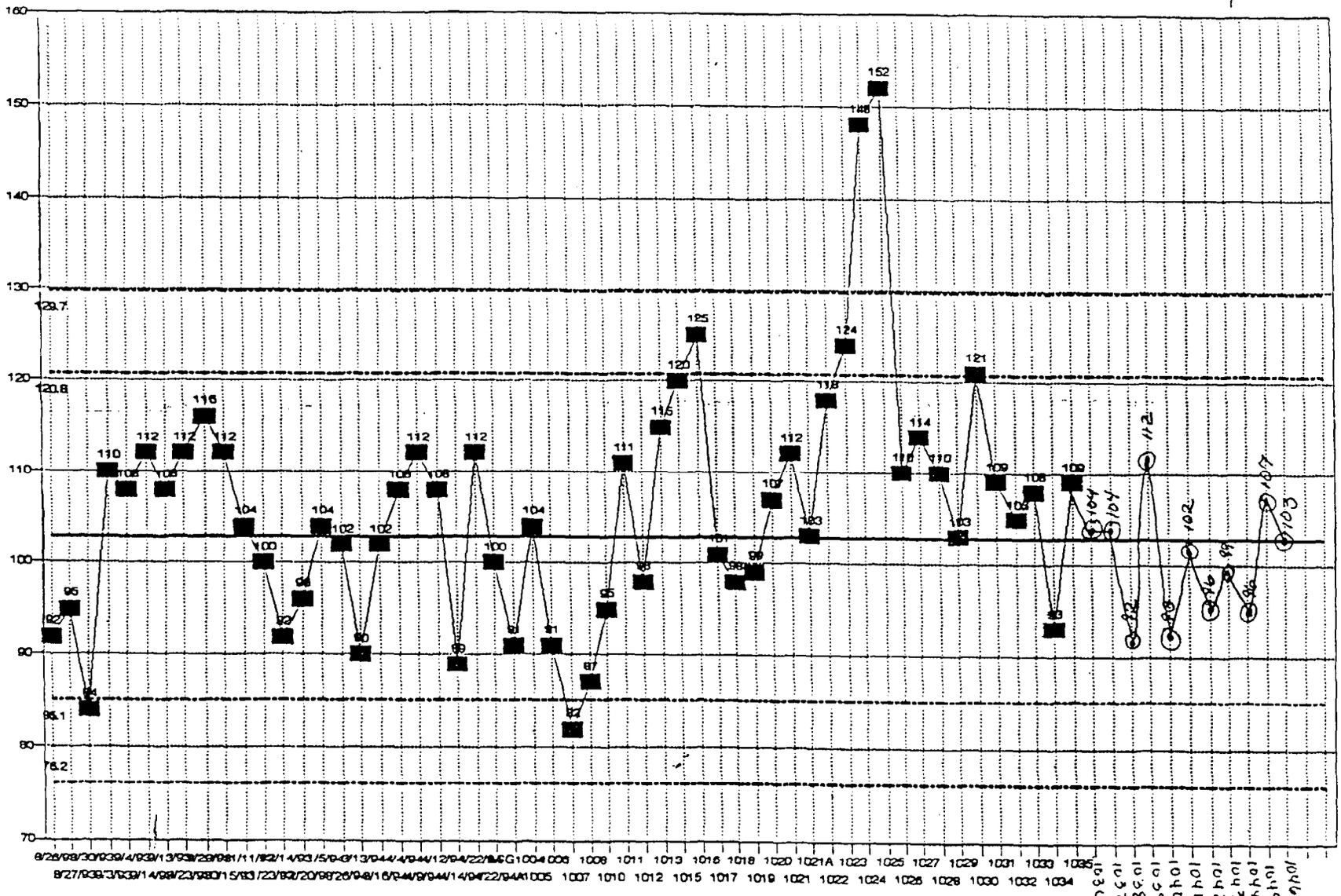
PACE New England, Inc.

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

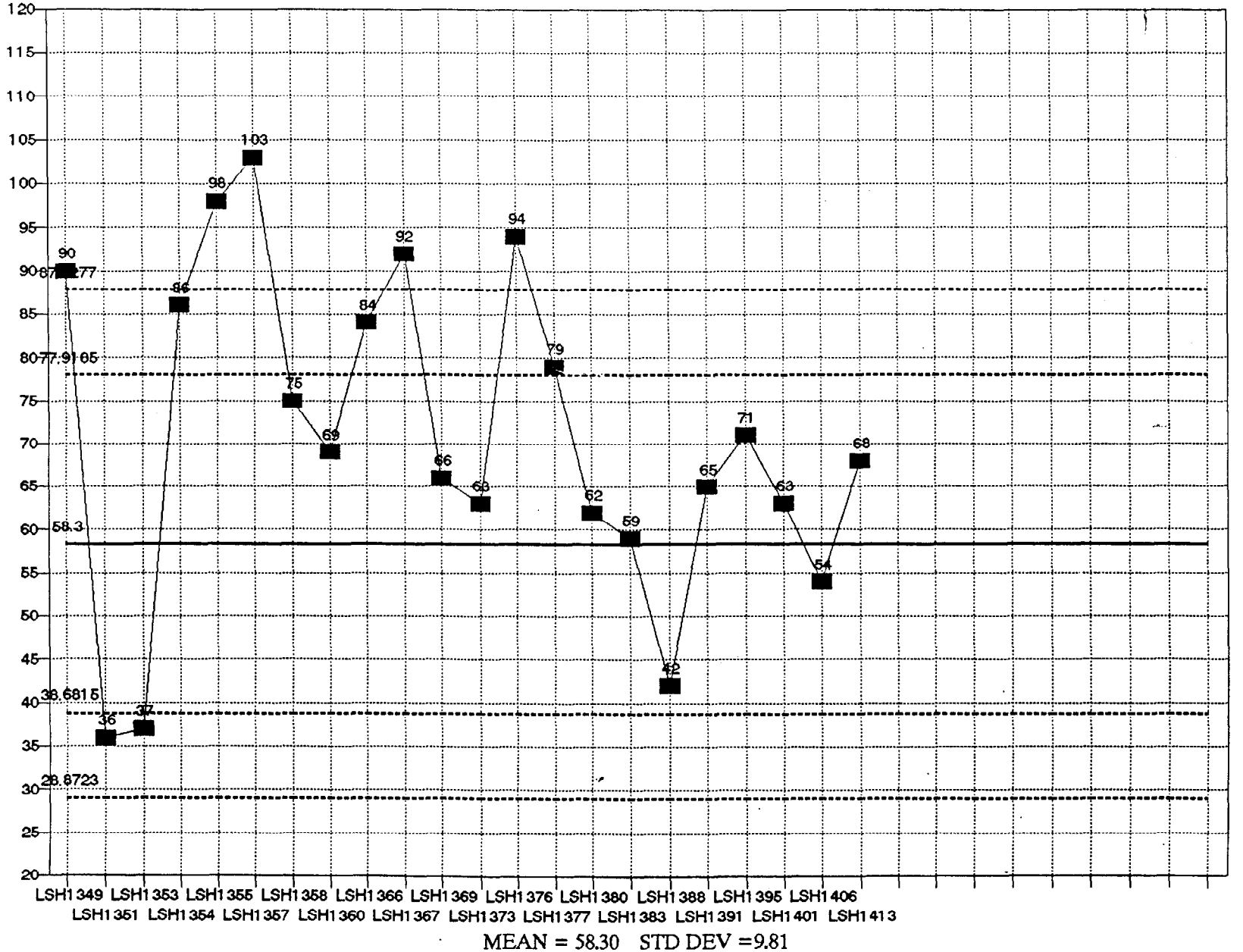
All results are methods 3010 and 6010,
except mercury (method 7470).

TOTAL GAS LCS RECOVERIES
LIMITS SET 4/13/94



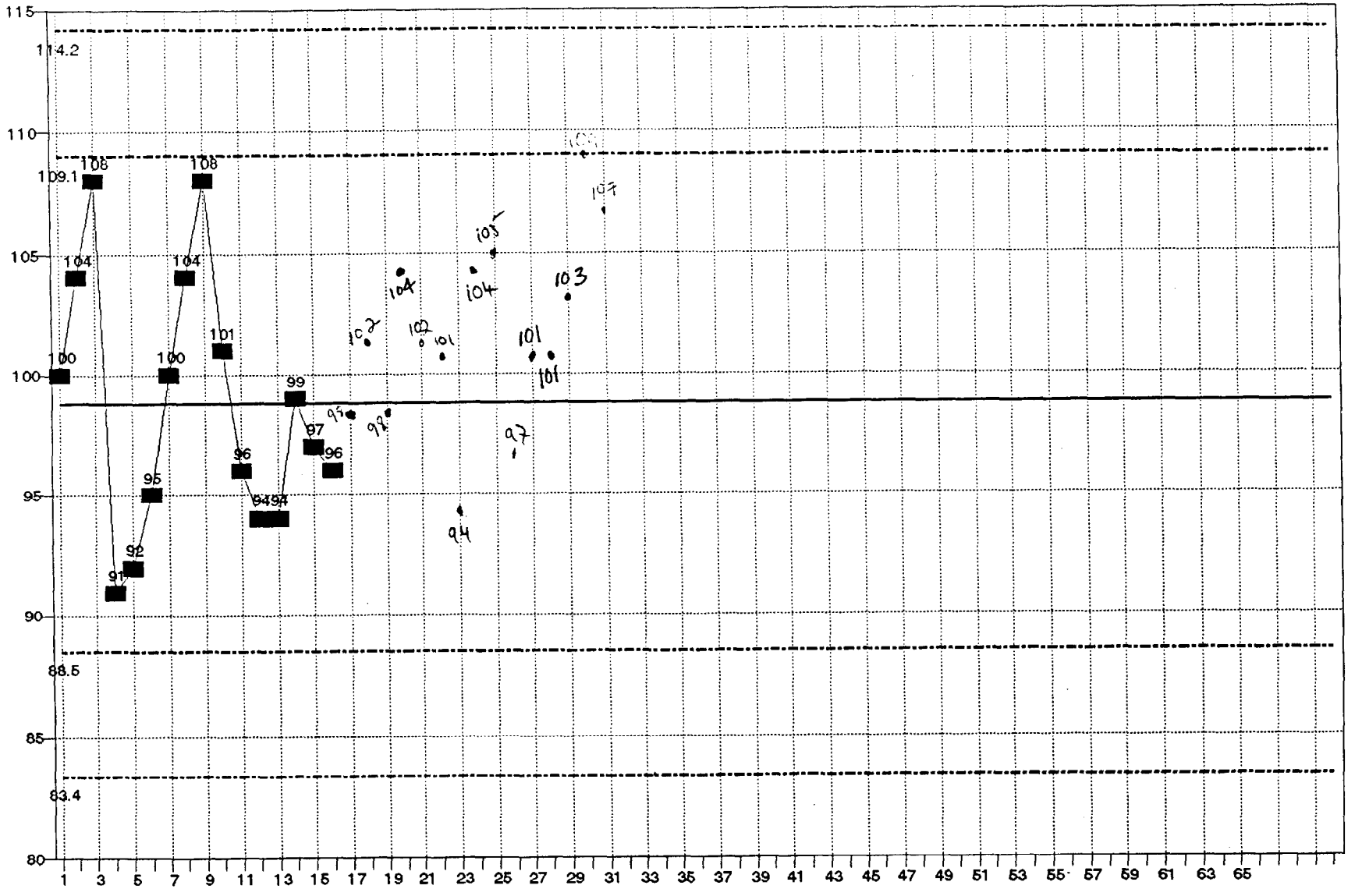
PHC LOW SOLIDS - DIESEL

SPK REC LIMS SET6/6/95-PPCBCHT\PHCS1294



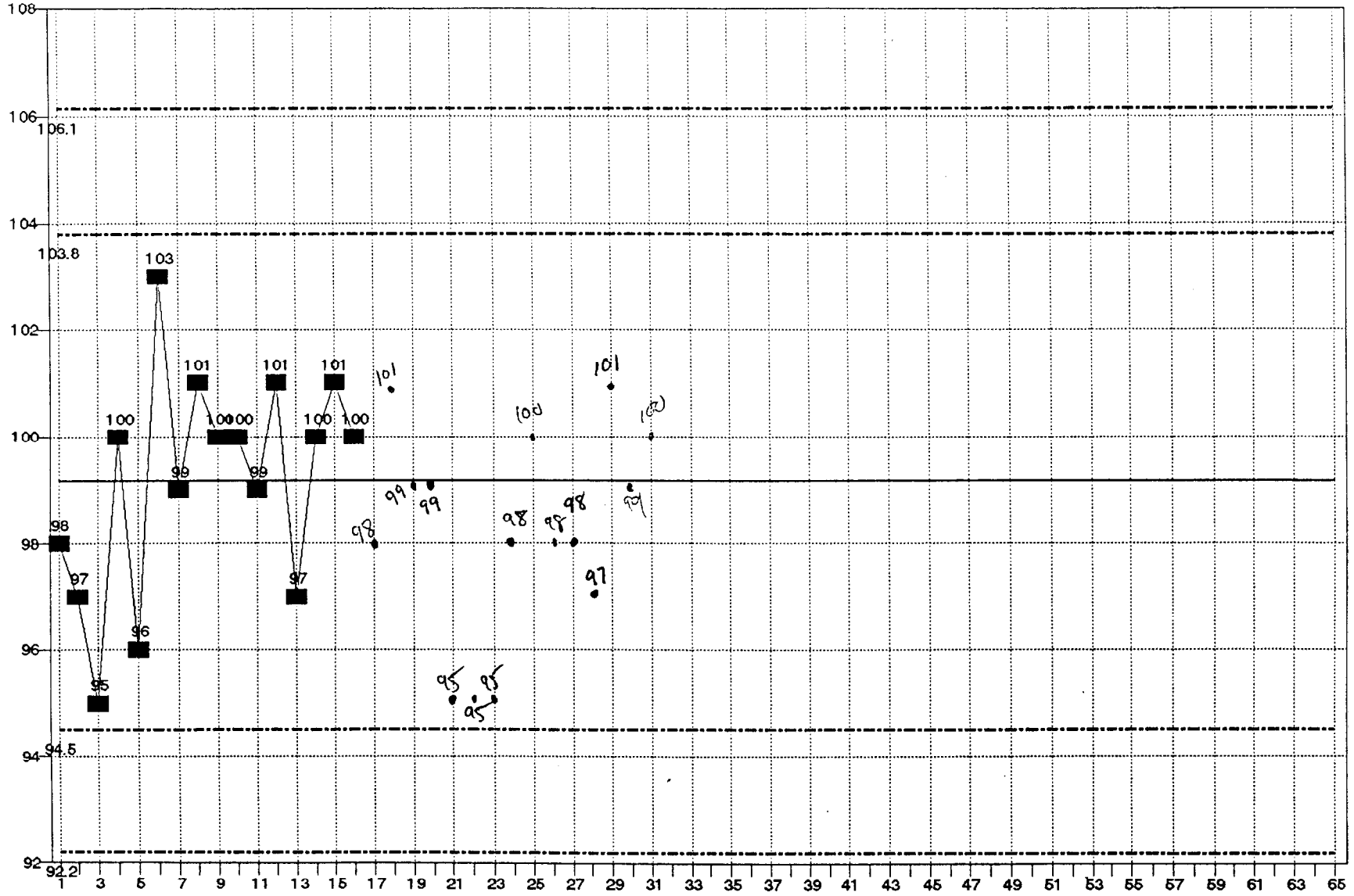
MEAN = 58.30 STD DEV =9.81

VOA TCLP - SURR DCE
LIMIT SET 7/93



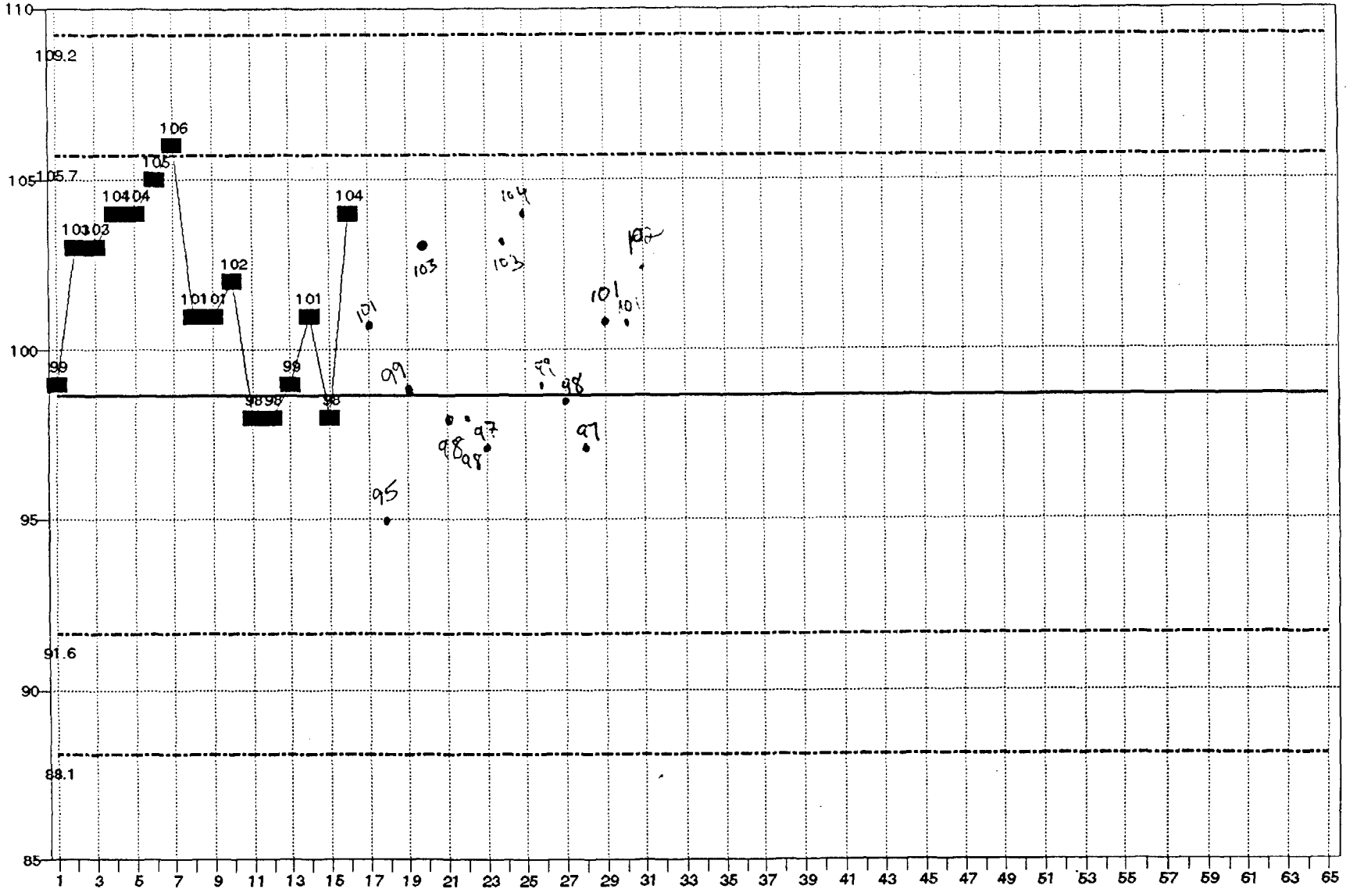
STD DEV = 5.13 MEAN = 98.8

VOA TCLP - SURR TOL
LIMIT SET 7/93



STD DEV = 2.32 MEAN = 99.1

VOA TCLP - SURR BFB
LIMIT SET 7/93

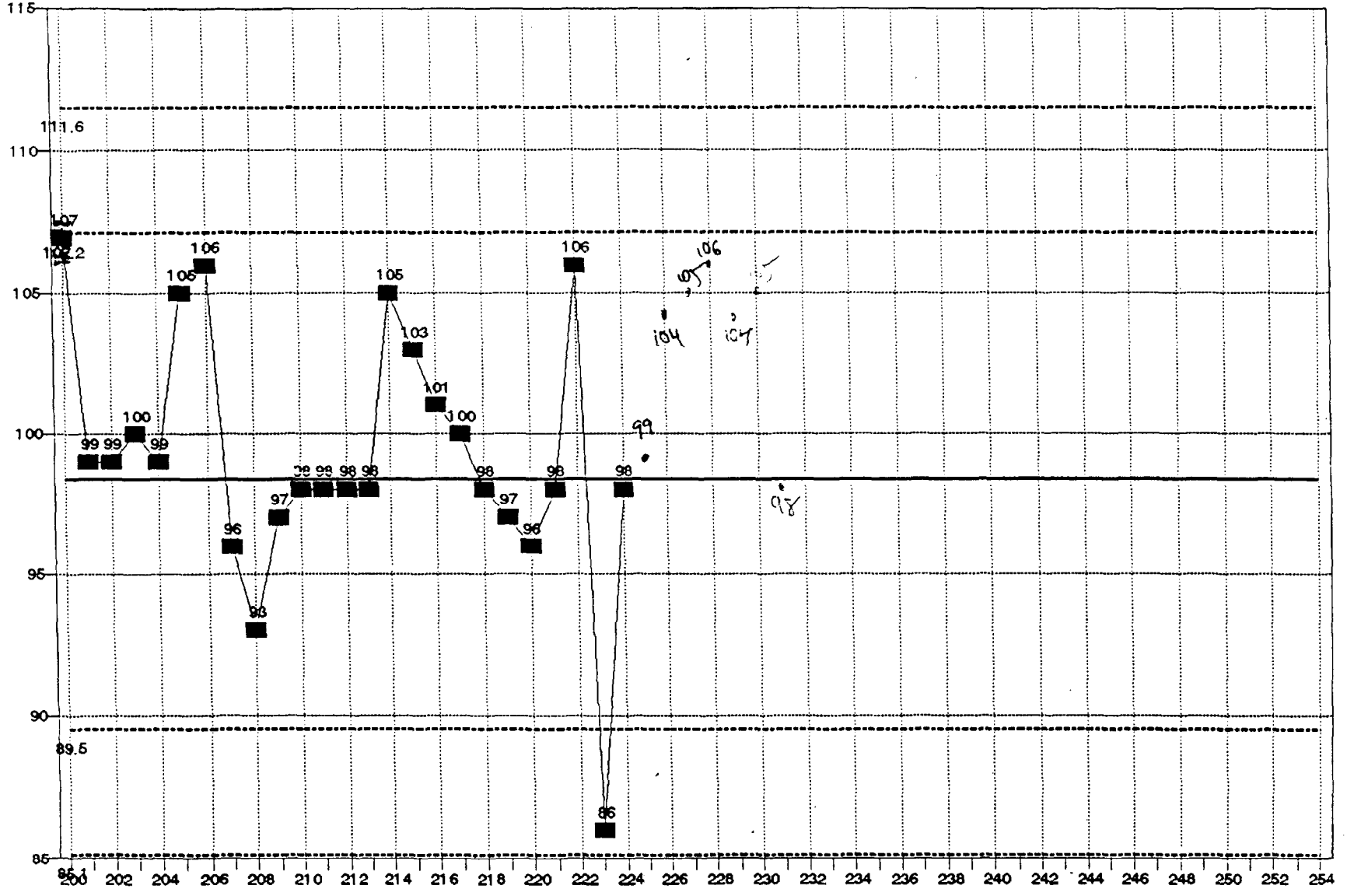


STD DEV =3.51 MEAN = 98.6

00001123

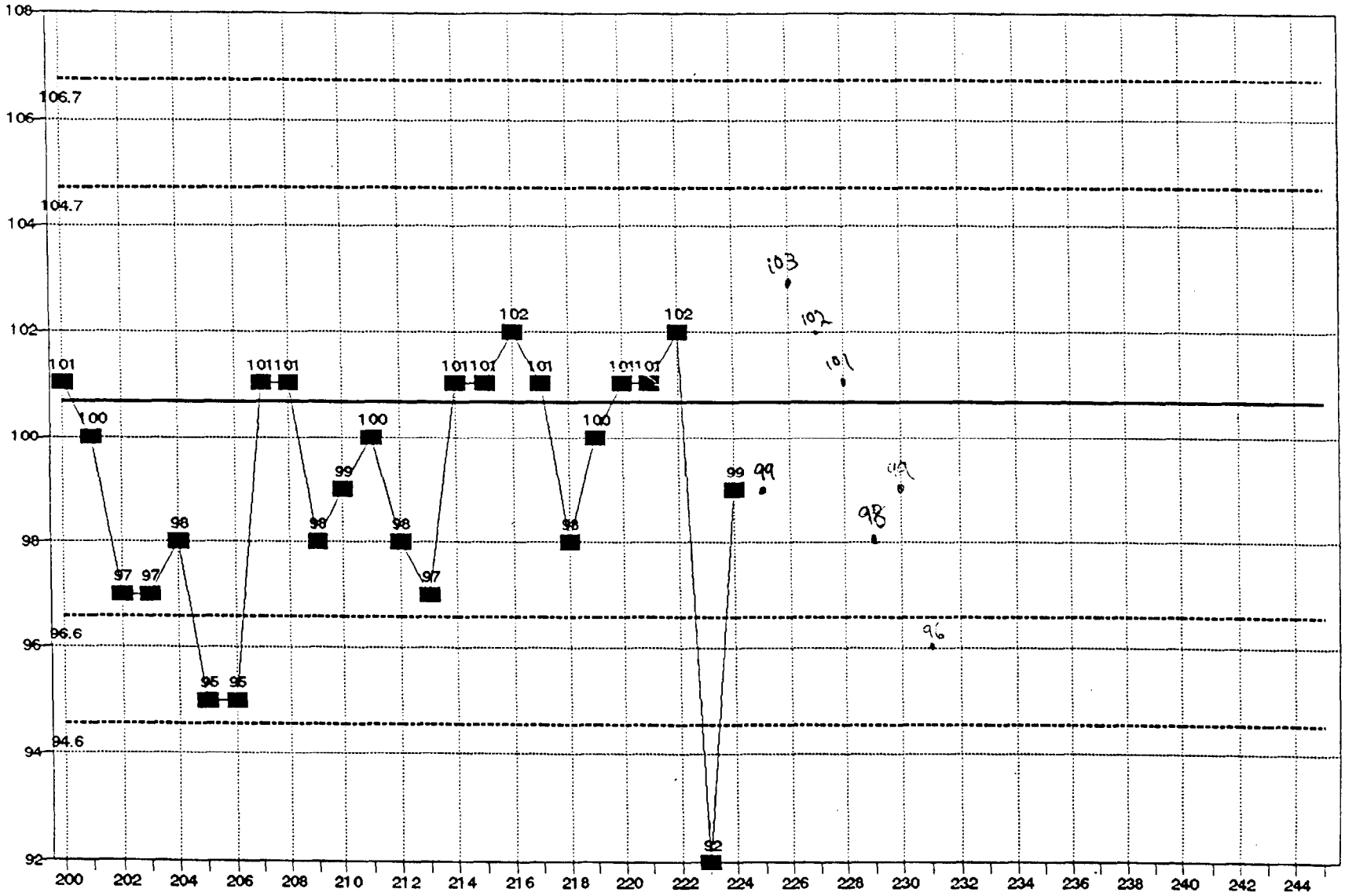
1	TCLP BLANK	340	03/16/94
2	TCLP BLANK	340	03/17/94
3	TCLP BLANK	341	03/17/94
4	TCLP BLANK	341	03/18/94
5	TCLP BLANK	342	03/18/94
6	TCLP BLANK	341	03/22/94
7	TCLP BLANK	343	03/25/94
8	TCLP BLANK	343	03/28/94
9	TCLP BLANK	344	03/28/94
10	TCLP BLANK	345	03/28/94
11	TCLP BLANK	346	04/07/94
12	TCLP BLANK	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
29	TCLPBLK 402		10/11/95
30	TCLP BLK 405		10/17/95
31	TCLPBLK403		10/11/95 (107, 100, 102)

VOA WATERS - SURR DCE
LIMITS SET 4/95



STD DEV = 4.40 MEAN = 98.4

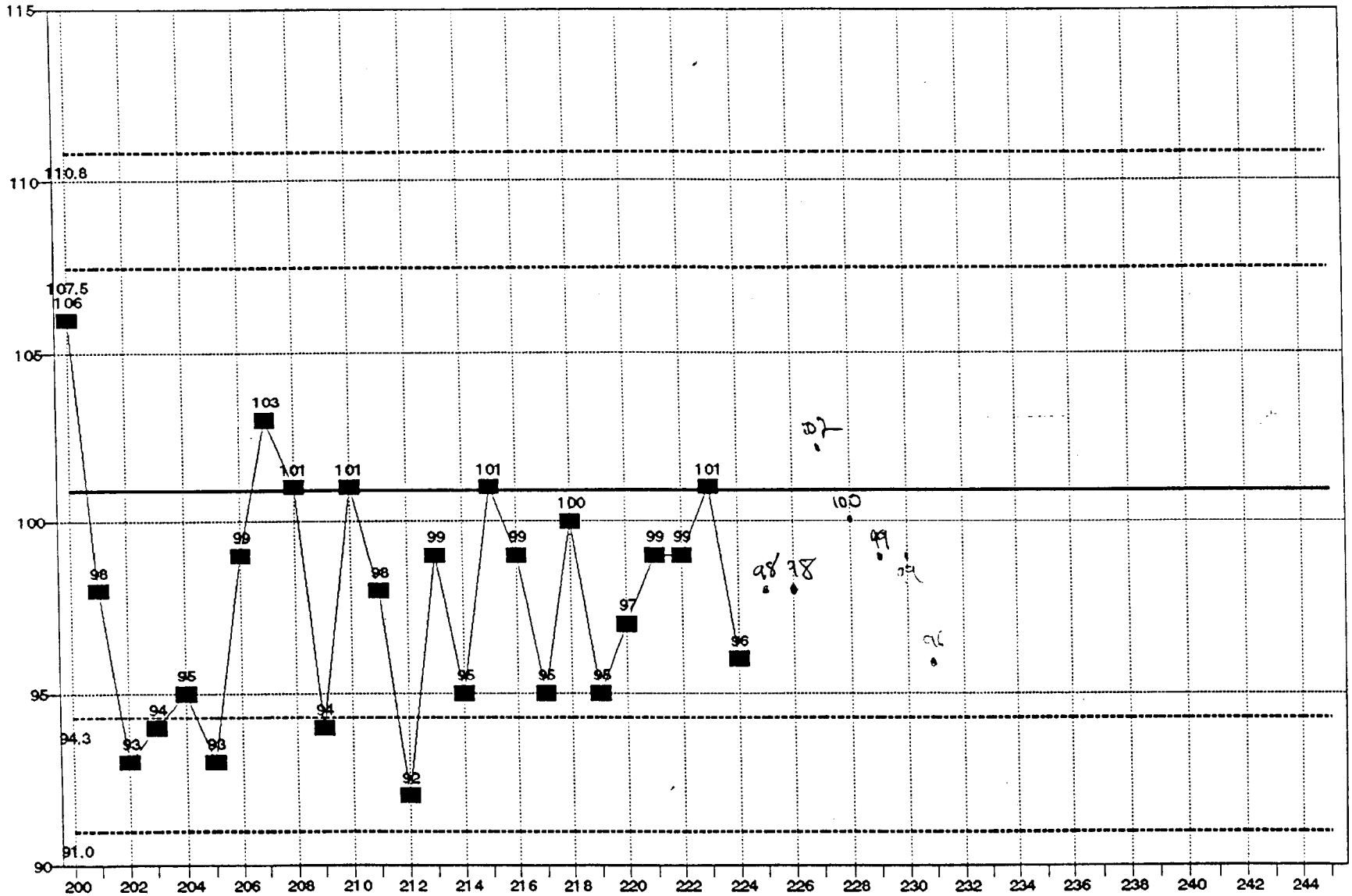
VOA WATERS - SURR TOL
LIMIT SET 4/95



STD DEV = 2.03 MEAN = 100.6

0000126

VOA WATERS - SURR BFB
LIMIT SET 4/95

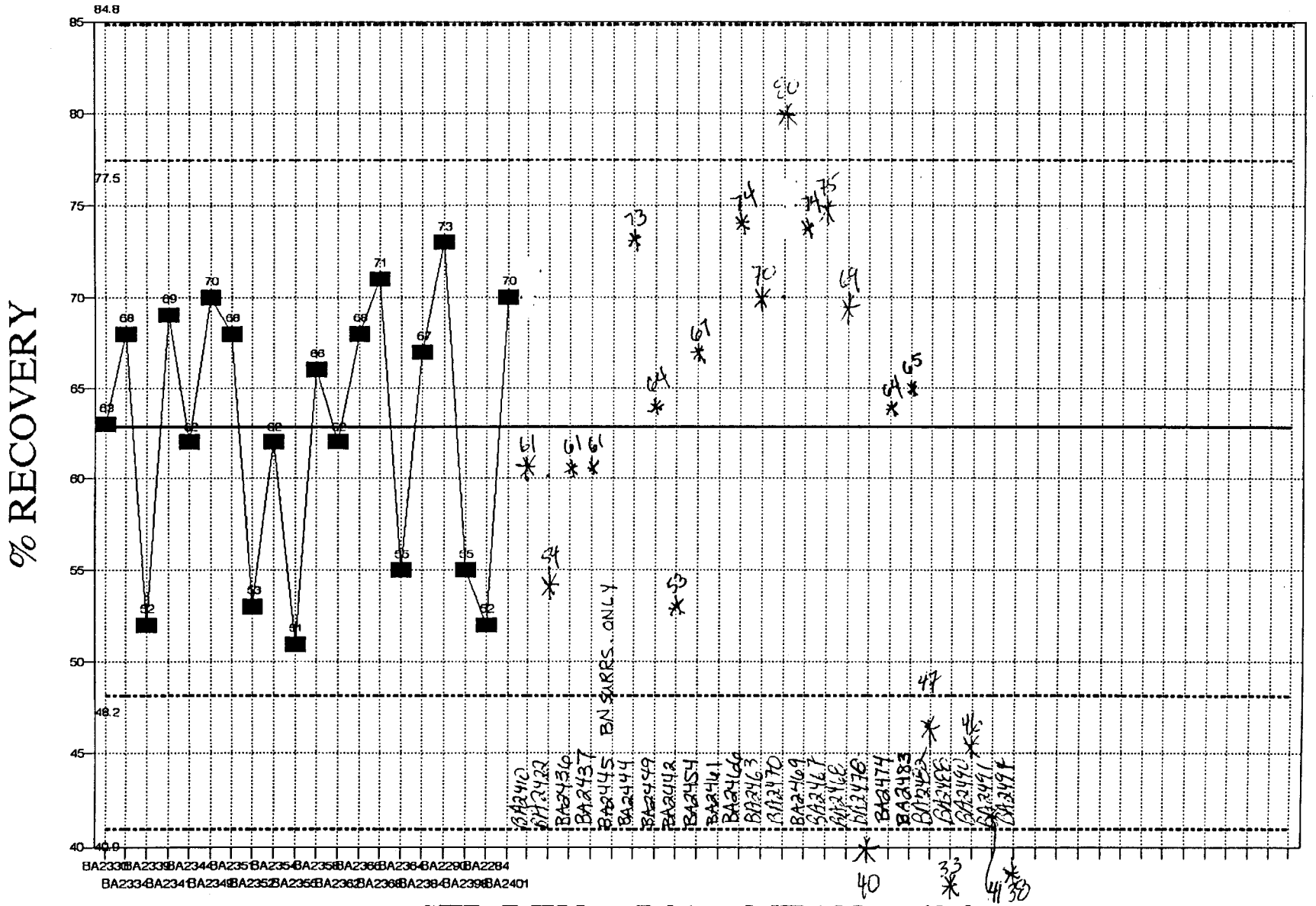


STD DEV =3.31 MEAN = 100.9

VOLATILES -- WATER SURROGATE CONTROL CHARTS
POINT / BLANK

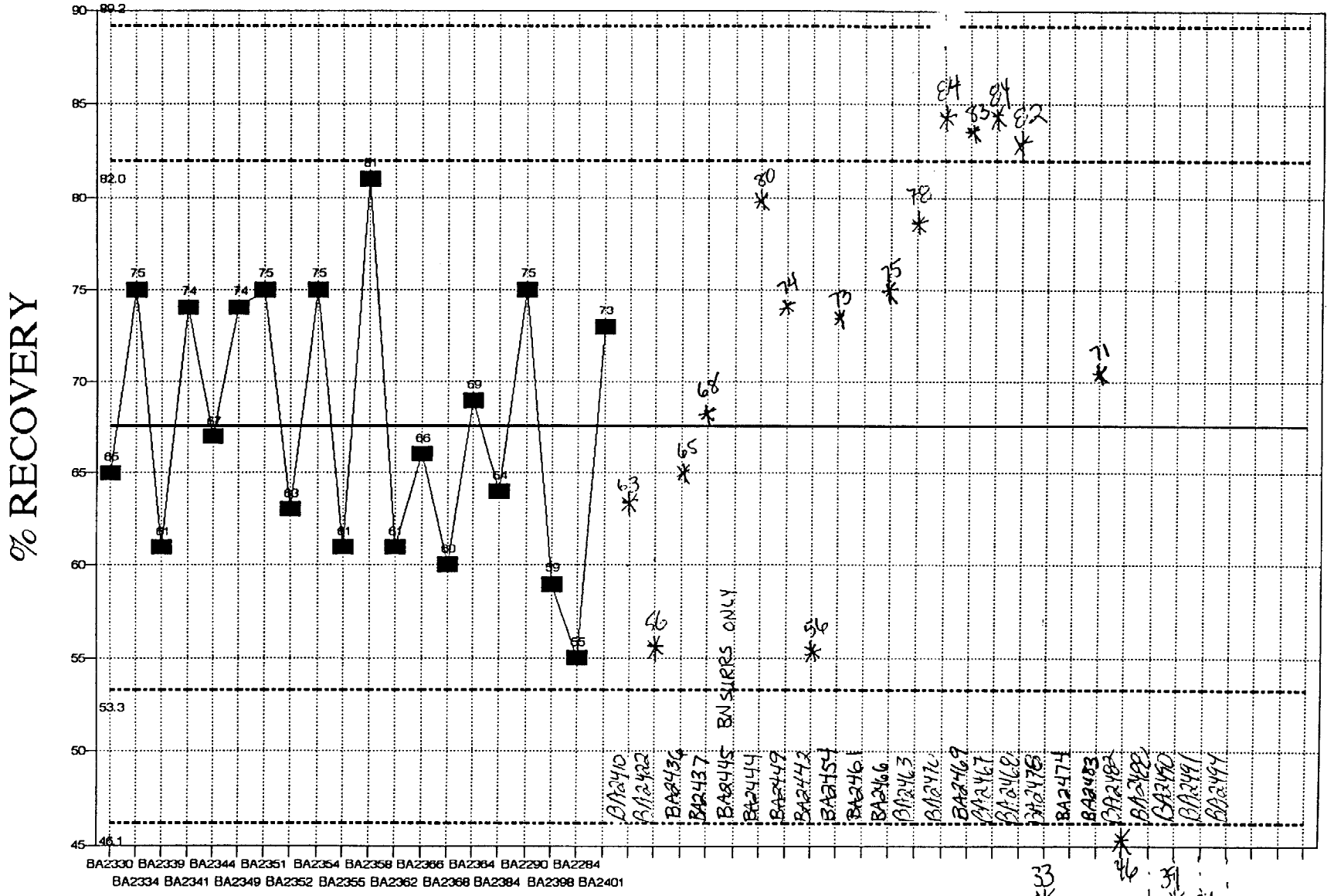
69	BC041493A	117	BE070794A	165	BC041295A	213	BG100195B2
70	BE052593B	118	BE070894A	166	BI042095B	214	BG100395A1
71	BE060193A	119	BC063094A	167	BI042195A	215	BG100495B2
72	BE060393A	120	BC072794A	168	BI042495A	216	BG100595A1
73	BC062193A	121	BD072794A	169	BC042595B	217	BG100695A1
74	BE051393A	122	BD072894A	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	

ABN WATER 3520/8270B, 2-FLUOROPHENOL SURR, LIMITS SET 8/95



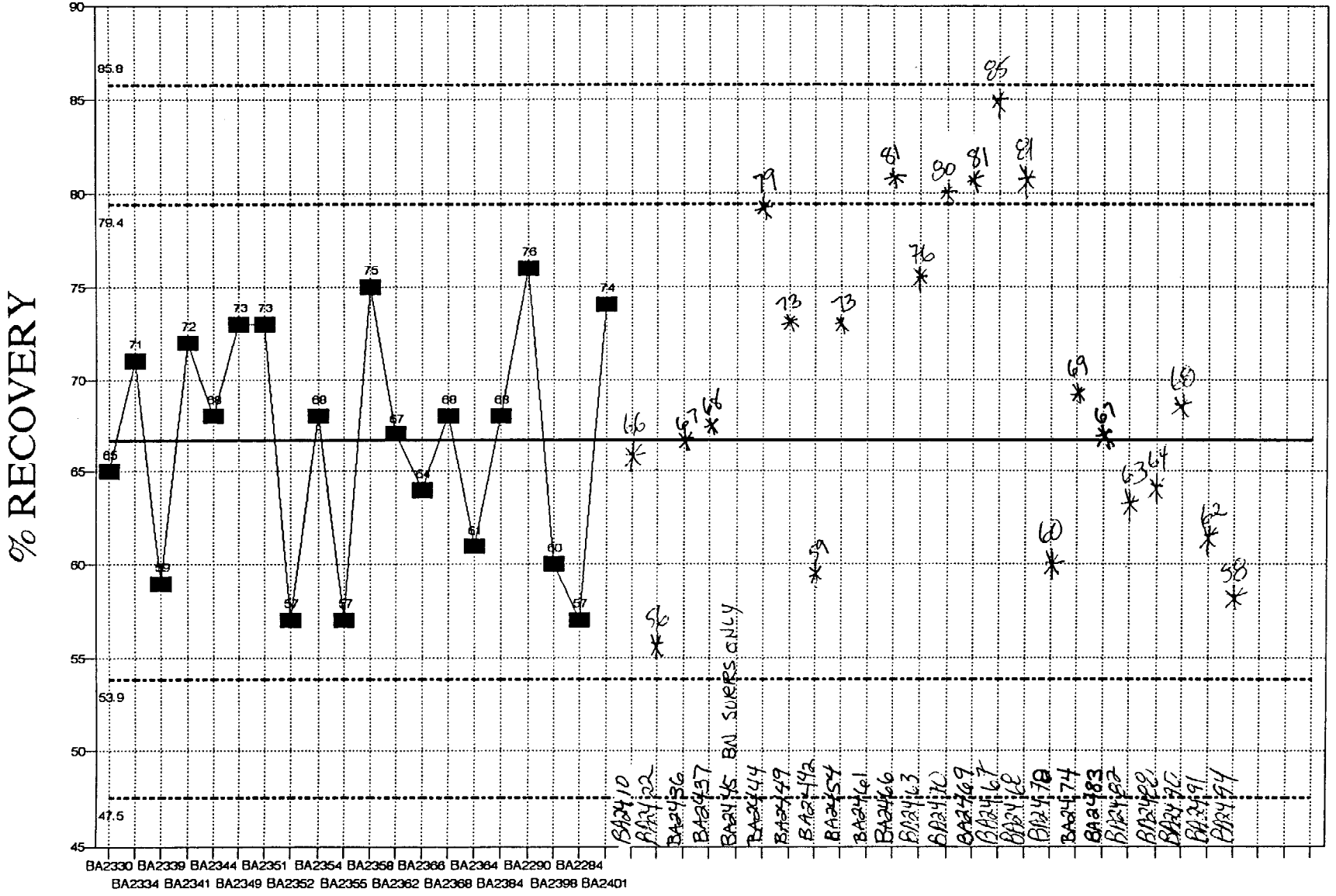
0000129

ABN WATER 3520/8270B, PHENOL-D5
SURR, LIMITS SET 8/95



STD DEV = 7.17 MEAN = 67.6

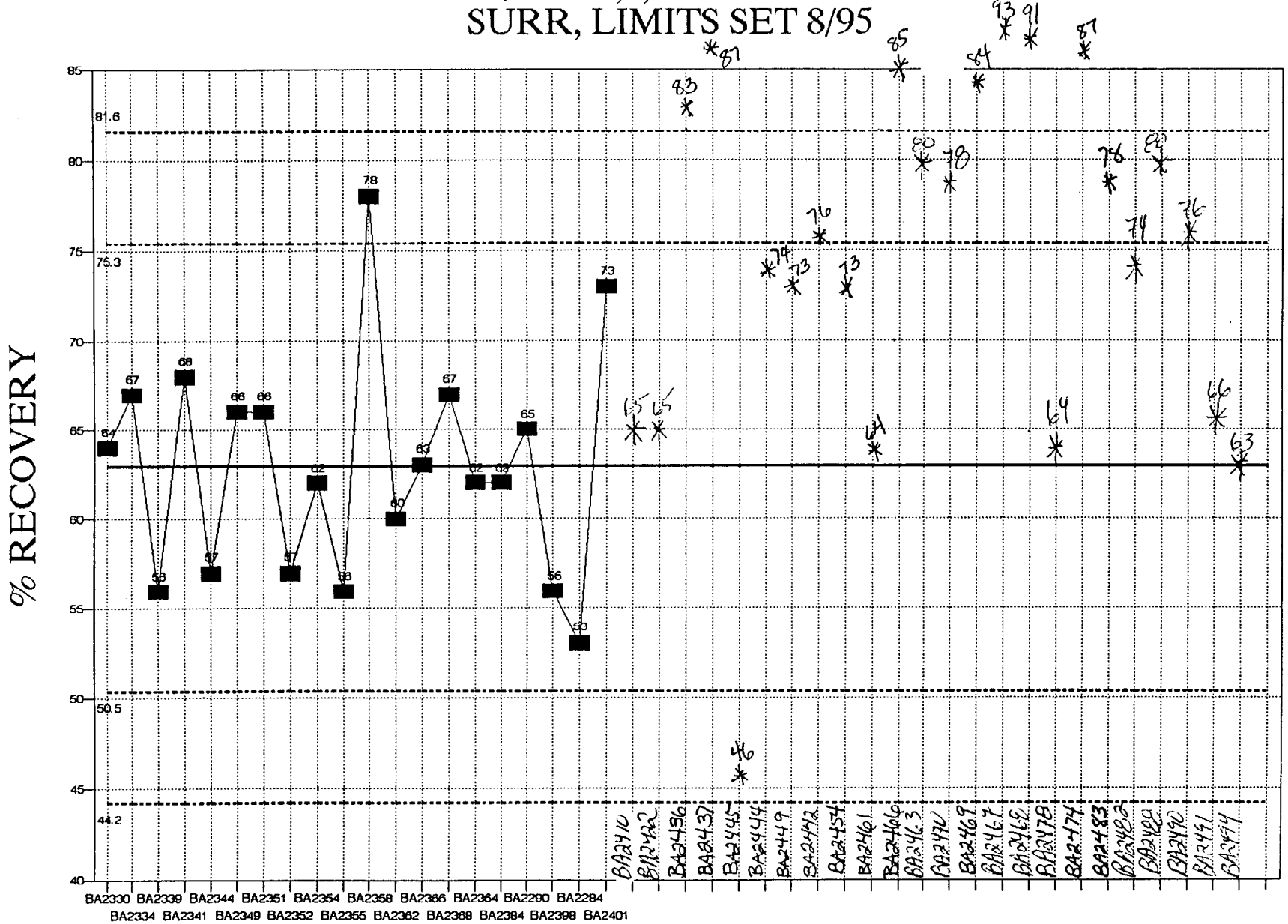
ABN WATER 3520/8270B, 2-CHLOROPHENOL-D4
SURR, LIMITS SET 8/95



STD DEV = 6.37 MEAN = 66.6

36

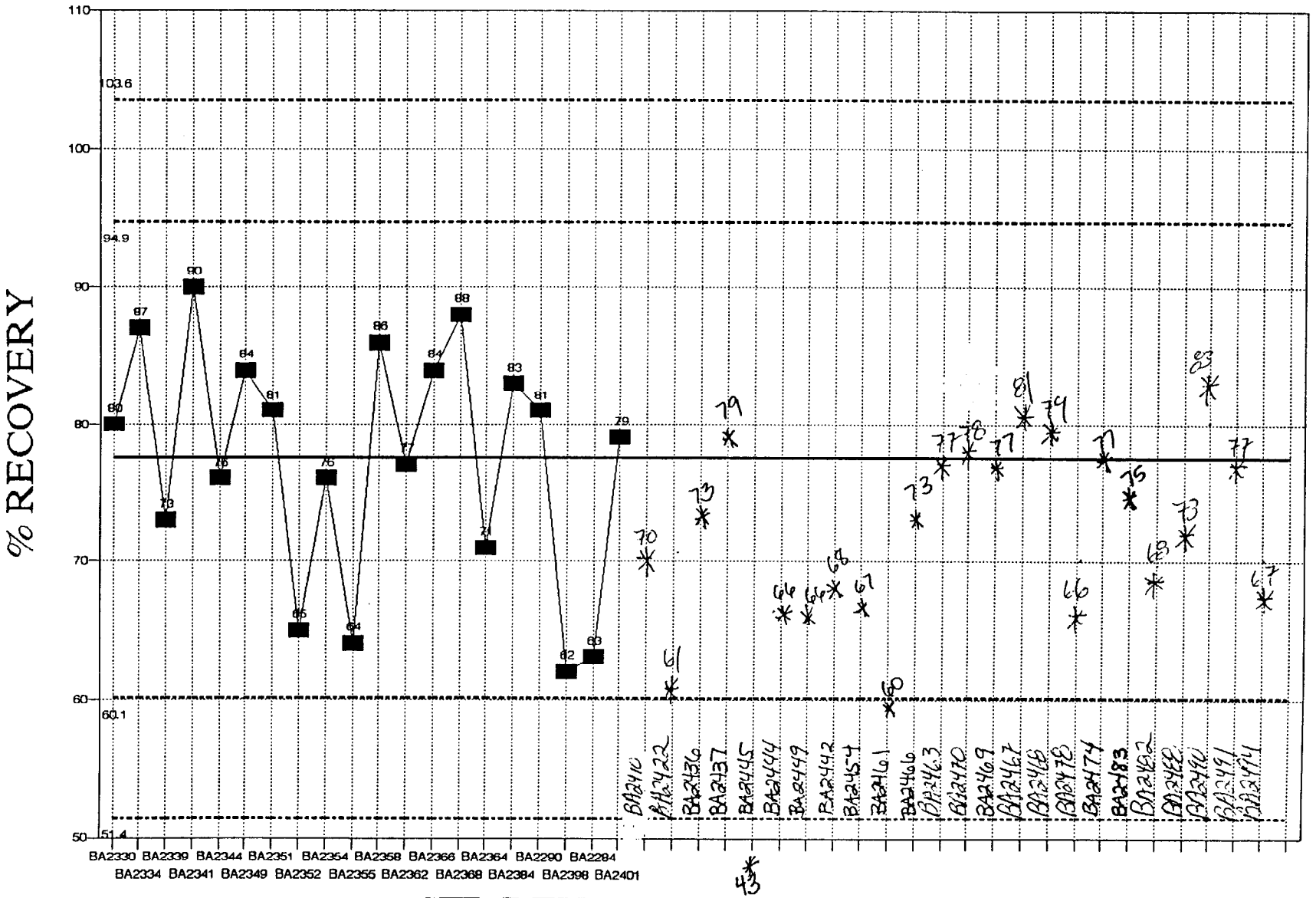
ABN H2O 3520/8270B,1,2-DICHLOROBENZENE-SURR, LIMITS SET 8/95



STD DEV = 6.22 MEAN = 62.9

00001132

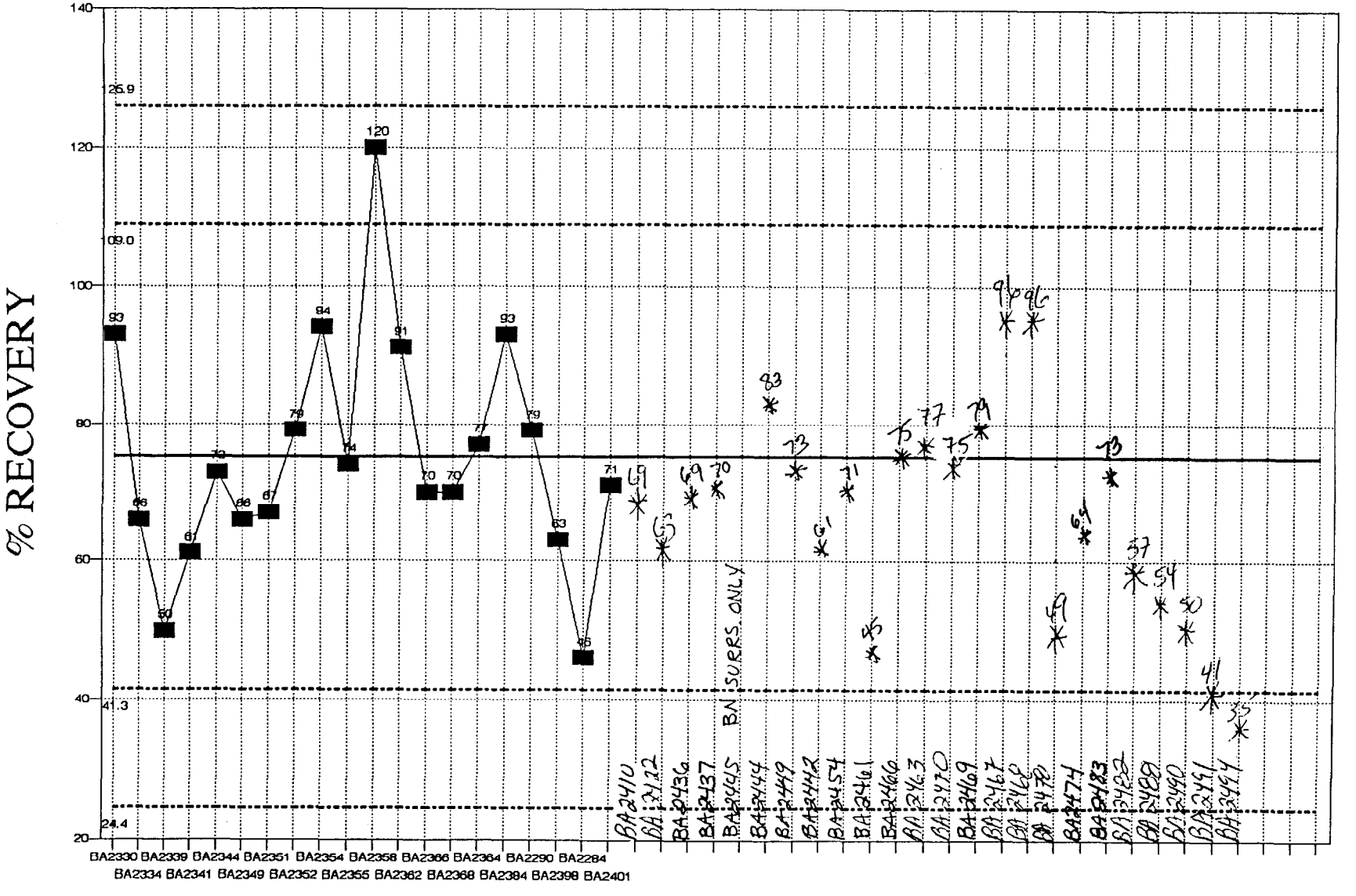
ABN H2O 3520/8270B, NITROBENZENE-D5
SURR, LIMITS SET 8/95



STD DEV = 8.68 MEAN = 77.5

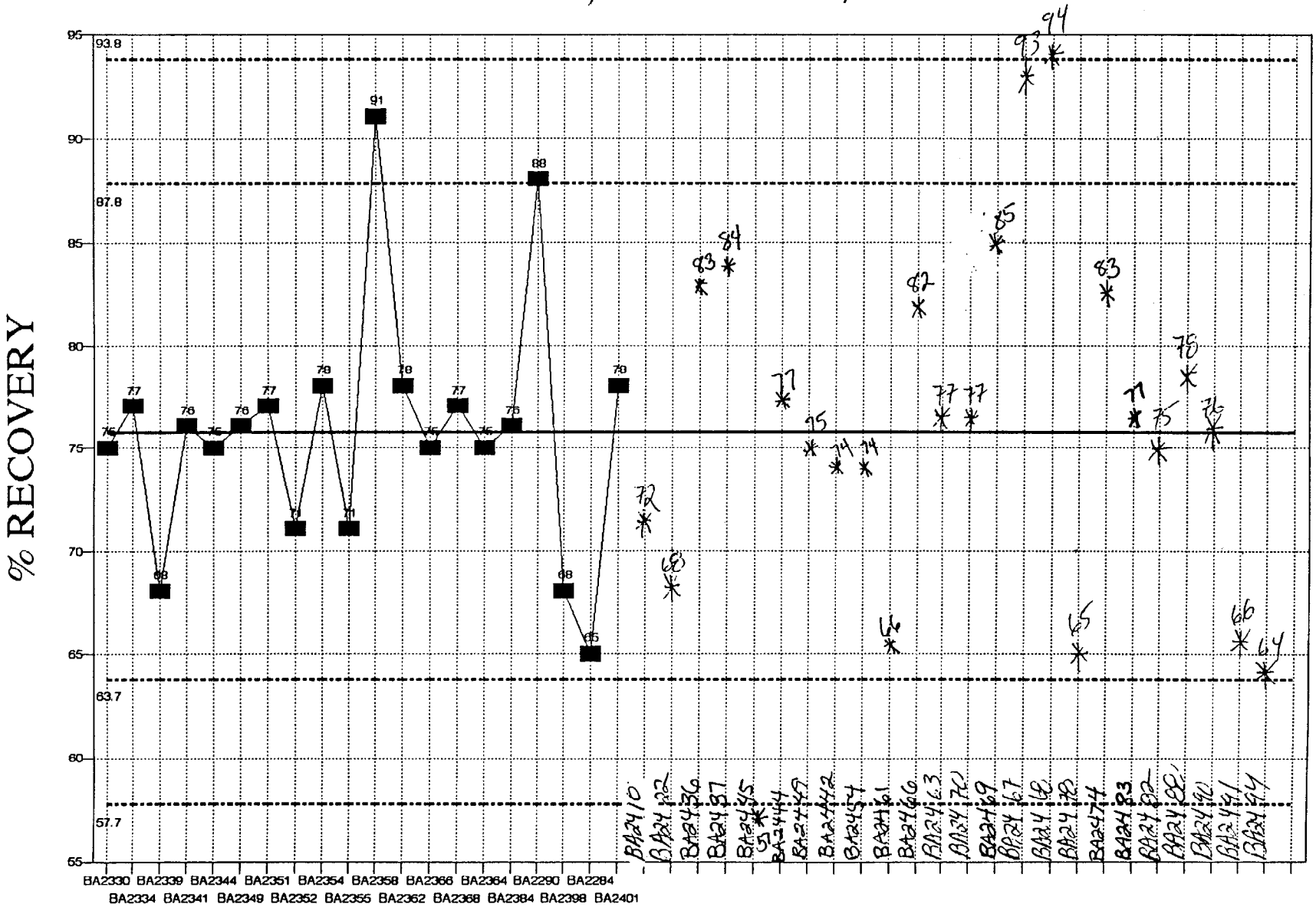
00001133

ABN H2O 3520/8270B,2,4,6-TRIBROMOPHENOL
SURR, LIMITS SET 8/95



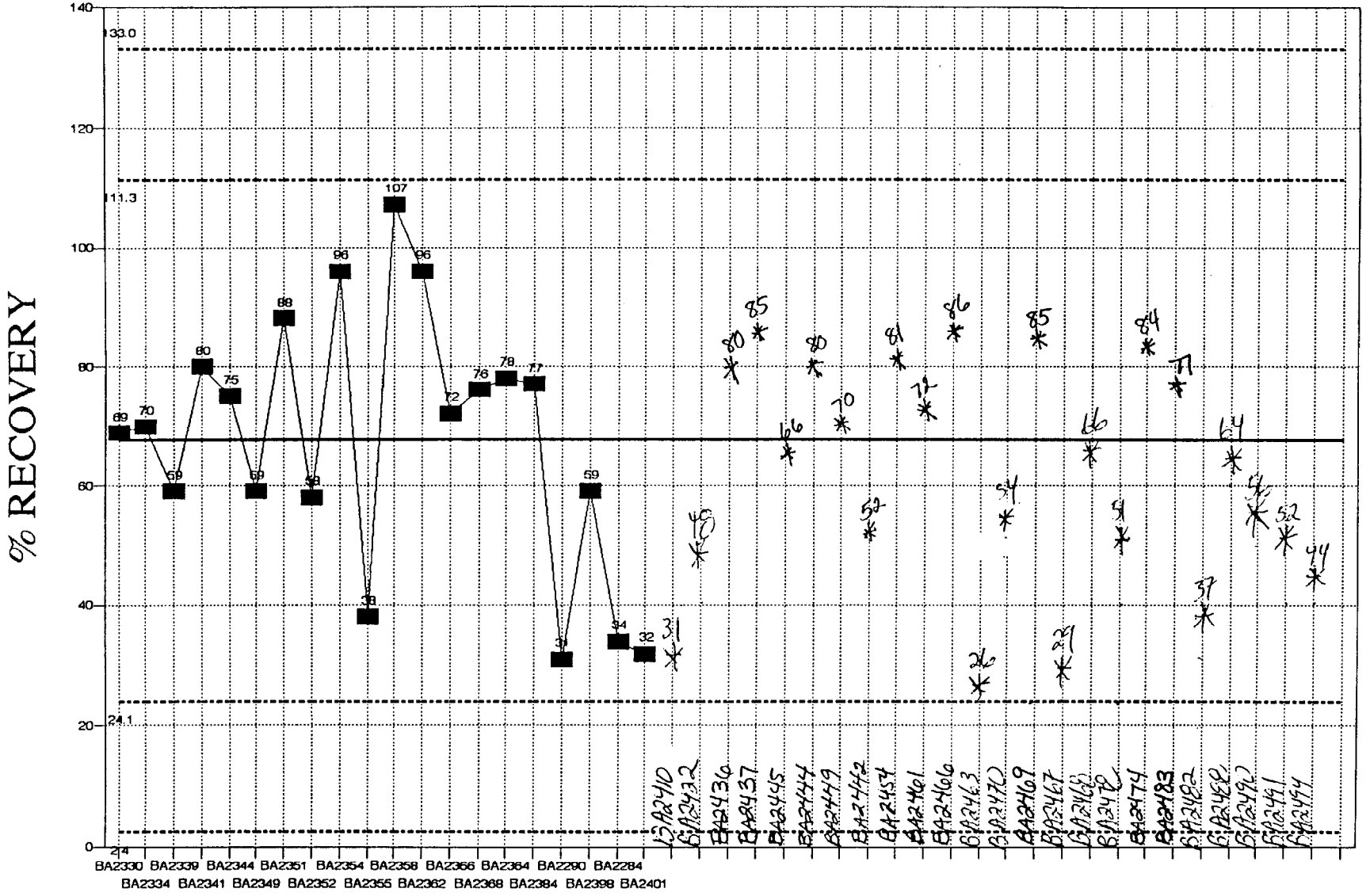
STD DEV = 16.9 MEAN = 75.2

ABN H2O 3520/8270B, 2-FLUOROBIPHENYL SURR, LIMITS SET 8/95



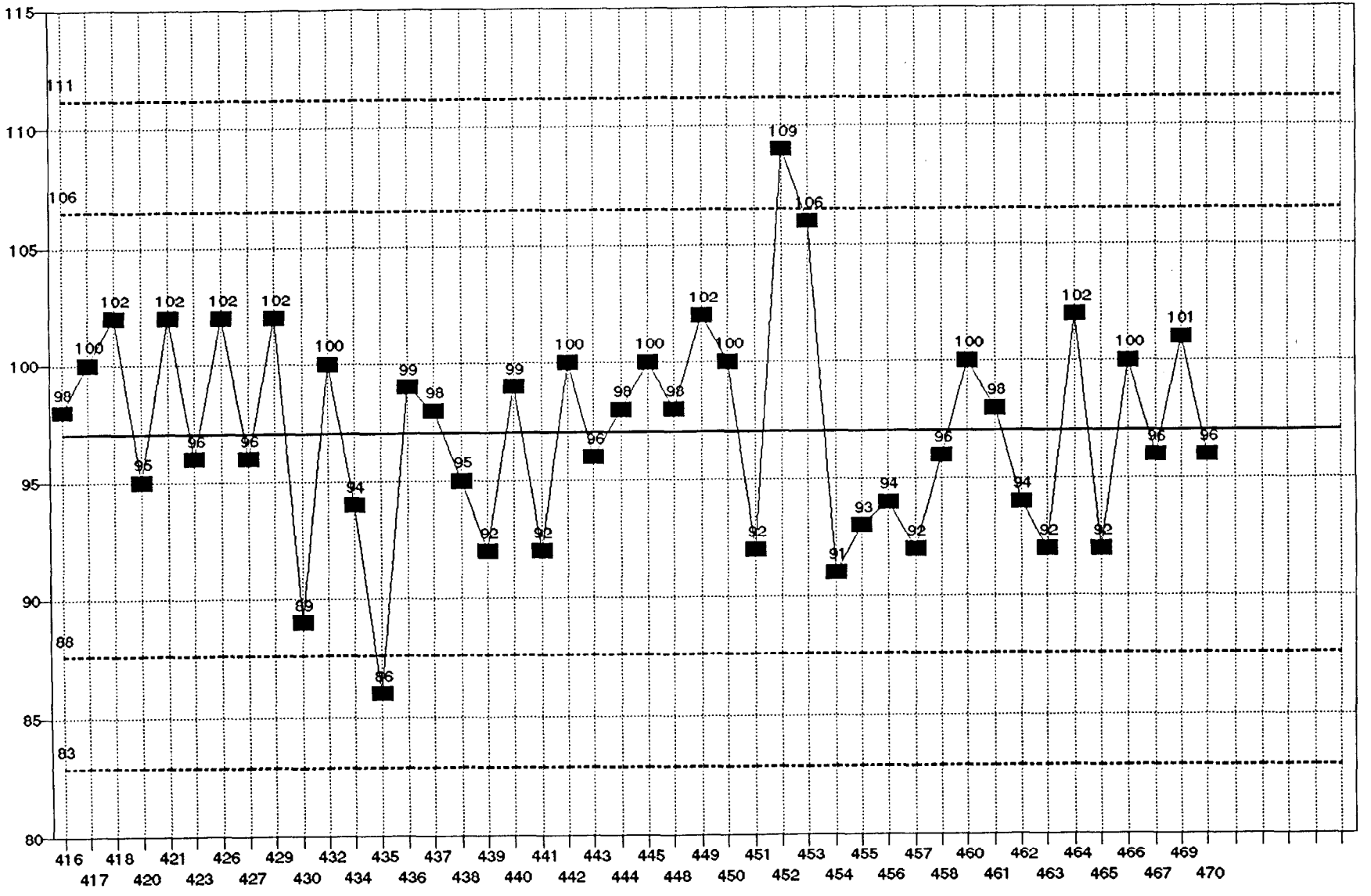
STD DEV = 6.01 MEAN = 75.8

ABN H2O 3520/8270B, TERPHENYL-D14
SURR, LIMITS SET 8/95



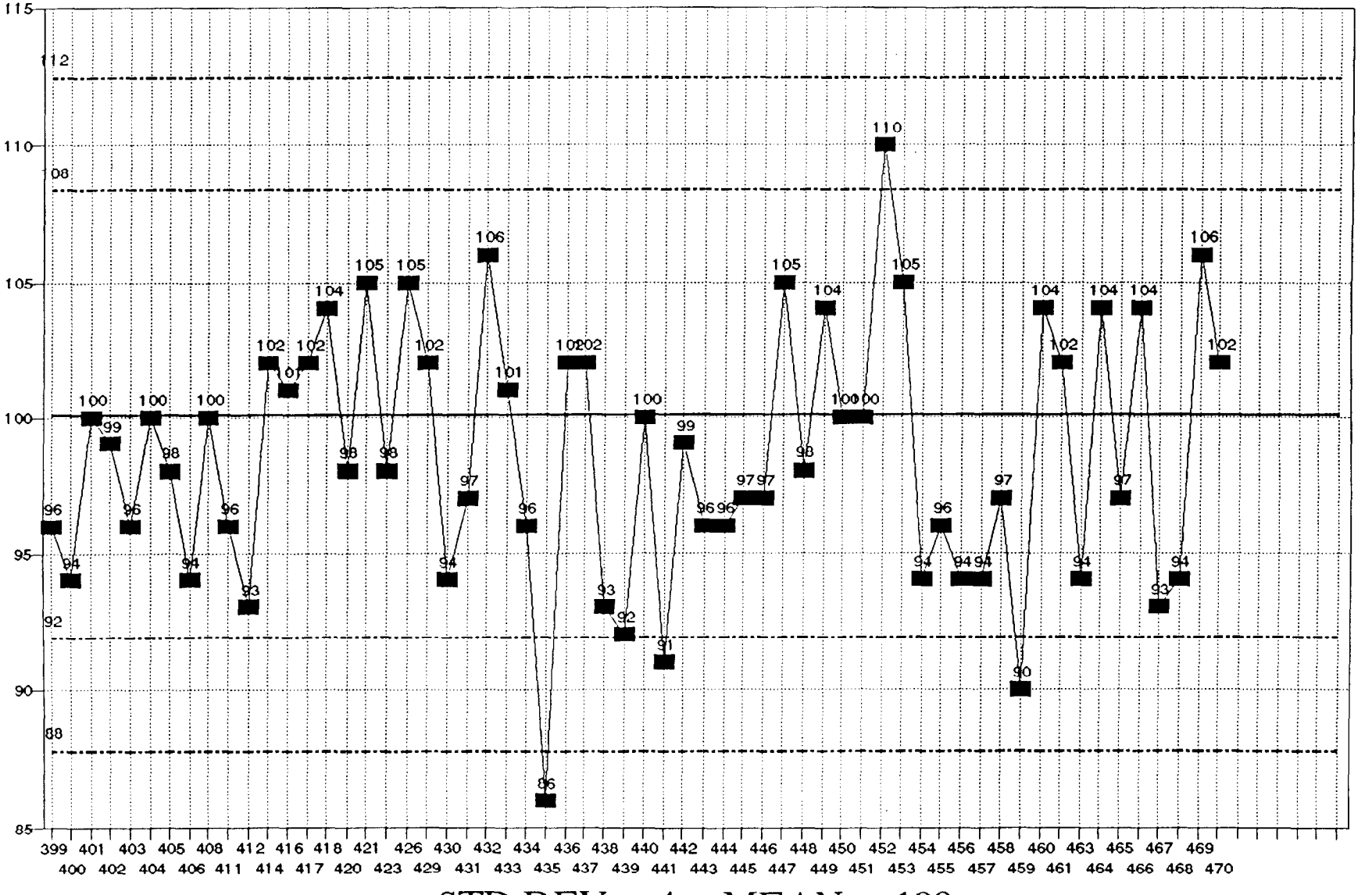
STD DEV = 21.8 MEAN = 67.7

As COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



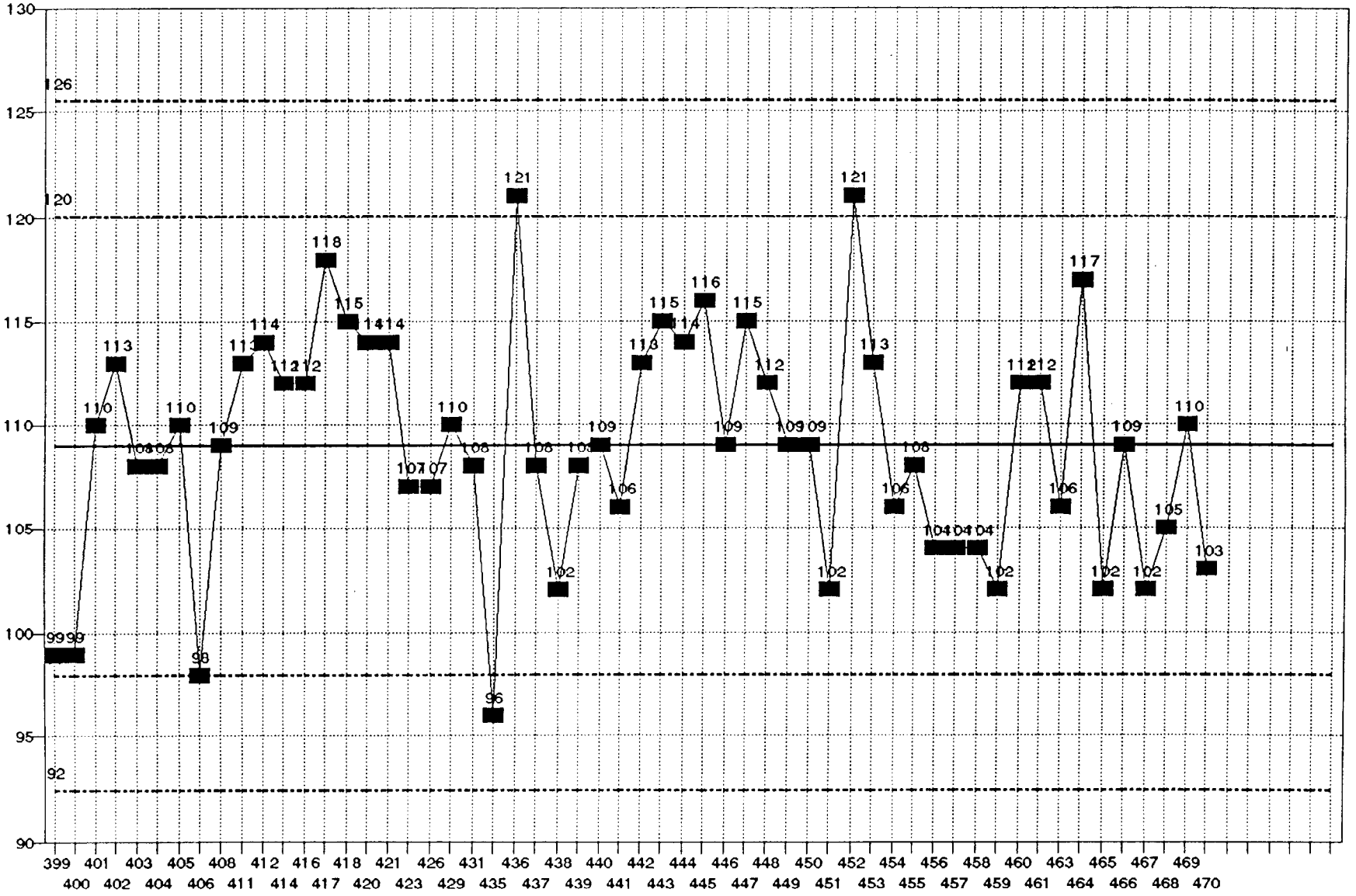
STD DEV = 5 MEAN = 97

Ba COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 9/95



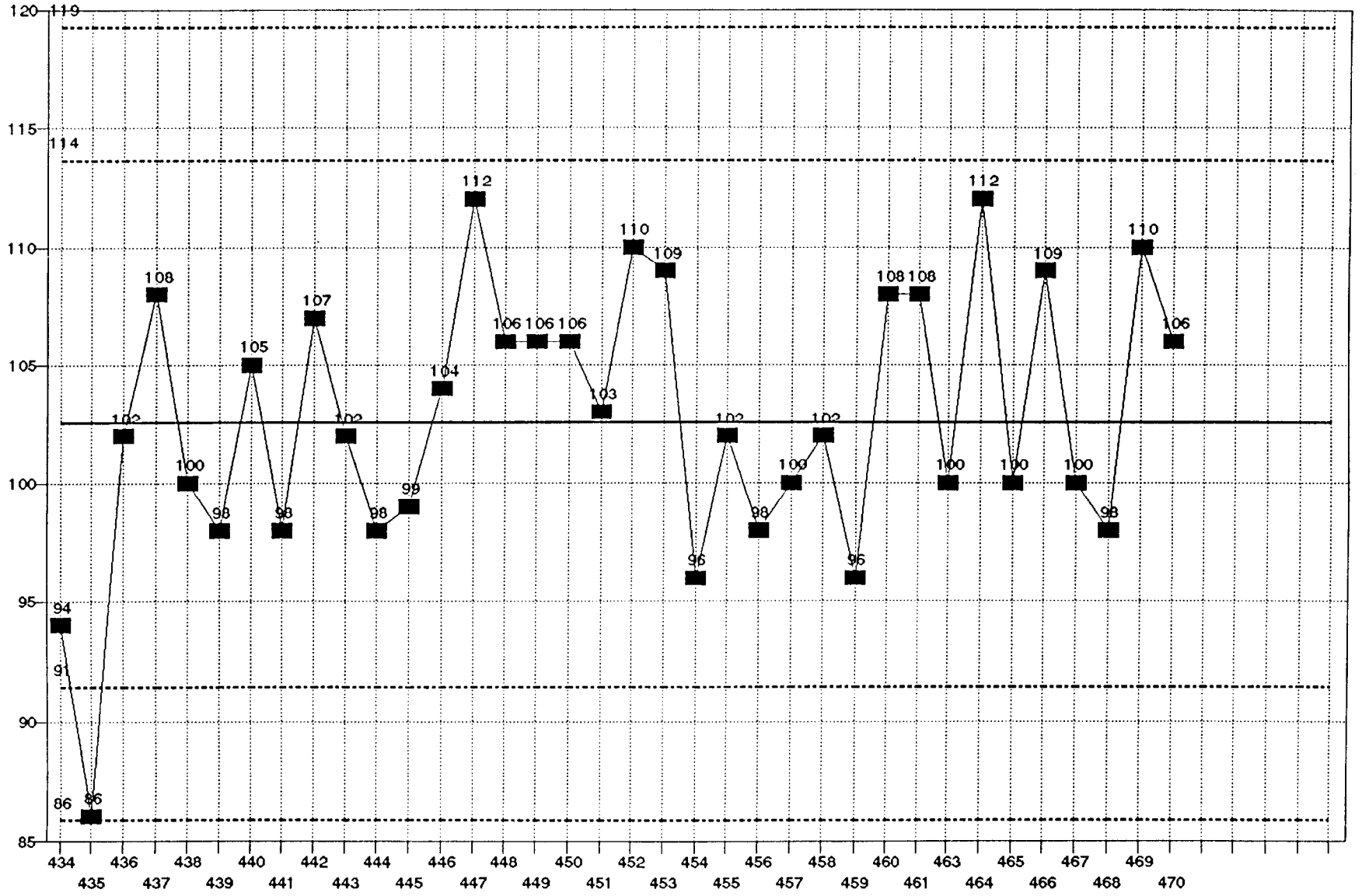
STD DEV = 4 MEAN = 100

Cd COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 7/95



STD DEV = 5.51 MEAN = 109

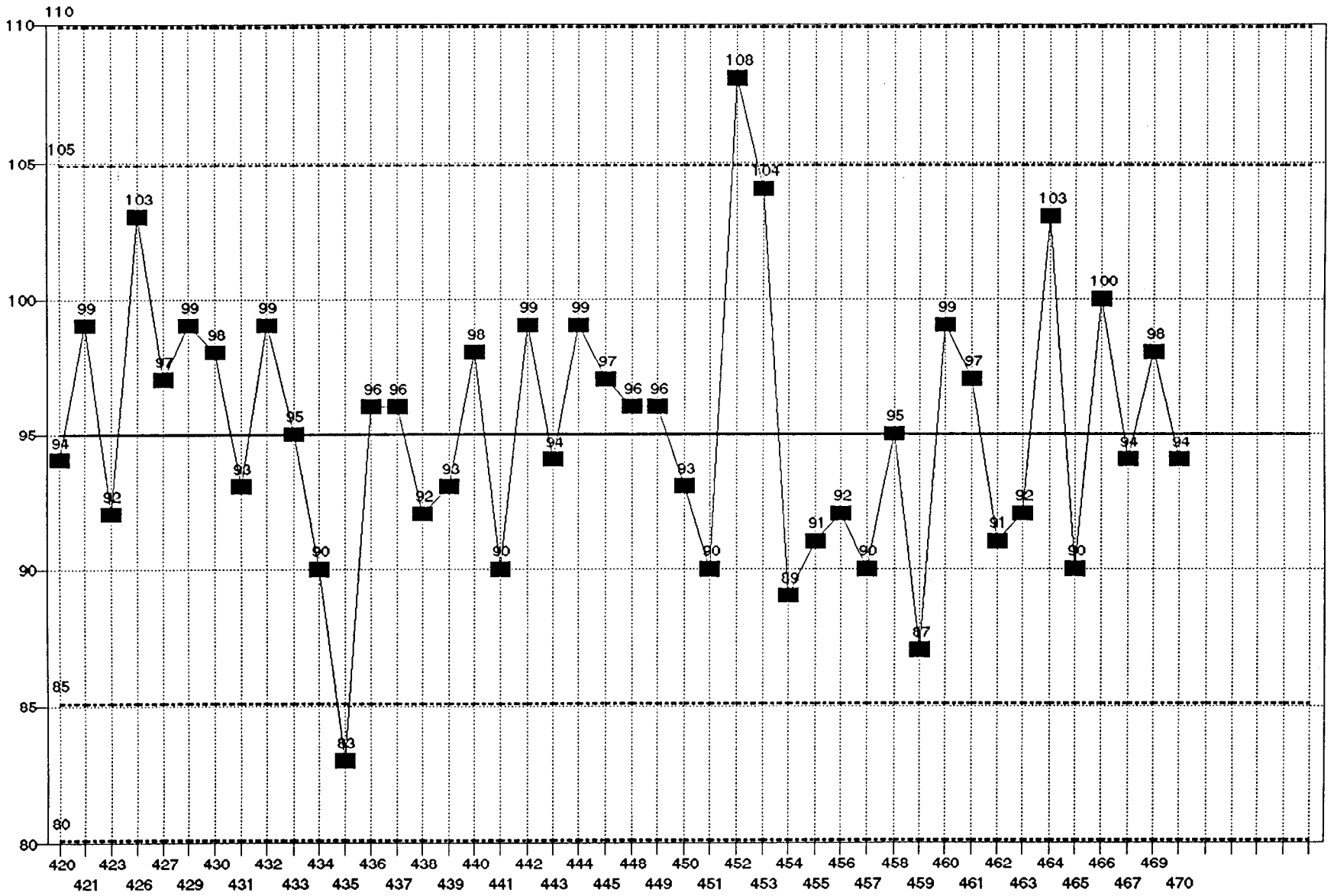
Cr COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



STD DEV = 6 MEAN = 103

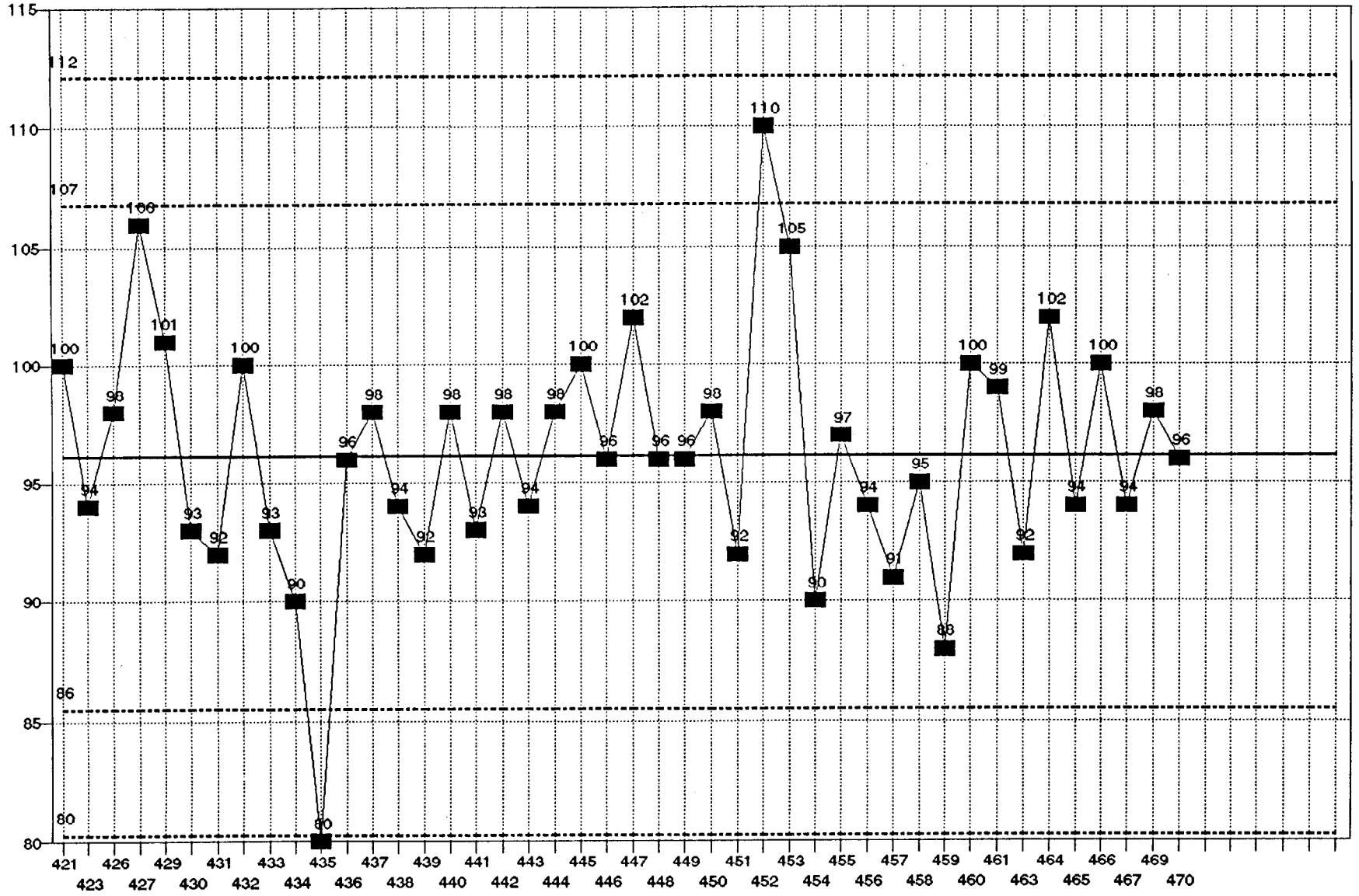
0000140

Pb COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



STD DEV = 5 MEAN = 95

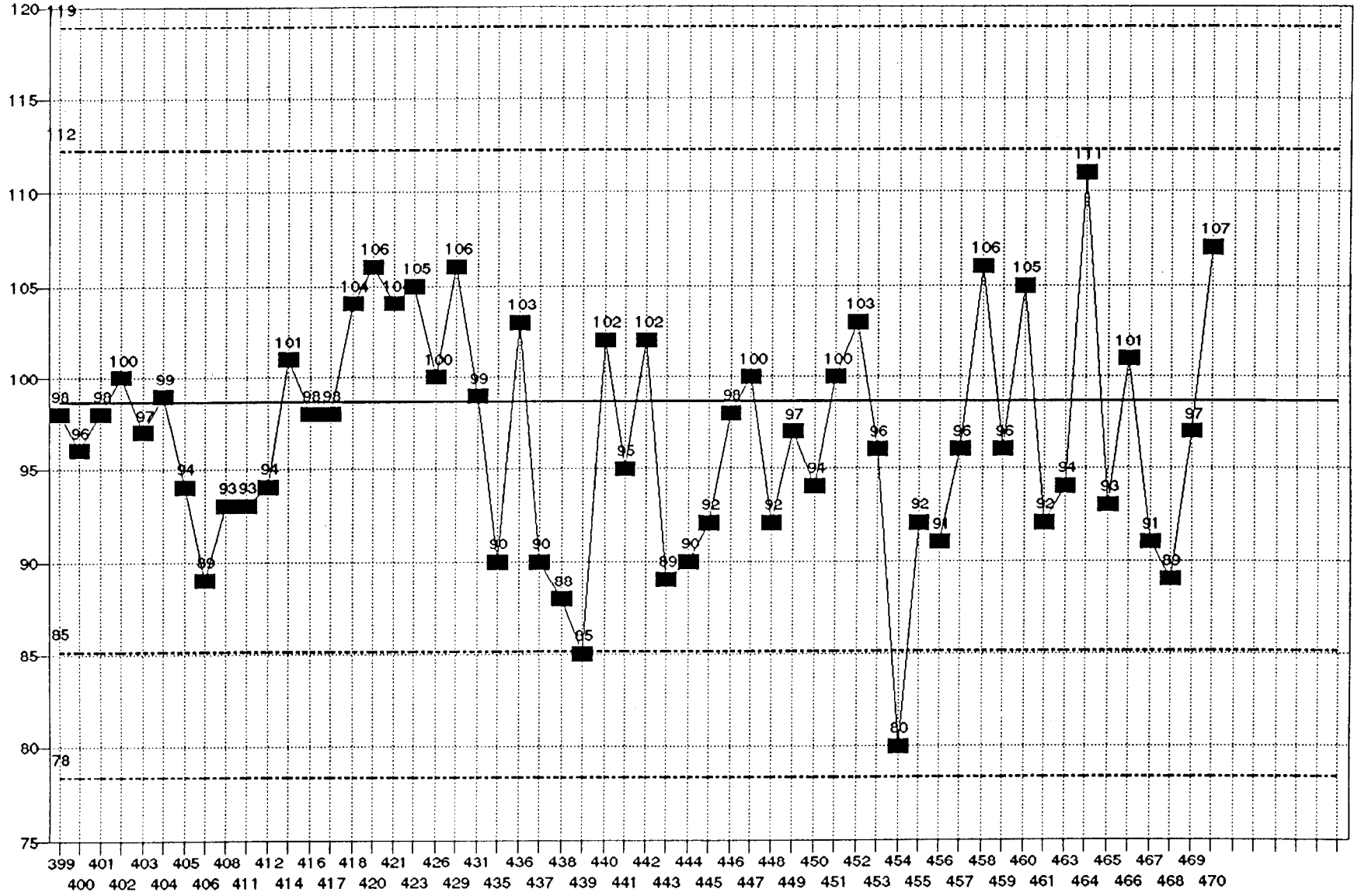
Se COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



STD DEV = 5 MEAN = 96

0000142

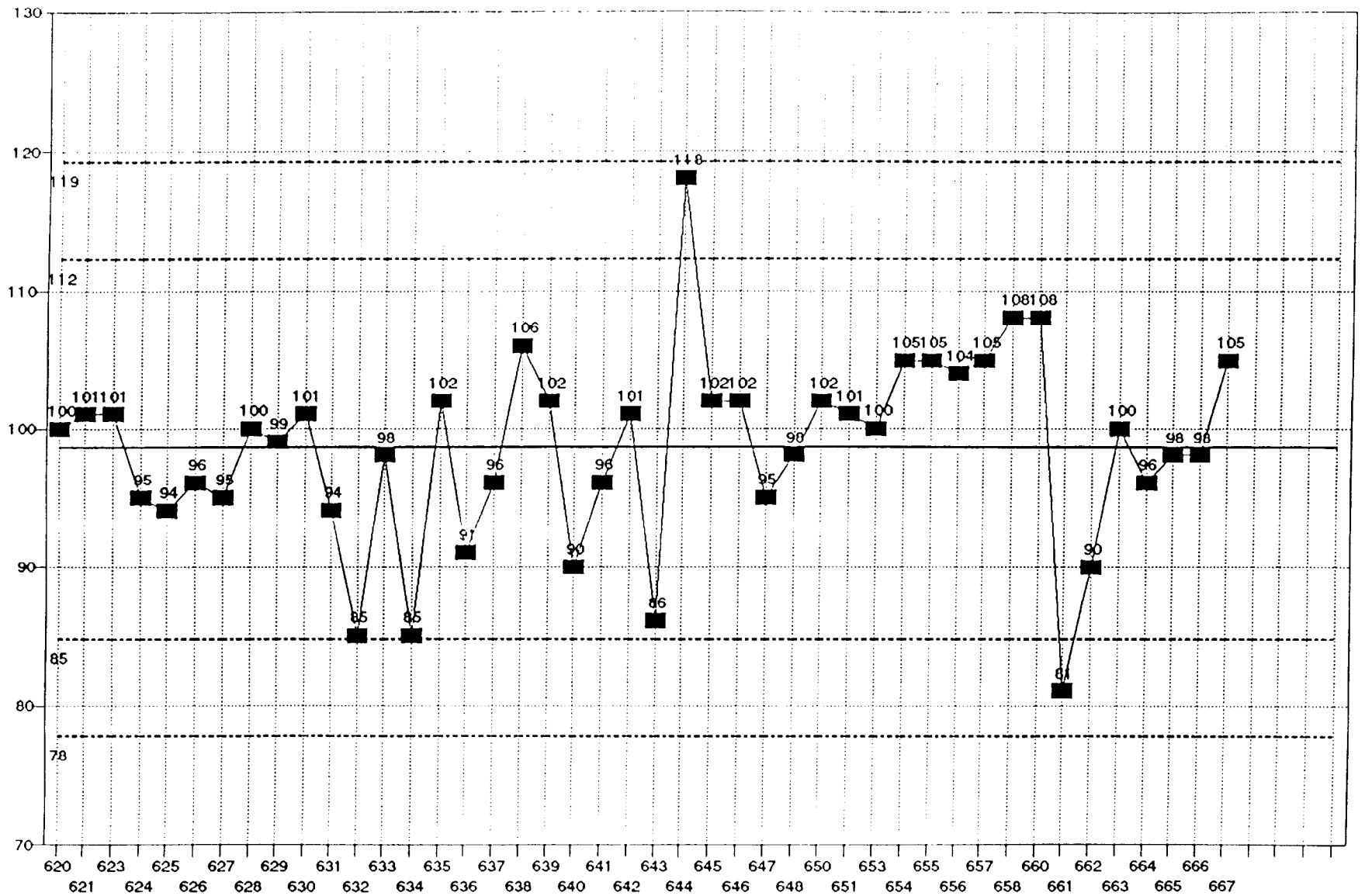
Ag COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 8/95



STD DEV = 7 MEAN = 99

0000143

Hg COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



STD DEV = 7 MEAN = 99

0000144

OHM Remediation Services Corp.

LAB COPY

CHAIN-OF-CUSTODY RECORD

Form 0019
Field Technical Services
Rev. 08/95

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

45614

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 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-1	X-5	X	X	X	-9			Please Do not analyze
2	CJ44-CU-083D	10/5	0800	X		Duplicate Clean Soil from Pile 20 of Area A.	4	X-2	X-6	X	X	X	-10			Rinsate Blank.
3	CJ44-CU-084	10/5	0810	X		Clean Soil from Pile 21 of Area A.	4	X-3	X-7	X	X	X	-11			
4	CJ44-CU-085	10/5	0815	X		Clean Soil from Pile 22 of Area A.	4	X-4	X-8	X	X	X	-12			
5	CJ44-CC-086	10/5	0825	X		Contaminated Soil from Pile 47 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																

Final Page

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-8	[signature]	Fed Ex	10/5	1100
2		Fed Ex	K. Lawson/Pace OH	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]

0000145

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

SDG Narrative
Case: OHMRC SDG: LJN34

October 30, 1995

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

SAMPLE DELIVERY GROUP NARRATIVE

Case: OHMRC
SDG: LJN34
Laboratory: PACE New England - New Hampshire of Hampton, NH
Lab Numbers: 45640
Protocol: SW846 Methods. NEESA E deliverables. No diskette.

Sample Receipt: These samples were received at PACE, Inc. on October 10, 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 10/10/95 (45640): Samples were received in one cooler and were assigned PACE# 45640 and 45641. 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# 45641 were logged in for a 3-day turnaround per the request on the COC. Samples assigned PACE Lab# 45640 were logged in for 24-hour turnaround per the request on the COC. The trip blank received with these samples contained pea-sized air bubbles.

GRO Analysis: Samples for gasoline range organics were diluted and subsequently have elevated detection limits due to matrix interference.

DRO Analysis: The method 8015 blanks contained low levels of non-target interference. The sample results should be used with due consideration.

Laboratory number 45640-17 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.

Volatiles 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

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 D Ullman — 10/30/95

PACE Incorporated, New England-New Hampshire — October 30, 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# 45640
PAGE 1 of 1
COOLER ____ of ____
COC# ____
SDG# L1N34
CASE# otherRe

CLIENT OHM Remediation Services Corp.
DATE/TIME RECEIVED 10/10/95 0930 LIMS ENTRY BY GNF
DELIVERED BY Fed Ex TRANSCRIPTION REVIEW BY GNF
RECEIVED BY Cristine Frankum LIMS REVIEW BY/PM GNF

		NA	YES	EXCEPTION	COMMENT	RESOLUTION
1.	CUSTODY SEALS PRESENT/INTACT	☐	☐	☑	Cooler sealed with Duct tape	
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 - 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:

V 10-11

Trip Blank contains 2 bottles the rest 3 per

CLIENT AUTHORIZATION SIGNATURE ____ DATE ____

SAMPLE TABLE

CLIENT ID.	MATRIX	PACE #	PARAMETERS
CLJ44-CC-091	SOLID	45640-001	TOTAL GASOLINE
		45640-010	OIL & GREASE BY GRAVIMETRY
			TOTAL DIESEL
CLJ44-CC-092	SOLID	45640-002	TOTAL GASOLINE
		45640-011	OIL & GREASE BY GRAVIMETRY
			TOTAL DIESEL
CLJ44-CC-093	SOLID	45640-003	TOTAL GASOLINE
		45640-012	OIL & GREASE BY GRAVIMETRY
			TOTAL DIESEL
CLJ44-CC-094	SOLID	45640-004	TOTAL GASOLINE
		45640-013	OIL & GREASE BY GRAVIMETRY
			TOTAL DIESEL
CLJ44-CC-095	SOLID	45640-005	TOTAL GASOLINE
		45640-014	OIL & GREASE BY GRAVIMETRY
			TOTAL DIESEL
CLJ44-CC-096	SOLID	45640-006	TOTAL GASOLINE
		45640-015	OIL & GREASE BY GRAVIMETRY
			TOTAL DIESEL
CLJ44-CC-097	SOLID	45640-007	TOTAL GASOLINE
		45640-016	OIL & GREASE BY GRAVIMETRY
			TOTAL DIESEL
CLJ44-CC-098-RB	WATER	45640-008	TOTAL GASOLINE
		45640-017	TOTAL DIESEL
CLJ44-CC-099-TB	WATER	45640-009	TOTAL GASOLINE
		45640-018	GC/MS VOA

pace INCORPORATED
THE ASSURANCE OF QUALITY

Field Identification: CLJ44-CC-091 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	180	67	45640-001	10/10/95	BG1044A	8015(mod)/2
Total Diesel (ug/g)	4700	110	45640-010	10/11/95		8015(mod),3350/2
Oil and Grease by Gravimetry (ug/g)	3100	260	45640-010	10/11/95	BG1390	9071,503D/2,3

Field Identification: CLJ44-CC-092 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	87	25	45640-002	10/13/95	BG1044A	8015(mod)/2
Total Diesel (ug/g)	4000	110	45640-011	10/11/95		8015(mod),3350/2
Oil and Grease by Gravimetry (ug/g)	3500	260	45640-011	10/11/95	BG1390	9071,503D/2,3

Field Identification: CLJ44-CC-093 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	110	27	45640-003	10/13/95	BG1044A	8015(mod)/2
Total Diesel (ug/g)	4100	110	45640-012	10/12/95		8015(mod),3350/2
Oil and Grease by Gravimetry (ug/g)	2700	280	45640-012	10/11/95	BG1390	9071,503D/2,3

Field Identification: CLJ44-CC-094 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	250	64	45640-004	10/10/95	BG1044A	8015(mod)/2
Total Diesel (ug/g)	6100	110	45640-013	10/12/95		8015(mod),3350/2
Oil and Grease by Gravimetry (ug/g)	4100	270	45640-013	10/11/95	BG1390	9071,503D/2,3

Field Identification: CLJ44-CC-095 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	230	61	45640-005	10/10/95	BG1044A	8015(mod)/2
Total Diesel (ug/g)	4700	110	45640-014	10/12/95		8015(mod),3350/2
Oil and Grease by Gravimetry (ug/g)	3100	280	45640-014	10/11/95	BG1390	9071,503D/2,3

Results expressed on a dry weight basis.

pace INCORPORATED THE ASSURANCE OF QUALITY

Field Identification: CLJ44-CC-096 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	200	63	45640-006	10/10/95	BG1044A	8015(mod)/2
Total Diesel (ug/g)	5800	110	45640-015	10/12/95		8015(mod),3350/2
Oil and Grease by Gravimetry (ug/g)	3300	270	45640-015	10/11/95	BG1390	9071,503D/2,3

Field Identification: CLJ44-CC-097 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	280	72	45640-007	10/10/95	BG1044A	8015(mod)/2
Total Diesel (ug/g)	3700	120	45640-016	10/12/95		8015(mod),3350/2
Oil and Grease by Gravimetry (ug/g)	2200	290	45640-016	10/11/95	BG1390	9071,503D/2,3

Field Identification: CLJ44-CC-098-RB Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/L)	BDL	100	45640-008	10/11/95		8015(mod)/2
Total Diesel (ug/L)	180	100	45640-017	10/11/95		8015(mod),3350/2

Field Identification: CLJ44-CC-099-TB Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/L)	BDL	100	45640-009	10/11/95		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

BLANK DATA

Laboratory Number: BG1044
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/10/95
Matrix: SOLID

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

MATRIX SPIKE RECOVERY

Laboratory Number: LS-G1044
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/10/95
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: BG101195TGA
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/11/95
Matrix: WATER

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

MATRIX SPIKE DUPLICATE RECOVERY

Laboratory Number: LW101195TGA
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
GASOLINE	0	500	559	112

METHOD REFERENCE: METHOD 8015 (MODIFIED)

pace INCORPORATED
THE ASSURANCE OF QUALITY

QUALITY CONTROL DATA
PETROLEUM HYDROCARBONS BY GCFID

BLANK DATA

Laboratory Number: B-H1416
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/10/95
Matrix: SOLID

HYDROCARBON TYPE	CONCENTRATION ug/g	DETECTION LIMIT ug/g
DIESEL	13	10

MATRIX SPIKE RECOVERY

Laboratory Number: LSH1416
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/10/95
Matrix: SOLID

COMPOUND	ug/g SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
DIESEL	0	101	73.8	73

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-H1418
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/11/95
Matrix: WATER

HYDROCARBON TYPE	CONCENTRATION ug/L	DETECTION LIMIT ug/L
DIESEL	103	100

MATRIX SPIKE RECOVERY

Laboratory Number: LSH1418
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/11/95
Matrix: SOLID

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
DIESEL	0	1007	654	65

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

pace INCORPORATED
THE ASSURANCE OF QUALITY

QUALITY CONTROL
OIL & GREASE

BLANK DATA

Laboratory Number: B-G1390
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/11/95
Matrix: SOLID

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

MATRIX SPIKE RECOVERY

Laboratory Number: LS-G1390
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/11/95
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

Laboratory number: 45640-018
Sample Designation: CLJ44-CC-099-TB
Date Analyzed: 10/11/95
Matrix: WATER

Instrument File Name: >G5048

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

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: BG101095D2
Sample Designation: LAB BLANK
Date Analyzed: 10/10/95
Matrix: WATER

Instrument File Name: >G5042

VOLATILE ORGANICS	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Chloromethane	BDL	10
Bromomethane	BDL	10
Vinyl chloride	BDL	10
Chloroethane	BDL	5.0
Methylene chloride	BDL	10
Acetone	BDL	25
Carbon disulfide	BDL	5.0
Trichlorofluoromethane	BDL	5.0
1,1-Dichloroethene	BDL	5.0
Tetrahydrofuran	BDL	25
1,1-Dichloroethane	BDL	5.0
1,2-Dichloroethene (total)	BDL	5.0
Chloroform	BDL	5.0
Methyl ethyl ketone	BDL	25
1,2-Dichloroethane	BDL	5.0
1,1,1-Trichloroethane	BDL	5.0
Carbon Tetrachloride	BDL	5.0
Vinyl acetate	BDL	10
Bromodichloromethane	BDL	5.0
cis-1,3-Dichloropropene	BDL	5.0
trans-1,3-Dichloropropene	BDL	5.0
Trichloroethene	BDL	5.0
Benzene	BDL	5.0
Dibromochloromethane	BDL	5.0
1,1,2-Trichloroethane	BDL	5.0
1,2-Dichloropropane	BDL	5.0
2-Chloroethyl vinyl ether	BDL	5.0
Bromoform	BDL	5.0
Methyl isobutyl ketone	BDL	25
2-Hexanone	BDL	25
1,1,2,2-Tetrachloroethane	BDL	5.0
Tetrachloroethene	BDL	5.0
Toluene	BDL	5.0
Chlorobenzene	BDL	5.0
Ethylbenzene	BDL	5.0
Xylene (total)	BDL	5.0
Styrene	BDL	5.0

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

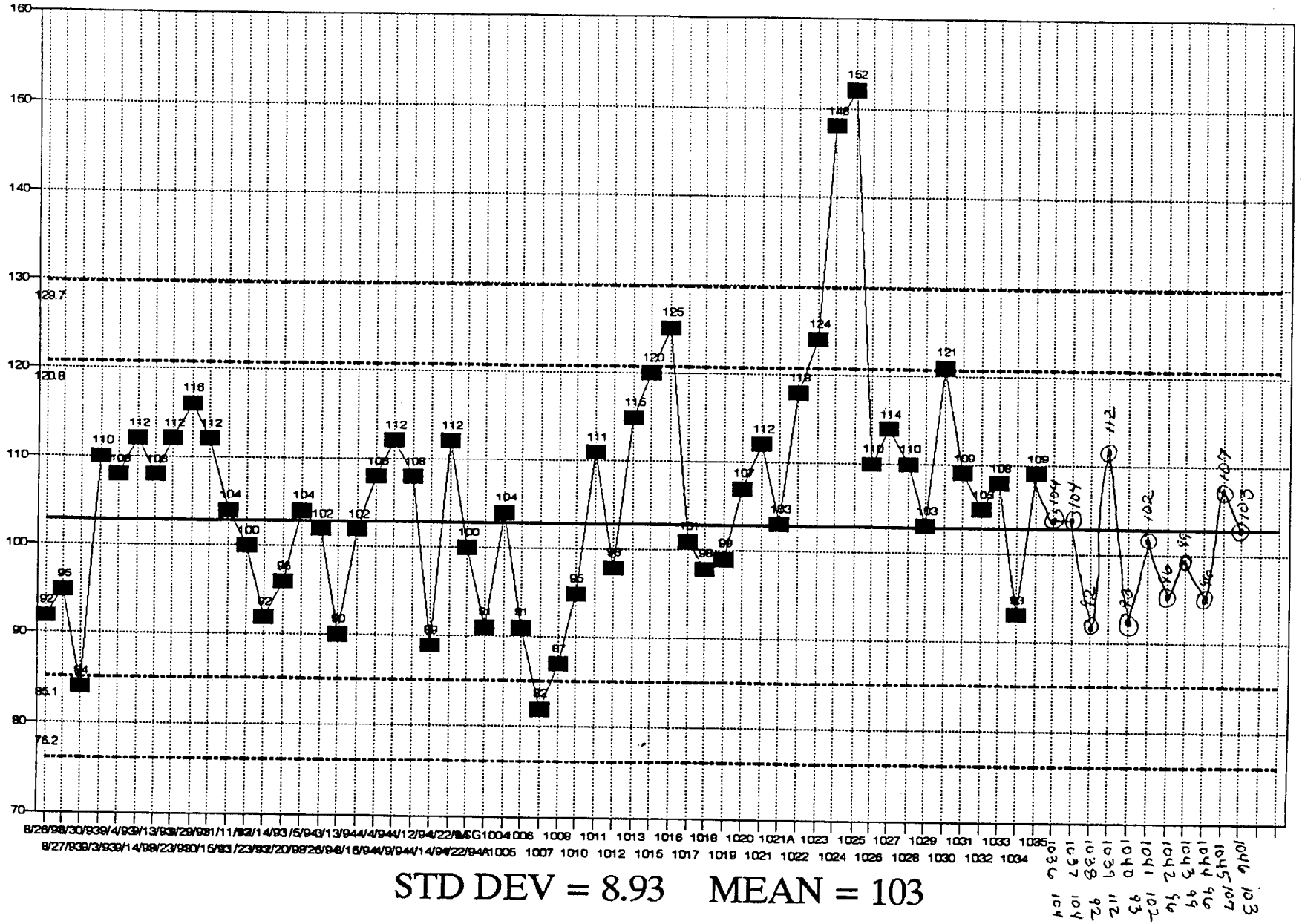
Laboratory Number: LCG101095A2
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/10/95
Matrix: WATER

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

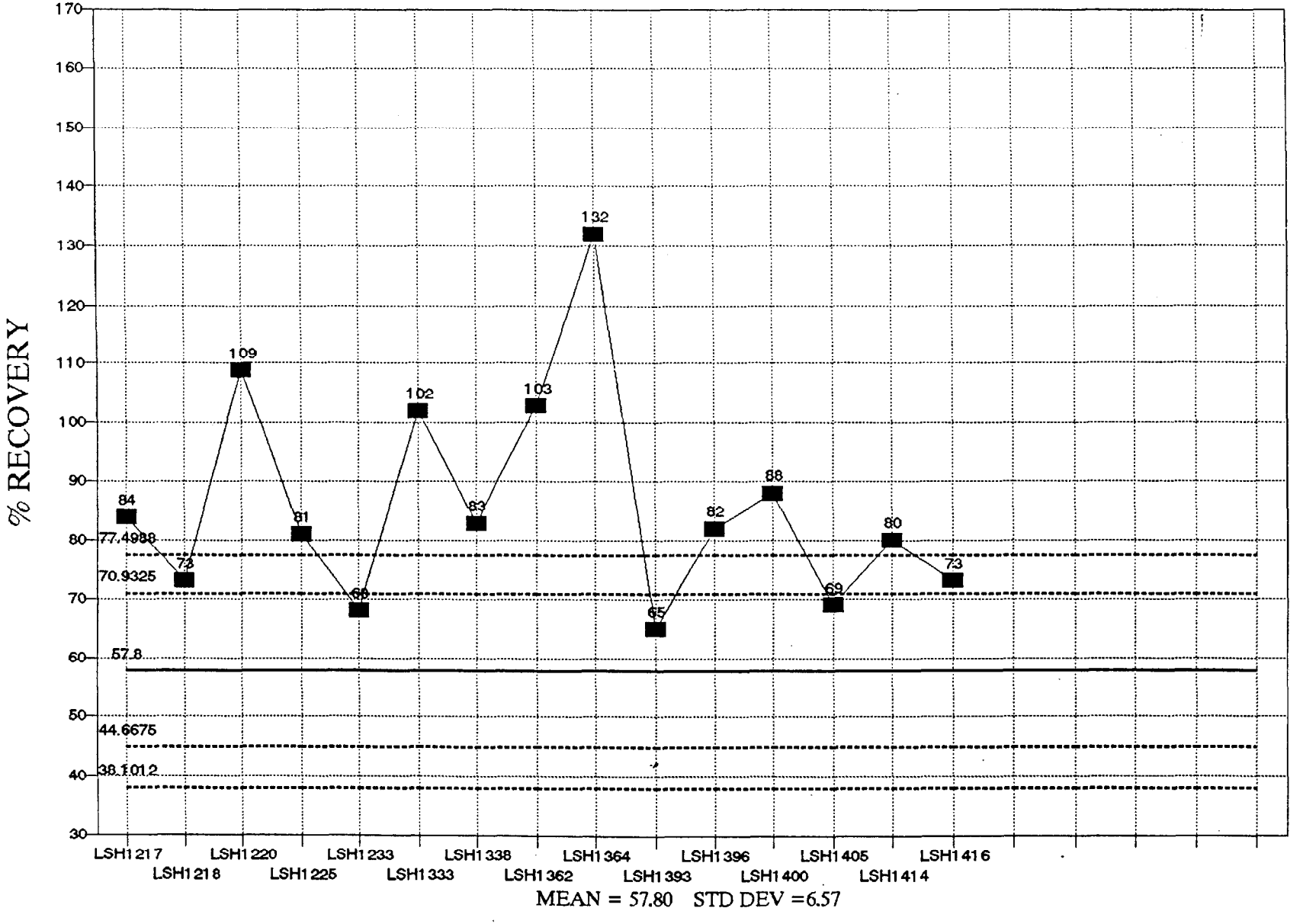
TOTAL GAS LCS RECOVERIES
LIMITS SET 4/13/94



STD DEV = 8.93 MEAN = 103

PHC MEDIUM SOLIDS - DIESEL

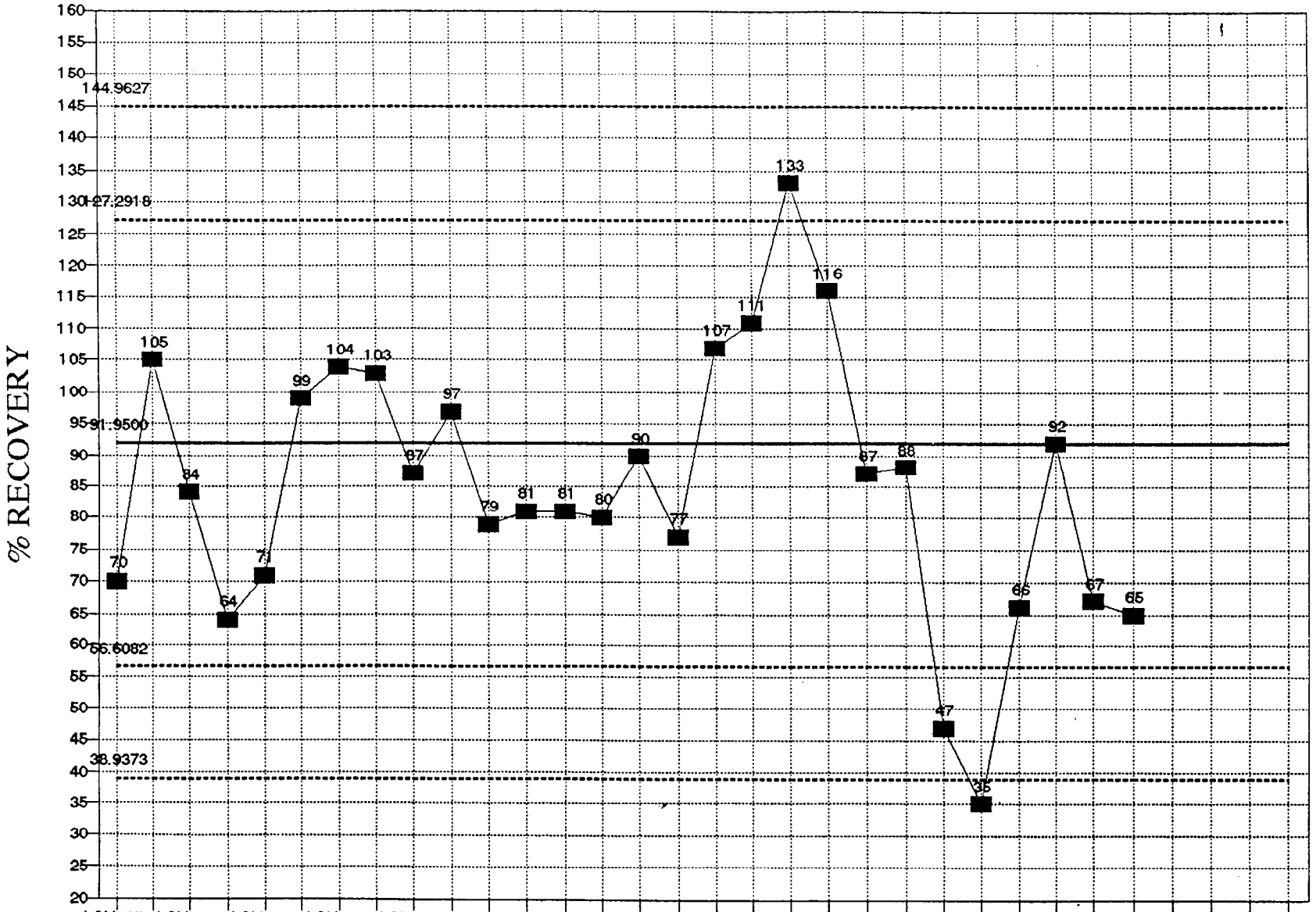
SPK REC LIMS SET195-PPCBCHT\PHCMS195



MEAN = 57.80 STD DEV =6.57

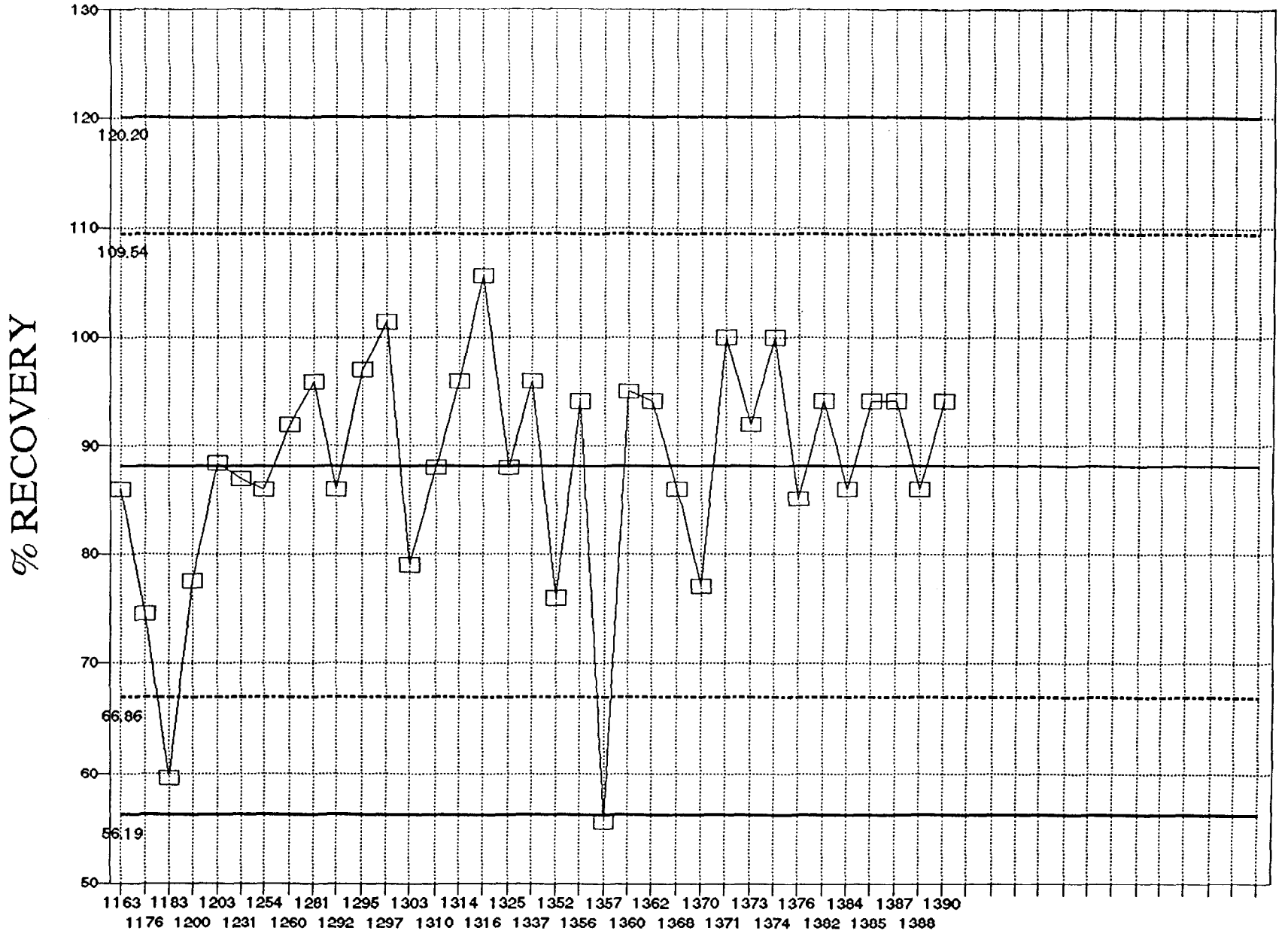
PHC WATERS BY SEPF - DIESEL

SPK REC LIMS SET0795-PPCBCHT\PHCWSF94



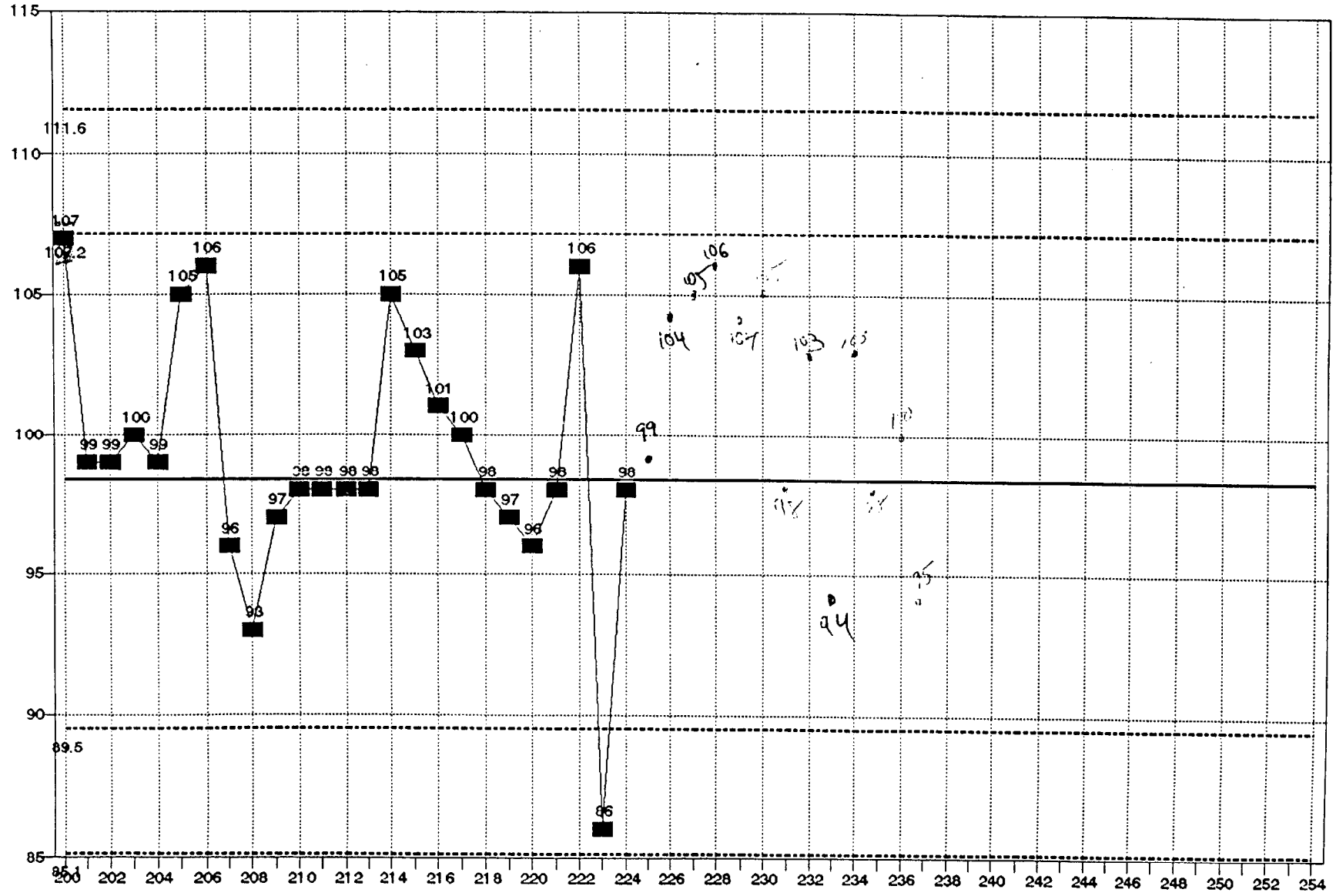
MEAN = 91.95 STD DEV = 17.67

O&G GRAV-S LCS RECOVERIES



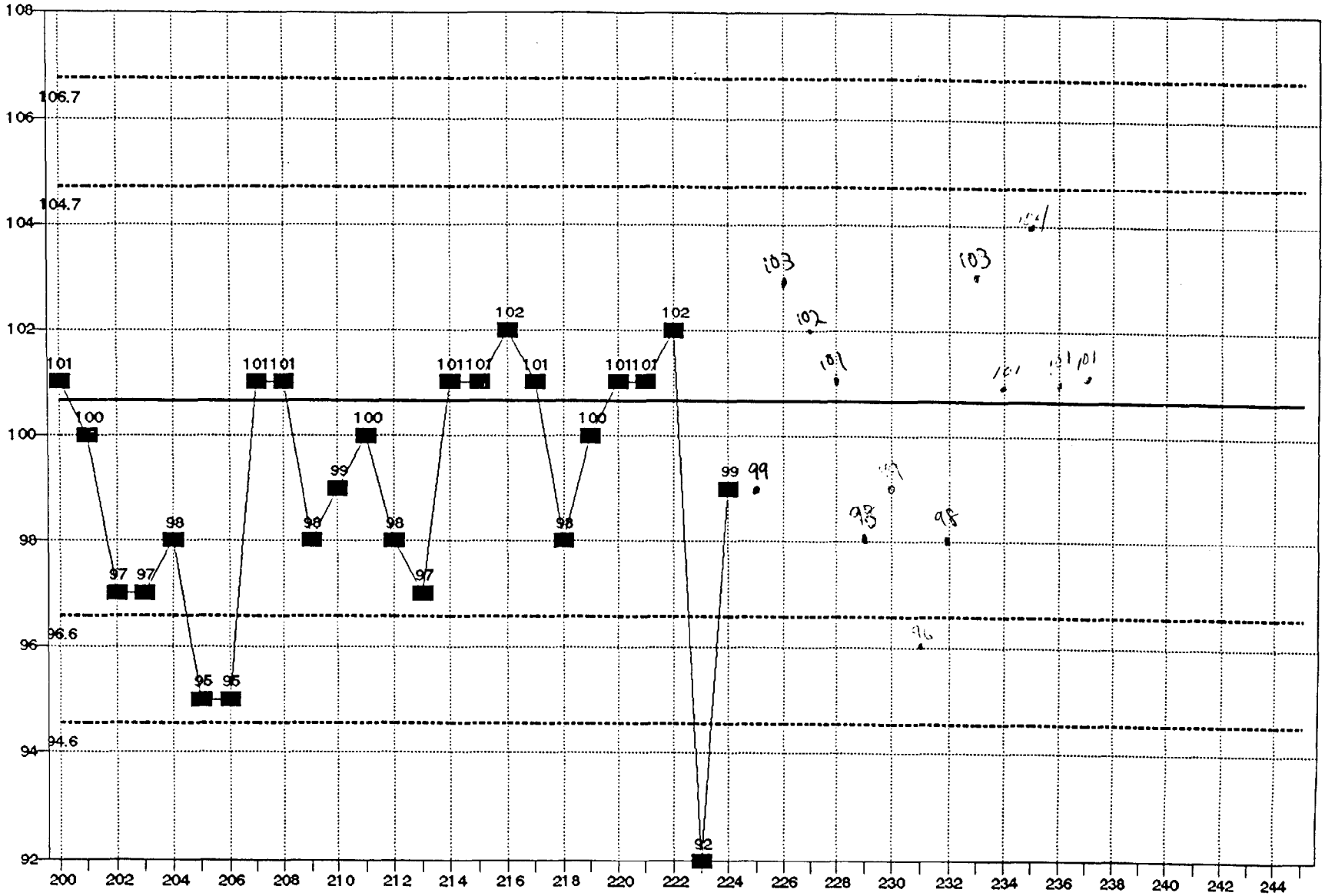
MEAN = 87.5 STD DEV = 11.3

VOA WATERS - SURR DCE
LIMITS SET 4/95



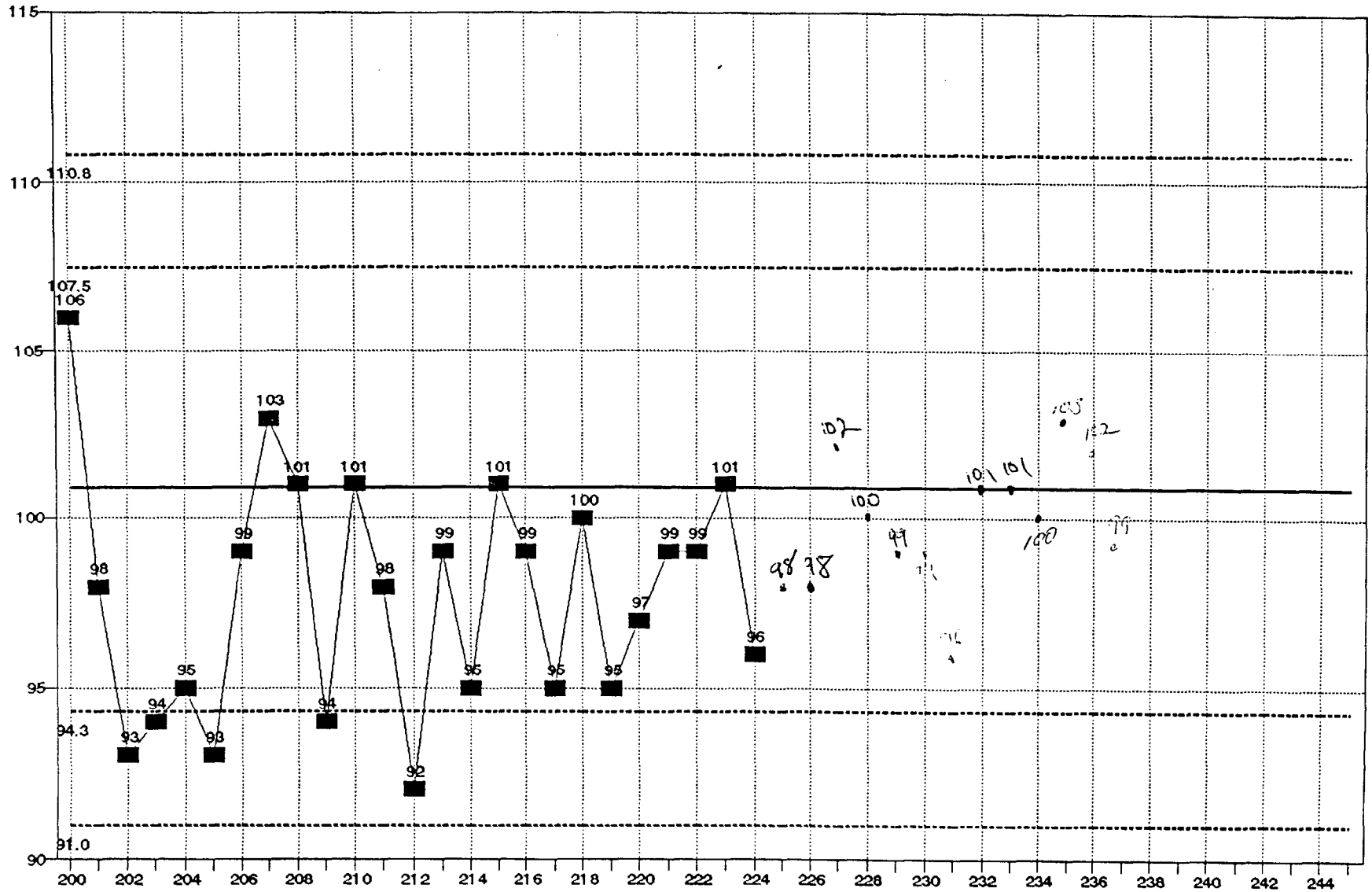
STD DEV = 4.40 MEAN = 98.4

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	BD101895A1
86	BC080493A	134	BC111594B	182	BC080295A1	230	[illegible]
87	BC080593A	135	BC111794B	183	BC080495A1	231	BG101995A1
88	BE091793A	136	BC111894B	184	BC080795A1	232	BD102495A1
89	BC092093B	137	BG111094A	185	BC080895A1	233	BG100295A2
90	BC093093B	138	BC120194B	186	BI081095A1	234	BD102395A1
91	BG093093A	139	BC120294B	187	BI081195A1	235	[illegible]
92	BE120693A	140	BC120594B	188	BI080995A1	236	BG101295A1(101,101)
93	BE120793A	141	BC120694B	189	BC081195A1	237	BG101495A1(495,4)
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. 09/89

166415

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

45640

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.	OEG	PCB, Total Lead	Volatile + BTEX	REMARKS
1	CLJ44-CC-090	10/9	0700	X		Clean Soil from Pile 23 of Area A.	4	X	X	X	X	X				
2	CLJ44-CC-091	10/9	0715	X		Clean Contaminated Soil from Pile 49 of Area A	4	X -1	X -12				X -10			
3	CLJ44-CC-092	10/9	0720	X		Contaminated Soil from Pile 50 of Area A	4	X -2	X -11	X	X	X	X -11	X	X	
4	CLJ44-CC-093	10/9	0725	X		Contaminated Soil from Pile 51 of Area A.	4	X -3	X -12				X -12			
5	CLJ44-CC-094	10/9	0730	X		Contaminated Soil from Pile 52 of Area A	4	X -4	X -13				X -13			
6	CLJ44-CC-095	10/9	0735	X		Contaminated Soil from Pile 53 of Area A.	4	X -5	X -14				X -14			
7	CLJ44-CC-096	10/9	0740	X		Contaminated Soil from Pile 54 of Area A.	4	X -6	X -15				X -15			
8	CLJ44-CC-097	10/9	0745	X		Contaminated Soil from Pile 55 of Area A.	4	X -7	X -16	X	X	X	X -16	X	X	
9	CLJ44-CC-098-RB	10/9	0801	X		Rinsate Blank	5	X -9	X -17	X	X	X				
10	CLJ44-CC-099-TB	10/9				Trip Blank	3	X -18			X -18				X -19	

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-10	[signature]	Fed Ex	10/9	1300
2		Fed Ex	Gretchen Francisco	10/10/94	0930
3					
4					

REMARKS Send Samples to Pace Lab.
Item 1 3 days TAT
Item 2-10 24 hr. TAT (except TCLP analysis

SAMPLER'S SIGNATURE [signature]

0000023

OHM Remediation Services Corp.

LAB COPY

CHAIN-OF-CUSTODY RECORD

Form 0019
Field Technical Services
Rev. 08/89

166415

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

PROJECT NAME	PROJECT LOCATION
Camp Lejeune D.D.44	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 Volatile	RCRA haz waste Char.	O&G	PCB, Total Lead	Volatile + BTEX	REMARKS
1	CLJ44-CC-090	10/9	0700	X		Clean Soil from Pile 23 of Area A.	4	X	X	X	X	X				
2	CLJ44-CC-091	10/9	0715	X		Clean Contaminated Soil from Pile 49 of Area A	4	X	X				X			
3	CLJ44-CC-092	10/9	0720	X		Contaminated Soil from Pile 50 of Area A	4	X	X	X	X	X	X	X	X	
4	CLJ44-CC-093	10/9	0725	X		Contaminated Soil from Pile 51 of Area A.	4	X	X				X			
5	CLJ44-CC-094	10/9	0730	X		Contaminated Soil from Pile 52 of Area A	4	X	X				X			
6	CLJ44-CC-095	10/9	0735	X		Contaminated Soil from Pile 53 of Area A.	4	X	X				X			
7	CLJ44-CC-096	10/9	0740	X		Contaminated Soil from Pile 54 of Area A.	4	X	X				X			
8	CLJ44-CC-097	10/9	0745	X		Contaminated Soil from Pile 55 of Area A.	4	X	X	X	X	X	X	X	X	
9	CLJ44-CC-098-RB	10/9	0801	X		Rinsate Blank	5	X	X	X	X	X				
10	CLJ44-CC-099-TB	10/9				Trip Blank	3	X			X				X	

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-10	[signature]	Fed Ex	10/9	1300
2		Fed Ex	Gretchen Franklin	10/11/93	0930
3					
4					

REMARKS Send Samples to Pace Lab.
Item 1 3 days TAT
Item 2-10 24 hr. TAT (except TCLP analysis)

SAMPLER'S SIGNATURE [signature]

Final page

00000024

pace® INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

October 30, 1995

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

SAMPLE DELIVERY GROUP NARRATIVE

Case: OHMRC
SDG: LJN35
Laboratory: PACE New England - New Hampshire of Hampton, NH
Lab Numbers: 45641
Protocol: SW846 Methods. NEESA C deliverables. No diskette.

Sample Receipt: These samples were received at PACE, Inc. on October 10, 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 10/10/95 (45641): Samples were received in one cooler and were assigned PACE# 45640 and 45641. 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# 45641 were logged in for a 3-day turnaround per the request on the COC. Samples assigned PACE Lab# 45640 were logged in for 24-hour turnaround per the request on the COC. The trip blank received with these samples (45640-9 and -18) contained pea-sized air bubbles.

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.

The matrix spike/spike duplicate for laboratory number 45641-2 had high recovery for the analyte diesel. This was a probable matrix effect.

TCLP & Volatile Analysis: The TCLP blank was analyzed by method 8260A. This method is applicable to all types of wastes and extracts. No targets were observed. Data quality is unaffected.

The method 8240 blank "BV1126B" contained low levels of methylene chloride. The sample results for this analyte 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.

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 water, solid, and 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

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

SDG Narrative
Case: OHMRC, SDG: LJN35

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 three ICP batches, two furnace batches, and one mercury batch. Analyses were conducted in six sequences on four instruments:

TJA01 10/10/95 for Ba, Cd, Cr, Pb, Ag.
TJA01 10/11/95 for As, Ba, Cd, Cr, Pb, Se, Ag.
PE01 10/18/95 for As.
PE01 10/19/95 and 10/20/95 for Se.
PE02 10/12/95 for Hg.

The higher detection limits obtained on ICP TJA01 for arsenic, lead, and selenium were adequate to quantitate the solid samples 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. Blanks were free of contaminants with the exception of low levels of arsenic and lead on TJA01. Because TCLP regulatory limits are so much higher than CLP reporting limits, the blank contamination was not believed to affect data useability. The laboratory control samples showed acceptable analyte recoveries. No difficulties were encountered during metals analysis.

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

Conventional Wet Chemistry Parameters: 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 Wellman, Operations Manager
PACE Incorporated, New England-New Hampshire

10/30/95
October 30, 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	Chloromethane, 2-chloroethylvinylether
	VSTD200	A65033	Xylene (total)

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 (unless otherwise indicated), 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

10/20/05
Date

PACE Incorporated

ref: PACE SOP ALL-Q-013-A c:\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# 45641
PAGE 1 of 1
COOLER ____ of ____
COC# ____
SDG# LJN35
CASE# OHMRC

CLIENT Ohm Remediation Services Corp.
DATE/TIME RECEIVED 10/13/15 0930
DELIVERED BY FedEx
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	☐	☐	☑	Cooler sealed with duct tape.	
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 cooled to 4 hours	
6.	VOLATILES FREE OF HEAD SPACE	☐	☑	☐		
7.	TRIP BLANK PRESENT IN THIS COOLER	☐	☑	☐	Received 4-5 & 4 C	
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:

V 10-13

CLIENT AUTHORIZATION SIGNATURE ____ DATE ____

SAMPLE TABLE

CLIENT ID.		MATRIX	PACE #	PARAMETERS
CLJ44-CU-090	*SQC*	SOLID	45641-001	TOTAL GASOLINE
	SQC		45641-002	TOTAL DIESEL
			45641-003	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
CLJ44-CC-092		SOLID	45641-004	GC/MS VOA
SQC				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
			45641-010	GC/MS VOA
				PCBS
				Pb
CLJ44-CC-097		SOLID	45641-005	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
			45641-011	GC/MS VOA
				PCBS
				Pb
CLJ44-CC-098-RB		WATER	45641-006	Ba, Cd, Cr, Pb, Hg, Ag, As, Se

SAMPLE TABLE
(CONTINUED)

CLIENT ID.	MATRIX	PACE #	PARAMETERS
CLJ44-CC-098-RB	WATER	45641-007	ACID EXTRACTABLES
			BASE/NEUTRAL EXTRACTABLES
		45641-008	GC/MS VOA
		45641-009	CORROSIVITY
			FLASH POINT
			RELEASABLE CYANIDE
			RELEASABLE SULFIDE

pace INCORPORATED
THE ASSURANCE OF QUALITY

Field Identification: CLJ44-CU-090 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	14	45641-001	10/10/95	BG1044A	8015(mod)/2
Total Diesel (ug/g)	310	3.9	45641-002	10/13/95		8015(mod),3350/2
Corrosivity (pH, units)	4.6		45641-003	10/10/95	369	2.1.2/2
Releasable Sulfide (mg/Kg)	BDL	50	45641-003	10/10/95	312	7.3.4.2/2
Releasable Cyanide (mg/Kg)	BDL	1	45641-003	10/12/95	312	7.3.3.2/2
Flash Point (degrees F)	>150	50	45641-003	10/10/95	344	1010/2

Field Identification: CLJ44-CC-092 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Corrosivity (pH, units)	5.0		45641-004	10/10/95	369	2.1.2/2
Releasable Sulfide (mg/Kg)	BDL	50	45641-004	10/10/95	312	7.3.4.2/2
Releasable Cyanide (mg/Kg)	BDL	1	45641-004	10/12/95	312	7.3.3.2/2
Flash Point (degrees F)	>150	50	45641-004	10/10/95	344	1010/2

Field Identification: CLJ44-CC-097 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Corrosivity (pH, units)	4.8		45641-005	10/10/95	369	2.1.2/2
Releasable Sulfide (mg/Kg)	BDL	50	45641-005	10/10/95	312	7.3.4.2/2
Releasable Cyanide (mg/Kg)	BDL	1	45641-005	10/12/95	312	7.3.3.2/2
Flash Point (degrees F)	>150	50	45641-005	10/10/95	344	1010/2

Field Identification: CLJ44-CC-098-RB Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Corrosivity (pH, units)	6.1		45641-009	10/10/95	369	2.1.2/2
Releasable Sulfide (mg/Kg)	BDL	50	45641-009	10/10/95	312	7.3.4.2/2
Releasable Cyanide (mg/Kg)	BDL	1	45641-009	10/12/95	312	7.3.3.2/2
Flash Point (degrees F)	>150	50	45641-009	10/10/95	344	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

pace INCORPORATED THE ASSURANCE OF QUALITY

QUALITY CONTROL DATA
TOTAL GASOLINE

MATRIX SPIKE RECOVERY

Laboratory Number: 45641-1 MS/MSD
Sample Designation: CLJ44-CU-090 MS/MSD
Date Analyzed 10/10/95
Matrix: SOLID

			REPLICATE 1		REPLICATE 2		%
COMPOUND	ug/g IN SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY	ug/g FOUND	%REC-OVERY	REL. DIFF.
GASOLINE	0	50	51	102	47	94	8

METHOD REFERENCE: METHOD 8015 (MODIFIED)

pace INCORPORATED
THE ASSURANCE OF QUALITY

QUALITY CONTROL DATA
TOTAL GASOLINE

BLANK DATA

Laboratory Number: BG1044
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/10/95
Matrix: SOLID

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

MATRIX SPIKE RECOVERY

Laboratory Number: LS-G1044
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/10/95
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

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 : VCTB1000 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 06Oct1995
Report Time : 1029 26Oct1995
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

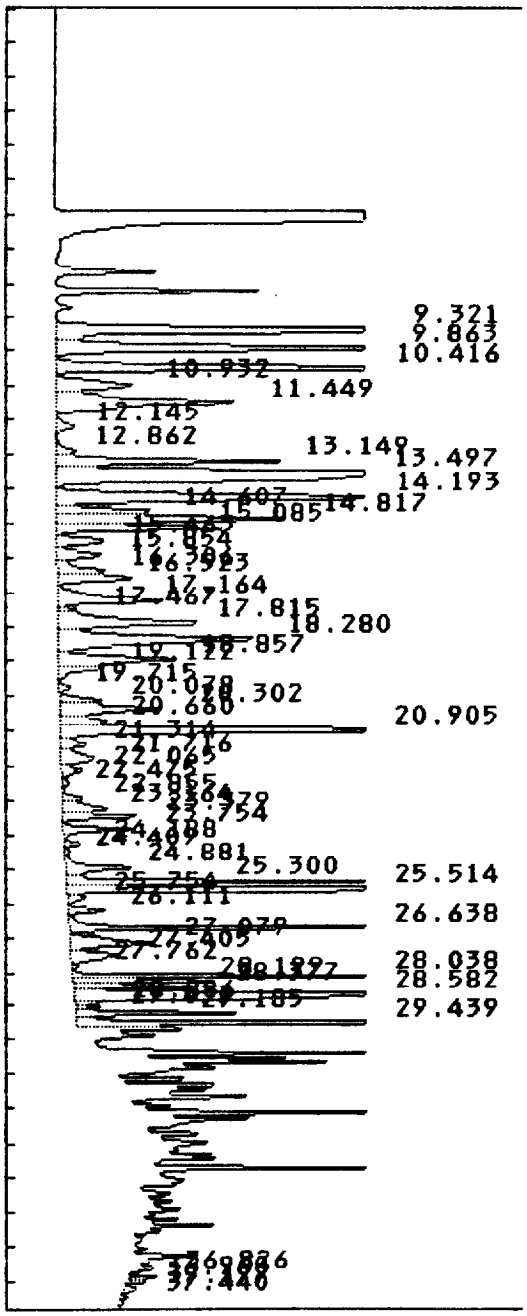
Pk#	RT	ID-tm	Factor	Area	Code	UG/L	Name
1	9.32			2415526	BV	72.4658	
2	9.86			1638108	VV	49.1433	
3	10.42			1368368	VV	41.0510	
4	10.93			513704	VV	51.6068	C7 N-HEPTANE
5	11.45			993065	VV	29.7920	
6	12.14			89815	VV	2.6944	
8	13.15			794966	VV	23.8490	
9	13.50			2449733	VV	73.4920	
10	14.19			1647289	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

PkB	RT	IB-to	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	27.00			376267	VV	11.2880	
46	27.40			220028	VV	6.6008	
47	27.76			15131	VV	.4539	
48	28.04	B28.02		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 DRB only : 31849568

1038/1000



VSTD1000 5ml
G51006
TGA5092C
G5CF115931

TGAS

Total Gas: Gas Range Organics (GRO)

PACE N.E.
REV00

Batch 1044
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																
BG1044A	BW	CF	10/10/95	10/10/95	4	100		1747863	1279785	-18.7011	-2.34	12.5	<	12.5			64.62
LSG1044	LCS1	CF	10/10/95	10/10/95	4	100	50	13050128	1067379	384.7061	48.09	12.5		48.09	96.18		53.834
BG101095TGA		CF	10/10/95	10/10/95				1651118	1089628	-15.4285							54.964
VSTD1000		CF	10/10/95	10/10/95				30370928	1178517	987.6328							59.479
BG101195TGA		CF	10/11/95	10/11/95				1432123	1219524	-27.6516							61.562
VSTD1000		CF	10/11/95	10/11/95				28819140	1166731	933.6801							58.880
LW101195TGA	MSD	CF	10/11/95	10/11/95				18162260	1198921	559.1971							60.515
45641-1	S2	CF	10/10/95	10/10/95	4.3	100		1942864	1227734	-10.0458	-1.17	11.63	<	11.63			61.979
45641-1MS	MS	CF	10/10/95	10/10/95	4.2	100		14277708	1113656	426.0921	50.73	11.9		50.73			56.184
45641-1MSD	MSD	CF	10/10/95	10/10/95	4.5	100		14168320	1100899	422.7067	46.97	11.11		46.97			55.536
45640-1	S3	CF	10/10/95	10/10/95	4	20		9089230	312599.5	272.3823	170.2	62.5		170.2			15.494
45640-2	S4	CF	10/10/95	10/13/95	4.2	50		11394028	664876	340.7874	81.14	23.81		81.14			33.388
45640-3	S5	CF	10/10/95	10/13/95	4.2	50		13688002	815006	415.8952	99.02	23.81		99.02			41.014
45640-4	S6	CF	10/10/95	10/10/95	4.3	20		12464750	260726	392.4583	228.2	58.14		228.2			12.859
45640-5	S7	CF	10/10/95	10/10/95	4.5	20		12147860	293043	380.2241	211.2	55.56		211.2			14.501
45640-6	S8	CF	10/10/95	10/10/95	4.4	20		10478910	297311	321.6043	182.7	56.82		182.7			14.718
45640-7	S9	CF	10/10/95	10/10/95	4.1	20		12446808	333405	389.2835	237.4	60.98		237.4			16.551
45640-8	S10	CF	10/11/95	10/11/95				1861050	1109721	-8.77764							55.984
45640-9	S11	CF	10/11/95	10/11/95				1874928	1101354	-7.99831							55.559
BG101395TGA	S12	CF	10/13/95	10/13/95				1444262	1190656	-26.215							60.096
VSTD1000	S13	CF	10/13/95	10/13/95				28177884	1122238	912.773							56.620
VSTD1000	S14	CF	10/13/95	10/13/95				28146132	1116382	911.8657							56.323
	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
QF 10/10/95		BV1044	4.0						MeOH Lot#
1		LS1044	4.0						
	S1	45640-1	4.0						
	S2	2	4.2						
	S3	3	4.2						
	S4	4	4.3						
	S5	5	4.5						
	S6	6	4.4						
	S7	7	4.1						
	S8	8	Water						
	S9	9	WATER						
	S10	45641-1	4.3						
		1MS	4.2						
		1MSD	4.5						
QF 10/11/95		BV1045	4.0						
		LS1045	4.0						
		45645-1	4.5						
		2	4.3						
		45646-2	4.4						
		3	4.2						
		4	4.1						
		5	4.3						
		6	4.4						
		7	4.3						
		8	4.1						
		9	4.5						
V		10	4.5						

V6401 Surrogate
Vinyl. Chlo.

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

GC05		SCRNA			GC04		SCRNB		
FRN	tube	Sample#	Vol.	Comments	FRN	tube	Sample#	Vol.	Comments
650F115981	1	Blank	5ml		64CF114714	1	Blank	50µl	
82	2	624Std	5ml	Not Run	15	2	624std		
83	3	45601-1	5mL	NL IMC	16	3	45600-2		5ml
84	4	45622-1	20mL	Not Run	17	4	4		160µl LR
85	5	45630-1	20mL	100mL LR	18	5	45623-3		5ml
86	6	2	20mL	Not Collected	19	6	45631-1		5ml
87	7	3	20mL	100mL	20	7	2		5ml
88	8	BG10109STD-A	5ml	BDL	21	8	3		5ml
89	9	VSTD1000	5ml	988/1000 99% Rec	22	9	4		5ml
90	10	LV10109STD-A	5ml	476/500 95% Rec	23	10	45599-3		5ml
91	1	BK1044	100mL	BDL	24	11	45606-2		5ml
90	2	45641-1	100mL	✓	25	12	4		5ml
91	3	45640-1	20mL	✓	26	13	45596-24		NL 500µl MC?
92	4	2		NL 50mL	27	14	26		1.4ml
93	5	3		NL 50mL	28	15	28		5ml
94	6	4		✓	29	16	30		NL 50µl?
95	7	5		✓	30	17	31		5ml
96	8	6		✓	31	18	32		NL 20µl?
97	9	7		✓	32	19	33		270µl?
	10	LS1044	100mL	✓	33	20	45611-1		NL 5µl?
					34	21	7		NL 5µl?
					35	22	13		700µl?
					36	23	45620-19		50µl?
					37	24	20		50µl?
					38	25	21		50µl?
					39	26	22		50µl? 70µl?
					40	27	23		70µl?
					41	28	24		100µl?
					42	29	25		110µl?
					43	30	26		140µl?

PACE New England
VOA Screening **Analyst/Date** OCT 10/11/95

GC05		SCRNA			GC04		SCRNB		
FRN	tube	Sample#	Vol.	Comments	FRN	tube	Sample#	Vol.	Comments
G5OCT116009 missed		BFBK			G4OCT117744	1	Blank	5ml	
11	1	BV10119STD-A	5ml	ODL	45	2	u24std		
12	2	VSTD1000		937/1000 95% Rec	46	3	45608-1		5ml
13	3	LW10119STD-A		559/500 112% Rec	47	4	2		5ml
15 missed	4	45640-8		10 ul surr ODL	48	5	3		5ml
16 15	5	9		ph<2 ODL	49 missed 50	7	45641-3		5ml
17 16	6	45645-3	5ml	ph<2 ODL	51	8	4		5ml
18 17	7	45641-1MS	100ml	✓	52	9	5		5ml
19 18	8	-1MSD	↓	✓	53	10	45633-5		5ml
20	9	BV1045	100ml	✓	54	11	6		15ml
21	10	45645-1	30ml	∠ 100ml	55	12	45620-27		5ml
22	1	-2	30ml	∠ 100ml	56	13	45553-7		5ml
23	2	45646-2	100ml	Yes Surr	57	14	45529-1		5ml
24	3	3		✓	58	15	45643-1		5ml
25	4	4		✓	59	16	2		5ml
26	5	5		✓	60	17	3		5ml
27	6	6		∠ Surr	61	18	4	✓	5ml
28	7	7		✓					
29	8	8	↓	✓					
30	9	45646-9	100ml	✓					
31	10	-10	100ml	✓					
32	1	LS1045	100ml	107% Rec					
33	2	45641-10	20ml	100 ml ↵	+5µl Asmis				
34	3	-11	20ml	100 ml ↵	+5µl Asmis				
					CA 10/11/95				

QUALITY CONTROL DATA
PETROLEUM HYDROCARBONS BY GCFID

MATRIX SPIKE RECOVERY

Laboratory Number: 45641-2MS/MSD
Sample Designation: CLJ44-CU-090 MS/MSD
Date Analyzed 10/13/95
Matrix: SOLID

COMPOUND	ug/g SAMPLE	ug/g SPIKE	REPLICATE 1 ug/g FOUND	%REC-OVERY
DIESEL	310	39.2	432.6	313

COMPOUND	ug/g SAMPLE	ug/g SPIKE	REPLICATE 2 ug/g FOUND	%REC-OVERY	% REL. DIFF.
DIESEL	310	39.0	409.5	255	20

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-H1418
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/12/95
Matrix: SOLID

HYDROCARBON TYPE	CONCENTRATION ug/g	DETECTION LIMIT ug/g
DIESEL	4	3

MATRIX SPIKE RECOVERY

Laboratory Number: LSH1418
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/12/95
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: 11/11/95 MC

PHC SOLIDS PREP LOG

PROTOCOL: EPA SW846

LOG BOOK NO: _____

SOP #: QA5547

STEAMBATH TEMP: 85°C (Range 80-90°C)

METHOD: SONC/3550

MATRIX: SOLIDS

REVIEWED BY/DATE: /

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 1314 5031 PPM	ADD 100 mL MeCl2 50:50 mix	SONICATE 3 MIN	DECANT THRU NaSO4 FUNNEL	ADD 100mL MeCl2 REPEAT (2X) 50:50 mix	CONC TO 10 ML INTR VOL	ALIQUOT VOL (mL)	CONC. 1 mL Final Vol.	QUATTRO init/date
	—	BH1118	30.0	60.0		N/A		✓	✓	✓	10.0	10.0	1.0	MC
	—	SHR118	30.0			✓								10/11/95
	9	45641-2	30.42			N/A								
	—	-2MS	30.70			✓								
	—	-2MSD	30.84			✓								
10	2	45642-1	30.56			N/A								
11	3	-2	30.13											
			~~30.72~~											
12	4	-3	~~30.52~~											
			~~30.48~~											
13	5	-4	30.48											
14	6	-5	30.17											
15	7	-6	30.05											
16	8	-7	30.98											
17	9	-8	30.07											
18	10	-9	30.44											
		-9	~~30.82~~											
19	11	-10	30.88											
20	12	-11	30.88											
1	13	-12	30.19											
2	14	-13	30.94											
3	15	-14	30.94											
4	16	-15	30.22	✓	✓ MC	✓	✓	✓	✓	✓	✓	✓	✓	✓
					✓ 12/11/95									

no QC ms/msd associated yet

COMMENTS: _____

F:\APPS\WP51\NANCY\EXPHCS

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 Fri Oct 27, 1995 4:35:39 pm

/DATA/GC06/RESULT/G6H18231.RES
/DATA/GC06/METHOD/DIESEL016A.MTH

Sample: DRO 2013PPM P8870
Injected: Wed Oct 11, 1995 7:24:13 pm

RetTime	Analyte	Found	Nominal	%D	Recovery
13.87	DIESEL FUEL	1795.72	2013.000	10.8	89.2

PACE, Incorporated
Continuing Calibration Report Fri Oct 27, 1995 4:36:41 pm

/DATA/GC06/RESULT/G6H18242.RES
/DATA/GC06/METHOD/DIESEL016A.MTH

Sample: DRO 2013PPM P8870
Injected: Thu Oct 12, 1995 7:22:37 am

RetTime	Analyte	Found	Nominal	%D	Recovery
13.83	DIESEL FUEL	1701.74	2013.000	15.5	84.5

PACE, Incorporated
Continuing Calibration Report

Fri Oct 27, 1995 4:36:14 pm

/DATA/GC06/RESULT/G6H18265.RES
/DATA/GC06/METHOD/DIESEL016A.MTH

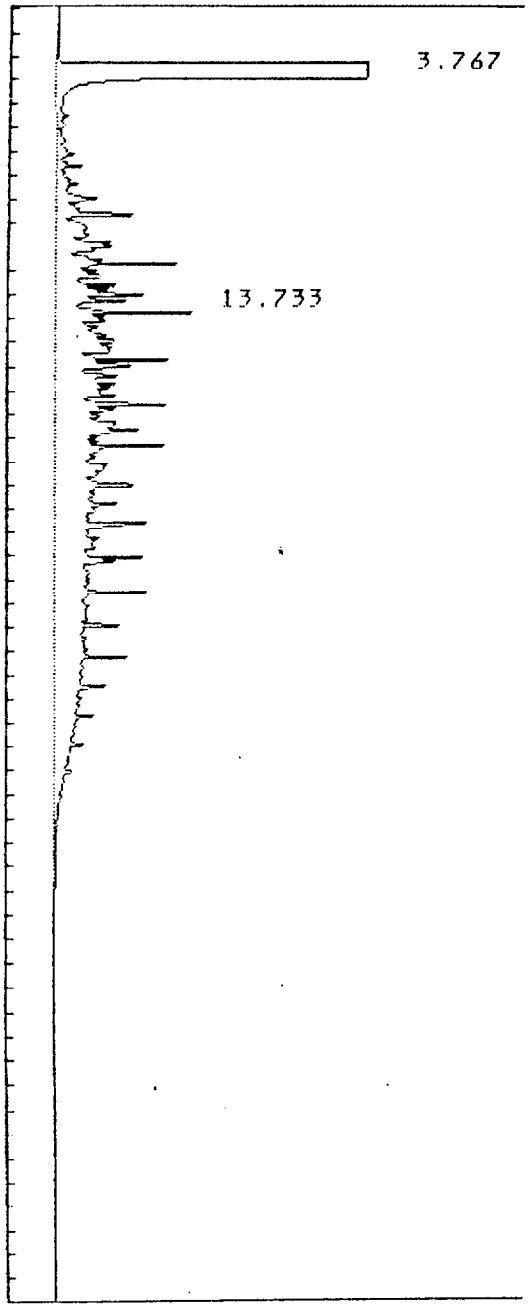
Sample: DRO 2013PPM P8870
Injected: Fri Oct 13, 1995 8:58:44 am

RetTime	Analyte	Found	Nominal	%D	Recovery
13.83	DIESEL FUEL	2349.47	2013.000	16.7	116.7

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

0000076

Reviewed by _____ Date _____

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

Date	init	result file	Sample	MI	V	Method	column	Sequence
9/15/95	BB	[illegible]1315805-8	Injection	N	N	Diesel 16	154/157	GP0928A
		G9 059	45480-44 Bechtel DRO-S 10/3	Y	Y		154	G9
		G6 059	Inj injection	N	N		157	G6
		G9 060	45480-45 Bechtel DRO-S 10/3	Y	Y		154	G9
		G6 060	Inj injection	N	N		157	G6
		G9 061	BH 1393 DRO-S OHM	Y	Y		154	G9
		G6 061	Inj injection	N	N		157	G6
		G9 062	L.S.H.1393 DRO-S OHM	Y	Y		154	G9
		G6 062	Inj injection (3)	N	N		157	G6
		G9 063	45515-4 DRO-S OHM V9/29 1:10	Y	Y		154	G9
		G6 063	Inj injection	N	N		157	G6
		G9 064	DRO 2013 ppm P8843	Y	Y		154	G9
		G6 064	Inj injection	N	N		157	G6
		G9 065	45515-5 DRO-S OHM V9/29 1:10	Y	Y		154	G9
		G6 065	Inj injection	N	N		157	G6
		G9 066	45515-6 DRO-S OHM V9/29 1:10	Y	Y		154	G9
		G6 066	Inj injection	N	N		157	G6
		G9 067	Meclz	Y	Y		154	G9
		G6 067	Inj injection	N	N		157	G6
[illegible]	[illegible]	G9 068	BH1393 DRO-S Bechtel 10/3	Y	Y	Diesel 16	154	G9 09/29
		G6 068	Meclz				157	G6
		G9 069	L.S.H.1392 DRO-S Bechtel 10/3				154	G9
		G6 069	DRO 2015 4 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 5.05 ppm P8844				157	G6
		G9 073	45480-32 DRO-S Bechtel 10/3				154	G9
		G6 073	DRO 50 ppm P8845				157	G6

PACE, INCORPORATED
GC Instrument Run Log

0000090

Reviewed by _____ Date _____

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

Date	init	result file	Sample	MI	V	Method	column	Sequence
10/11/95	JM	Gb1118230	LSH1419 DRO-MS	Y	Y	Diesel/oil	157	Gb 1009
		G9 231	45625-3 DRO-S Fuel-ME				154	G9
		Gb 231	DRO 2013 ppm P8870 89%				157	Gb
		G9 232	45626-20 DRO-S Bechtel				154	G9
		Gb 232	45645-4 DRO-S OHM 1:10		N	file missing	157	Gb
		G9 233	45626-19 ↓ Bechtel 1:10		Y		154	G9
		Gb 233	45645-5 ↓ OHM 1:10		Y		157	Gb
		G9 234	DRO 2013ppm P8870		N		154	G9
		Gb 234	45640-10 DRO-S OHM 1:10		Y		157	Gb
		G9 235	Kerosene 5019ppm P8610				154	G9
		Gb 235	45640-11 DRO-S OHM 1:10				157	Gb
10/11/95		G9 236	10,000 ppm #6 Fuel Oil P8578				154	G9
		Gb 236	45640-12 DRO-S OHM 1:10				157	Gb
		G9 237	5000 ppm #4 Fuel P8869				154	G9
		Gb 237	45640-13 DRO-S OHM 1:10				157	Gb
		G9 238	JP4/C18 501/2417ppm P8591				154	G9
		Gb 238	45640-14 DRO-S OHM 1:10				157	Gb
		G9 239	No Injection		N		154	G9
		Gb 239	45640-15 @MS standards DRO-S OHM 1:10		Y		157	Gb
		G9 240	DRO 2013ppm P8870 78%		Y		154	G9
		Gb 240	45640-16 DRO-S OHM 1:10				157	Gb
		Gb 241	BH1418 DRO-LS OHM					Gb 1009
		Gb1118242	DRO 2013ppm P8870 84		Y			
		243	LSH1418 DRO-LS OHM					
		244	45645-4 DRO-MS OHM 1:10					
		245	45558-29 DRO-S Bechtel					
		246	-30 ↓					
		247	Kerosene 5019ppm P8610 ~~45641-2 DRO-LS OHM~~ @MS 10/11/95		Y			Gb 1011
		248	10,000 ppm #6 Fuel Oil P8578 ~~-2MS~~ @MS 10/12/95					
		249	5000 ppm #4 Fuel Oil P8869 ~~-2MS0~~ @MS 10/12/95					
		250	~~Kerosene 5019 ppm P8610~~ JP4/C18 501/2417ppm P8591 @MS					

10/11/95

PACE, INCORPORATED
GC Instrument Run Log

0000091

Reviewed by _____ Date _____

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

Date	init	result file	Sample	MI	V	Method	column	Sequence
10/12/95	HS	G6H18251	BH1420 DRO-LS	Y	Y	Diesel oil	157	G6 1-10
		252	LCSH1420 DRO-LS					
		253	45646-11 ↓ OHm					
		254	DRO 2013PPM P8870 G12					
		255	45646-12 DRO-LS OHm					
		256	-13					
10/13/95		257	-14					
		258	-15					
		259	-16					
		260	-17					
		261	-18					
		262	-19					
		263	-11MS					
		264	-11MSD ↓					
		265	DRO 2013PPM P8870 11					
		266	45642 DRO-LS OHm					
		267	-2MS ↓					
		268	-2MSD ↓					
		269	DRO 2013PPM P8870					
10/14/95	HS	270	Meoh changed line in septas for both G6 and G9	N	N			
10/15/95	HS	G9H18271	Meoh	N	N		154	S.S.
10/15/95		G6 271					157	
10/17/95		G9 272					154	
		G6 272					157	
		G9 273					154	
		G6 273					157	
		G9 274					154	
		G6 274					157	
		G9 275					154	
		G6 275					157	
		G9 276	↓			↓	154	

QUALITY CONTROL
Corrosivity
Method: 7.2 SW846 3rd Edition

QC Batch: 369 For: 45641
Matrix: SOLID

LABORATORY CONTROL SAMPLES:

	True Value Units	Observed Value Units
LCS1	7.0	7.03

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

QC Batch: 312 For: 45641
Matrix: SOLID

METHOD BLANK:

	Result ug/g
	< 50.00

LABORATORY CONTROL SAMPLES:

	True Value ug/g	Observed Value ug/g	Accuracy Recovery %
LCS1	1459.7	1329.9	91.1

FIELD SAMPLE:

Precision Lab No.	Replicate 1 ug/g	Replicate 2 ug/g	Average ug/g	Relative Percent Difference %
45611-5	< 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: 312 For: 45641
Matrix: WATER

METHOD BLANK:

	Result mg/L
	< 1.00

LABORATORY CONTROL SAMPLES:

	True Value mg/L	Observed Value mg/L	Accuracy Recovery %
LCS1	40.0	5.950	14.9

FIELD SAMPLE:

Precision

Lab No.	Replicate 1 mg/L	Replicate 2 mg/L	Average mg/L	Relative Percent Difference %
45611-5	< 1.00	< 1.00	NC	NC

NC = Not calculable due to result below detection limit.

QUALITY CONTROL
Flashpoint
Method: D93-80, ASTM

QC Batch: 344 For: 45641
Matrix: SOLID

LABORATORY CONTROL SAMPLES:

	True Value Deg F	Observed Value Deg F
LCS1	81.0	81.00

FIELD SAMPLE:

Precision

Lab No.	Replicate 1 Deg F	Replicate 2 Deg F
45611-5	> 150.00	> 150.00

pace INCORPORATED
THE ASSURANCE OF QUALITY

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR VOLATILE CONSTITUENTS

Laboratory Number	:	45641-003
Field Identification	:	CLJ44-CU-090
Extraction Date	:	10/10/95
TCLP Blank	:	90,002-404

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 : 18.00 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: 45641-003
Sample Designation: CLJ44-CU-090
Date Analyzed: 10/12/95 19:34
QC Batch: BG101295A1
TCLP Batch: 404
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 : 45641-004
Field Identification : CLJ44-CC-092
Extraction Date : 10/10/95
TCLP Blank : 90,002-404

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 : 18.00 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: 45641-004
Sample Designation: CLJ44-CC-092
Date Analyzed: 10/12/95 20:14
QC Batch: BG101295A1
TCLP Batch: 404
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	:	45641-005
Field Identification	:	CLJ44-CC-097
Extraction Date	:	10/10/95
TCLP Blank	:	90,002-404

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 : 18.00 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: 45641-005
Sample Designation: CLJ44-CC-097
Date Analyzed: 10/12/95 20:53
QC Batch: BG101295A1
TCLP Batch: 404
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
ANALYSIS FOR VOLATILE CONSTITUENTS

Laboratory number: 45641-008
Sample Designation: CLJ44-CC-098-RB
Date Analyzed: 10/12/95 21:33
QC Batch: BG101295A1
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: 45641-010
Sample Designation: CLJ44-CC-092
Date Analyzed: 10/12/95
Matrix: SOLID

Instrument File Name: >G5093

Results are expressed on a dry (103 degrees C) basis.
Moisture content was 8 % , elevating the reporting limits
by a factor of 1.08 .

VOLATILE ORGANICS	CONCENTRATION (ug/g)	REPORTING LIMIT (ug/g)
Chloromethane	BDL	1.3
Bromomethane	BDL	1.3
Vinyl chloride	BDL	1.3
Chloroethane	BDL	0.6
Methylene chloride	1.3	1.3
Acetone	BDL	3.2
Carbon disulfide	BDL	0.6
1,1-Dichloroethene	BDL	0.6
Tetrahydrofuran	BDL	3.2
1,1-Dichloroethane	BDL	0.6
1,2-Dichloroethene (total)	BDL	0.6
Chloroform	BDL	0.6
Methyl ethyl ketone	BDL	3.2
1,2-Dichloroethane	BDL	0.6
1,1,1-Trichloroethane	BDL	0.6
Carbon Tetrachloride	BDL	0.6
Vinyl acetate	BDL	1.3
Bromodichloromethane	BDL	0.6
cis-1,3-Dichloropropene	BDL	0.6
trans-1,3-Dichloropropene	BDL	0.6
Trichloroethene	BDL	0.6
Benzene	BDL	0.6
Dibromochloromethane	BDL	0.6
1,1,2-Trichloroethane	BDL	0.6
1,2-Dichloropropane	BDL	0.6
2-Chloroethyl vinyl ether	BDL	0.6
Bromoform	BDL	0.6
Methyl isobutyl ketone	BDL	3.2
2-Hexanone	BDL	3.2
1,1,2,2-Tetrachloroethane	BDL	0.6
Tetrachloroethene	BDL	0.6
Toluene	BDL	0.6
Chlorobenzene	BDL	0.6
Ethylbenzene	0.9	0.6
Xylene (total)	3.0	0.6
Styrene	BDL	0.6

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

BDL = Below reporting limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: 45641-011
Sample Designation: CLJ44-CC-097
Date Analyzed: 10/12/95
Matrix: SOLID

Instrument File Name: >G5094

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/g)	REPORTING LIMIT (ug/g)
Chloromethane	BDL	1.4
Bromomethane	BDL	1.4
Vinyl chloride	BDL	1.4
Chloroethane	BDL	0.7
Methylene chloride	1.4	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	BDL	0.7
Toluene	BDL	0.7
Chlorobenzene	BDL	0.7
Ethylbenzene	1.0	0.7
Xylene (total)	3.4	0.7
Styrene	BDL	0.7

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

BDL = Below reporting limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

2A

WATER VOLATILES SURROGATE RECOVERY

Client: OHM REMEDIATION SERVICES CORP. Lab No.: 45641
Project: CAMP GEIGER/LJN35

CLIENT SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
CLJ44-CU-090	102	102	104		0
CLJ44-CC-092	99	102	101		0
CLJ44-CC-097	93	97	105		0
CLJ44-CC-098-RB	95	98	101		0
BG101295A1	101	102	100		0
BG101895A1	101	92	97		0
TCLP BLANK #404	101	97	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.: 45641
Project: CAMP GEIGER/LJN35
Level: Soil

CLIENT SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
CLJ44-CC-092	96	108	90		0
CLJ44-CC-092MS	97	119	94		0
CLJ44-CC-092MSD	97	118	97		0
CLJ44-CC-097	86	97	82		0
BV1126BG5092	100	94	88		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 #404
Client ID: TCLP BLANK
Date Analyzed: 10/18/95
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 8260A

BDL = Below detection limit

pace INCORPORATED THE ASSURANCE OF QUALITY

Laboratory number: BG101895A1
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/18/95
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: BG101295A1
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/12/95
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: BV1126BG5092
Sample Designation: LAB BLANK
Date Analyzed: 10/12/95
Matrix: SOLID

Instrument File Name: >G5092

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

VOLATILE ORGANICS	CONCENTRATION (ug/g)	REPORTING LIMIT (ug/g)
Chloromethane	BDL	1.3
Bromomethane	1.2 J	1.3
Vinyl chloride	BDL	1.3
Chloroethane	BDL	0.6
Methylene chloride	1.2 J	1.3
Acetone	BDL	3.1
Carbon disulfide	BDL	0.6
1,1-Dichloroethene	BDL	0.6
Tetrahydrofuran	BDL	3.1
1,1-Dichloroethane	BDL	0.6
1,2-Dichloroethene (total)	BDL	0.6
Chloroform	BDL	0.6
Methyl ethyl ketone	BDL	3.1
1,2-Dichloroethane	BDL	0.6
1,1,1-Trichloroethane	BDL	0.6
Carbon Tetrachloride	BDL	0.6
Vinyl acetate	BDL	1.3
Bromodichloromethane	BDL	0.6
cis-1,3-Dichloropropene	BDL	0.6
trans-1,3-Dichloropropene	BDL	0.6
Trichloroethene	BDL	0.6
Benzene	BDL	0.6
Dibromochloromethane	BDL	0.6
1,1,2-Trichloroethane	BDL	0.6
1,2-Dichloropropane	BDL	0.6
2-Chloroethyl vinyl ether	BDL	0.6
Bromoform	BDL	0.6
Methyl isobutyl ketone	BDL	3.1
2-Hexanone	BDL	3.1
1,1,2,2-Tetrachloroethane	BDL	0.6
Tetrachloroethene	BDL	0.6
Toluene	BDL	0.6
Chlorobenzene	BDL	0.6
Ethylbenzene	BDL	0.6
Xylene (total)	BDL	0.6
Styrene	BDL	0.6

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: LCG101295A1
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/12/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
1,1-DICHLOROETHENE	0	50	55	110
TRICHLOROETHYLENE	0	50	48	97
BENZENE	0	50	48	97
TOLUENE	0	50	49	99
CHLOROBENZENE	0	50	55	110

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

pace INCORPORATED
THE ASSURANCE OF QUALITY

MATRIX SPIKE RECOVERY
VOLATILE ORGANIC COMPOUNDS

Laboratory Number: LCG101895A1
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/18/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
1,1-DICHLOROETHENE	0	10	11.8	118
TRICHLOROETHENE	0	10	10.6	106
BENZENE	0	10	10.6	106
TOLUENE	0	10	10.4	104
CHLOROBENZENE	0	10	9.9	99

METHOD REFERENCE: EPA SW 846, 3RD EDITION
METHOD 8260

pace INCORPORATED
THE ASSURANCE OF QUALITY

VOLATILE ORGANIC COMPOUNDS
MATRIX SPIKE RECOVERY

Laboratory Number: LS-V1126
Field Identification: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/14/95
Matrix: SOLID

COMPOUND	ug/g IN SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
1,1-DICHLOROETHENE	0.00	6.25	6.99	112
TRICHLOROETHYLENE	0.00	6.25	6.40	102
BENZENE	0.00	6.25	6.38	102
TOLUENE	0.00	6.25	6.25	100
CHLOROBENZENE	0.00	6.25	6.98	112

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.: LJN35

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

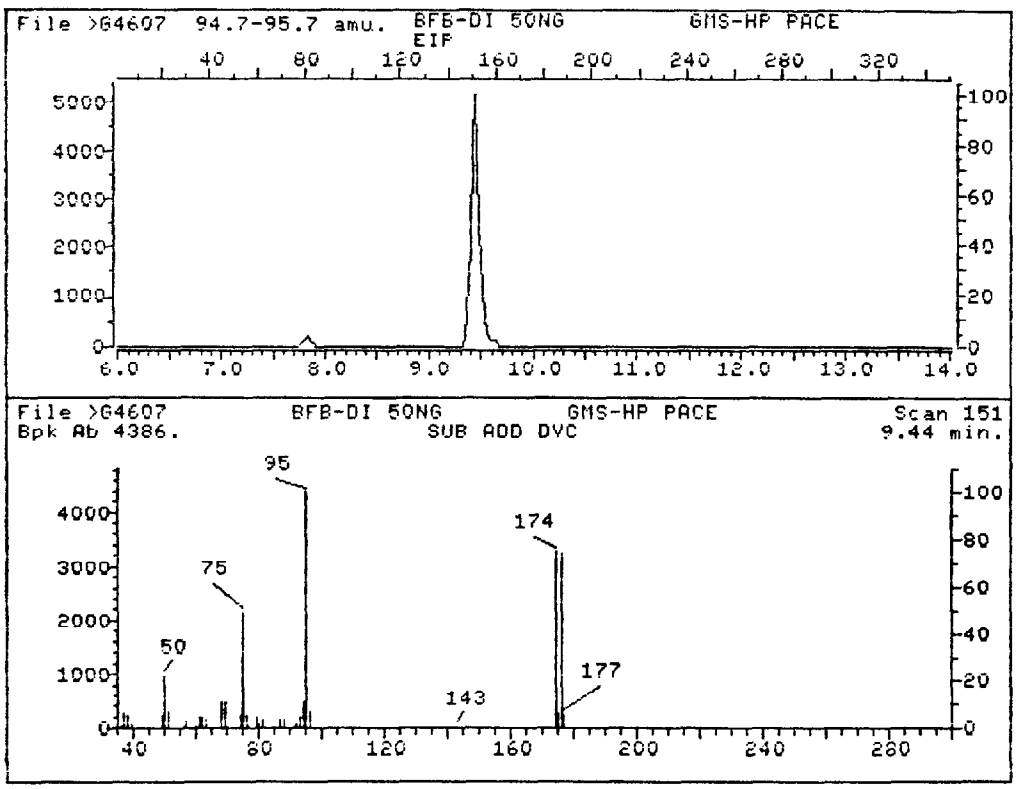
Bromofluorobenzene (BFB) '88

10/3/95

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.: LJN35

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

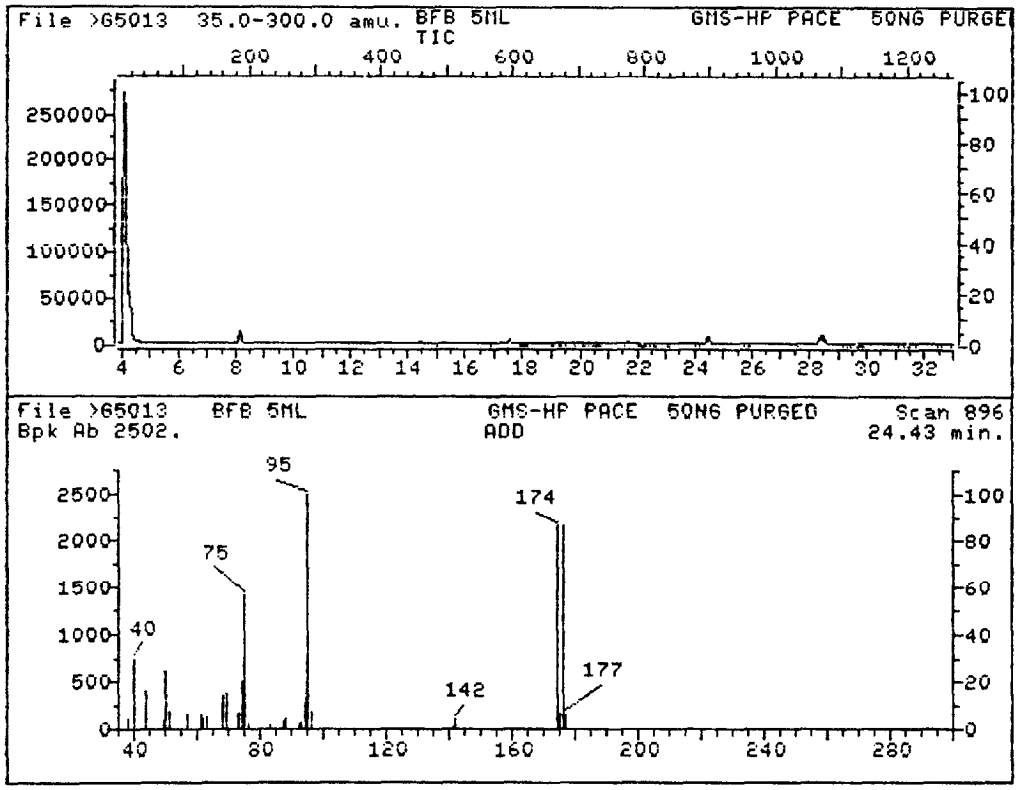
CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
VSTD050	VSTD050	G5014	10/09/95	22:57
LSV1126	90186-058MS	G5018	10/10/95	01:39

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.: LJN35

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

pace INCORPORATED THE ASSURANCE OF QUALITY

GC/MS PERFORMANCE STANDARD

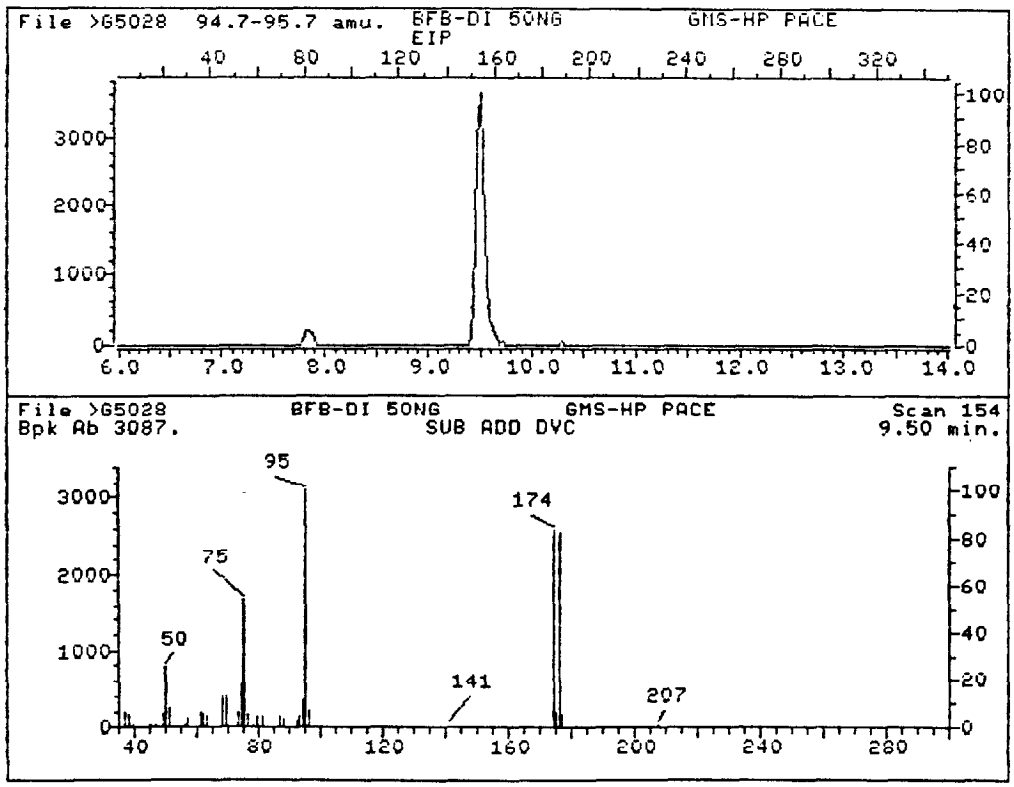
Bromofluorobenzene (BFB) '88

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	24.98	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

rw 10/24/95

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.: LJN35

Lab File ID: >G5078 BFB Injection Date: 10/12/95

Instrument ID: GMS BFB Injection Time: 01:01

ION ABUNDANCE CRITERIA for G5078 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	G5079	10/12/95	01:40
BV1126B	90186-058	G5092	10/12/95	11:32
CLJ44-CC-092	45641-010	G5093	10/12/95	12:11
CLJ44-CC-097	45641-011	G5094	10/12/95	12:51

GC/MS PERFORMANCE STANDARD

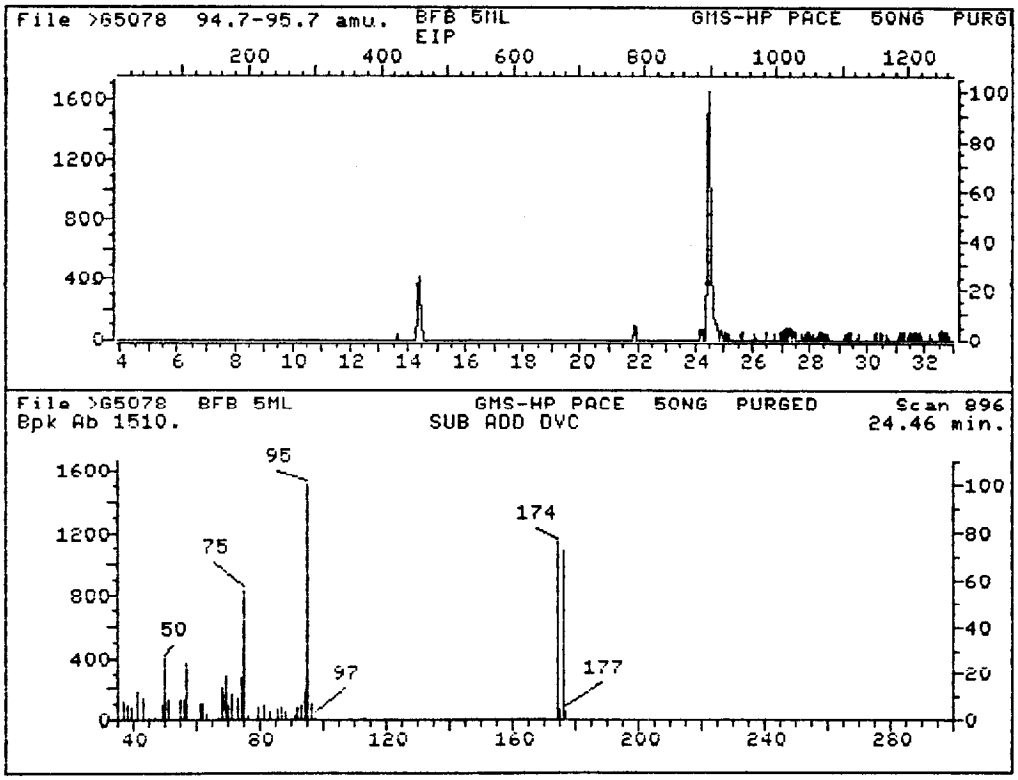
Bromofluorobenzene (BFB) '88

10/30/95

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	25.95	25.95	Ok
75	30-60% of mass 95	54.93	54.93	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.04	7.04	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	75.59	75.59	Ok
175	5-9% of mass 174	4.06	5.37	Ok
176	95-101% of mass 174	72.13	95.42	Ok
177	5-9% of mass 176	3.84	5.32	Ok

Injection Date: 10/12/95
Injection Time: 01:01
Data File: >G5078
Scan: 896

THIS IS THE RESULT OF AVERAGING 895.00 896.00 897.00
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.: LJN35

Lab File ID: >G5095 BFB Injection Date: 10/12/95

Instrument ID: GMS BFB Injection Time: 15:22

ION ABUNDANCE CRITERIA for G5095 are reported on a separate sheet.

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

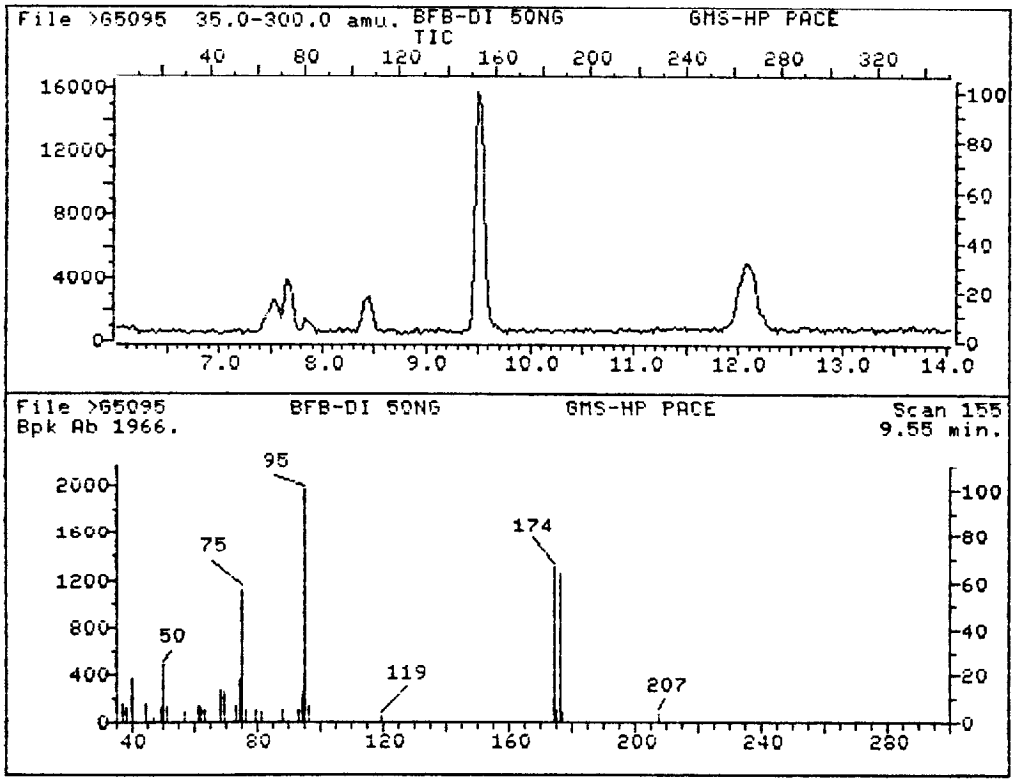
CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
VSTD050	VSTD050	G5096	10/12/95	15:50
BG101295A1	90184-161	G5097	10/12/95	16:30
LCG101295A1	90184-161MS	G5098	10/12/95	17:36
CLJ44-CU-090	45641-003	G5101	10/12/95	19:34
CLJ44-CC-092	45641-004	G5102	10/12/95	20:14
CLJ44-CC-097	45641-005	G5103	10/12/95	20:53
CLJ44-CC-098-RB	45641-008	G5104	10/12/95	21:33

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	24.42	24.42	Ok
75	30-60% of mass 95	56.82	56.82	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	6.82	6.82	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	66.53	66.53	Ok
175	5-9% of mass 174	4.88	7.34	Ok
176	95-101% of mass 174	63.99	96.18	Ok
177	5-9% of mass 176	4.27	6.68	Ok

Injection Date: 10/12/95
Injection Time: 15:22
Data File: >G5095
Scan: 155



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.: LJN35

Lab File ID: >G5232 BFB Injection Date: 10/18/95

Instrument ID: GMS BFB Injection Time: 11:33

ION ABUNDANCE CRITERIA for G5232 are reported on a separate sheet.

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

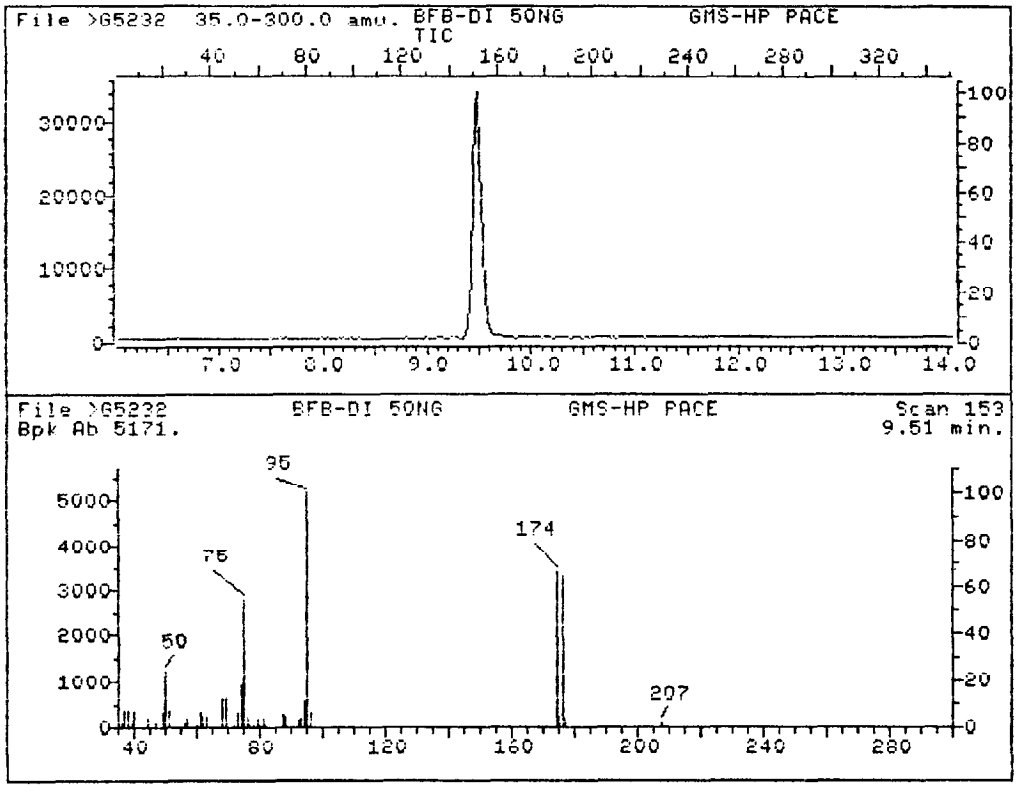
CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
VSTD010	VSTD010	G5234	10/18/95	12:41
BG101895A1	90184-169	G5235	10/18/95	13:27
LCG101895A1	90184-169MS	G5236	10/18/95	14:42
TCLPBLK404 25ML	90184-170	G5238	10/18/95	16:13

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	24.02	24.02	Ok
75	30-60% of mass 95	54.09	54.09	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	6.38	6.38	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	65.75	65.75	Ok
175	5-9% of mass 174	4.53	6.88	Ok
176	95-101% of mass 174	64.18	97.62	Ok
177	5-9% of mass 176	3.83	5.97	Ok

Injection Date: 10/18/95
Injection Time: 11:33
Data File: >G5232
Scan: 153



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.: LJN35

Lab File ID: >G5242 BFB Injection Date: 10/19/95

Instrument ID: GMS BFB Injection Time: 15:22

ION ABUNDANCE CRITERIA for G5242 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	G5244	10/19/95	16:34
CLJ44-CC-092MS	45641-010MS	G5248	10/19/95	19:29
CLJ44-CC-092MSD	45641-010MSD	G5249	10/19/95	20:27

pace INCORPORATED THE ASSURANCE OF QUALITY

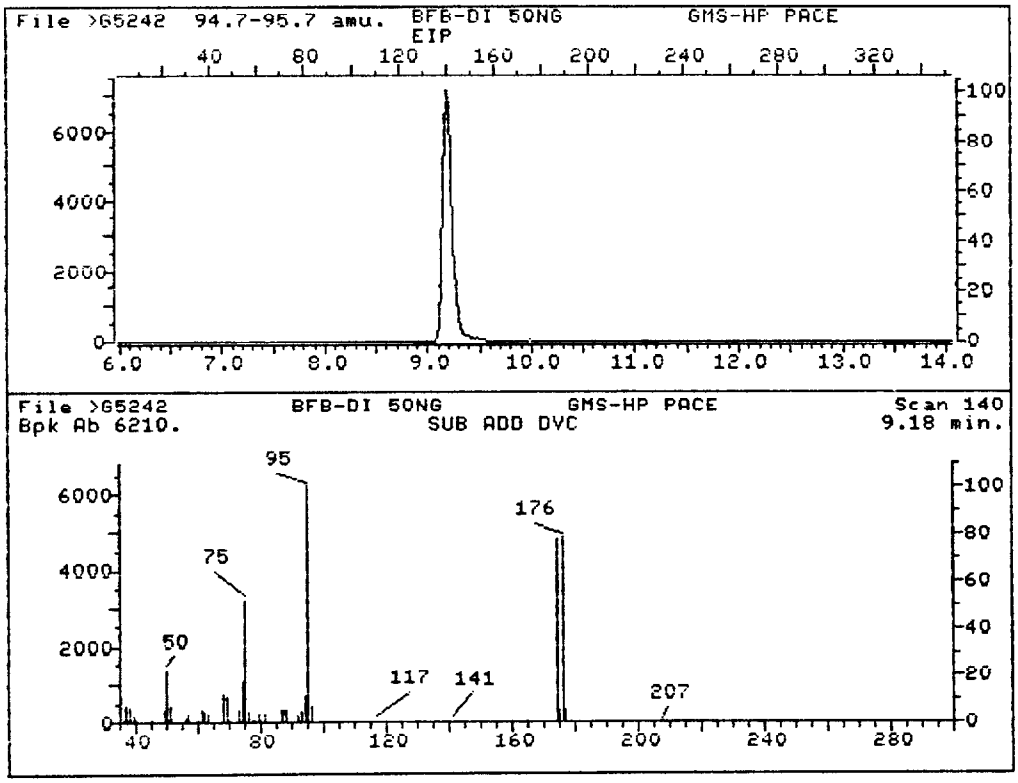
GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB) '88

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	22.14	22.14	Ok
75	30-60% of mass 95	51.76	51.76	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	77.40	77.40	Ok
175	5-9% of mass 174	5.23	6.75	Ok
176	95-101% of mass 174	78.15	100.96	Ok
177	5-9% of mass 176	5.36	6.86	Ok

Injection Date: 10/19/95
Injection Time: 15:22
Data File: >G5242
Scan: 140

THIS IS THE RESULT OF AVERAGING 139.00 140.00 141.00
AND SUBTRACTING BACKGROUND SCAN 100



Initial Calibration Data
HSL Compounds

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

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

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

C50921/I-0921

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
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 (**)

Initial Calibration Data
HSL Compounds

Case No: _____ Instrument ID: GMS-HP

Contractor: RESAN Calibration Date: 09/21/95

Contract No: 68020026

C60921 / E60921

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

Compound	Laboratory ID: >G4614 RF 10.00	>G4612 RF 20.00	>G4611 RF 50.00	>G4610 RF 100.00	>G4609 RF 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 (**)

NC
10/30/95

I50909

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
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 (**)

Initial Calibration Data
HSL Compounds

Case No: Instrument ID: GMS-HP

Contractor: RESRN Calibration Date: ~~10/10/95~~ 10/10/95

Contract No: 68D20026

IG1010

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

Compound	Laboratory ID: >65036 RF 10.00	>65035 RF 20.00	>65032 RF 50.00	>65034 RF 100.00	>65033 RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C010 CHLOROMETHANE	.62521	.78350	.60877	.52057	.68253	.411	.64412	15.087		**
C015 BROMOMETHANE	1.79362	1.96731	1.59012	1.16887	1.10953	.490	1.52189	24.891		
C020 VINYL CHLORIDE	1.05509	1.27402	1.08221	.82260	.90150	.427	1.02705	17.091	*	
C025 CHLOROETHANE	.71779	.82828	.66337	.49527	.56335	.501	.69561	19.959		
C030 METHYLENE CHLORIDE	2.39816	2.09949	1.61894	1.18222	1.25851	.708	1.71147	30.862		
C035 ACETONE	.42515	.32323	.25468	.28730	.16291	.613	.29465	30.316		
C040 CARBON DISULFIDE	1.95881	2.56732	2.33905	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	13.684	*	
C058 TETRAHYDROFURAN	.09233	.12262	.05562	.08722	.09497	1.012	.09655	14.060		
C060 1,1-DICHLOROETHANE	2.66957	3.13121	2.69247	2.12056	2.38028	.852	2.59442	15.102		**
C064 1,2-DICHLOROETHENE(cis)	1.73405	2.05903	1.75087	1.36044	1.52615	.941	1.69017	15.212		
C063 1,2-DICHLOROETHENE(trans)	1.50166	1.68850	1.60342	1.28595	1.46828	.760	1.55356	14.148		
MTBE	3.22730	3.68684	3.03973	2.60686	2.92999	.739	3.09608	12.877		
C069 CHLOROFORM	3.57865	4.31056	3.65806	2.97701	3.30368	.991	3.56567	13.877	*	
C110 2-BUTANONE	.50393	.58886	.47991	.49330	.38716	.910	.49063	14.646		
C095 1,2-DICHLOROETHANE	2.54540	2.96654	2.46581	1.99712	2.15851	1.104	2.42268	15.464		
C515 1,2-DICHLOROETHANE-d4	1.67454	1.97238	1.96501	1.46526	1.70942	1.105	1.63522	14.252		
C115 1,1,1-TRICHLOROETHANE	.66608	.78364	.64538	.57772	.67930	.885	.65842	13.135		
C120 CARBON TETRACHLORIDE	.58666	.67754	.56872	.50185	.59363	.927	.56968	12.652		
C125 VINYL ACETATE	.39338	.49458	.39424	.30622	.38641	.784	.39537	16.741		
C130 BROMODICHLOROMETHANE	.68554	.80208	.67389	.61367	.73273	1.127	.68678	11.890		
C140 1,2-DICHLOROPROPANE	.33659	.40783	.32994	.28764	.32240	1.087	.33688	13.058	*	
C143 CIS-1,3-DICHLOROPROPENE	.42842	.56867	.48216	.42499	.50160	1.225	.48121	12.309		
C150 TRICHLOROETHENE	.40605	.48718	.40336	.36224	.40649	1.057	.41306	11.003		
C155 DIBROMOCHLOROMETHANE	.44979	.63435	.53794	.50632	.55543	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~~ 10/20/95

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	
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	.59949	.44891	.44248	.42656	.766	.47216	14.057			
C210 2-HEXANONE	.17977	.24950	.18580	.22118	.20307	.870	.20786	13.628			
C220 TETRACHLOROETHENE	.42067	.57263	.47697	.35954	.47583	.906	.46911	14.208			
C225 1,1,2,2-TETRACHLOROETHANE	.65165	.82891	.62679	.54891	.62781	1.144	.65664	15.758		**	
C230 TOLUENE	1.50525	1.71623	1.38387	1.15947	1.37616	.827	1.42020	14.255	*		
C235 CHLOROBENZENE	.99944	1.18204	.94068	.80604	.92353	1.006	.96835	14.199		**	
C240 ETHYLBENZENE	.42441	.55459	.43569	.37800	.44789	1.013	.44820	14.883	*		
C245 STYRENE	.85267	1.10589	.89439	.75697	.90193	1.061	.90237	14.137			
C251 XYLENE (O)	.47529	.62969	.51279	.41972	.48296	1.077	.50397	15.400			
C255 XYLENE (Total)	.54953	.69576	.57116	.48896	.55554	1.023	.57019	13.196			(Conc=20.0,40.0,100.0,200
C510 BROMOFLUOROBENZENE	.64601	.80647	.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: 10/12/95

Contractor: RESAN Time: 01:40

Contract No: 68020026 Laboratory ID: >G5079

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
C010 CHLOROMETHANE	.64412	.45670	29.10		**
C015 BROMOMETHANE	1.52189	.99329	34.73		
C020 VINYL CHLORIDE	1.02705	.92760	9.68	*	
C025 CHLOROETHANE	.65361	.59762	8.57		
C030 METHYLENE CHLORIDE	1.71147	1.66526	2.70		
C035 ACETONE	.29465	.23257	21.07		
C040 CARBON DISULFIDE	2.21227	2.21407	.08		
C042 TRICHLOROFLUOROMETHANE	3.32006	3.10785	6.39		
C045 1,1-DICHLOROETHENE	1.32145	1.12348	14.98	*	
C058 TETRAHYDROFURAN	.09855	.09643	2.15		
C050 1,1-DICHLOROETHANE	2.58442	2.49045	3.64		**
C054 1,2-DICHLOROETHENE(cis)	1.69017	1.53731	9.04		
C053 1,2-DICHLOROETHENE(trans)	1.55354	1.29280	16.78		
MTBE	3.09808	2.97099	4.10		
C060 CHLOROFORM	3.56567	3.35715	5.85	*	
C110 2-BUTANONE	.49063	.49969	1.85		
C065 1,2-DICHLOROETHANE	2.42268	2.33386	3.67		
CS15 1,2-DICHLOROETHANE-d4	1.63532	2.09777	28.28		
C115 1,1,1-TRICHLOROETHANE	.65842	.59891	9.04		
C120 CARBON TETRACHLORIDE	.56968	.52312	8.17		
C125 VINYL ACETATE	.39537	.41799	5.72		
C130 BROMODICHLOROMETHANE	.68678	.66747	2.81		
C140 1,2-DICHLOROPROPANE	.33688	.32272	4.20	*	
C143 CIS-1,3-DICHLOROPROPENE	.48121	.44452	7.62		
C150 TRICHLOROETHENE	.41306	.35092	15.04		
C155 DIBROMOCHLOROMETHANE	.54477	.51801	4.91		
C160 1,1,2-TRICHLOROETHANE	.30129	.27992	7.09		
C165 BENZENE	.88213	.76846	12.89		
C172 TRANS-1,3-DICHLOROPROPENE	.41070	.39816	3.05		
C176 2-CHLOROETHYLVINYLETHER	.13338	.13274	.48		
C180 BROMOFORM	.39290	.37709	4.03		**
CS05 TOLUENE-d8	.84906	.99094	16.71		

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: 10/12/95

Contractor: RESAN Time: 01:40

Contract No: 68020026 Laboratory ID: >G5079

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	.46693	1.11			
C210 2-HEXANONE	.20786	.19996	3.80			
C220 TETRACHLOROETHENE	.46911	.39714	15.34			
C225 1,1,2,2-TETRACHLOROETHANE	.65664	.61739	5.98		**	
C230 TOLUENE	1.42820	1.25406	12.19	*		
C235 CHLOROBENZENE	.96855	.83119	14.18		**	
C240 ETHYLBENZENE	.44820	.38141	14.90	*		
C245 STYRENE	.90233	.80340	10.96			
C251 XYLENE (O)	.50397	.44183	12.33			
C250 XYLENE (total)	.57094	.50278	11.94			(Conc=100.00)
C510 BROMOFLUOROBENZENE	.68767	.82653	20.19			

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: 10/12/95

Contractor: RESAN

Time: 15:50

Contract No: 68020026

Laboratory ID: >G5096

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
C010 CHLOROMETHANE	.64412	.56389	12.46		**
C015 BROMOMETHANE	1.52189	1.30197	14.45		
C020 VINYL CHLORIDE	1.02705	1.01649	1.03	*	
C025 CHLOROETHANE	.65361	.65356	.01		
C030 METHYLENE CHLORIDE	1.71147	1.62631	4.98		
C035 ACETONE	.29465	.27664	6.11		
C040 CARBON DISULFIDE	2.21227	2.49097	12.60		
C042 TRICHLOROFLUOROMETHANE	3.32006	3.33835	.55		
C045 1,1-DICHLOROETHENE	1.32145	1.32636	.37	*	
C058 TETRAHYDROFURAN	.09855	.10635	7.92		
C050 1,1-DICHLOROETHANE	2.58442	2.70252	4.57		**
C054 1,2-DICHLOROETHENE(cis)	1.69017	1.74991	3.53		
C053 1,2-DICHLOROETHENE(trans)	1.55354	1.68745	8.62		
MTBE	3.09808	3.36520	8.62		
C060 CHLOROFORM	3.56567	3.75330	5.26	*	
C110 2-BUTANONE	.49063	.46338	5.55		
C065 1,2-DICHLOROETHANE	2.42268	2.46362	1.69		
CS15 1,2-DICHLOROETHANE-d4	1.63532	1.97135	20.55		
C115 1,1,1-TRICHLOROETHANE	.65842	.64580	1.92		
C120 CARBON TETRACHLORIDE	.56968	.55876	1.92		
C125 VINYL ACETATE	.39537	.39426	.28		
C130 BROMODICHLOROMETHANE	.68678	.68373	.44		
C140 1,2-DICHLOROPROPANE	.33688	.32974	2.12	*	
C143 CIS-1,3-DICHLOROPROPENE	.48121	.48818	1.45		
C150 TRICHLOROETHENE	.41306	.40197	2.69		
C155 DIBROMOCHLOROMETHANE	.54477	.55217	1.36		
C160 1,1,2-TRICHLOROETHANE	.30129	.29779	1.16		
C165 BENZENE	.88213	.84877	3.78		
C172 TRANS-1,3-DICHLOROPROPENE	.41070	.43044	4.81		
C176 2-CHLOROETHYLVINYLETHER	.13338	.07553	43.38		
C180 BROMOFORM	.39290	.40526	3.14		**
CS05 TOLUENE-d8	.84906	.96942	14.18		

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: 10/12/95

Contractor: RESAN

Time: 15:50

Contract No: 68020026

Laboratory ID: >G5096

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	.38096	19.32			
C210 2-HEXANONE	.20786	.19184	7.71			
C220 TETRACHLOROETHENE	.46911	.45836	2.29			
C225 1,1,2,2-TETRACHLOROETHANE	.65664	.63713	2.97		**	
C230 TOLUENE	1.42820	1.31978	7.59	*		
C235 CHLOROBENZENE	.96855	.92705	4.28		**	
C240 ETHYLBENZENE	.44820	.44221	1.34	*		
C245 STYRENE	.90233	.89498	.81			
C251 XYLENE (O)	.50397	.50178	.44			
C250 XYLENE (total)	.57094	.56784	.54			(Conc=100.00)
CS10 BROMOFLUOROBENZENE	.68767	.76858	11.76			

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: 10/18/95

Contractor: RESAN Time: 12:41

Contract No: 68D20026 Laboratory ID: >G5234

Instrument ID: GMS-HP Initial Calibration Date: 10/17/95

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

Compound		$\overline{RF}$	RF	%Diff	CCC	SPCC	
C010 CHLOROMETHANE		.18650	.15683	15.91		**	
C015 BROMOMETHANE		.36378	.36688	.85			
DICHLORODIFLUOROMETHANE		.43453	.41323	4.90			
C025 CHLOROETHANE		.17043	.17582	3.17			
C020 VINYL CHLORIDE		.27643	.26307	4.83	*		
C030 METHYLENE CHLORIDE		.44623	.40837	8.48			
C110 2-BUTANONE		.04557	.04387	3.74			(Conc=25.00)
C035 ACETONE		.02694	.02090	22.41			(Conc=25.00)
C070 MTBE		.52494	.46077	12.22			
C040 CARBON DISULFIDE		.63706	.58615	7.99			
C042 TRICHLOROFLUOROMETHANE		.95241	.89321	6.22			
DIBROMOFLUOROMETHANE	SURR	.95302	.91651	3.83			
C045 1,1-DICHLOROETHENE		.40346	.36754	8.90	*		
BROMOCHLOROMETHANE		.21532	.19596	8.99			
C050 1,1-DICHLOROETHANE		.86017	.82404	4.20		**	
C054 1,2-DICHLOROETHENE (cis)		.47338	.45101	4.73			
C053 1,2-DICHLOROETHENE(trans)		.43740	.40837	6.64			
C060 CHLOROFORM		1.09987	1.04152	5.30	*		
2,2-DICHLOROPROPANE		.69697	.72216	3.61			
C115 1,1,1-TRICHLOROETHANE		.99250	.94645	4.64			
1,2-DICHLOROETHANE-d4	SURR	.41745	.38991	6.60			
C205 4-METHYL-2-PENTANONE		.08740	.07583	13.23			(Conc=25.00)
DIBROMOMETHANE		.20417	.18770	8.06			
C065 1,2-DICHLOROETHANE		.24407	.22677	7.09			
C120 CARBON TETRACHLORIDE		.50639	.49140	2.96			
C130 BROMODICHLOROMETHANE		.49892	.46947	5.90			
C140 1,2-DICHLOROPROPANE		.29030	.27417	5.56	*		
TOLUENE-d8	SURR	.94031	.89244	5.09			
1,1-DICHLOROPROPENE		.42232	.40721	3.58			
C150 TRICHLOROETHENE		.38827	.37093	4.46			
C165 BENZENE		.74575	.70556	5.39			
C230 TOLUENE		.51524	.49042	4.82	*		

RF - Response Factor from daily standard file at 10.00 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: 10/18/95

Contractor: RESAN Time: 12:41

Contract No: 68D20026 Laboratory ID: >G5234

Instrument ID: GMS-HP Initial Calibration Date: 10/17/95

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

Compound		$\overline{RF}$	RF	%Diff	CCC	SPCC	
C160 1,1,2-TRICHLOROETHANE		.15048	.14299	4.98			
1,2-DIBROMOETHANE		.21877	.19800	9.50			
C210 2-HEXANONE		.07685	.06368	17.14			(Conc=25.00)
C180 BROMOFORM		.24859	.21793	12.34		**	
1,1,1,2-TETRACHLOROETHANE		.46109	.43096	6.53			
C220 TETRACHLOROETHENE		.63091	.60203	4.58			
4-BROMOFLUOROBENZENE	SURR	.78644	.70580	10.25			
C155 DIBROMOCHLOROMETHANE		.48558	.44435	8.49			
1,3-DICHLOROPROPANE		.39164	.35465	9.44			
C235 CHLOROBENZENE		.99138	.90286	8.93		**	
C240 ETHYLBENZENE		1.66777	1.52994	8.26	*		
C251 o-XYLENE		.58212	.53664	7.81			
C250 m,p-XYLENES		.61409	.56377	8.20			(Conc=20.00)
C245 STYRENE		.92820	.85684	7.69			
C225 1,1,2,2-TETRACHLOROETHANE		.55026	.48351	12.13		**	
1,2,3-TRICHLOROPROPANE		.11726	.10346	11.77			
1,2-DIBROMO-3-CHLOROPROPANE		.09470	.07542	20.36			
HEXACHLOROBUTADIENE		.99769	.90938	8.85			
BROMOBENZENE		.81105	.74116	8.62			
ISOPROPYLBENZENE		2.90569	2.67179	8.05			
n-PROPYLBENZENE		3.97196	3.74597	5.69			
tert-BUTYLBENZENE		2.84062	2.62896	7.45			
2-CHLORDTOLUENE		2.42292	2.52855	4.36			
4-CHLOROTOLUENE		2.18273	2.14529	1.72			
sec-BUTYLBENZENE		3.96924	3.83678	3.34			
C335 1,3-DICHLOROBENZENE		1.53179	1.41220	7.81			
C350 1,2-DICHLOROBENZENE		1.26224	1.15054	8.85			
C340 1,4-DICHLOROBENZENE		1.55385	1.42188	8.49			
p-ISOPROPYLTOLUENE		2.97900	2.85692	4.10			
1,3,5-TRIMETHYLBENZENE		2.56113	2.34933	8.27			
n-BUTYLBENZENE		3.39840	3.23863	4.70			
1,2,4-TRIMETHYLBENZENE		2.44637	2.32055	5.14			

RF - Response Factor from daily standard file at 10.00 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: 10/18/95

Contractor: RESAN Time: 12:41

Contract No: 68D20026 Laboratory ID: >65234

Instrument ID: GMS-HP Initial Calibration Date: 10/17/95

IG1018

P2604

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

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C445 1,2,4-TRICHLOROBENZENE	1.11549	.91751	17.75		
1,2,3-TRICHLOROBENZENE	.89321	.73034	18.23		
C450 NAPHTHALENE	1.08164	.85355	21.09		

RF - Response Factor from daily standard file at 10.00 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: 10/19/95

Contractor: RESAN

Time: 16:34

Contract No: 68D20026

Laboratory ID: >65244

Instrument ID: GMS-HP

Initial Calibration Date: 10/12/95 10/10/95

I-6019

Minimum $\overline{RF}$ for SPCC is .3

Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C010 CHLOROMETHANE	.64412	.64065	.54		**
C015 BROMOMETHANE	1.52189	1.63179	7.22		
C020 VINYL CHLORIDE	1.02705	1.15268	12.23	*	
C025 CHLOROETHANE	.65361	.72038	10.22		
C030 METHYLENE CHLORIDE	1.71147	1.52437	10.93		
C035 ACETONE	.29465	.27205	7.67		
C040 CARBON DISULFIDE	2.21227	2.61360	18.14		
C042 TRICHLOROFLUOROMETHANE	3.32006	3.02877	8.77		
C045 1,1-DICHLOROETHENE	1.32145	1.40516	6.33	*	
C058 TETRAHYDROFURAN	.09855	.10842	10.01		
C050 1,1-DICHLOROETHANE	2.58442	2.91313	12.72		**
C054 1,2-DICHLOROETHENE(cis)	1.69017	1.92518	13.90		
C053 1,2-DICHLOROETHENE(trans)	1.55354	1.69394	9.04		
MTBE	3.09808	3.29781	6.45		
C060 CHLOROFORM	3.56567	3.72551	4.48	*	
C110 2-BUTANONE	.49063	.50399	2.72		
C065 1,2-DICHLOROETHANE	2.42268	2.39183	1.27		
CS15 1,2-DICHLOROETHANE-d4	1.63532	1.91064	16.84		
C115 1,1,1-TRICHLOROETHANE	.65842	.60227	8.53		
C120 CARBON TETRACHLORIDE	.56968	.52170	8.42		
C125 VINYL ACETATE	.39537	.45497	15.08		
C130 BROMODICHLOROMETHANE	.68678	.69913	1.80		
C140 1,2-DICHLOROPROPANE	.33688	.36846	9.38	*	
C143 CIS-1,3-DICHLOROPROPENE	.48121	.49957	3.82		
C150 TRICHLOROETHENE	.41306	.41262	.11		
C155 DIBROMOCHLOROMETHANE	.54477	.54488	.02		
C160 1,1,2-TRICHLOROETHANE	.30129	.31252	3.73		
C165 BENZENE	.88213	.91209	3.40		
C172 TRANS-1,3-DICHLOROPROPENE	.41070	.41836	1.87		
C176 2-CHLOROETHYLVINYLETHER	.13338	.12963	2.81		
C180 BROMOFORM	.39290	.38127	2.96		**
CS05 TOLUENE-d8	.84906	1.01672	19.75		

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: 10/19/95

Contractor: RESAN

Time: 16:34

Contract No: 68020026

Laboratory ID: >65244

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	.45532	3.57			
C210 2-HEXANONE	.20786	.19870	4.41			
C220 TETRACHLOROETHENE	.46911	.41673	11.17			
C225 1,1,2,2-TETRACHLOROETHANE	.65664	.64611	1.60		**	
C230 TOLUENE	1.42820	1.36993	4.08	*		
C235 CHLOROBENZENE	.96855	.94537	2.39		**	
C240 ETHYLBENZENE	.44820	.44181	1.43	*		
C245 STYRENE	.90233	.94160	4.35			
C251 XYLENE (O)	.50397	.51921	3.02			
C250 XYLENE (total)	.57094	.58342	2.19			(Conc=100.00)
CS10 BROMOFLUOROBENZENE	.68767	.80134	16.53			

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.: LJN35

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.						
LSV1126	-1*	-1.00*	-1*	-1.00*	-1*	-1.00*

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.: LJN35

Lab File ID (Standard): >G5079 Date Analyzed: 10/12/95

Instrument ID: GMS Time Analyzed: 01:40

	IS1(BCM)		IS2(DFB)		IS3(CBZ)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	65426	11.50	336754	13.62	254533	21.17
UPPER LIMIT	130852	12.00	673508	14.12	509066	21.67
LOWER LIMIT	32713	11.00	168377	13.12	127267	20.67
CLIENT I.D.						
BV1126B	78311	11.59	405668	13.70	293288	21.23
CLJ44-CC-092	75932	11.52	383853	13.66	305719	21.21
CLJ44-CC-097	77595	11.51	383026	13.63	327836	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

8A
VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN35

Lab File ID (Standard): >G5096 Date Analyzed: 10/12/95

Instrument ID: GMS Time Analyzed: 15:50

	IS1(BCM)		IS2(DFB)		IS3(CBZ)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	82178	11.40	452171	13.53	344132	21.13
UPPER LIMIT	164356	11.90	904342	14.03	688264	21.63
LOWER LIMIT	41089	10.90	226086	13.03	172066	20.63
CLIENT I.D.						
BG101295A1	82180	11.55	436701	13.66	324681	21.21
LCG101295A1	73485	11.36	425663	13.49	324323	21.09
CLJ44-CU-090	74898	11.56	411103	13.67	312141	21.22
CLJ44-CC-092	64842	11.52	350504	13.65	265922	21.20
CLJ44-CC-097	69937	11.52	372386	13.64	302547	21.20
CLJ44-CC-098-RB	70564	11.55	371619	13.66	302755	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

8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN35

Lab File ID (Standard): >G5234 Date Analyzed: 10/18/95

Instrument ID: GMS Time Analyzed: 12:41

	IS1(PFB)		IS2(DFB)		IS3(CBZ)		IS4(DCB)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	177536	11.29	312102	13.57	201890	21.16	121789	27.80
UPPER LIMIT	355072	11.79	624204	14.07	403780	21.66	243578	28.30
LOWER LIMIT	88768	10.79	156051	13.07	100945	20.66	60895	27.30
CLIENT I.D.								
BG101895A1	161819	11.31	275697	13.58	196255	21.15	102034	27.76
LCG101895A1	186177	11.41	320274	13.65	212025	21.23	113633	27.83
TCLPBLK404 25ML	162602	11.32	270715	13.59	189824	21.16	104174	27.84

IS1 (PFB) = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene
IS4 (DCB) = 1,4-Dichlorobenzene-d4

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

8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN35

Lab File ID (Standard): >G5244 Date Analyzed: 10/19/95

Instrument ID: GMS Time Analyzed: 16:34

	IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	96847	11.39	514819	13.50	389848	21.08
UPPER LIMIT	193694	11.89	1029638	14.00	779696	21.58
LOWER LIMIT	48424	10.89	257410	13.00	194924	20.58
CLIENT I.D.						
CLJ44-CC-092MS	54549	11.36	260476	13.47	226728	21.02
CLJ44-CC-092MSD	55247	11.22	274094	13.38	233057	20.96

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

6.24 5pt.

MSGSAM

Voltage = 2075

PACE New England

GCMS/VOA Instr G **MS-HP** Analyst/Date TGN NR 9/21/95 STD Lot # V-6417B

071195TGN

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
>64606	#	—	—	BFB-DI	50ng	MTR1 M/e95 =		N	
>64607	#340	—	—	BFB-DI	50ng	MTR1 M/e95 = 29K		Y	✓
				Scan: 150+151+152-100		OK '88 + 191			
				time: 12:19		V-6058			
>64608		I60921	1	VSHD200	5mls	CG0921/IG09 21			
09			2	VSHD200				Y	✓
10			3	VSHD100				Y	✓
11			4	VSHD050				Y	✓
12			5	VSHD020				Y	✓
13			6	VSHD010	↓	RE ↑ surr Rf's		N	
14			7	VSHD010	5mls	C-2 C-32 (M2)		Y	✓
				START OF 2nd WINDOW					
>64615	#	—	—	BFB-DI	50ng			N	
16		—	—	DFB-DI	50ng	BASE LOW FAILURE		N	
17		—	—	BFB-DI	50ng	BACK GC		N	
18		—	—	BFB-DI	50ng	LOW 73 AT 100% BASE PEAK 52%		N	
19	#340	—	—	BFB-DI	50ng	V-6058 M/e95 = 22K		Y	✓
				TIME 20:00		'88 +91			
				SCAN 149+150+151-100					
>64620		I60921	8	VSHD010 @5	5mls			Y	
21		I60921	9	BG092195A81	↓	VBLKGR		Y	✓
22			10	BG092195B1	↓	VBLKGS		Y	✓
23			11	LCG092195A1	5mls			Y	✓
24			12	45,327-1C	2mls	R624 Pyridine CH549	>2	Y	✓
25			13	45,326-6B	2mls		>2	N	
26			14	45,347-4C	3mls	RE WINDS	>2	N	
27			1	-4,MS1)	↓		>2	N	
28			2	-4,MSDE	↓	↓ ↓ ↓	>2	N	
29			3	45,391-3	5mls	(RTNOA) NH VOA TIP Blank	<2	Y	✓
30			4	-4	↓	EB Blank	<2	Y	✓
31			5	-1	500mls	MS=C47 ↑ NTC UP-1	<2	Y	✓
32 33			6 7	-2 -2MS	↓	↓ OP-1 UP-1MS	<2	Y	✓

MSGSAM
Voltage = 2200

PACE New England

GCMS/VOA Instr G-MS-HP Analyst/Date MC 1/9/95 STD Lot # V-6453

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
>64996	9/344	—	—	BFB-DI	50ng	MRL 11/695=19K		y	
				Scan: 1584 1594 160-100		OK '88 + '91 V-6088			
				time: 1019					
>64997		IG0921	1	VSHD050	5mls	Not used			
98		↓	2	VSHD050	↓			y	
99		IG1009	3	BG10095A1	↓	VBLK6-y		y	
>65000		IG1009	4	45,593-10	5mls	V10/6(R624MK-) LJN30	<2	y	✓
01			6	45,613-4	5mls	V10/9(R624MK-) LJN32	<2	y	✓
02			4	LCG10095A1	5mls			y	✓
03			7	45,590-3	5mls	V10/10(R624TCLP) LJN29 402		y	✓
04			8	45,524-4	5mls	LR(R624MK-) 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	-1msd	5mls		<2	y	✓
10			14	-2	5mls		<2	y	✓
11			15	-3	5mls	↓	<2	y	✓
12			16	BFB 50ng	5mls	Purged			
13			1	BFB 50ng	↓	↓ Scan: 892 897 of 1st time: 2217 V-6091		y	✓
14		IG0921	2	VSHD050	5mls			y	✓
15		IG0009	3	BG10095A2	↓	VBLKG2		y	✓
16			4	LCG10095A2	↓			y	✓
17			5	BV1126A	100ml	↓Tol-d8 RE		RJ	
18			6	LSV1126	↓			y	✓
19			7	45,594-7	5mls	(R624TCLP) V10/10 LJN31 402		y	✓
20			8	-8	↓	↓		y	✓
21			9	-9	↓	↓		y	✓
22			10	-10	100ml	(R8240) RE low		N	✓
23			11	-13	5mls	TCLP list	↓	y	✓
24			12	HB45475	↓	CH55	↓	y	

8240 5pt. MSESAM

Voltage = 2190

PACE New England

100995TGN

GCMS/VOA Instr G **MS-HP** Analyst/Date NR 10/10/95 STD Lot # V-6471A

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
>65028	#344	—	—	BFB-DI	50ng	M+R1 M/e95 = 20K		y	
				Scan: 153+154+155-100		OK '88+'91 V-6058			
				time: 1046					
>65029		IG0921	1	VSHD050	5mls	Not used			
30		↓	2	VSHD050	↓	↑ Vinyl chloride.		N	
31		IG1010	3	BG10109541		VBLKGA		N	
32		~~IG0921~~	2	VSHD050	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	M+R1 M/e95 =		y	
				scan:					
				time: 17:33					
>65038		IG1010	6	VSHD050	5mls			Y	
39		IG0810	7	BG10109512	↓	VBLKGB		N	
40			8	BG10109582		VBLKGC			
41			8	LCG101095A2	5ml	(VSTD2)			
42			9	46614-9		(RCNTICLP) V 10/11 BLK 403			
43			10	-10					
44			11	-11					
45			12	-12					
46			13	45640-18	↓	V 10/11 (RG14MCLW)			
47			14	BV1126A	100ME	(RG240)			
48			15	45529-1	5ml	(RG14MCLW) IV(3) 10/10/95			
49			16	-2	↓				
50			1	45537-1	20ME	(RG240MS) LR			
51			2	45539-1	100ME	↓			
52			3	45528-1	5ml	(RG14MCLW)			
53			4	45527-1					
54			5	45516-1	↓	(RG14)			

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 0111 3

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
>65060	344	—	—	BFB - DI	50ng	Area: 111/675 = 15%			✓
				Scan: 157+158 +159-100		OK '88 + '91			
				time: 12:25		V-6088			
>65061		IG1010	1	VSTD050	5mls	Not used			
62		↓	2	VSTD050	↓				✓
63		IG1011	3	BG1011954.1	↓	VBLight m2=66			✓
>65064		IG1011	4	LCG1011954.1	5mls				✓
65			5	BV1126A	100ml	REX ↓ Surr		N	
66			6	TCLPBLK402	5mls				✓
67			7	TCLPBLK403	↓				✓
68			8	45,614-9	5mls	(R624 TCLP) CJN3343			✓
69			9	-12	↓	↓			✓
70			10	45,529-1	5mls	(R624 Pkg) TCLP RE 5mls	>2	N	
71			11	-2	↓	↓	<2		✓
72			12	45,528-1	5mls	(R624 Pkg) CHS49	>2		✓
73			13	45,527-1	↓	↓ CHS51	>2		✓
74			14	-1ms	↓	↓	>2		✓
75	345		15	-1msd	↓	↓	>2		✓
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 '88+'91			✓
79		IG1010	3	VSTD050	↓	↓			
80		IG1011	4	BG1019542	↓	VBLKGG			
81			5	LCG1019542	↓	↓			✓
82			6	45,645-6	5mls	(R624 Pkg) V 10/12	72		✓
83			7	45,550-1	5mls	CHS52	<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	-10	5mls	↓	<2		✓

Cont. from pg. 47

PACE New England

GCMS/VOA Instr G **MS-HP** Analyst/Date AR 10/11/95 STD Lot # V 6711A

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
65089		IG4011	13	45,537-1	20ME	(R8240MS)		y	✓
90			14	~~45,539-1~~ AR 10/11/95 ③	100ME 1ME	(R8240MS)		y	✓
91			15	~~46,604-1~~	LME	~~(R8240MS) GR Not Run~~		y	
~~92~~	~~AR 10/12/95 ⑥~~			~~45,541-1 BARE~~					
92			16	BY1126B	100ME			y	✓
93			1	45,641-10	↓	(R8240) LJW35 V 10/12/3		y	✓
94			2	-11	↓	↓ AR 10/12/95 ⑤		y	✓

MSGSAm

Page 49 of 100

PACE New England

Voltage = ~~2050~~ 2150 TN
AMR-③ 10/13/95

GCMS/VOA Instr G **MS-HP** Analyst/Date AMR 10/12/95 STD Lot # V-6171A

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
>65095	#345	—	—	BFB-NI	50ng	MetRI M/e95=18K		y	✓
				Scan: 155		OK '88 V-6088			
				time: 1522					
>65096		IG1010	1	VSTD050	5mls			y	✓
97		IG1012	2	BG10129541	↓	VBLKGpt		y	✓
98		↓	3	LC10129541	↓			y	✓
>65099		IG1012	4	45,550-~~1~~ 3 AMR 10/12/95	5mls	(RG24MeKin) CH552	>2	y	✓
>65100			5	45,529-1	1.5mls	↓ ↓	>2	y	✓
01			6	45,641-3	5mls	(RG24RLP) V1413	>2	y	✓
02			7	-4	↓	↓ ↓	>2	y	✓
03			8	-5			>2	y	✓
04			9	-8	↓	↓ ↓	>2	y	✓
05			10	46,554-1	5mls	(RG24MeKin) CH549	>2	y	✓
06			11	45,600-1	5mls	(RG24CWMTBE)	<2	y	✓
07			12	-2	↓	↓	>2	y	✓
08			13	-3	↓		<2	y	✓
09			14	-4	500uls		<2	y	✓
10			15	-5	5mls	↓ NOT 95% 1 o'bd Range	<2	N	
11			16	BV1126C	100uls	↓		N	
12			1	45,601-1	1ml	LR (RS240ms)		y	✓
13			~~NMR 19~~ 2/95 (3)	~~BAKE~~ Term's H2O	5mls			y	
14			/	BAKE					

%060A

MSG524
~~MSGSAM~~ NR 10/18/95 (3)
Voltage = ~~2150~~ ~~2080~~ 2080
NR 10/18/95 (3)

PACE New England

GCMS/VOA Instr G **MS-HP** Analyst/Date NR 10/18/95 STD Lot # L-61-115

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
X65232	#345	—	—	BFB - DI	50ng	MTR 1 11/9/95 = 42K		y	✓
				scan: 153		OK '18 V-6481 A			
				time: 1133					
X65233		IG1017	1	VSTD050 10	25mls	V-6481			
34		↓	2	VSTD050 10	↓			y	✓
35		IG1018	3	BG10189541	↓	VBLKGP		y	✓
				~~45,620-28~~ NR 10/18/95 (3)					
X65236		IG1018	4	LCG10189SA1	25mls			y	✓
37			5	45,620-28		(R8260W)	<2	y	✓
38			6	TCLPBLK404				y	✓
39			7	45,633-5		C-2 (R8260 ~~TCLP~~)		y	✓
40			8	-6	↓	C-3 NR 10/20/95		y	✓
41			/	BAKE		Per GMF 10/20/95 9:30 Am full list no ketones for 45,633-5 + -6. NR 10/20/95			

NR 10/18/95

Charged Helium tank
Charged septum

MSD54.m
Voltage: 2080

PACE New England

GCMS/VOA Instr G **MS-HP** Analyst/Date ACR 10/19/95 STD Lot # V 0[illegible]/13

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
>G5242	FB346	—	—	BFB - DI	50ng	MHR1 10/19/95=4.1K		4	✓
				Scan: 139+140		OK 58 + 191 V-6458.A			
				time: 1522 +141-100					
>G5243	~~AM 10/19/95~~	~~IG1010~~ IG0705	1	VSHA050	5mls	PET VOA		4	
44		↓	2	VSHD050	↓			4	✓
45		IG1015	3	BG1019SA1	↓	VBXKGQ		4	✓
46			4	LCG1019SA1	5mls	(SS)2		4	✓
47			~~5~~	VSHD005	↓			4	✓
48			6	45611 - 10ml	10ml F	LR		4	✓
49			7	-10ml	↓	↓		4	✓
50			8	45671 -1	5ml	CHS 54 (RUN MICRO)	<2	4	✓
51			9	-2	↓			4	✓
52			10	45672-2	5ml	CHS 49		4	✓
53			11	-3	↓	↓		4	✓
54			12	-1	↓	↓		4	✓
55			13	45658-1	5ml	CHS 53		4	✓
56			14	-1MS				4	✓
57			15	-1MSD				4	✓
58			16	-14	↓	↓	↓	4	✓
59			1	BAKE					

Rep 10/20/95

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

Laboratory Number : 45641-003
Field Identification : CLJ44-CU-090
Extraction Date : 10/10/95
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 4.80. 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 : 18.00 hrs

Final pH : 4.87

% 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: 45641-003
Sample Designation: CLJ44-CU-090
Date Extracted: 10/11/95
Date Analyzed: 10/12/95 12:19
QC Batch: BA2491
TCLP Batch: 282
Matrix: TCLP EXTRACT

Instrument File Name: >F2771

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 : 45641-004
Field Identification : CLJ44-CC-092
Extraction Date : 10/10/95
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 5.26. 3.5 mL 1.0N HCl was added and the mixture was then heated to 50C for ten minutes. Upon cooling the pH was 1.56, 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 : 18.00 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: 45641-004
Sample Designation: CLJ44-CC-092
Date Extracted: 10/11/95
Date Analyzed: 10/12/95 12:56
QC Batch: BA2491
TCLP Batch: 282
Matrix: TCLP EXTRACT

Instrument File Name: >F2772

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 : 45641-005
Field Identification : CLJ44-CC-097
Extraction Date : 10/10/95
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 5.53. 3.5 mL 1.0N HCl was added and the mixture was then heated to 50C for ten minutes. Upon cooling the pH was 1.57, 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 : 18.00 hrs

Final pH : 4.88

% 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: 45641-005
Sample Designation: CLJ44-CC-097
Date Extracted: 10/11/95
Date Analyzed: 10/12/95 13:32
QC Batch: BA2491
TCLP Batch: 282
Matrix: TCLP EXTRACT

Instrument File Name: >F2773

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: 45641-007
Sample Designation: CLJ44-CC-098-RB
Date Extracted: 10/11/95
Date Analyzed: 10/12/95 14:09
QC Batch: BA2491
TCLP Batch:
Matrix: TCLP EXTRACT

Instrument File Name: >F2774

SEMIVOLATILES	Concentration (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
Pyridine	BDL	5.0	0.045
1,4-Dichlorobenzene	BDL	7.5	0.045
2,4-Dinitrotoluene	BDL	0.13	0.045
2-Methylphenol	BDL	200	0.045
3,4-Methylphenols	BDL	200	0.045
Hexachloroethane	BDL	3.0	0.045
Nitrobenzene	BDL	2.0	0.045
Hexachlorobenzene	BDL	0.13	0.045
Pentachlorophenol	BDL	100	0.045
Hexachlorobutadiene	BDL	0.5	0.045
2,4,6-Trichlorophenol	BDL	2.0	0.045
2,4,5-Trichlorophenol	BDL	400	0.045

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.: 45641
Project: CAMP GEIGER/LJN35

CLIENT SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	OTHER	TOT OUT
CLJ44-CU-090	81	72	52	53	55	44		0
CLJ44-CC-092	74	69	46	52	54	44		0
CLJ44-CC-097	79	73	45	53	55	46		0
CLJ44-CC-098-RB	69	63	53	32	38	41		0
BA2491	77	66	52	34	41	41		0
LSA2491MS	82	72	54	38	49	46		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: BA2491
Sample Designation: LAB BLANK
Date Extracted: 10/11/95
Date Analyzed: 10/12/95 11:05
QC Batch: BA2491
TCLP Batch:
Matrix: TCLP EXTRACT

Instrument File Name: >F2769

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-A2491
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/12/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
PHENOL	0	200	71	36
2-CHLOROPHENOL	0	200	117	59
1,4-DICHLOROBENZENE	0	100	56	56
N-NITROSO-DI-N-PROPYLAMINE	0	100	88	88
1,2,4-TRICHLOROBENZENE	0	100	54	54
4-CHLORO-3-METHYLPHENOL	0	200	121	61
ACENAPHTHENE	0	100	64	64
4-NITROPHENOL	0	200	66	33
2,4-DINITROTOLUENE	0	100	67	67
PENTACHLOROPHENOL	0	200	93	47
PYRENE	0	100	49	49

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

pace INCORPORATED
THE ASSURANCE OF QUALITY

dual pH - TCLP

PACE INCORPORATED
Organics Extraction
AQUEOUS PREP LOG

PROTOCOL: EPA SW846 | LOG BOOK NO: 4

SOP #: QA5514 | STEAMBATH TEMP: 84 (Range 80-90°C) | METHOD: CONT/3520 (SEPF/3510)

MATRIX: AQUEOUS | Reviewed By/Date: JAK 10/12/95 | TEST/LEVEL: ABN / TCLP

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
—	PM	BA2491	1.0	LSA2491	1419 0.5 mL	—	10.0	10.0	1.0	N/A	JC4 10/12/95
—	10-11-95	LSA2491	1.0	45576-1	100+200 ppm	1386 1.0 mL					
19		45641-3	0.200	ms/msd	✓	100+200 ppm N/A					
20		-4	0.200		✓						
1		-5	0.200	none	✓						
2		-7	0.970	assigned	✓						

ac = 45576-1 ms/msd

none assigned

PM 10-11-95

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

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.: LJN35

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

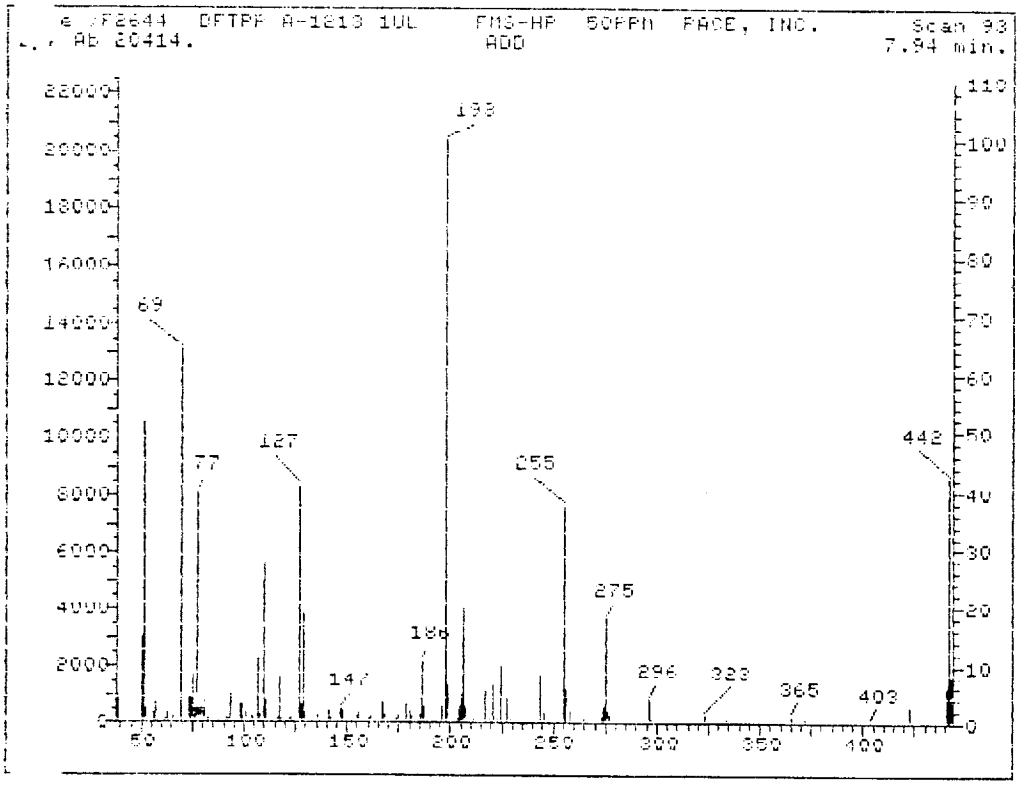
GC/MS PERFORMANCE STANDARD

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.: LJN35

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
TCLPBLANK#282	90001-282	F2721	10/05/95	20:22

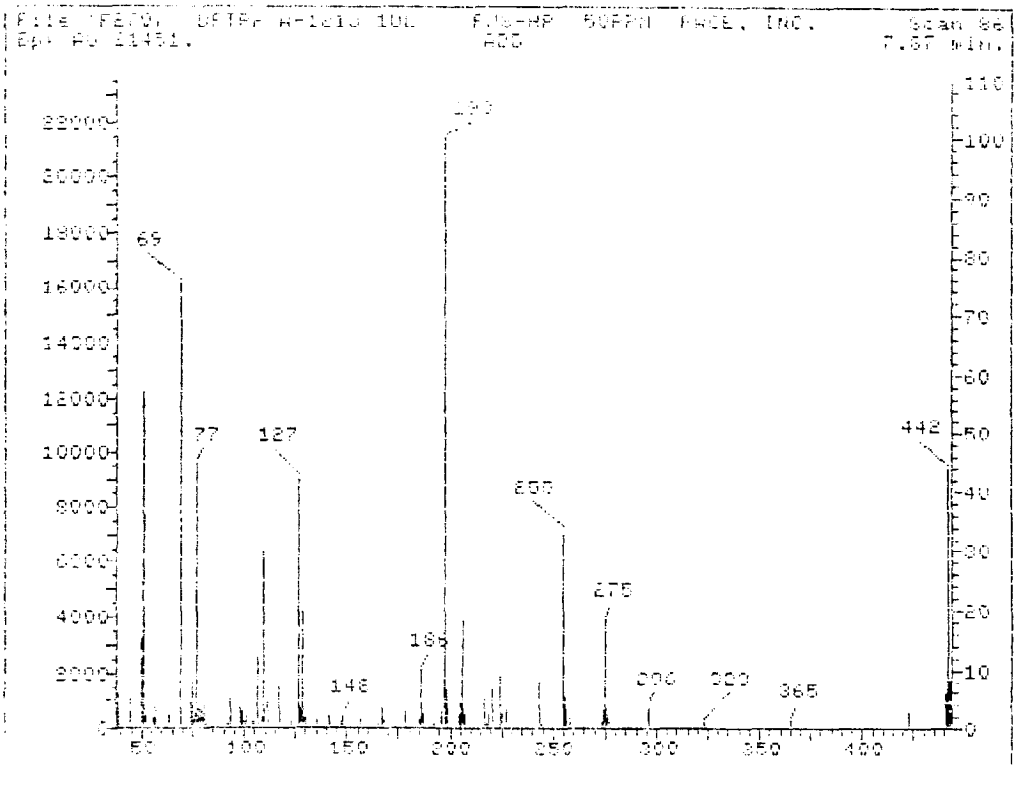
GC/MS PERFORMANCE STANDARD

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.: LJN35

Lab File ID: >F2766 DFTPP Injection Date: 10/12/95

Instrument ID: FMS DFTPP Injection Time: 10:11

ION ABUNDANCE CRITERIA for F2766 are reported on a separate sheet.

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

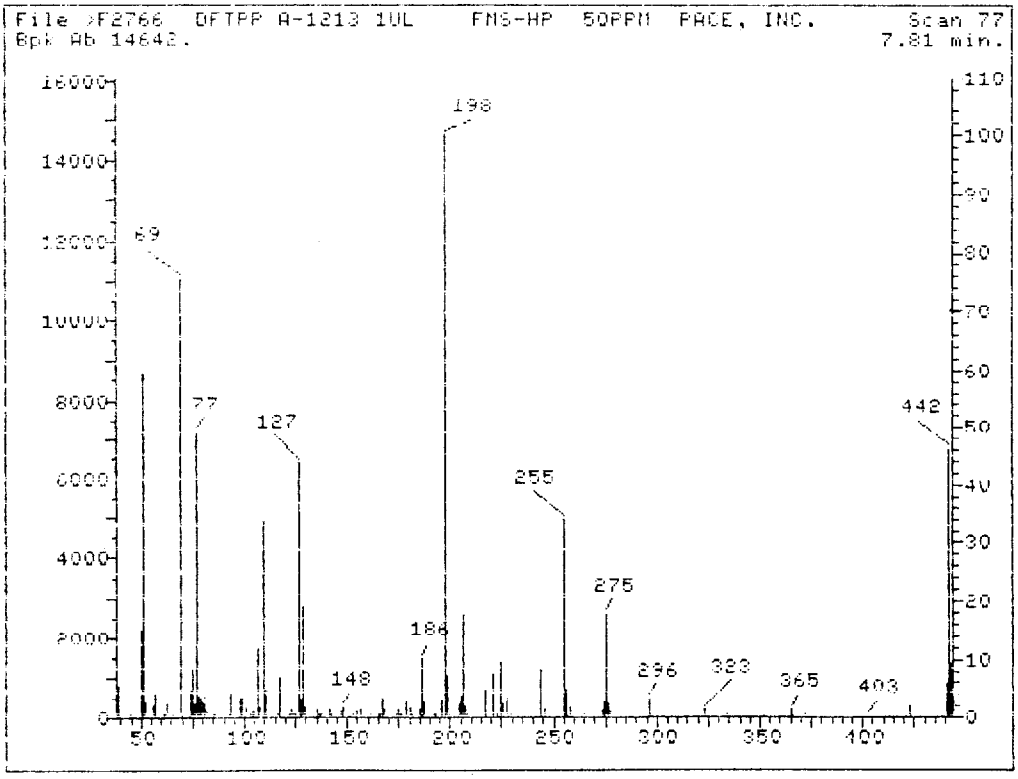
CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
ABNSTD050	ABNSTD050	F2768	10/12/95	10:27
BA2491	90176-161	F2769	10/12/95	11:05
LSA2491	90176-161MS	F2770	10/12/95	11:42
CLJ44-CU-090	45641-003	F2771	10/12/95	12:19
CLJ44-CC-092	45641-004	F2772	10/12/95	12:56
CLJ44-CC-097	45641-005	F2773	10/12/95	13:32
CLJ44-CC-098-RB	45641-007	F2774	10/12/95	14:09

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	59.13	59.13	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	75.55	75.55	Ok
70	Less than 2% of mass 69	.30	.40	Ok
127	40-60% of mass 198	43.67	43.67	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	7.25	7.25	Ok
275	10-30% of mass 198	17.70	17.70	Ok
365	Greater than 1% of mass 198	1.28	1.28	Ok
441	0-100% of mass 443	5.81	63.67	Ok
442	Greater than 40% of mass 198	46.08	46.08	Ok
443	17-23% of mass 442	9.12	19.79	Ok

Injection Date: 10/12/95
Injection Time: 10:11
Data File: >F2766
Scan: 77



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%

10/2/95 K

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
0310 N-NITROSODIMETHYLAMINE	.85101	.87174	.94544	1.04810	1.12684	.438	.96863	12.118		
0350 2-FLUOROPHENOL	1.30134	1.31492	1.44842	1.47645	1.54845	.718	1.41792	7.530		
0545 PHENOL-d5	1.62307	1.55502	1.55470	1.48353	1.51802	.933	1.54687	3.356		
0370 2-CHLOROPHENOL-d4	1.40826	1.39605	1.37536	1.31097	1.34781	.957	1.36769	2.860		
0375 1,2-DICHLOROBENZENE-d4	.89580	.85058	.77377	.65587	.61237	1.046	.75768	16.090		
0515 PHENOL	1.84389	1.71354	1.75253	1.63694	1.70075	.936	1.72949	4.410	*	
0320 ANILINE	1.42437	1.33356	1.28399	1.14276	1.05223	.932	1.24738	11.967		
0325 BIS(2-CHLOROETHYL)ETHER	1.62462	1.53828	1.76113	1.87441	2.08574	.948	1.77684	12.112		
0330 2-CHLOROPHENOL	1.44949	1.39792	1.37063	1.29151	1.33330	.961	1.36857	4.414		
0335 1,3-DICHLOROBENZENE	1.61310	1.60279	1.58248	1.53797	1.52607	.992	1.57248	2.466		
0340 1,4-DICHLOROBENZENE	1.49770	1.50281	1.42277	1.36661	1.34492	1.004	1.42696	5.696	*	
0345 BENZYL ALCOHOL	.76623	.74560	.80042	.74069	.68063	1.042	.74671	5.864		
0350 1,2-DICHLOROBENZENE	1.51076	1.41915	1.27983	1.12568	1.02277	1.050	1.27184	15.838		
0355 2-METHYLPHENOL	1.18581	1.10083	1.14172	1.05715	1.02222	1.074	1.10151	5.915		
0360 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	1.15206	1.09923	1.14312	1.113	1.16537	4.740		
0370 N-NITROSO-DI-N-PROPYLAMIN	1.01592	.94012	1.03585	1.01215	.93426	1.118	.98767	4.757		**
0375 HEXACHLOROETHANE	.68649	.68844	.66977	.61737	.55715	1.125	.63609	9.918		
0410 NITROBENZENE	.45256	.43078	.42487	.42728	.43282	.870	.43366	2.537		
0415 ISOPHORONE	.93620	.90170	.92262	.96427	1.00016	.916	.94539	4.040		
0520 NITROBENZENE-d5	.43421	.41447	.42240	.42065	.43593	.866	.42554	2.169		
0420 2-NITROPHENOL	.25808	.25165	.25554	.24567	.24889	.950	.25197	1.979	*	
0425 2,4-DIMETHYLPHENOL	.41207	.38664	.37925	.37309	.38793	.942	.38779	3.826		
0430 BENZOIC ACID	.15838	.15419	.19074	.19467	.18901	.979	.17730	10.814		
0435 BIS(2-CHLOROETHOXY)METHAN	.56694	.51971	.54135	.51911	.55086	.958	.53960	3.813		
0440 2,4-DICHLOROPHENOL	.37156	.34457	.31645	.30468	.29854	.978	.32720	9.301	*	
0445 1,2,4-TRICHLOROBENZENE	.41551	.39073	.34894	.34157	.32431	.992	.36421	10.340		
0450 NAPHTHALENE	1.09732	.99183	.92624	.88866	.86587	1.004	.95398	9.774		
0455 4-CHLOROANILINE	.45239	.43116	.42942	.42338	.42543	1.018	.43235	2.687		
0460 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					
		RF	RF	RF	RF	RF					
	Compound	20.00	50.00	80.00	120.00	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	1.21960	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:	>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
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	1.40805	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	.98377	1.00299	1.192	1.02429	3.511		
C790 BENZO(G,H,I)PERYLENE	1.07462	1.09907	1.04669	1.03439	1.05585	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		
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		
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	.43344	.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	*	
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		
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	9.39		
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	2.12632	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	1.03689	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: >FZ709

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	.51434	.26647	15.23		**
C515 2,4,6-TRICHLOROPHENOL	.47311	.46215	2.32	*	
C520 2,4,5-TRICHLOROPHENOL	.49408	.48570	1.70		
C525 2-CHLORONAPHTHALENE	1.15012	1.16274	2.89		
C530 2-NITROANILINE	.54151	.60533	11.46		
C535 DIMETHYLPHTHALATE	1.59809	1.55532	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	.26552	.21107	19.90		**
C560 4-NITROPHENOL	.20525	.20709	1.05		**
C565 DIBENZOFURAN	1.54786	1.60302	3.56		
C570 2,6-DINITROTOLUENE	.34016	.37693	8.89		
C575 2,4-DINITROTOLUENE	.37352	.37735	.67		
C580 DIETHYLPHTHALATE	1.59211	1.62764	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	.48060	.55638	15.71	*	
C620 AZOBENZENE	.20956	.19699	6.00		
C625 4-BROMOPHENYL-PHENYLETHER	.22804	.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		
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: 10/05/95

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	1.45904	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	.80486	.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	1.07589	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
0390 PYRIDINE	1.42242	1.57855	10.98		
0530 2-FLUOROPHENOL	1.41792	1.38163	2.56		
0545 PHENOL-d5	1.54687	1.73091	11.84		
0535 2-CHLOROPHENOL-d4	1.56769	1.49033	4.78		
0540 1,2-DICHLOROBENZENE-d4	.77768	.82884	9.39		
0340 1,4-DICHLOROBENZENE	1.42696	1.49996	5.12	*	
0355 2-METHYLPHENOL	1.10151	1.21540	10.34		
0767 3,4-METHYLPHENOLS	1.16557	1.26769	8.61		
0375 HEXACHLORDETHANE	.63809	.72307	13.32		
0410 NITROBENZENE	.49366	.43263	11.34		
0520 NITROBENZENE-d5	.42554	.47075	10.62		
0480 HEXACHLOROBUTADIENE	.21501	.21967	2.17	*	
0385 2,4,6-TRICHLOROPHENOL	.29903	.26167	12.50		
0525 2-FLUOROBIPHENYL	1.18142	1.21982	3.25		
0517 2,4,6-TRIBROMOPHENOL	.47311	.46215	2.32	*	
0220 2,4,5-TRICHLOROPHENOL	.49182	.48570	1.24		
0570 2,4-DINITROTOLUENE	.57352	.57735	.67		
0630 FLUORENE	.34829	.33977	2.45		
0635 PENTACHLOROPHENOL	.23706	.19707	16.87	*	
0650 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: 10/12/95

Contractor: RESAN PACE, INC. Time: 10:27

Contract No: Laboratory ID: >F2768

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	1.26172	30.26		
C550 2-FLUOROPHENOL	1.41792	1.59420	12.43		
C545 PHENOL-d5	1.54687	1.93937	25.37		
C570 2-CHLOROPHENOL-d4	1.36769	1.48092	8.28		
C575 1,2-DICHLOROBENZENE-d4	.75768	.79758	5.27		
C315 PHENOL	1.72949	2.23397	29.17	*	
C320 ANILINE	1.24738	1.69954	36.25		
C325 BIS(2-CHLOROETHYL)ETHER	1.77684	1.94588	9.51		
C330 2-CHLOROPHENOL	1.36857	1.51034	10.36		
C335 1,3-DICHLOROBENZENE	1.57248	1.63284	3.84		
C340 1,4-DICHLOROBENZENE	1.42696	1.49404	4.70	*	
C345 BENZYL ALCOHOL	.74671	.89256	19.53		
C350 1,2-DICHLOROBENZENE	1.27164	1.40183	10.24		
C355 2-METHYLPHENOL	1.10151	1.28795	16.93		
C360 BIS(2-CHLOROISOPROPYL)ETH	2.12632	2.65392	24.81		
C365 4-METHYLPHENOL	1.16537	1.29724	11.32		
C370 N-NITROSO-DI-N-PROPYLAMIN	.98767	1.16744	18.20		**
C375 HEXACHLOROETHANE	.63809	.75114	17.72		
C410 NITROBENZENE	.43366	.51649	19.10		
C415 ISOPHORONE	.94539	1.09673	16.01		
C520 NITROBENZENE-d5	.42554	.49271	15.78		
C420 2-NITROPHENOL	.25197	.26107	3.61	*	
C425 2,4-DIMETHYLPHENOL	.38779	.41042	5.84		
C430 BENZOIC ACID	.17730	.19272	8.70		
C435 BIS(2-CHLOROETHOXY)METHAN	.53960	.62018	14.93		
C440 2,4-DICHLOROPHENOL	.32720	.30631	6.38	*	
C445 1,2,4-TRICHLOROBENZENE	.36421	.33589	7.78		
C450 NAPHTHALENE	.95398	1.01901	6.82		
C455 4-CHLOROANILINE	.43235	.44331	2.53		
C460 HEXACHLOROBUTADIENE	.21501	.17723	17.57	*	
C465 4-CHLORO-3-METHYLPHENOL	.36180	.40298	11.38	*	
C470 2-METHYLNAPHTHALENE	.61488	.64159	4.34		

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: 10/12/95

Contractor: RESAN PACE, INC. Time: 10:27

Contract No: Laboratory ID: >FZ768

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	.21286	28.82		
C525	2-FLUOROBIPHENYL	1.18142	1.18107	.03		
C510	HEXACHLOROCYCLOPENTADIENE	.31434	.29820	5.13		**
C515	2,4,6-TRICHLOROPHENOL	.47311	.43381	8.31	*	
C520	2,4,5-TRICHLOROPHENOL	.49408	.46184	6.53		
C525	2-CHLORONAPHTHALENE	1.13012	1.17049	3.57		
C530	2-NITROANILINE	.54131	.65684	21.34		
C535	DIMETHYLPHTHALATE	1.59809	1.53283	4.08		
C540	ACENAPHTHYLENE	1.63291	1.77344	8.61		
C545	3-NITROANILINE	.41668	.45521	9.25		
C550	ACENAPHTHENE	1.05786	1.10199	4.17	*	
C555	2,4-DINITROPHENOL	.26352	.25373	3.72		**
C560	4-NITROPHENOL	.20525	.20328	.96		**
C565	DIBENZOFURAN	1.54786	1.54204	.38		
C543	2,6-DINITROTOLUENE	.34616	.37324	7.82		
C570	2,4-DINITROTOLUENE	.57352	.57441	.16		
C580	DIETHYLPHTHALATE	1.59211	1.65619	4.02		
C585	4-CHLOROPHENYL-PHENYLETHE	.52091	.48410	7.07		
C590	FLUORENE	1.05352	1.05806	.43		
C595	4-NITROANILINE	.44148	.45389	2.81		
C610	4,6-DINITRO-2-METHYLPHENO	.18622	.21452	15.20		
C615	N-NITROSODIPHENYLAMINE	.48060	.54943	14.32	*	
C620	AZOBENZENE	.20956	.20202	3.59		
C625	4-BROMOPHENYL-PHENYLETHER	.22504	.21473	4.58		
C630	HEXACHLOROBENZENE	.34829	.29460	15.41		
C635	PENTACHLOROPHENOL	.23706	.19585	17.39	*	
C640	PHENANTHRENE	1.04986	1.08152	3.02		
C645	ANTHRACENE	1.02536	1.11636	8.87		
C650	DI-N-BUTYLPHTHALATE	1.57983	1.78397	12.92		
C655	FLUORANTHENE	1.23398	1.23843	.36	*	
C660	BENZIDINE	.09544	.06207	34.96		
CS30	TERPHENYL-d14	1.14336	1.02813	10.08		

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: 10/12/95

Contractor: RESAN PACE, INC. Time: 10:27

Contract No: Laboratory ID: >F2768

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	1.73050	5.57		
C720 BUTYLBENZYLPHTHALATE	1.19309	1.25829	5.46		
C725 3,3'-DICHLOROBENZIDINE	.66704	.56541	15.24		
C730 BENZO(A)ANTHRACENE	1.39789	1.38972	.58		
C745 BIS(2-ETHYLHEXYL)PHTHALAT	1.06421	1.20509	13.24		
C740 CHRYSENE	1.43904	1.21865	15.32		
C760 DI-N-OCTYLPHTHALATE	1.71485	2.40398	40.19	*	
C765 BENZO(B)FLUORANTHENE	1.21029	1.10010	9.10		
C770 BENZO(K)FLUORANTHENE	.86486	1.13529	31.27		
C775 BENZO(A)PYRENE	1.01861	1.07682	5.71	*	
C780 INDENO(1,2,3-CD)PYRENE	1.24358	1.19536	3.88		
C785 DIBENZ(A,H)ANTHRACENE	1.02429	.96681	5.61		
C790 BENZO(G,H,I)PERYLENE	1.06272	1.01761	4.25		

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: 10/12/95

Contractor: KESAN Time: 10:27

Contract No: Laboratory ID: >FZ768

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	1.94457	36.71		
C550 2-FLUOROPHENOL	1.41792	1.59420	12.43		
C545 PHENOL-d5	1.54687	1.93937	25.37		
C535 2-CHLOROPHENOL-d4	1.36769	1.48092	8.28		
C540 1,2-DICHLOROBENZENE-d4	.75768	.79758	5.27		
C340 1,4-DICHLOROBENZENE	1.42696	1.49404	4.70	*	
C355 2-METHYLPHENOL	1.10151	1.28795	16.93		
C367 3,4-METHYLPHENOLS	1.16537	1.29724	11.32		
C375 HEXACHLOROETHANE	.63809	.75114	17.72		
C410 NITROBENZENE	.43366	.51649	19.10		
C520 NITROBENZENE-d5	.42554	.49271	15.78		
C460 HEXACHLOROBUTADIENE	.21501	.17723	17.57	*	
C555 2,4,6-TRIBROMOPHENOL	.29905	.21286	28.82		
C525 2-FLUOROBIPHENYL	1.18142	1.18107	.03		
C515 2,4,6-TRICHLOROPHENOL	.47311	.43381	8.31	*	
C520 2,4,5-TRICHLOROPHENOL	.49180	.46184	6.09		
C570 2,4-DINITROTOLUENE	.57352	.57441	.16		
C630 HEXACHLOROBENZENE	.34829	.29460	15.41		
C635 PENTACHLOROPHENOL	.23706	.19585	17.39	*	
C530 TERPHENYL-d14	1.14336	1.02813	10.08		

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.: LJN35

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.												
TCLPBLANK#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

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN35

Lab File ID (Standard): >F2768 Date Analyzed: 10/12/95

Instrument ID: FMS Time Analyzed: 10:27

	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	39704	6.55	142103	8.68	75891	11.73	118489	14.30	84715	18.98	113497	22.40
UPPER LIMIT	79408	7.05	284206	9.18	151782	12.23	236978	14.80	169430	19.48	226994	22.90
LOWER LIMIT	19852	6.05	71052	8.18	37946	11.23	59245	13.80	42358	18.48	56749	21.90
CLIENT I.D.												
BA2491	43718	6.55	148539	8.67	79230	11.73	119042	14.30	104909	18.96	115673	22.36
LSA2491	41528	6.54	150850	8.67	81349	11.73	123716	14.30	109007	18.95	120398	22.36
CLJ44-CU-090	42542	6.55	141045	8.67	75784	11.73	115539	14.29	102319	18.96	109755	22.37
CLJ44-CC-092	46128	6.55	156731	8.66	79712	11.73	124359	14.29	111385	18.95	121340	22.37
CLJ44-CC-097	42654	6.55	143432	8.66	73705	11.73	116904	14.29	100102	18.95	108510	22.36
CLJ44-CC-098-RB	41609	6.54	144199	8.67	74408	11.73	108273	14.29	92277	18.96	106860	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
RUN LOG

Voltage 1500 Tune Meth MSFDFT Initial Cal 10/2/95 Date 10/2/95
Threshold 30 Sample Meth MSFFST Batch File Foc02A, B, C Analyst MT
GASOP 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-1484	IFoc02			SSTD050	✓X	✓	✓		
✓	47	160	A-1485	↓			SSTD160	↓	✓	✓		
✓	48	120	A-1486				SSTD 120		✓	✓		
✓	49	80	A-1487				SSTD080		✓	✓		
✓	50	20	A-1481	↓			SSTD020	↓	✓	✓		
	51	45461-1	ABNL	IFT002	1/1				✓	✓		
	52	-2	↓	↓	↓				✓	✓		1
	53	-3							✓	✓		
✓	54	BA2467		IF1002		LN22			✓	✓		
✓	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 (#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 MSEFST | Batch File FOC05A | Analyst NT
QASOP 5200 | Volume Inj 1ul | Int Std A-14910 | 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	A-1488	IF0502 IFTCLP			compliant 8270	✓NS	✓	✓		
✓	10	BA2473	ABUL	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	$MeCl_2$ check	BK880		1/1				✓	✓		
	24	$MeCl_2$ 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

Voltage 1500 | Tune Meth MSFBFT | Initial Cal 10/2/95 | Date 10/12/95
Threshold 30 | Sample Meth MSFFST | Batch File Fcc12A | Analyst JN
QASOP 5800 | 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
✓	>F2766	DFTPP 50	A-1213				m/e 198 = 1mg scan		✓	✓	A1/32'1	
✓	68	ABN STD 50	A-1492	IFcc02 IFTCLP			di-n-octyl phth high	JN	✓	✓		
✓	69	BA2491	ABNL	IF1012	1/1	LJN35			✓	✓		
✓	70	LSA2491	↓	↓	↓	↓			✓	✓		
	71	45641-3		IFT009					✓	✓		
	72	-4		↓					✓	✓		
	73	-5							✓	✓		
	74	-7		↓		↓			✓	✓		
	75	BA2494		IF1012		LJN37			✓	✓		
	76	LSA2494		↓		↓						
	77	45646-1	↓	IFT009		↓						
	78	BA2487	ABNS	IF1012								
	79	LSA2487	↓	↓	↓							
	80	45629-1			1/20							
	81	-2			1/4							
	82	-3	↓	↓	1/10							

Laboratory number: 45641-010
Sample Designation: CLJ44-CC-092
Date Extracted: 10/12/95
Date Analyzed: 10/13/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis.
Moisture content was 8 % , elevating the reporting limits
by a factor of 1.08 .

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: 45641-011
Sample Designation: CLJ44-CC-097
Date Extracted: 10/12/95
Date Analyzed: 10/13/95
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

pace INCORPORATED
THE ASSURANCE OF QUALITY

SOIL PESTICIDE SURROGATE RECOVERY

Client: OHM REMEDIATION SERVICES CORP. Lab No.: 45641
Project: CAMP GEIGER/LJN35
Level: Soil

CLIENT SAMPLE NO.	S1 (TCX) #	S2 (DCB) #	OTHER	TOT OUT
CLJ44-CC-092	82	96		0
CLJ44-CC-092MS	83	98		0
CLJ44-CC-092MSD	82	99		0
CLJ44-CC-097	78	96		0
BP4510	104	93		0
LSP4510MS	113	99		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: BP4510
Sample Designation: LAB BLANK
Date Extracted: 10/12/95
Date Analyzed: 10/12/95
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: 45641-1 MS/MSD
Sample Designation: CLJ44-CC-092 MS/MSD
Date Analyzed 10/13/95
Matrix: SOLID

COMPOUND	ug/g IN SAMPLE	ug/g SPIKE	REPLICATE 1 ug/g FOUND	%REC-OVERY	REPLICATE ug/g FOUND
AR-1254	0	1.09	0.96	88	0.97

METHOD REFERENCE: EPA SW846, 3RD EDITION
METHODS 3550 AND 8080

pace INCORPORATED
THE ASSURANCE OF QUALITY

PCB'S

MATRIX SPIKE RECOVERY

Laboratory Number: LS-P4510
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/13/95
Matrix: SOLID

COMPOUND	ug/g IN SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
AR-1254	0	1.01	0.91	90

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

INITIALS/DATE: MC / 10/13/16

PCB SOLIDS PREP LOG

PROTOCOL: EPA SW846

LOG BOOK NO: 1

SOP #: QA5526

STEAMBATH TEMP: N/A (Range 80-90°C)

METHOD: SONC/3550

MATRIX: SOLIDS

REVIEWED BY/DATE: JEM / 10/19/16

TEST/LEVEL: PCB/MED-S

COUNT	BLANK/SPIKES SAMPLE #	INIT/wt (g)	Na_2SO_4 (g) MIX WELL	SURR 0.5 ML E 1356 2.0 PPM	SPIKE 0.1 ML E 1426 50.4 PPM	ADD HEXANE TO 10 ML INTERM VOL	SONICATE 3 MIN.	REMOVE 1 ML ALIQUOT VOL. ML	FINAL VOL. (ML)	QUATTRO init/ date
	BP4516									
—	BP4516	5.0	10.-		—	10.0		1.0	1.0	MC
—	LSP4570	5.0			✓					10/13/16
20	45641-10	5.09			—					
—	10MS	5.01			✓					
—	10MSD	5.00			✓					
1	"	5.09	↓	↓	—	↓	↓	↓	↓	↓

ppm
jaw

COMMENTS: Assoc QC 45641-10 MS/MSD

F:\APPS\WP51\NANCY\EXMEDPCB

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	43373.29	-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	B1 Slope	B2 Quadratic
1	5.66	TCX	.99973	-3245.69	1503027.70	-874040.63
2	12.94	AR1254	.99982	664.99	43789.68	-2918.16
3	13.54	AR1254	.99984	589.54	47978.68	-3349.46
4	15.03	AR1254	1.0000	50.83	68996.34	-4902.64
5	15.80	AR1254	.99999	16.84	47193.89	-2850.00
6	16.91	AR1254	.99998	102.55	22812.46	1007.65
7	25.48	DCB	.99992	1078.97	560987.87	-239431.56

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

PACE, Incorporated
Continuing Calibration Report Tue Oct 17, 1995 8:34:03 am

/DATA/GC01/RESULT/G1W19160.RES
/DATA/GC01/METHOD/PCB1254063.MTH

Sample: AR1254 0.5PPM P8867
Injected: Thu Oct 12, 1995 6:33:05 pm

RetTime	Analyte	Found	Nominal	%D	Recovery
6.21	TCX	.110	.100	10.2	110.2
14.62	AR1254	.432	.500	13.7	86.3
16.31	AR1254	.431	.500	13.8	86.2
16.86	AR1254	.419	.500	16.3	83.7
17.38	AR1254	.411	.500	17.9	82.1
18.76	AR1254	.451	.500	9.8	90.2
29.92	DCB	.094	.100	6.3	93.7

PACE, Incorporated
Continuing Calibration Report

Tue Oct 17, 1995 8:34:26 am

/DATA/GC11/RESULT/G11W19160.RES
/DATA/GC11/METHOD/PCB1254063.MTH

Sample: AR1254 0.5PPM P8867
Injected: Thu Oct 12, 1995 6:33:05 pm

RetTime	Analyte	Found	Nominal	%D	Recovery
5.65	TCX	.095	.100	5.2	94.8
12.94	AR1254	.478	.500	4.4	95.6
13.54	AR1254	.482	.500	3.5	96.5
15.03	AR1254	.454	.500	9.2	90.8
15.80	AR1254	.460	.500	7.9	92.1
16.90	AR1254	.473	.500	5.3	94.7
25.48	DCB	.092	.100	8.3	91.7

PACE, Incorporated
Continuing Calibration Report Tue Oct 17, 1995 8:34:47 am

/DATA/GC01/RESULT/G1W19174.RES
/DATA/GC01/METHOD/PCB1254063.MTH

Sample: AR1254 0.5PPM P8867
Injected: Fri Oct 13, 1995 5:11:51 am

RetTime	Analyte	Found	Nominal	%D	Recovery
6.21	TCX	.108	.100	7.7	107.7
14.63	AR1254	.550	.500	10.0	110.0
16.32	AR1254	.497	.500	.6	99.4
16.87	AR1254	.512	.500	2.4	102.4
17.39	AR1254	.510	.500	2.0	102.0
18.77	AR1254	.530	.500	5.9	105.9
29.95	DCB	.107	.100	7.1	107.1

PACE, Incorporated
Continuing Calibration Report

Tue Oct 17, 1995 8:34:59 am

/DATA/GC11/RESULT/G11W19174.RES
/DATA/GC11/METHOD/PCB1254063.MTH

Sample: AR1254 0.5PPM P8867
Injected: Fri Oct 13, 1995 5:11:51 am

RetTime	Analyte	Found	Nominal	%D	Recovery
5.65	TCX	.095	.100	4.7	95.3
12.93	AR1254	.580	.500	16.0	116.0
13.53	AR1254	.570	.500	14.0	114.0
15.03	AR1254	.520	.500	4.0	104.0
15.80	AR1254	.528	.500	5.6	105.6
16.90	AR1254	.548	.500	9.6	109.6
25.46	DCB	.107	.100	7.2	107.2

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
10/6/95	(SW)	G1/11W19053	AR1242 0.05 ppm P8802	N	Y	PCB1242039	112/110	GC01/1110dc
		054	0.2 P8804					
		055	0.5 P8865					
		056	1.0 P8806					
		057	2.0 P8818					
		058	AR1248 0.05 ppm P8807	N	Y	PCB1248056		
		059	0.2 P8809					
		060	0.5 P8866					
		061	1.0 P8811					
10/7/95		062	2.0 P8819					
		063	AR1254 0.05 ppm P8812	N	Y	PCB1254063		
		064	0.2 P8814					
		065	0.5 P8867					
		066	1.0 P8816					
		067	2.0 P8817					
		068	AR1660 0.05 ppm P8820	N	Y	PCB1660028		
		069	0.2 P8822					
		070	0.5 P8868					
		071	1.0 P8824					
		072	2.0 P8825					
		073	BP4496SC PCB-LS	N	Y	PCB1660028		
		074	45559-2SC PCB-LS Bechtel/V1016		Y			
		075	-3SC		N			
		076	-4SC		Y			
		077	-5SC		Y			
		078	-11SC		N			
		079	-10		Y			
		080	-12					
		081	-13					
		082	-14					
		083	AR1242 0.5ppm P8865 1-95/80/96 11-103/84/91	N	Y	PCB1242039		

(C3) (SW) 10/16/95

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
10/11/95	SR	61/11W19145	Pace,NJ CLP/PCB/Screen 45598-10	N	Y	PCB1254063	112/110	GC01/111010
		146	-11					
		147	-12					
		148	-13					
		149	-14					
		150	-15					
	10/11/95 → Signal 1 = 19.3		Signal 2 = 14.1	-	-	-	-	-
		61/11W19151	AR1254 0.5ppm PB867 1 - 106/112/111 2 - 107/109/108	N	Y	PCB1254063		GC01/111011
		152	AR1660 ↓ PB868 1 - 96/107/105/107 2 - 103/101/105/104	N	Y	PCB1660028		
		153	45559-11SC PCB-LS Bechtel/N1012					
		154	↓ -3SC ↓					
		155	Hexane					
		156						
		157						
		~~158~~	10/12/95 → Signal 1 = 19.6			Signal 2 = 14.3	-	-
10/12/95	SR	61/11W17158	AR1242 0.5ppm PB865 1 - 99/90/92 2 - 116/97/90	N	Y	PCB1242039	112/110	GC01/111012
		159	AR1248 PB866 1 - 112/92/92 2 - 96/103/88	N	Y	PCB1248052		
		160	AR1254 PB867 1 - 110/106/94 2 - 95/94/92	N	Y	PCB1254063		
		161	AR1660 PB868 1 - 104/102/88/87 2 - 108/103/89/89	N	Y	PCB1660028		
		162	BP4505 PCB-5	N	Y	PCB1254063		
		163	LSP4505 PCB-5					
		164	45632-1 PCB-5 (5ml) Pace,Mn/D1015 BAC					
		165	↓ -2					
		166	↓ -3					
		167	BP4510 PCB-MS	N	Y	PCB1254063		
10/13/95		168	LSP4510 ↓					
		169	45241-10 PCB-MS 1HM/N4&C/M1013					
		170	-10MS					
		171	↓ -10MSD					
		172	AR1242 0.5PPM PB865 1 - 113/110/107 2 - 117/110/106	N	Y	PCB1242039		
		173	AR1248 ↓ PB866 1 - 109/114/106 2 - 93/52/103	N	Y	PCB1248052		

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
10/13/05	SW	G-1/11W19174	AR1254 0.5ppm P8867	N	Y	PCB1254063	112/110	GC01/111012
		175	AR1660 ↓ P8868	N	Y	PCB1660028		
		176	49541-11 PCB-MS OHM/NecsaC/V1013	N	Y	PCB1254063		
		177	BP4517 PCB-Wipe			PCB1254063		
		178	45661-1 PCB-wipe Ransom/BAC/V1013			PCB1254063		
		179	-2			PCB1254063/PCB1660028		
		180	-3			PCB1660028		
		181	-4	N	N	PCB1660028		
		182	-5	N	Y	PCB1254063		
		183	-4 1:5dil	N	Y	PCB1660028		
10/14/05	SW	G-1/11W19184	Pace, NJ Oil/PCB Screen 45598-9				112/110	10/14/05
10/14/05	SW	G-1/11W19184	AR1242 0.5ppm P8865	N	Y	PCB1242039	112/110	GC01/111016
		185	AR1248 P8866	N	Y	PCB1248054		
		186	AR1254 P8873	N	Y	PCB1254063		
		187	AR1660 P8874	N	Y	PCB1660028		
		188	BP4512 PCB-oil			PCB1254063		
		189	LSP4512 PCB-oil 1:10 dil'n					
		190	45662-1 PCB-oil Ransom/BAC/D1020 1:10dil	N	N	→	1:100 dil'n	
		191	45598-9 PCB-LS Pace, NJ/ 1:10dil'n					
		192	45611-2 PCB-W Vitro / Screen					
		193	-8					
		194	-14					
		195	45667-1 PCB-LS Pace, NJ / Screen					
		196	-2					
		197	-2MS					
		198	-2MSD					
		199	-3					
		200	-4					
		201	-5					
		202	-6					
		203	AR1242 0.5ppm P8865			PCB1242039		

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

4CC092

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

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN35

Matrix (soil/water): SOIL Lab Sample ID: 45641-010

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

% Solids: 92.2

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-092

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

4CC097

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

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN35

Matrix (soil/water): SOIL Lab Sample ID: 45641-011

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

% Solids: 88.5

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	4.4			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-097

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

4CU090

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

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN35

Matrix (soil/water): WATER Lab Sample ID: 45641-003

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

% 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	135	B		P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	3.8	B		P
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	32.8			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-090

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

Laboratory Number : 45641-003
Field Identification : CLJ44-CU-090
Extraction Date : 10/10/95
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 4.80. 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 : 18.00 hrs

Final pH : 4.87

% 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

C098RB

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

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN35

Matrix (soil/water): WATER Lab Sample ID: 45641-006

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

% 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	3.5	B		P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	7.4	B		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	B		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-098-RB

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

TCC092

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

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN35

Matrix (soil/water): WATER Lab Sample ID: 45641-004

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

% 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	38.8	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	15.7			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 SAMPLE ID = CLJ44-CC-092

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

Laboratory Number : 45641-004
Field Identification : CLJ44-CC-092
Extraction Date : 10/10/95
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 5.26. 3.5 mL 1.0N HCl was added and the mixture was then heated to 50C for ten minutes. Upon cooling the pH was 1.56, 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 : 18.00 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

TCC097

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

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN35

Matrix (soil/water): WATER Lab Sample ID: 45641-005

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

% 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	73.0	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	B		P
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	17.4			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-097

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

Laboratory Number : 45641-005
Field Identification : CLJ44-CC-097
Extraction Date : 10/10/95
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 5.53. 3.5 mL 1.0N HCl was added and the mixture was then heated to 50C for ten minutes. Upon cooling the pH was 1.57, 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 : 18.00 hrs

Final pH : 4.88

% 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

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

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

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN35

Initial Calibration Source: VHG\SPEX

Continuing Calibration Source: SOL\SPEX\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	1000.0	1011.24	101.1	40000.0	39700.90	99.3	38739.44	96.8	P
Beryllium									NR
Cadmium	500.0	491.69	98.3	1000.0	943.99	94.4	930.81	93.1	P
Calcium									NR
Chromium	1000.0	1027.30	102.7	4000.0	3949.65	98.7	3869.07	96.7	P
Cobalt									NR
Copper									NR
Iron									NR
Lead	1000.0	996.48	99.6	10000.0	9327.42	93.3	9190.61	91.9	P
Magnesium									NR
Manganese									NR
Mercury	4.0	4.12	103.0	5.0	5.44	108.8			CV
Nickel									NR
Potassium									NR
Selenium									
Silver	200.0	202.15	101.1	1000.0	1001.54	100.2	976.53	97.7	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.: MLJN35

Initial Calibration Source: VHG\SPEX

Continuing Calibration Source: SOL\SPEX\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				40000.0	39156.25	97.9	39849.41	99.6	P
Beryllium									NR
Cadmium				1000.0	947.89	94.8	950.44	95.0	P
Calcium									NR
Chromium				4000.0	3944.93	98.6	3956.57	98.9	P
Cobalt									NR
Copper									NR
Iron									NR
Lead				10000.0	9374.08	93.7	9366.19	93.7	P
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium									
Silver				1000.0	996.86	99.7	1000.66	100.1	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.: MLJN35

Initial Calibration Source: VHG\SPEX

Continuing Calibration Source: SOL\SPEX\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				40000.0	40326.17	100.8	42251.54	105.6	P
Beryllium									NR
Cadmium				1000.0	956.28	95.6	987.14	98.7	P
Calcium									NR
Chromium				4000.0	3981.75	99.5	4146.40	103.7	P
Cobalt									NR
Copper									NR
Iron									NR
Lead				10000.0	9415.70	94.2	9755.76	97.6	P
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium									
Silver				1000.0	1016.61	101.7	1055.43	105.5	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.: MLJN35

Initial Calibration Source: VHG\SPEX

Continuing Calibration Source: SOL\SPEX\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				40000.0	44364.19	110.9	43931.42	109.8	P
Beryllium									NR
Cadmium				1000.0	1024.31	102.4	1000.55	100.1	P
Calcium									NR
Chromium				4000.0	4328.63	108.2	4292.93	107.3	P
Cobalt									NR
Copper									NR
Iron									NR
Lead				10000.0	10162.47	101.6	10003.19	100.0	P
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium									
Silver				1000.0	1090.38	109.0	1074.28	107.4	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.: MLJN35

Initial Calibration Source: VHG\SPEX

Continuing Calibration Source: SOL\SPEX\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				40000.0	43737.10	109.3			P
Beryllium									NR
Cadmium				1000.0	1015.01	101.5			P
Calcium									NR
Chromium				4000.0	4314.35	107.9			P
Cobalt									NR
Copper									NR
Iron									NR
Lead				10000.0	10075.48	100.8			P
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium									
Silver				1000.0	1068.64	106.9			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.: MLJN35

Initial Calibration Source: VHG\SPEX

Continuing Calibration Source: SOL\SPEX\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	963.35	96.3	10000.0	9053.74	90.5	9076.79	90.8	P
Barium	1000.0	985.05	98.5	40000.0	38137.13	95.3	38590.34	96.5	P
Beryllium									NR
Cadmium	500.0	480.44	96.1	1000.0	932.09	93.2	919.29	91.9	P
Calcium									NR
Chromium	1000.0	1025.64	102.6	4000.0	3913.49	97.8	3908.28	97.7	P
Cobalt									NR
Copper									NR
Iron									NR
Lead	1000.0	972.93	97.3	10000.0	9191.04	91.9	9092.28	90.9	P
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium	1000.0	974.66	97.5	10000.0	9274.72	92.7	9173.45	91.7	P
Silver	200.0	196.38	98.2	1000.0	978.50	97.8	982.65	98.3	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.: MLJN35

Initial Calibration Source: VHG\SPEX

Continuing Calibration Source: SOL\SPEX\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	9210.81	92.1	9703.41	97.0	P
Barium				40000.0	38842.43	97.1	41601.54	104.0	P
Beryllium									NR
Cadmium				1000.0	936.44	93.6	980.69	98.1	P
Calcium									NR
Chromium				4000.0	3948.15	98.7	4196.96	104.9	P
Cobalt									NR
Copper									NR
Iron									NR
Lead				10000.0	9214.68	92.1	9732.47	97.3	P
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium				10000.0	9309.69	93.1	9986.75	99.9	P
Silver				1000.0	996.47	99.6	1048.86	104.9	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.: MLJN35

Initial Calibration Source: VHG\SPEX

Continuing Calibration Source: SOL\SPEX\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	9648.79	96.5			P
Barium				40000.0	40587.30	101.5			P
Beryllium									NR
Cadmium				1000.0	962.82	96.3			P
Calcium									NR
Chromium				4000.0	4120.95	103.0			P
Cobalt									NR
Copper									NR
Iron									NR
Lead				10000.0	9593.69	95.9			P
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium				10000.0	9805.64	98.1			P
Silver				1000.0	1028.54	102.9			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.: MLJN35

Initial Calibration Source: VHG\SPEX

Continuing Calibration Source: SOL\SPEX\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	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.: MLJN35

Initial Calibration Source: VHG\SPEX

Continuing Calibration Source: SOL\SPEX\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				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.: MLJN35

Initial Calibration Source: VHG\SPEX

Continuing Calibration Source: SOL\SPEX\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				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.: MLJN35

Initial Calibration Source: VHG\SPEX

Continuing Calibration Source: SOL\SPEX\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				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.: MLJN35

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	2.7	U	7.9	B	13.7	B	11.3	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	10.8	U	10.8	U	1.080	U	P
Magnesium											NR
Manganese											NR
Mercury	-0.1	B	0.1	U							CV
Nickel											NR
Potassium											NR
Selenium											
Silver	1.9	U	1.9	U	1.9	U	1.9	U			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.: MLJN35

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			16.1	B	9.7	B	10.0	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											
Silver			2.0	B	1.9	U	1.9	U	-2.200	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.: MLJN35

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									-24.180		P
Barium			18.4	B	16.4	B	17.0	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	14.530		P
Magnesium											NR
Manganese											NR
Mercury											
Nickel											NR
Potassium											NR
Selenium									23.700	U	P
Silver			1.9	U	1.9	U	1.9	U	-3.240	B	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.: MLJN35

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	23.5				P
Barium	2.7	U	8.2	B	11.2	B	15.2	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	13.5		17.1		10.8	U	18.2				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	1.9	U	1.9	U	1.9	U			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.: MLJN35

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					P
Barium			9.5	B	13.6	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			11.9		18.2						P
Magnesium											NR
Manganese											NR
Mercury											
Nickel											NR
Potassium											NR
Selenium			23.7	U	23.7	U					P
Silver			1.9	U	1.9	U					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.: MLJN35

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

U.S. EPA - CLP

3
BLANKS

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

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN35

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

U.S. EPA - CLP

3
BLANKS

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

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN35

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

U.S. EPA - CLP

4

ICP INTERFERENCE CHECK SAMPLE

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

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN35

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	517278	512755.4	102.6	540227	543888.7	108.8
Antimony								
Arsenic								
Barium		500	-4	492.6	98.5	-4	532.1	106.4
Beryllium								
Cadmium		1000	4	911.2	91.1	3	955.4	95.5
Calcium	500000	500000	506434	500658.0	100.1	525531	531285.3	106.3
Chromium		500	-1	470.8	94.2	0	500.1	100.0
Cobalt								
Copper								
Iron	200000	200000	192474	190408.5	95.2	202554	205180.4	102.6
Lead		1000	28	921.0	92.1	27	979.9	98.0
Magnesium	500000	500000	507254	503471.1	100.7	528720	533500.9	106.7
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver		1000	2	953.6	95.4	0	1005.1	100.5
Sodium								
Thallium								
Vanadium								
Zinc								

U.S. EPA - CLP

4

ICP INTERFERENCE CHECK SAMPLE

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

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN35

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	510687	500531.7	100.1	527216	517425.8	103.5
Antimony								
Arsenic			-53	-55.0		-86	-61.4	
Barium		500	-1	479.4	95.9	-1	496.2	99.2
Beryllium								
Cadmium		1000	3	909.6	91.0	4	926.2	92.6
Calcium	500000	500000	505013	495160.3	99.0	512968	505003.4	101.0
Chromium		500	-3	465.4	93.1	1	477.0	95.4
Cobalt								
Copper								
Iron	200000	200000	191387	187700.5	93.9	193496	190969.7	95.5
Lead		1000	58	938.9	93.9	43	939.6	94.0
Magnesium	500000	500000	503590	493966.5	98.8	517436	507839.2	101.6
Manganese								
Mercury								
Nickel								
Potassium								
Selenium			112	79.0		113	136.8	
Silver		1000	0	939.4	93.9	0	962.0	96.2
Sodium								
Thallium								
Vanadium								
Zinc								

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

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

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN35

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									
Barium	2000.0	1939.56	97.0						
Beryllium									
Cadmium	50.0	51.18	102.4						
Calcium									
Chromium	200.0	199.77	99.9						
Cobalt									
Copper									
Iron									
Lead	500.0	450.72	90.1	50.0	47.8		40.0	60.0	95.6
Magnesium									
Manganese									
Mercury	8.0	8.39	104.9						
Nickel									
Potassium									
Selenium									
Silver	50.0	46.43	92.9						
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

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

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN35

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	1993.40	99.7						
Barium	2000.0	2084.22	104.2						
Beryllium									
Cadmium	50.0	54.73	109.5						
Calcium									
Chromium	200.0	218.35	109.2						
Cobalt									
Copper									
Iron									
Lead	500.0	502.30	100.5						
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium	2000.0	1987.15	99.4						
Silver	50.0	50.33	100.7						
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

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

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN35

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									

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.: MLJN35

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:

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.: MLJN35

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.: MLJN35

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.: MLJN35

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.

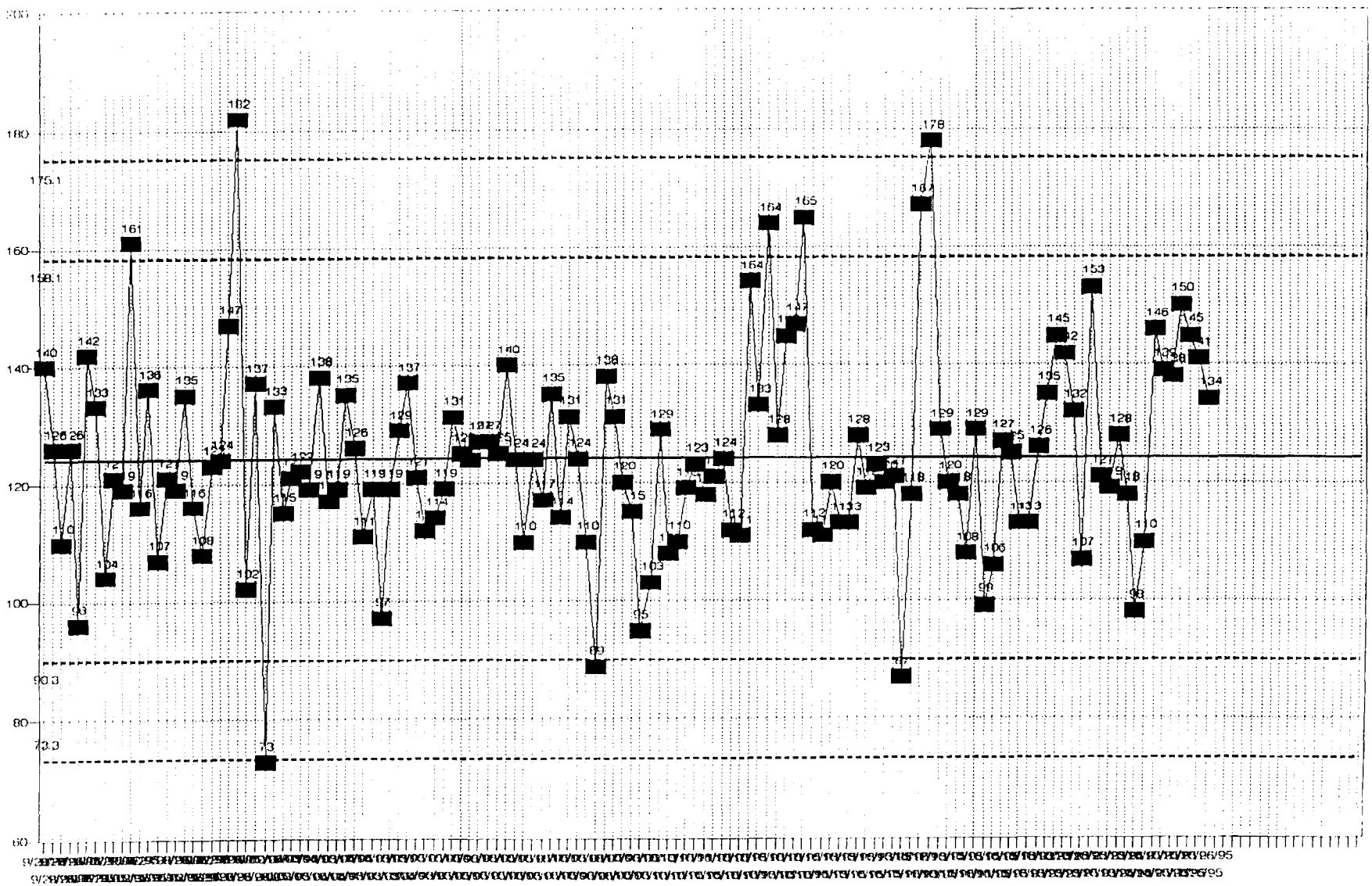
PACE New England, Inc.

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).

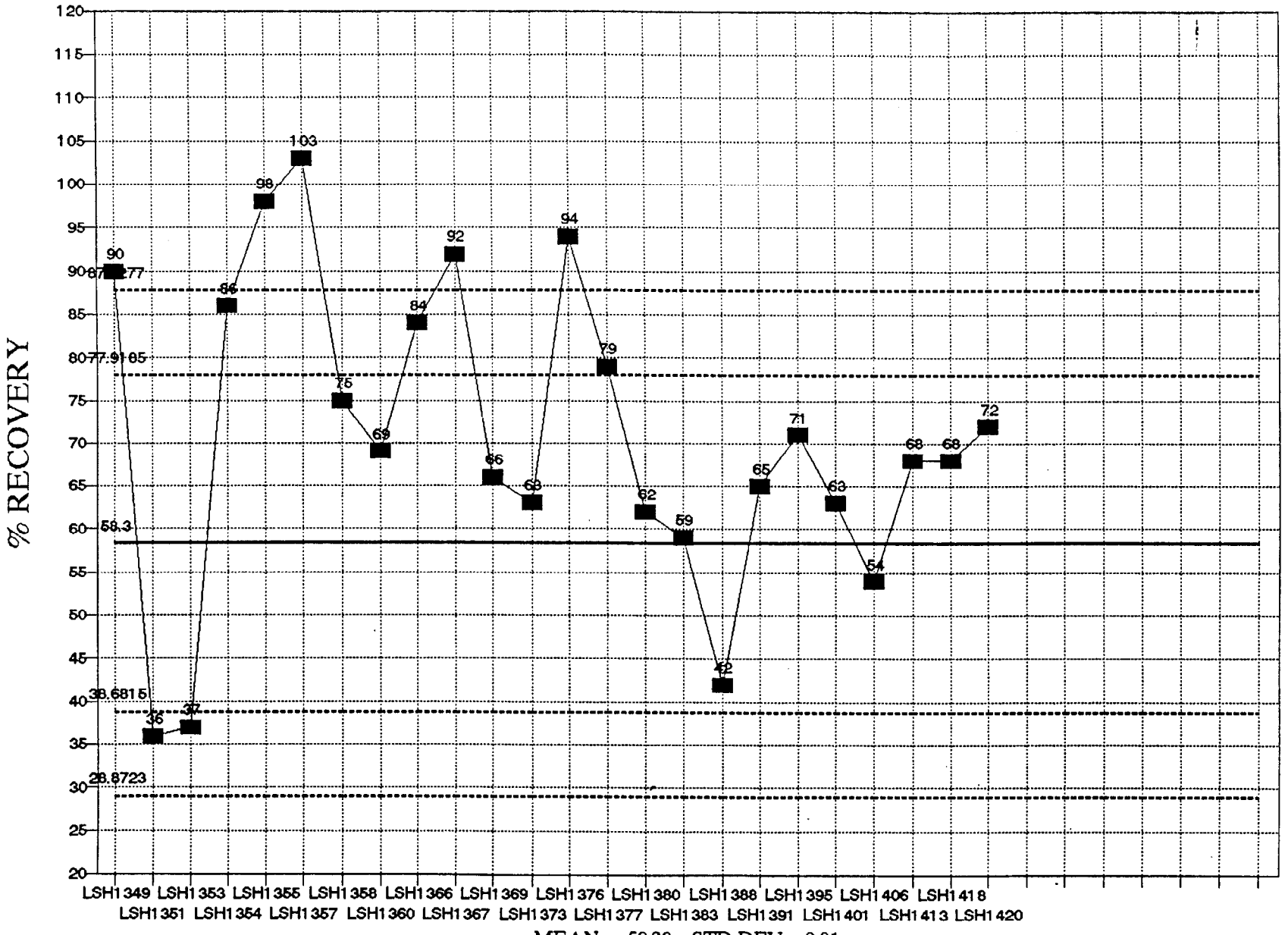
GRO SURROGATE RECOVERIES
LIMITS SET 10/27/95



STD DEV = 16.96 MEAN = 124

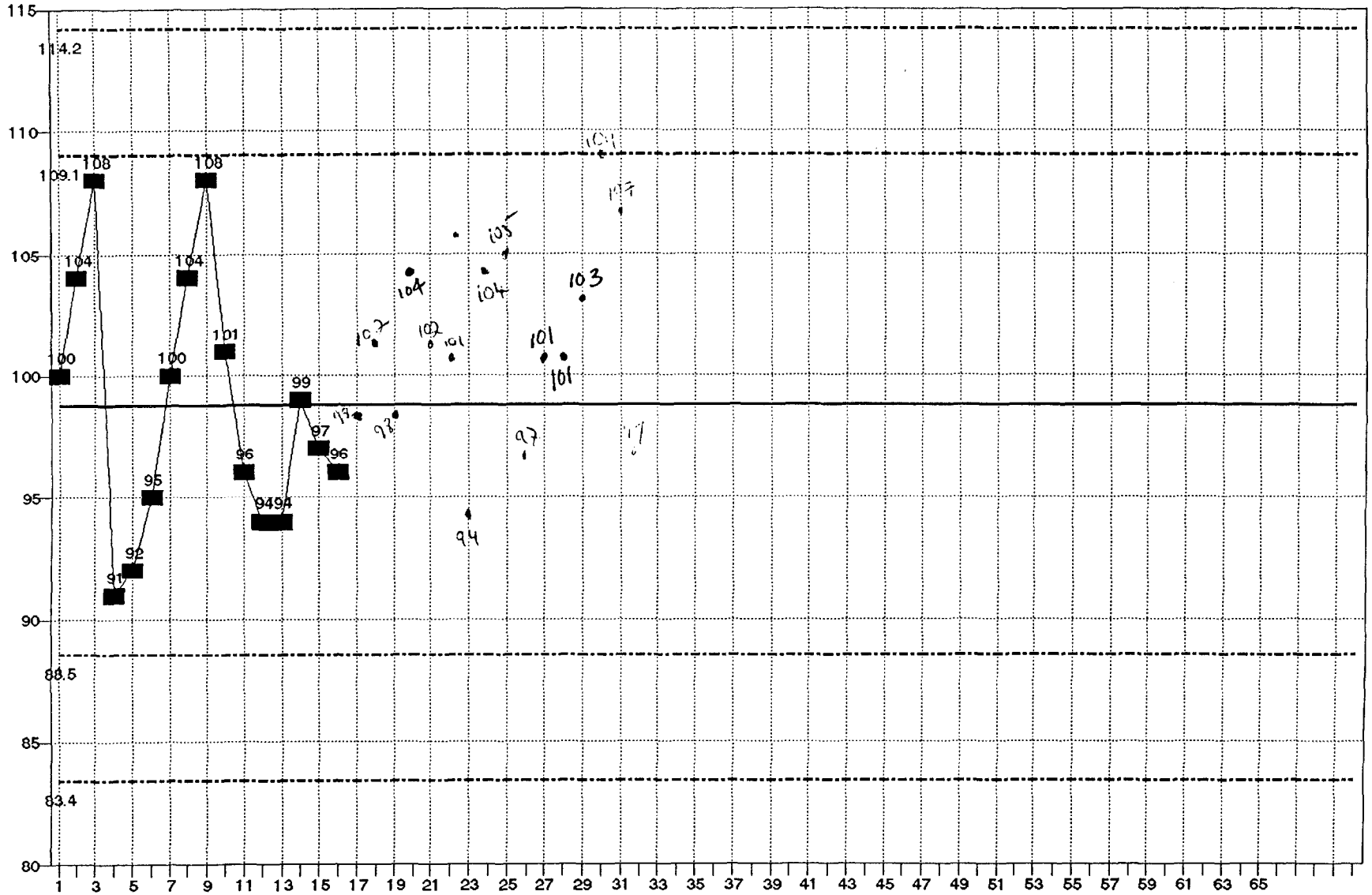
PHC LOW SOLIDS - DIESEL

SPK REC LIMS SET6/6/95-PPCBCHT\PHCS1294



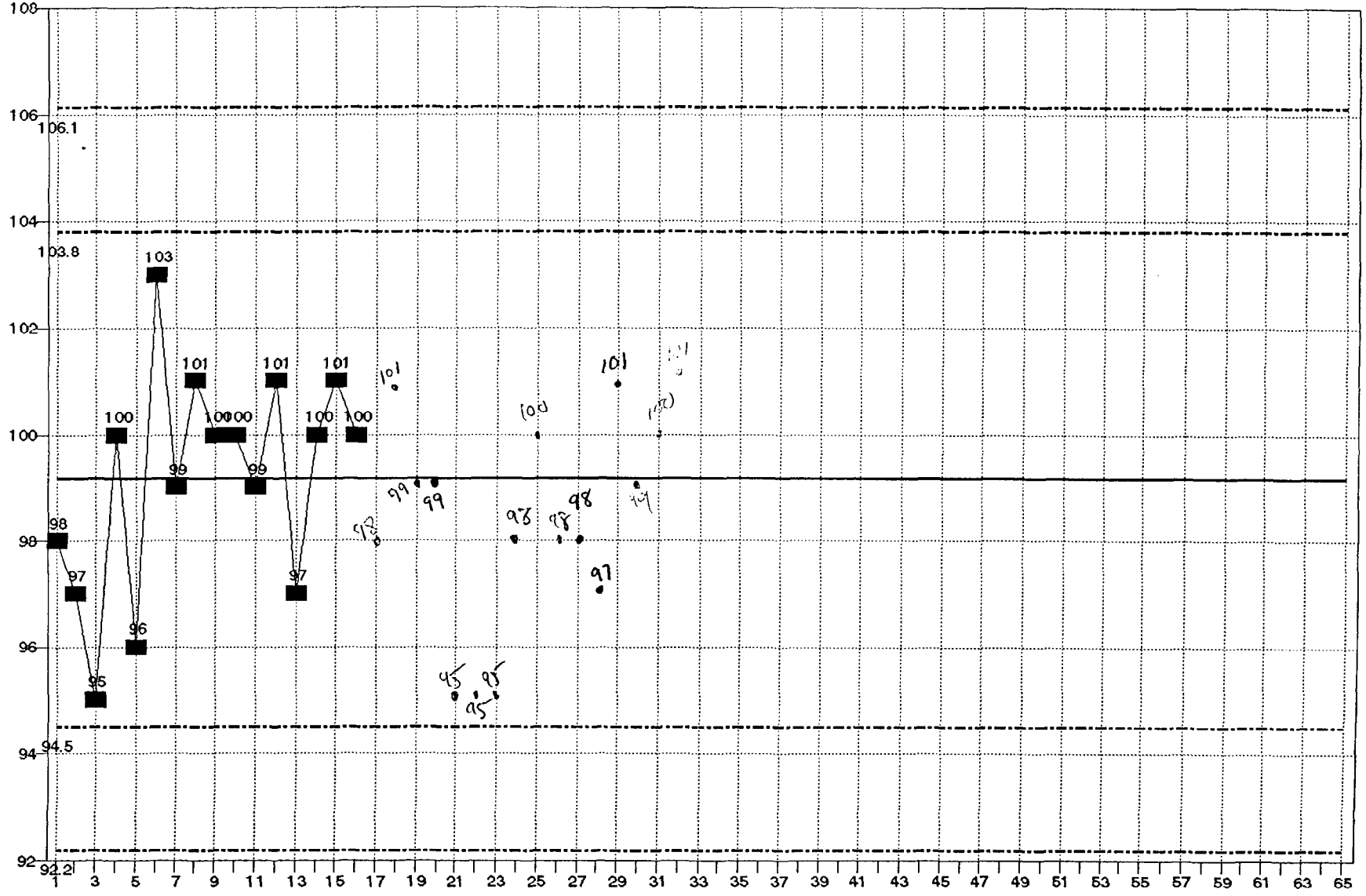
MEAN = 58.30 STD DEV =9.81

VOA TCLP - SURR DCE
LIMIT SET 7/93



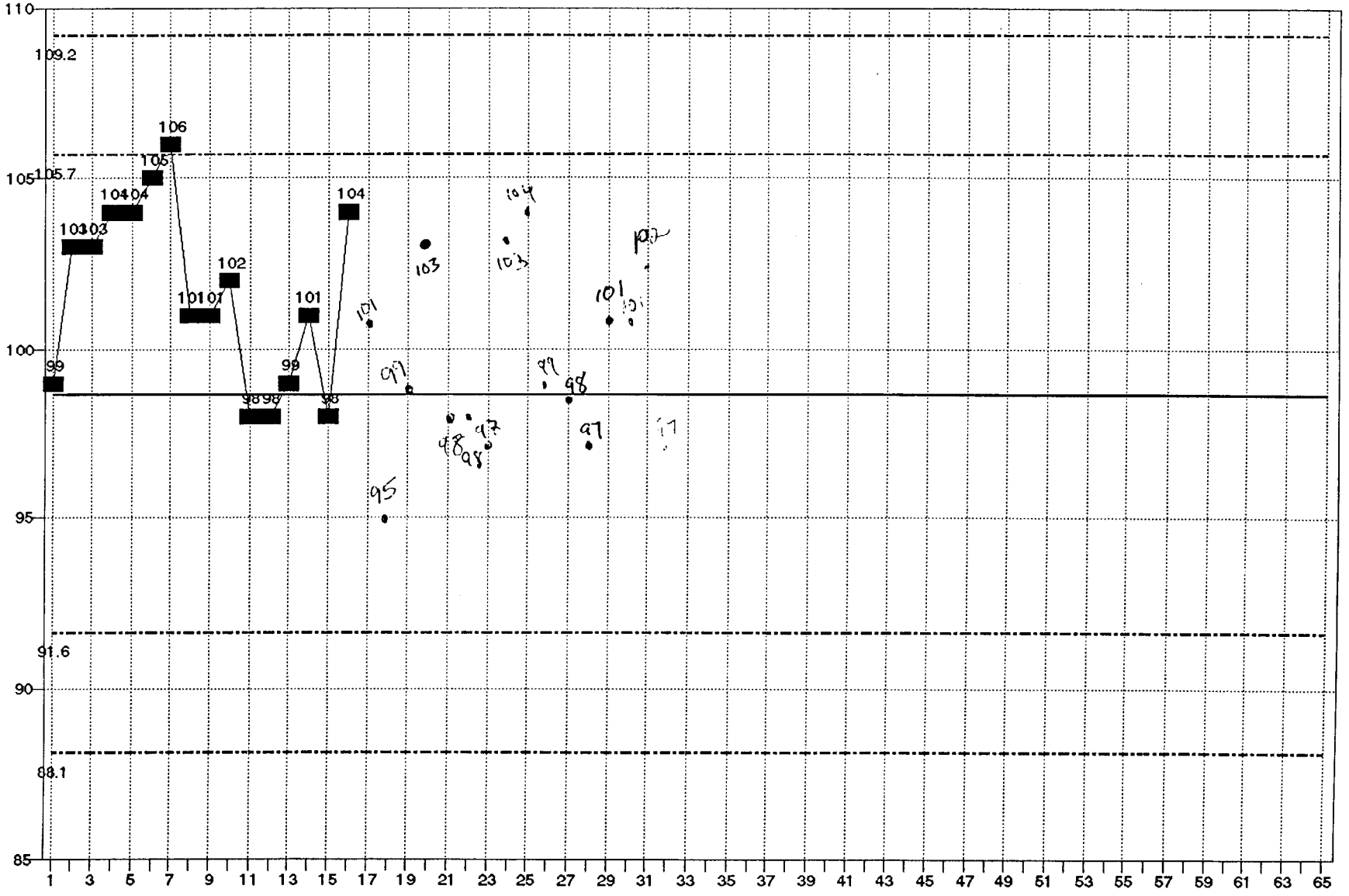
STD DEV = 5.13 MEAN = 98.8

VOA TCLP - SURR TOL
LIMIT SET 7/93



STD DEV = 2.32 MEAN = 99.1

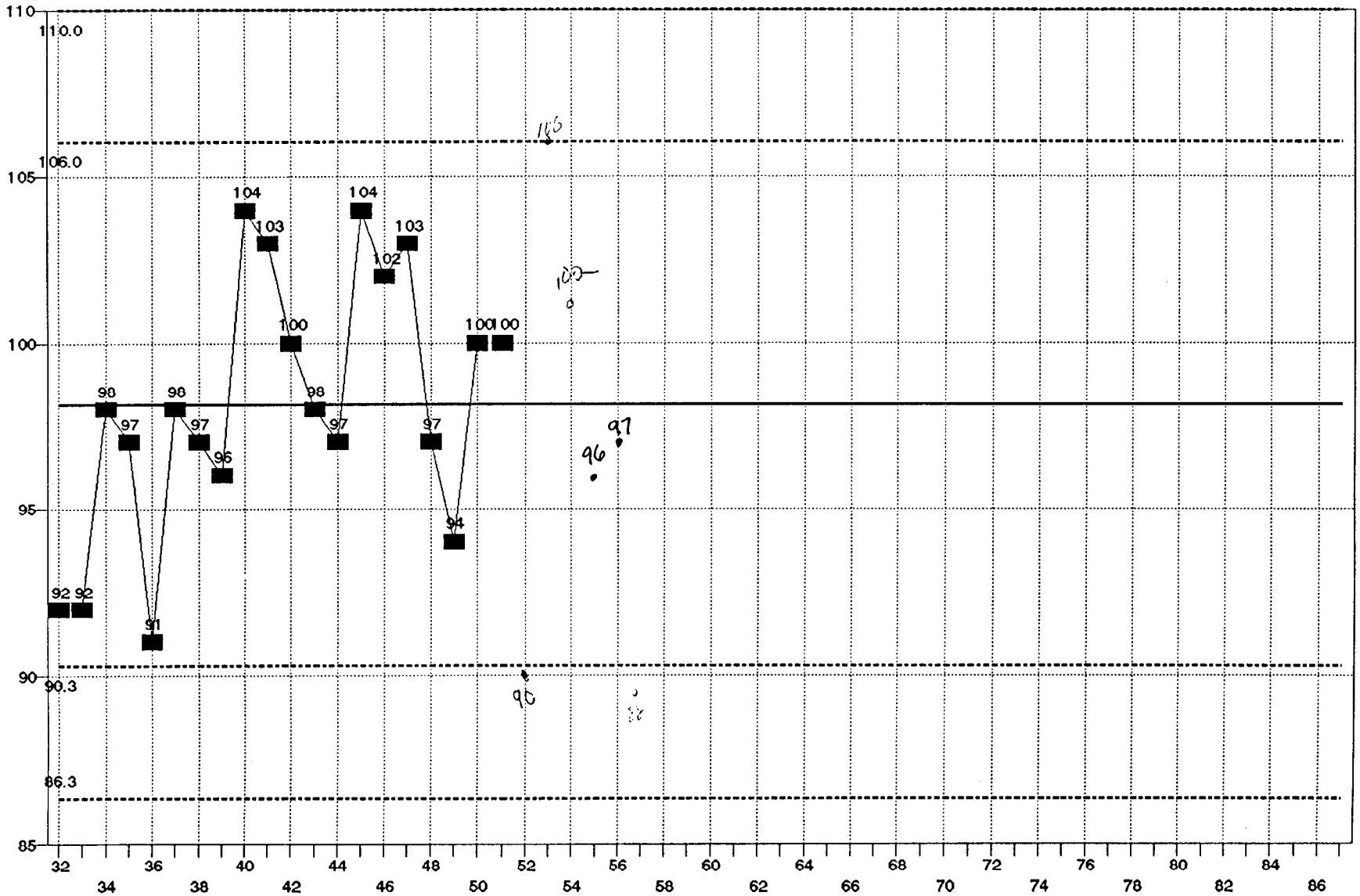
VOA TCLP - SURR BFB
LIMIT SET 7/93



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	397	
26	TCLP BLANK	399	
27	TCLPBLK 400		10/5/95
28	TCLPBLK 401		10/6/95
29	TCLPBLK 402		10/11/95
30	TCLP BLK 405		10/17/95
31	TCLPBLK403		10/11/95 (107, 100, 102)
32	TCLPBLK404		(97, 101, 97)

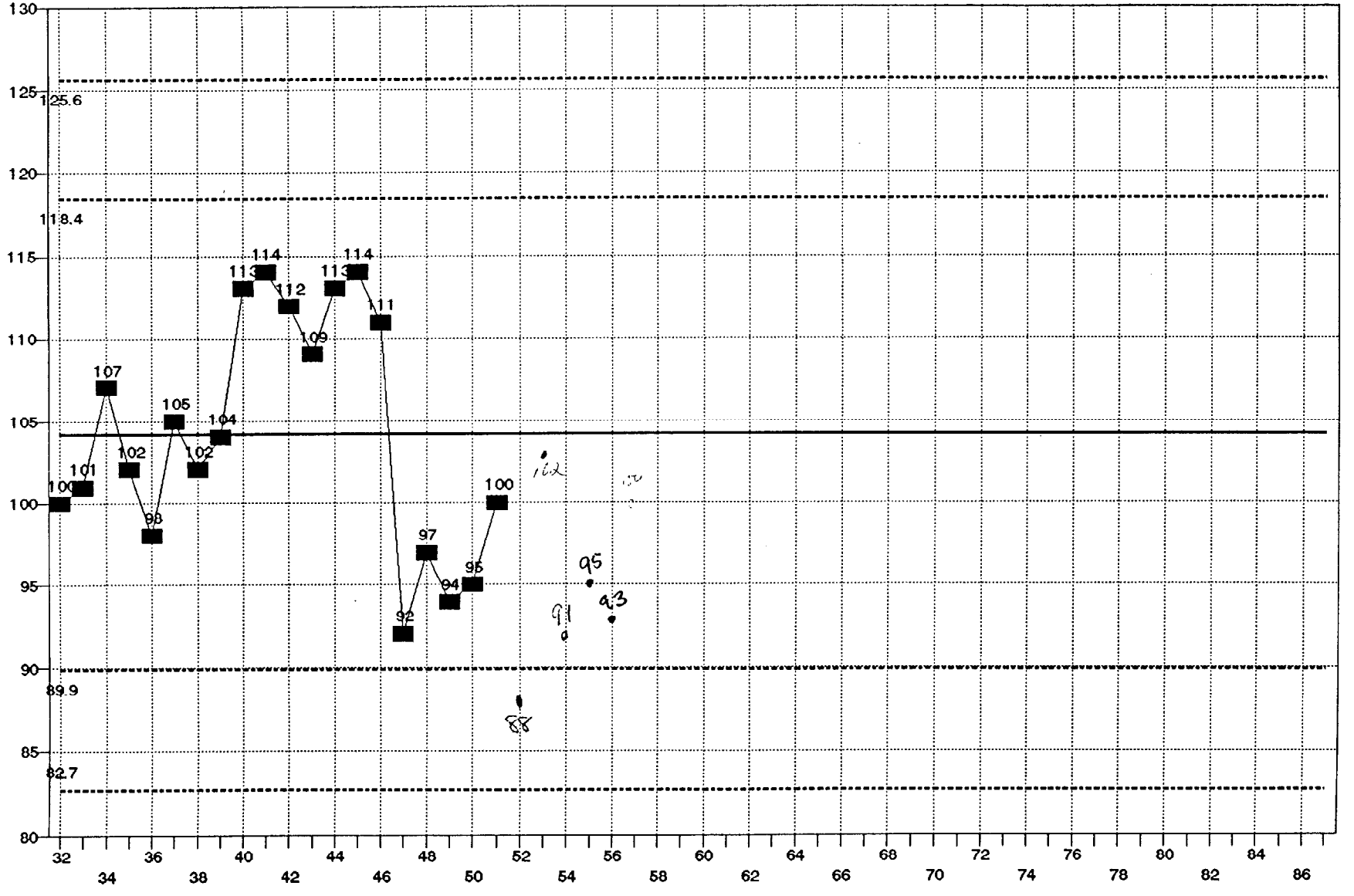
VOA MED SOLIDS - SURR DCE
LIMIT SET 8/95



STD DEV = 3.94 MEAN = 98.2

0000189

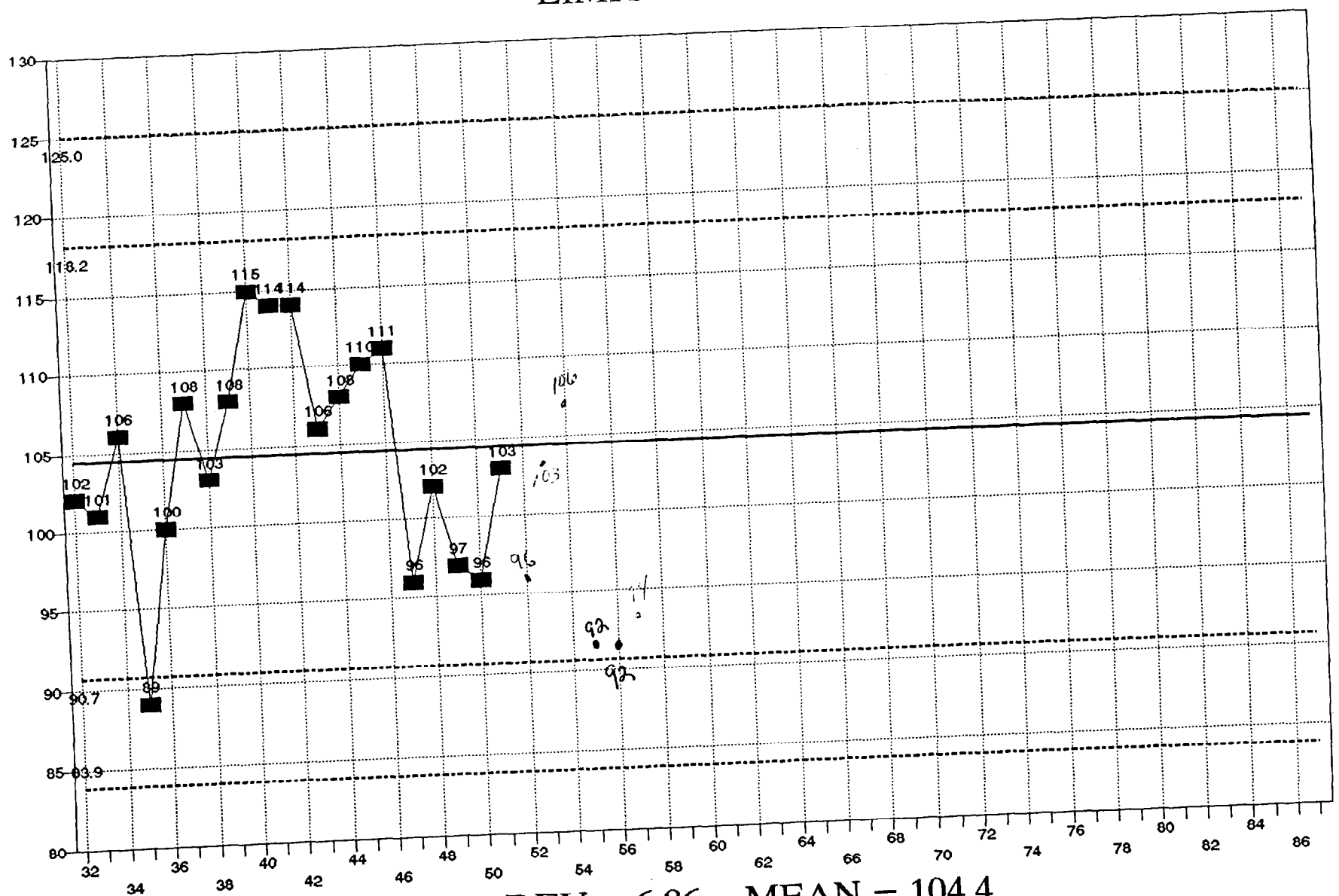
VOA MED SOLIDS - SURR TOL
LIMIT SET 8/95



STD DEV = 7.14 MEAN = 104.2

00001960

VOA MED SOLIDS - SURR BFB
LIMIT SET 8/95

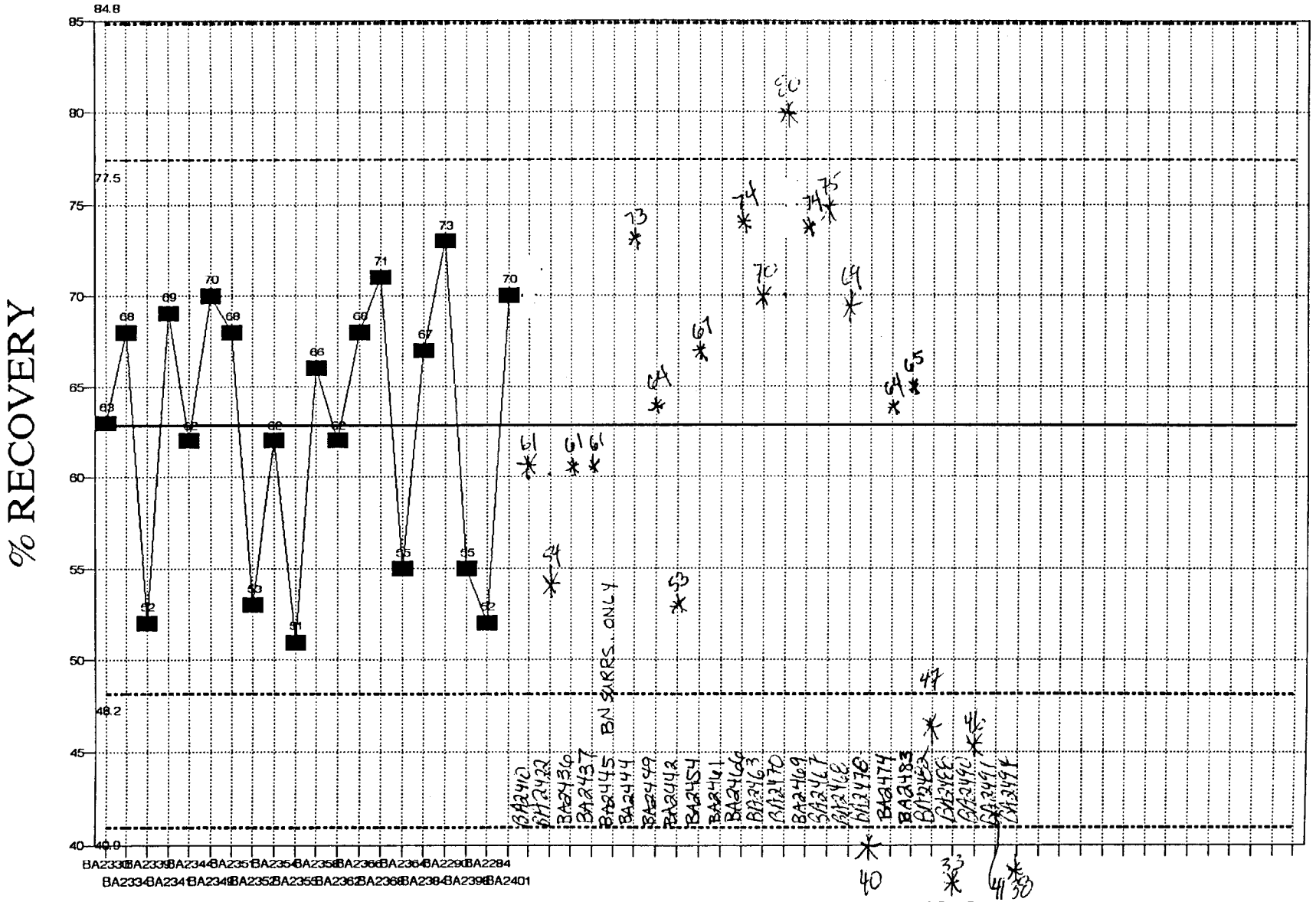


STD DEV = 6.86 MEAN = 104.4

MED SOIL BLANK # LIST

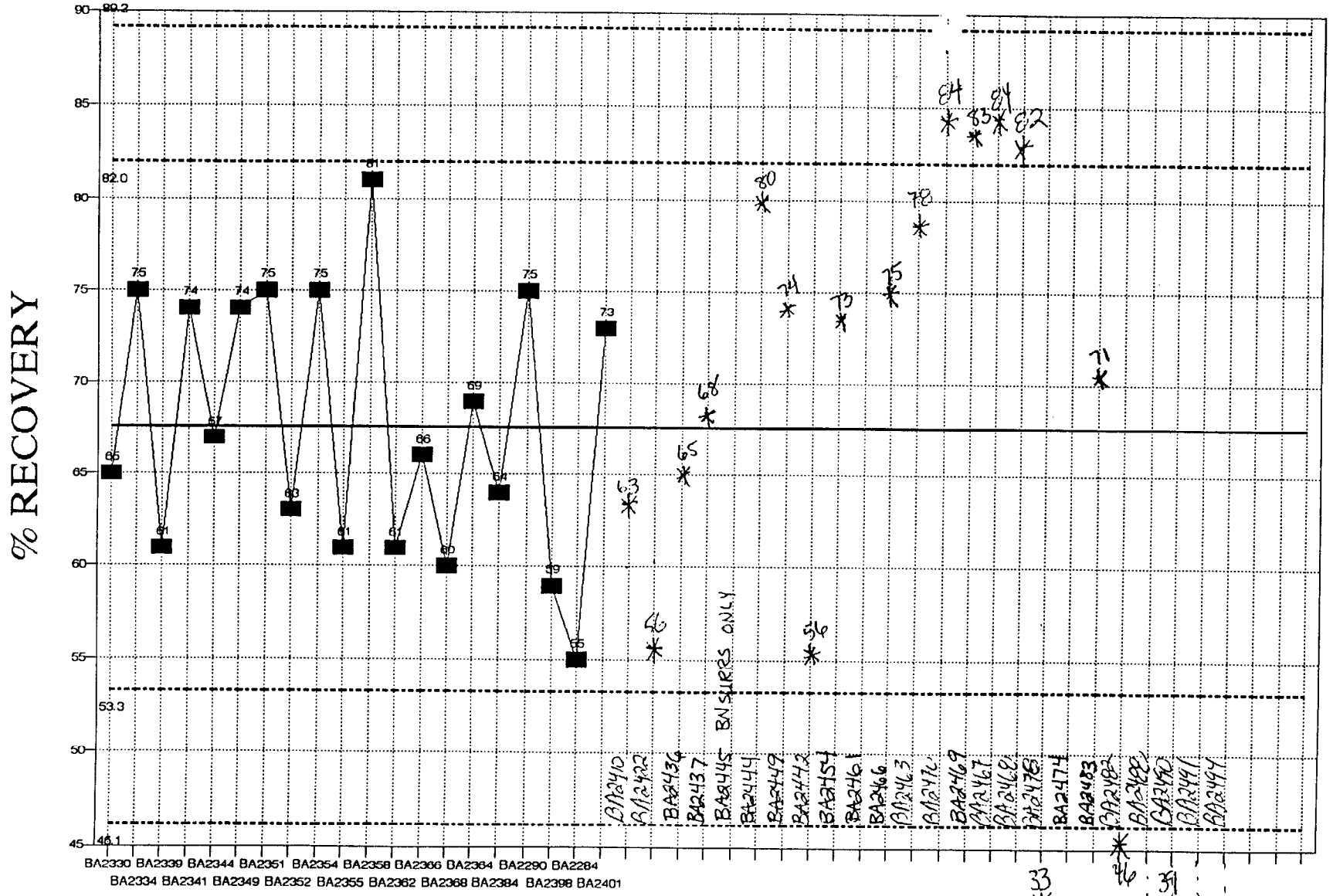
POINT	/ BLANK
1	MB021693A
2	MB022193B
3	MB022993B
4	MB030193A
5	MB040293A
6	MB050493A
7	MB050493A
8	MB050593A
9	MB050693A
10	MB052793B
11	MB052593A
12	MB101293A
13	MB100993A
14	MB111793A
15	MB121393A
16	MB121393A
17	MB020694A
18	MB021094A
19	MB021594A
20	MB021594A
21	MB021594A
22	MB042994B
23	MB050494A
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
56	BV1125C
57	BV1126B ('88, '00, 94)

ABN WATER 3520/8270B, 2-FLUOROPHENOL SURR, LIMITS SET 8/95



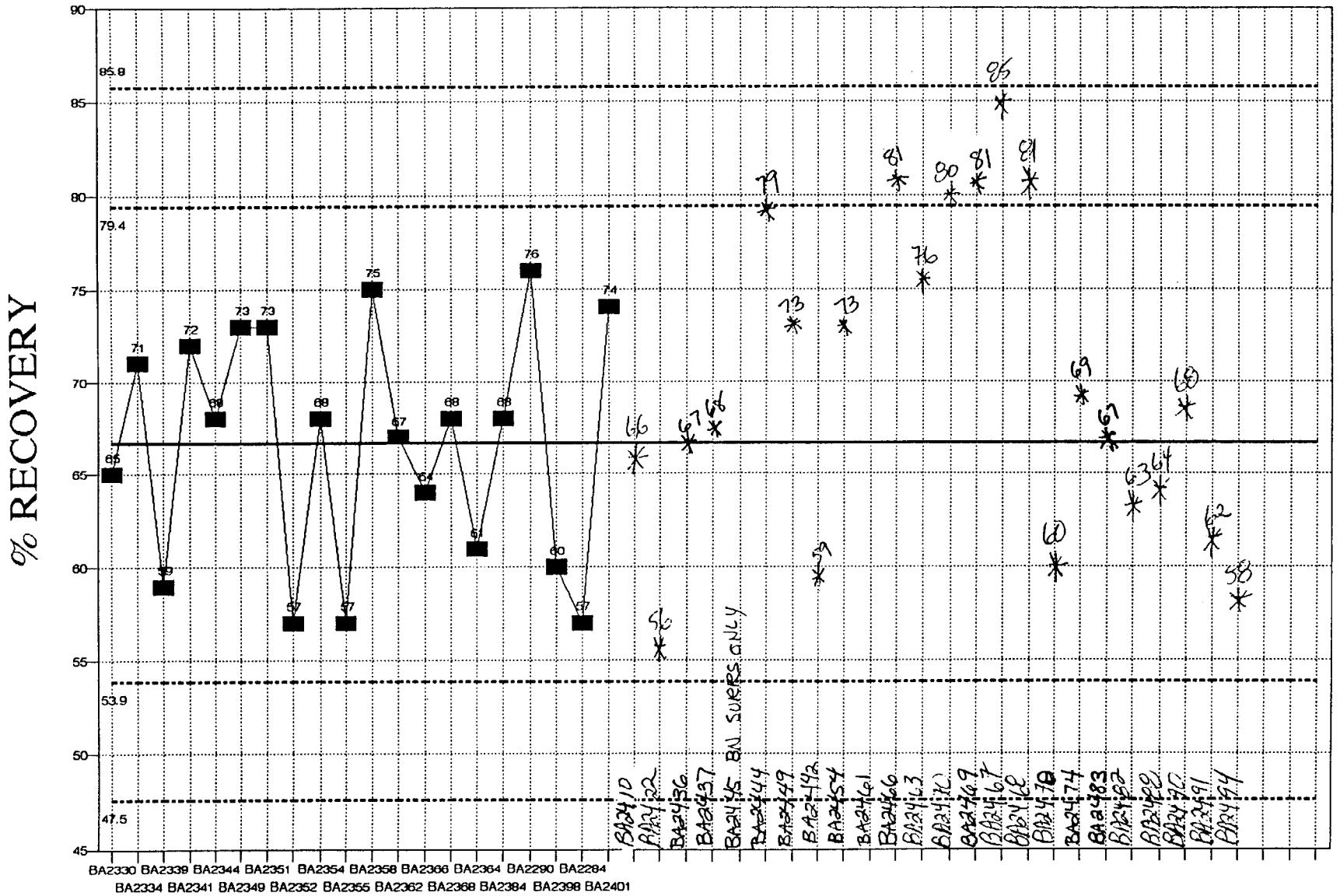
STD DEV = 7.31 MEAN = 62.8

ABN WATER 3520/8270B, PHENOL-D5
SURR, LIMITS SET 8/95



STD DEV = 7.17 MEAN = 67.6

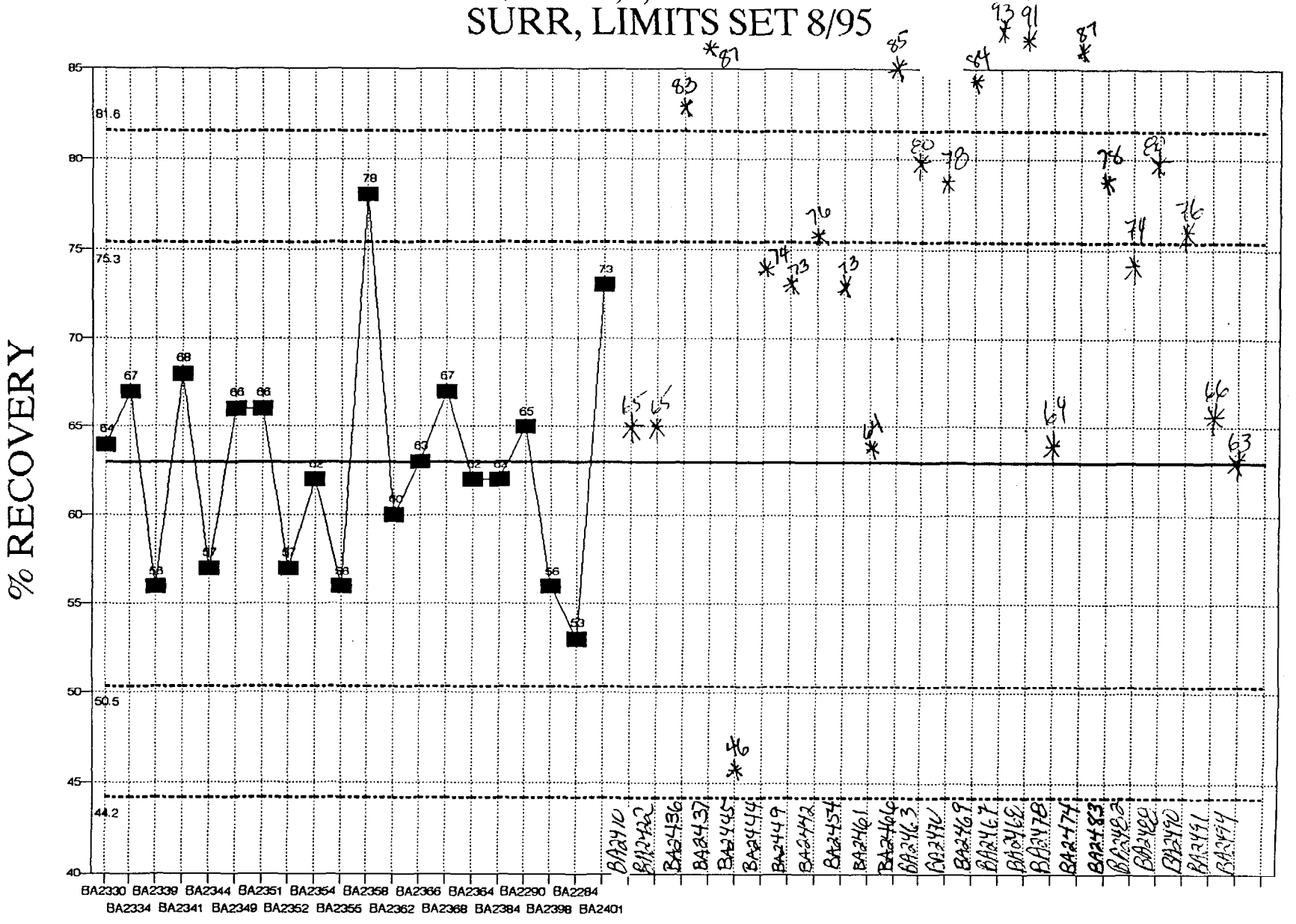
ABN WATER 3520/8270B, 2-CHLOROPHENOL-D4
SURR, LIMITS SET 8/95



STD DEV = 6.37 MEAN = 66.6

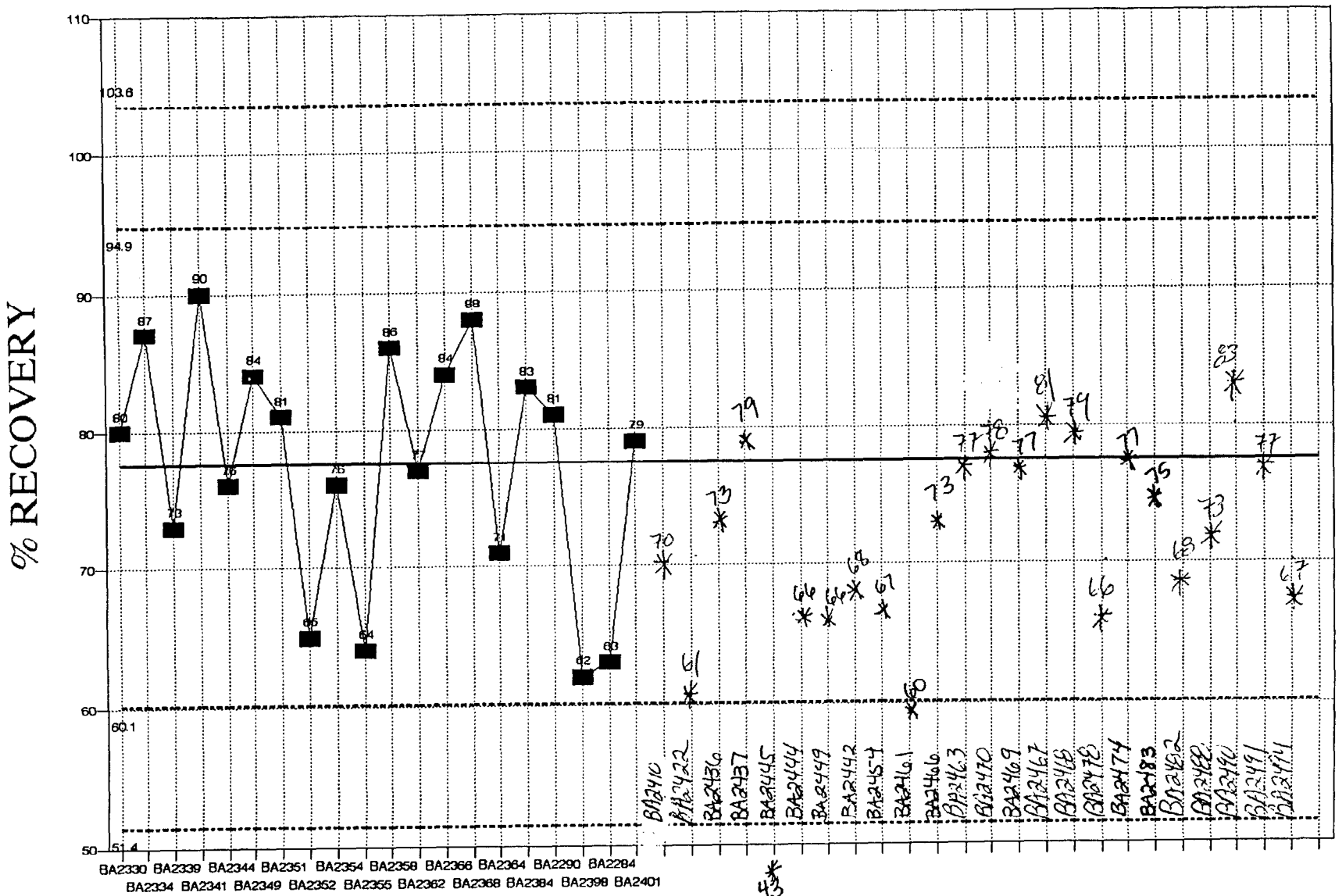
38

ABN H2O 3520/8270B,1,2-DICHLOROBENZENE-SURR, LIMITS SET 8/95



STD DEV = 6.22 MEAN = 62.9

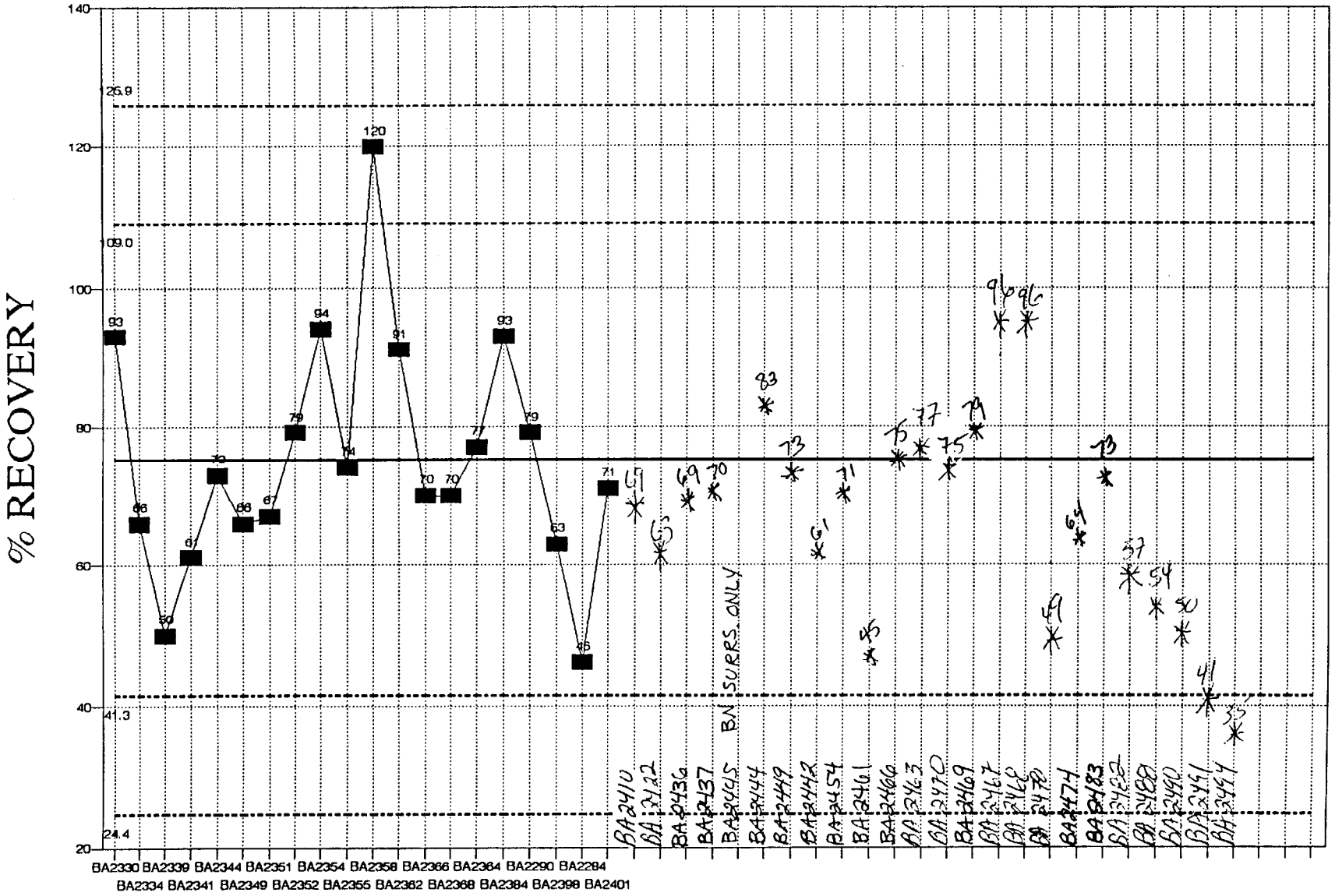
ABN H2O 3520/8270B, NITROBENZENE-D5
SURR, LIMITS SET 8/95



STD DEV = 8.68 MEAN = 77.5

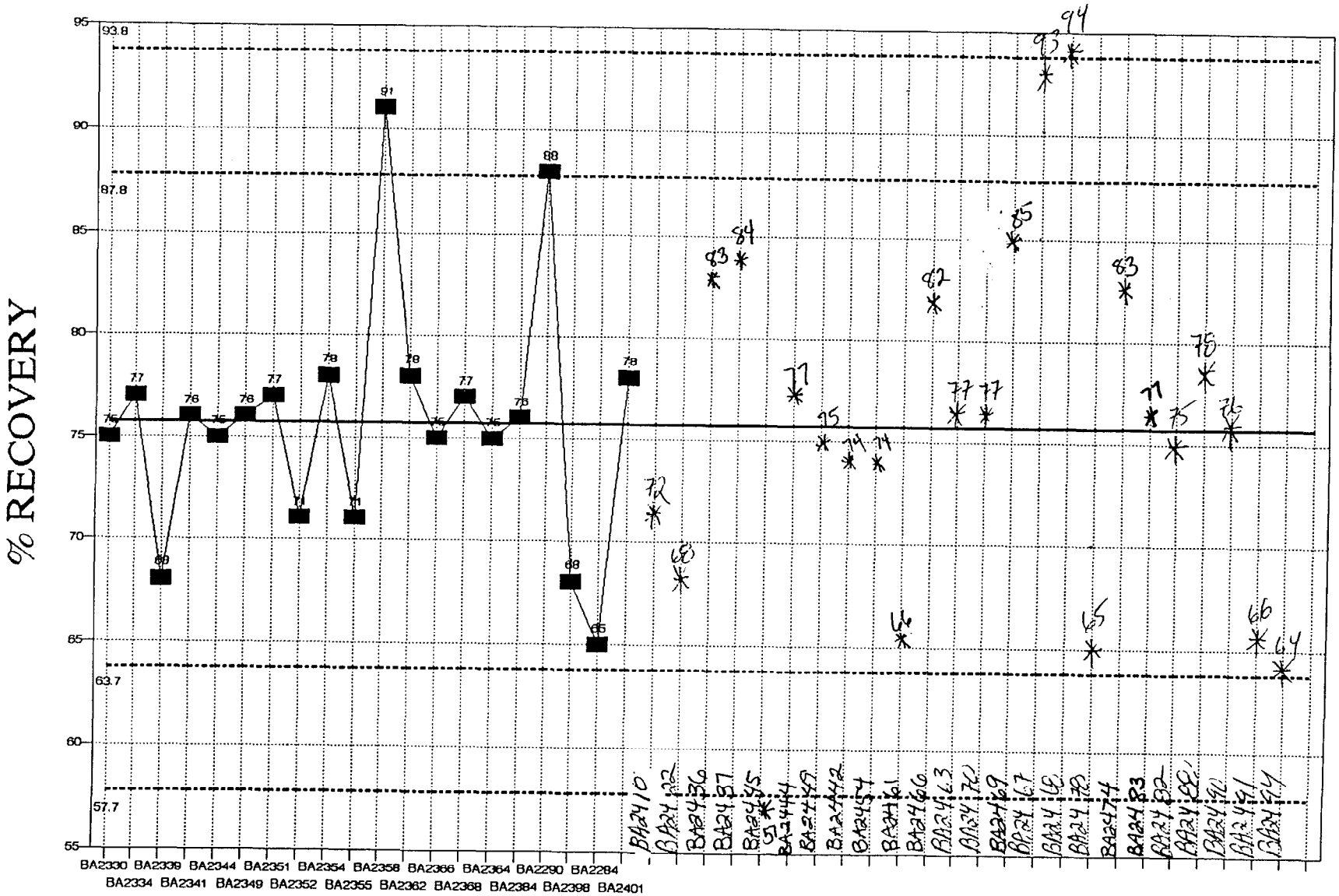
00000197

ABN H2O 3520/8270B,2,4,6-TRIBROMOPHENOL
SURR, LIMITS SET 8/95



STD DEV = 16.9 MEAN = 75.2

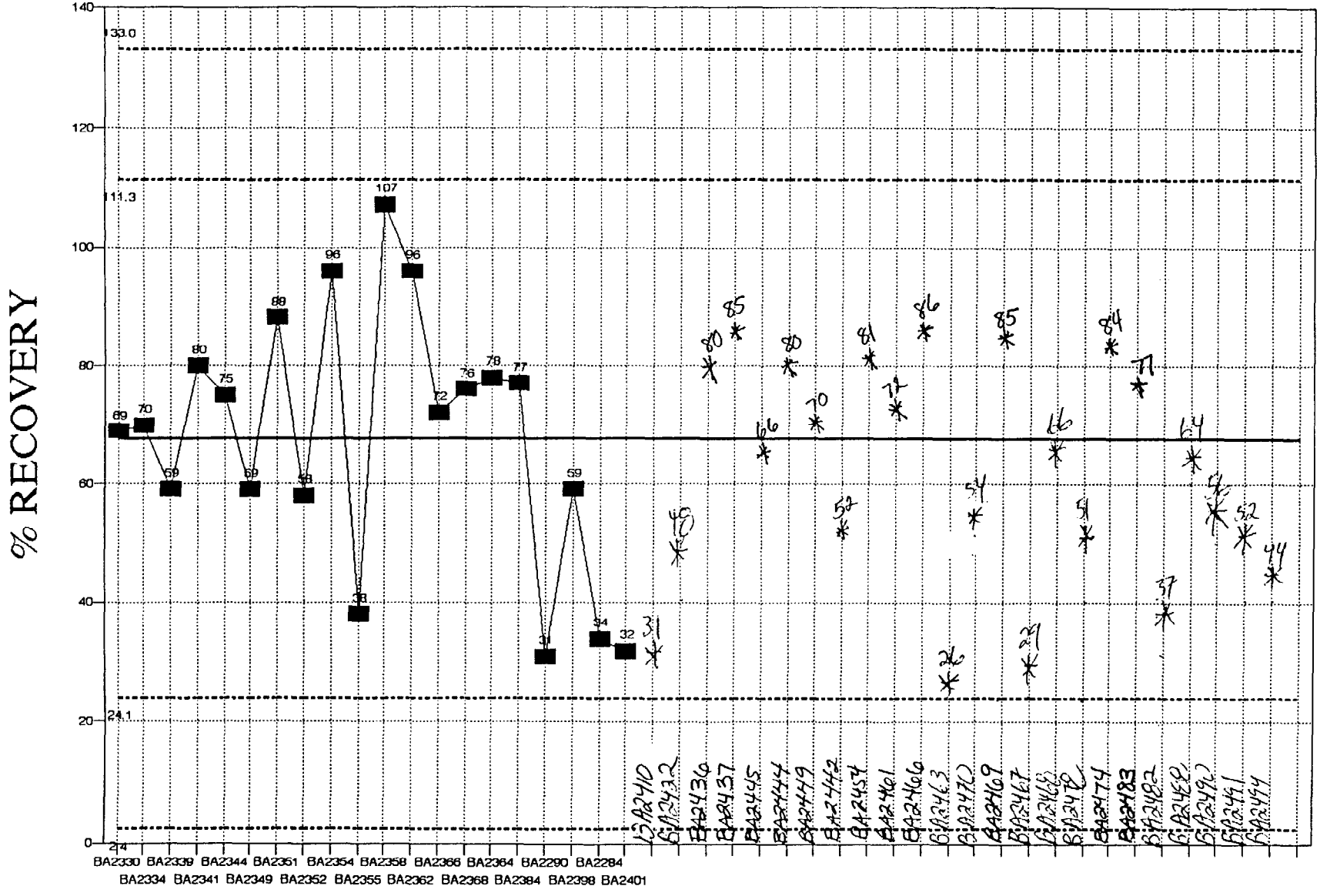
ABN H2O 3520/8270B, 2-FLUOROBIPHENYL SURR, LIMITS SET 8/95



STD DEV = 6.01 MEAN = 75.8

6610000

ABN H2O 3520/8270B, TERPHENYL-D14
SURR, LIMITS SET 8/95

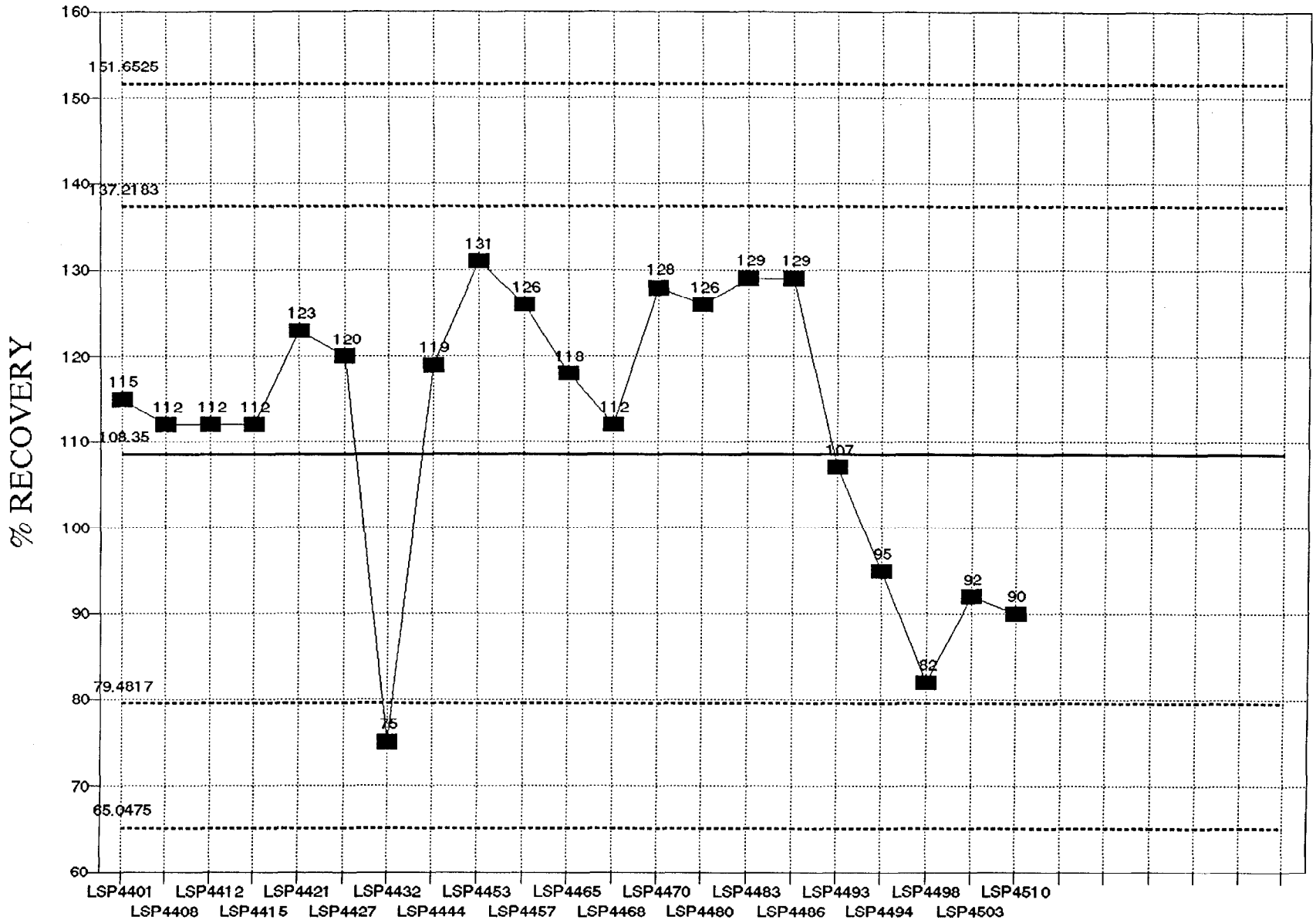


STD DEV = 21.8 MEAN = 67.7

0000200

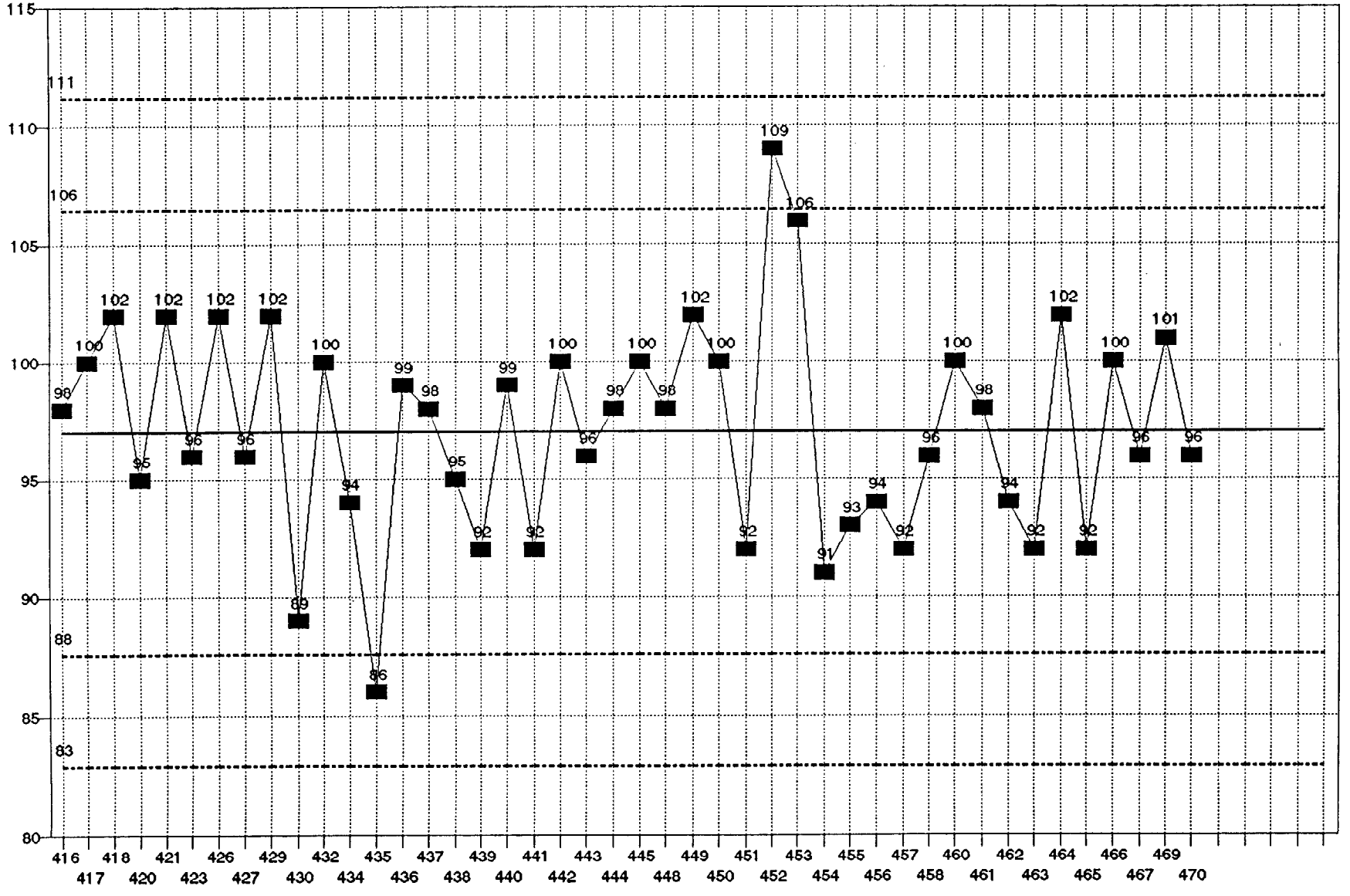
PCB MEDIUM SOLIDS AROCHLOR 1254

SPK LIMITS SET 8/95-PPCBCHT\AR1254S



MEAN = 108.35 STD DEV = 14.43

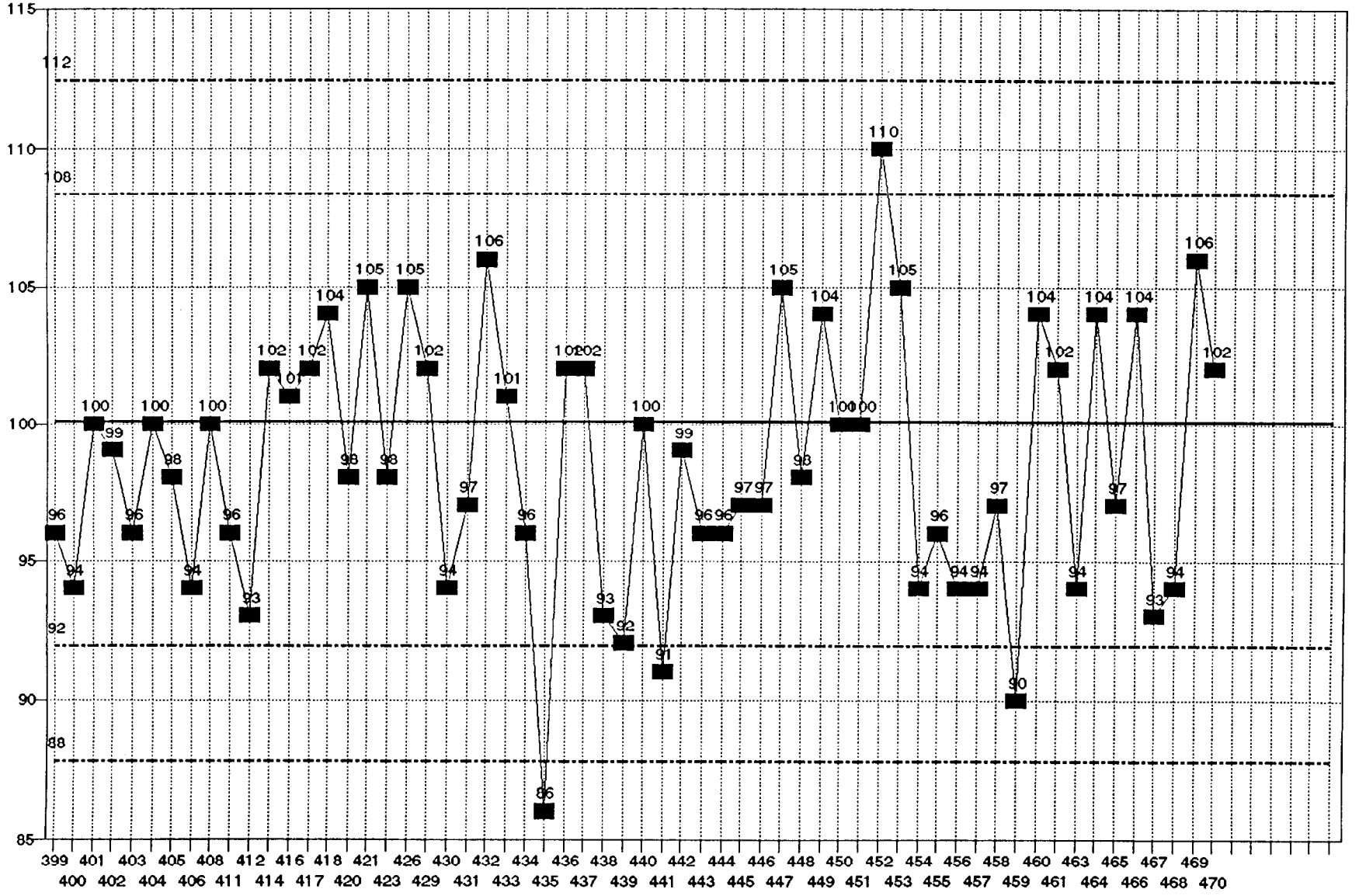
As COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



STD DEV = 5 MEAN = 97

0000202

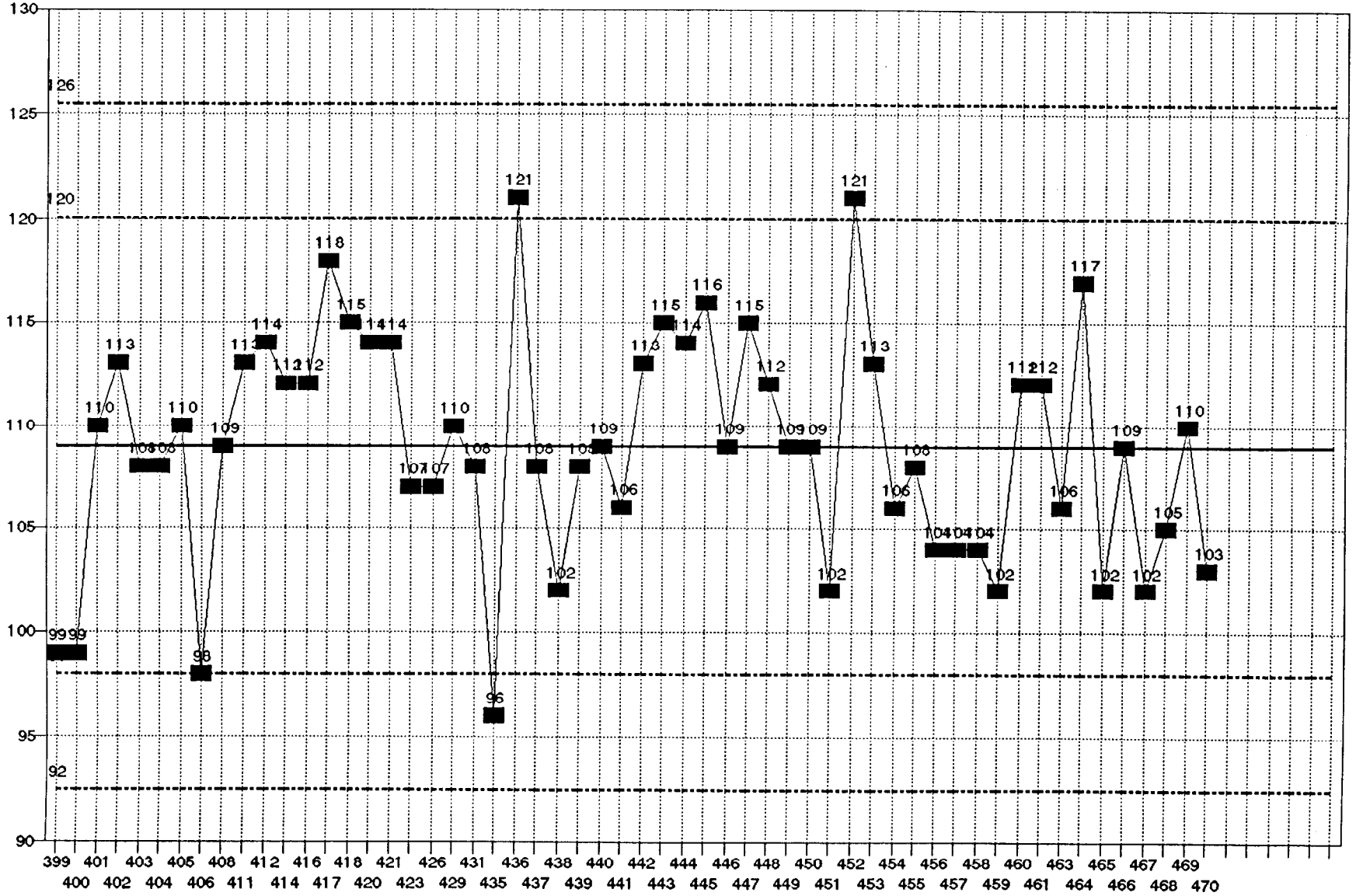
Ba COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 9/95



STD DEV = 4 MEAN = 100

0000203

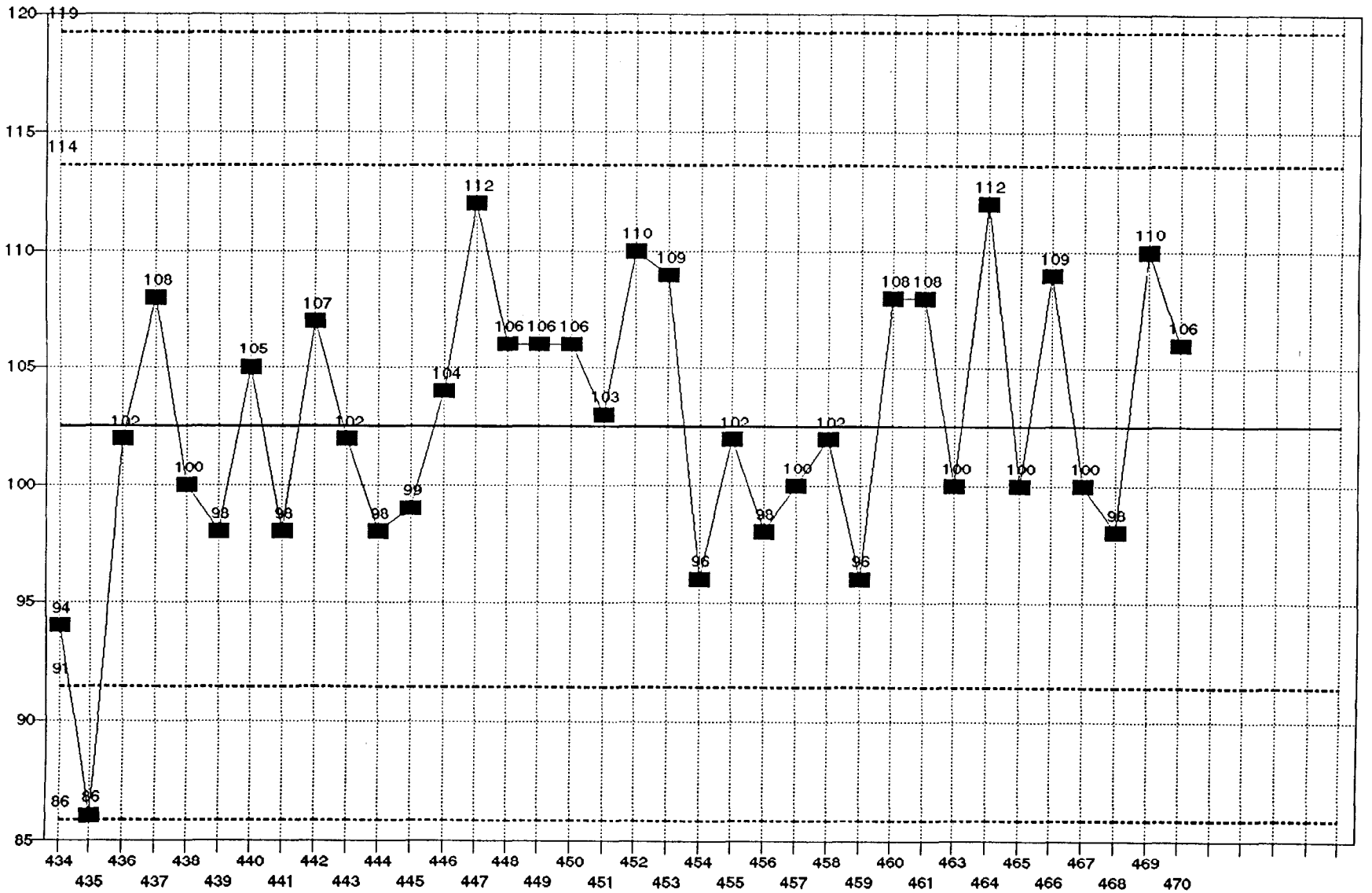
Cd COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 7/95



STD DEV = 5.51 MEAN = 109

0000204

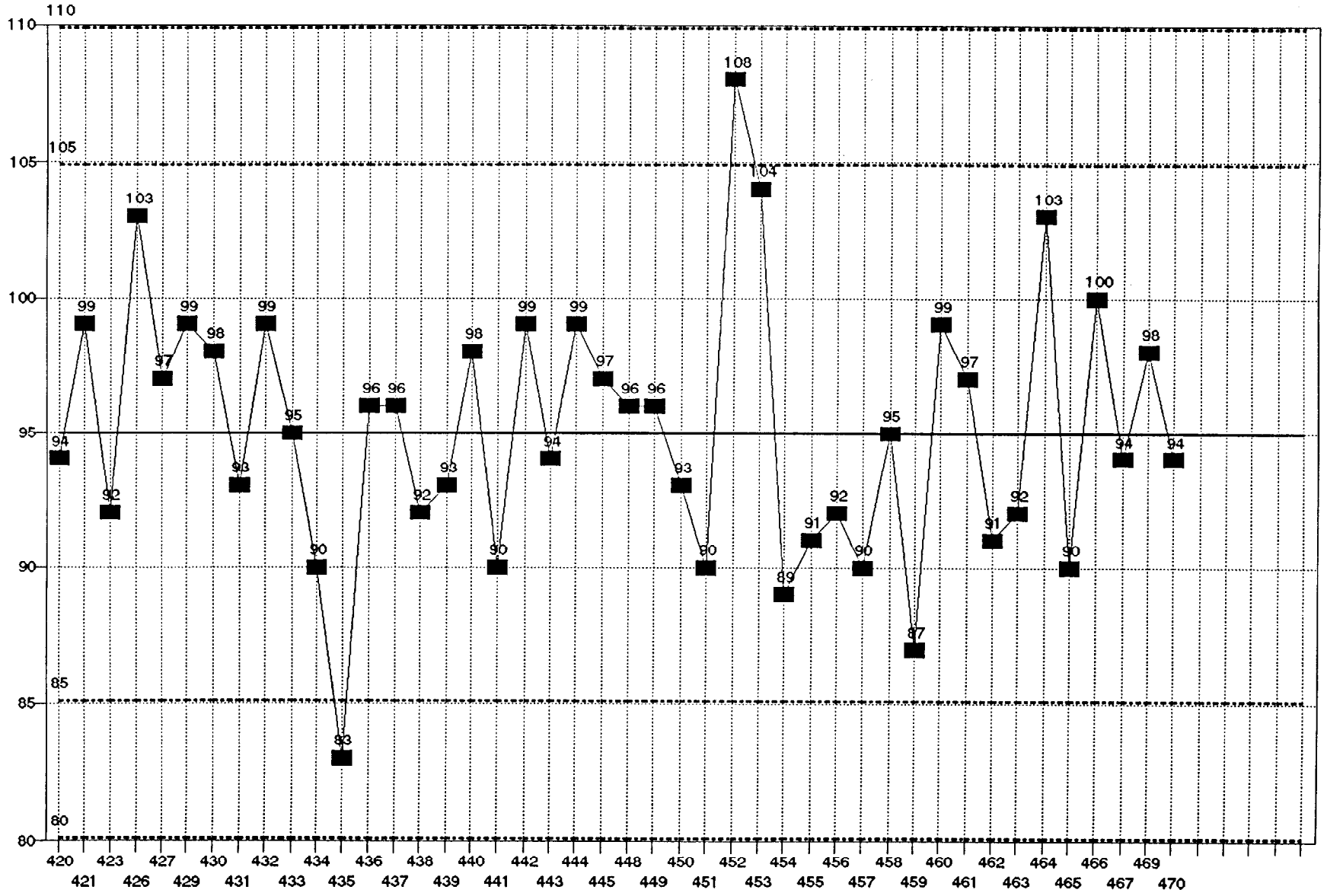
Cr COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



STD DEV = 6 MEAN = 103

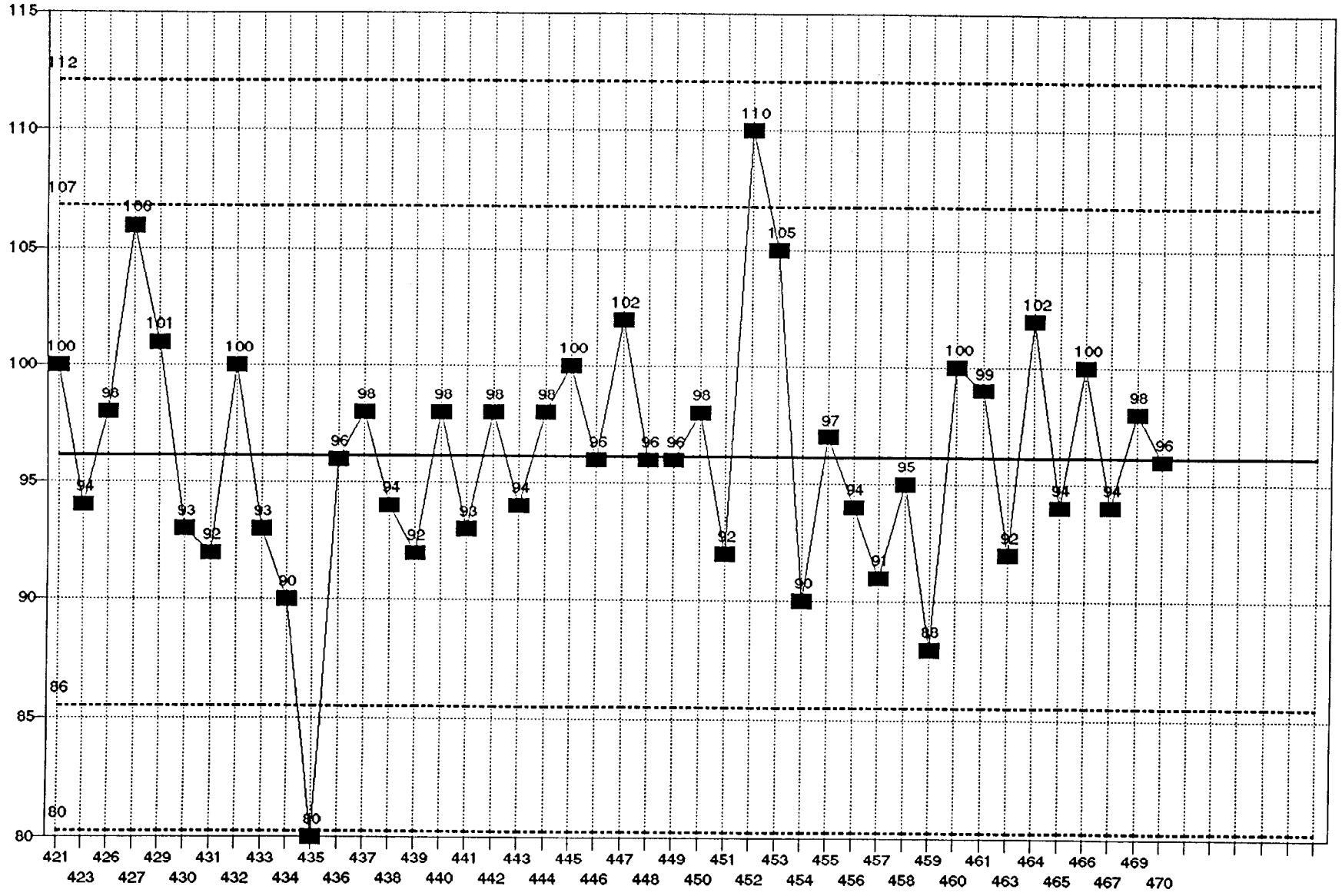
0000205

Pb COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



STD DEV = 5 MEAN = 95

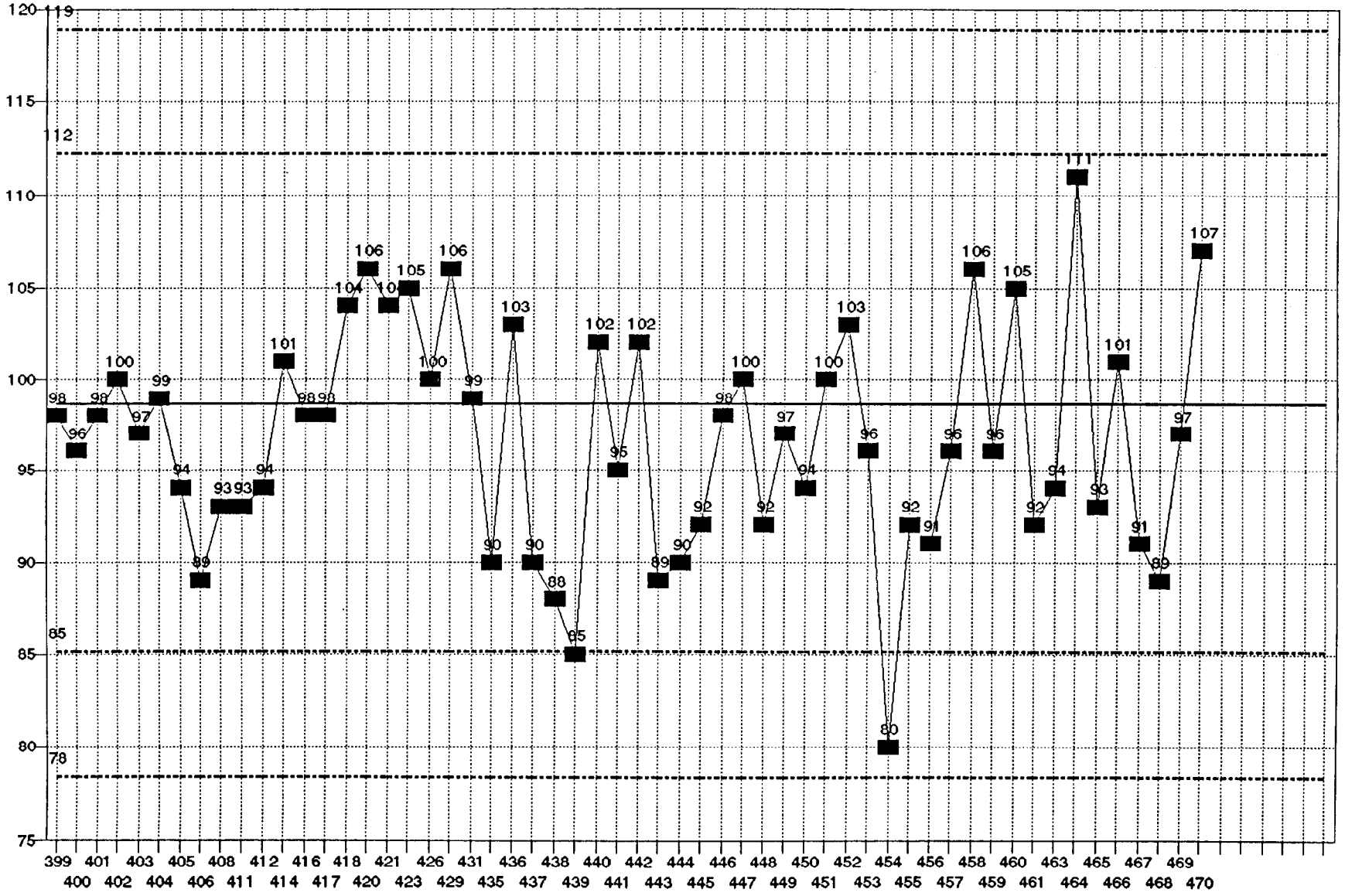
Se COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



STD DEV = 5 MEAN = 96

0000207

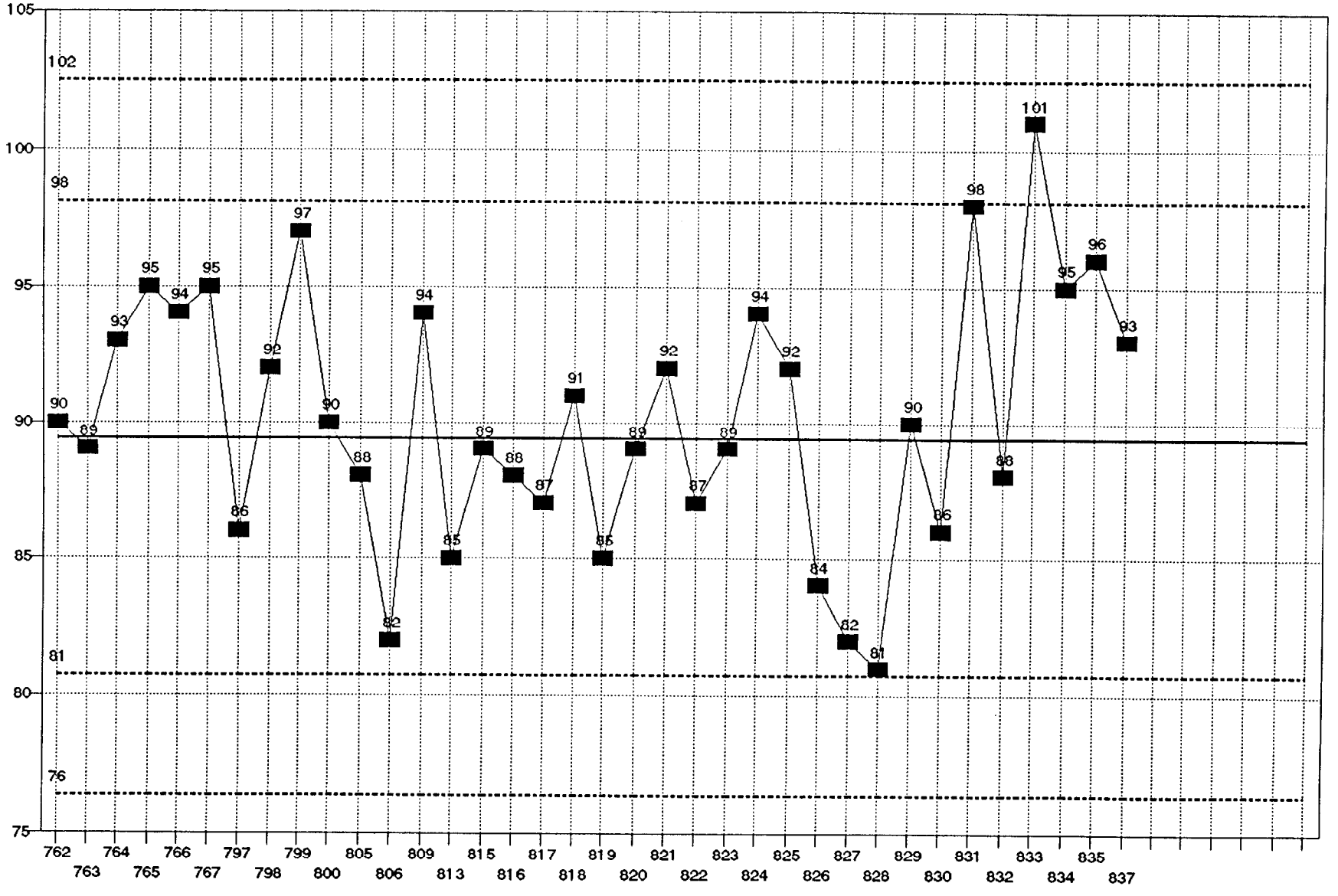
Ag COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 8/95



STD DEV = 7 MEAN = 99

0000208

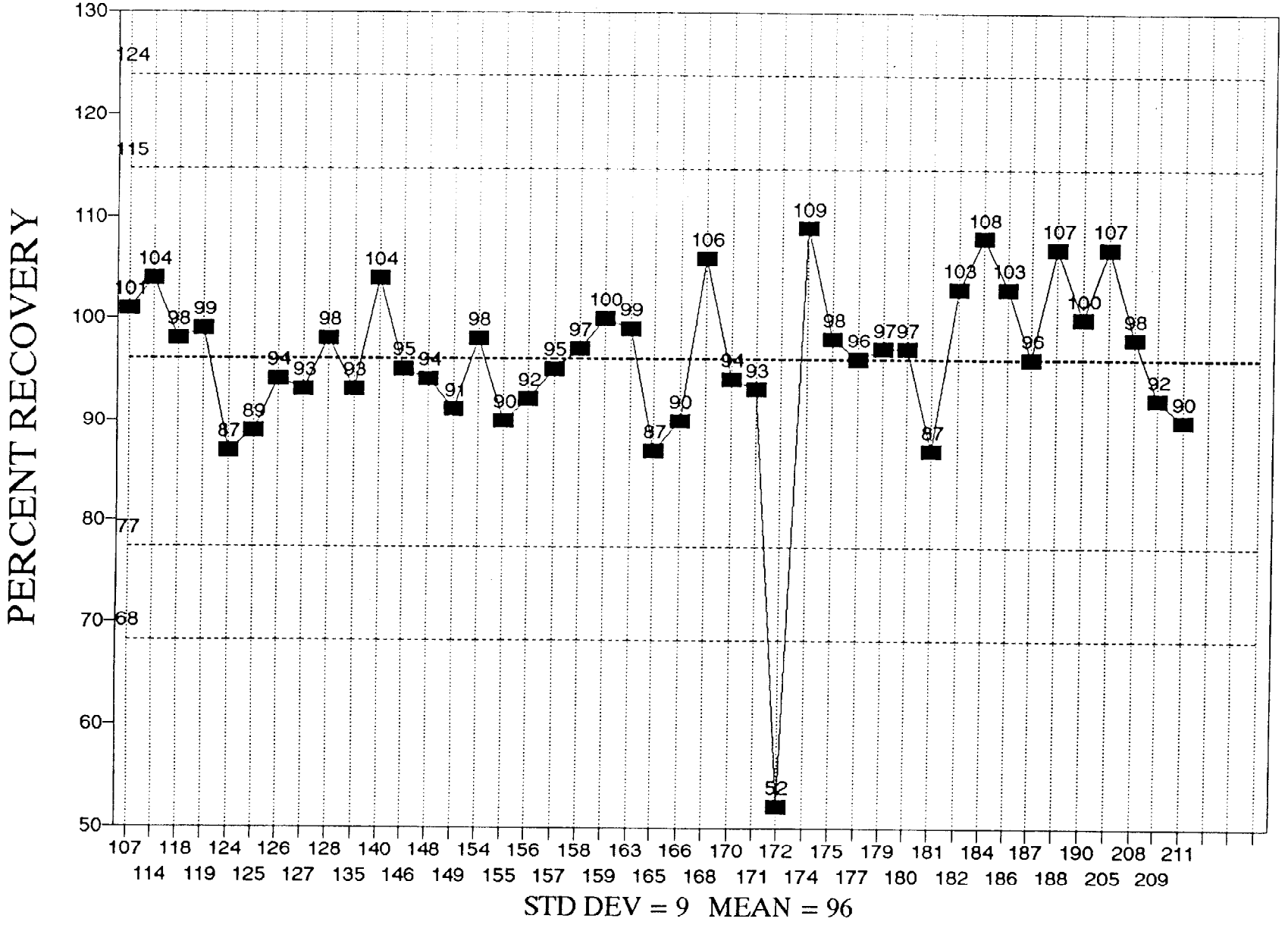
Pb COMMERCIAL LCS SOLID RECOVERIES
LIMITS SET 10/95



STD DEV = 4 MEAN = 89

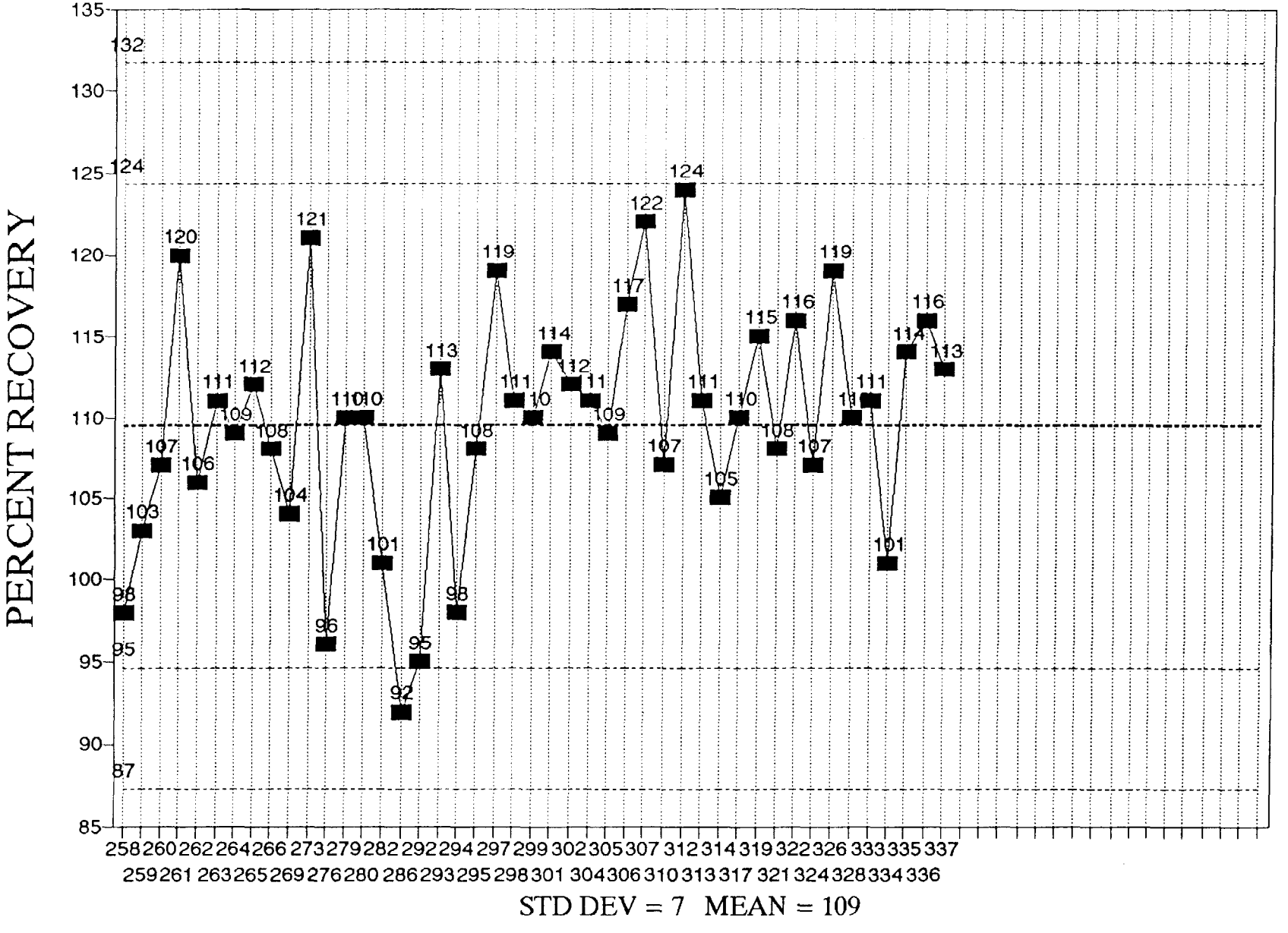
00000209

FURNACE SELENIUM WATER LCS RECOVERIES
LIMITS SET 10/95

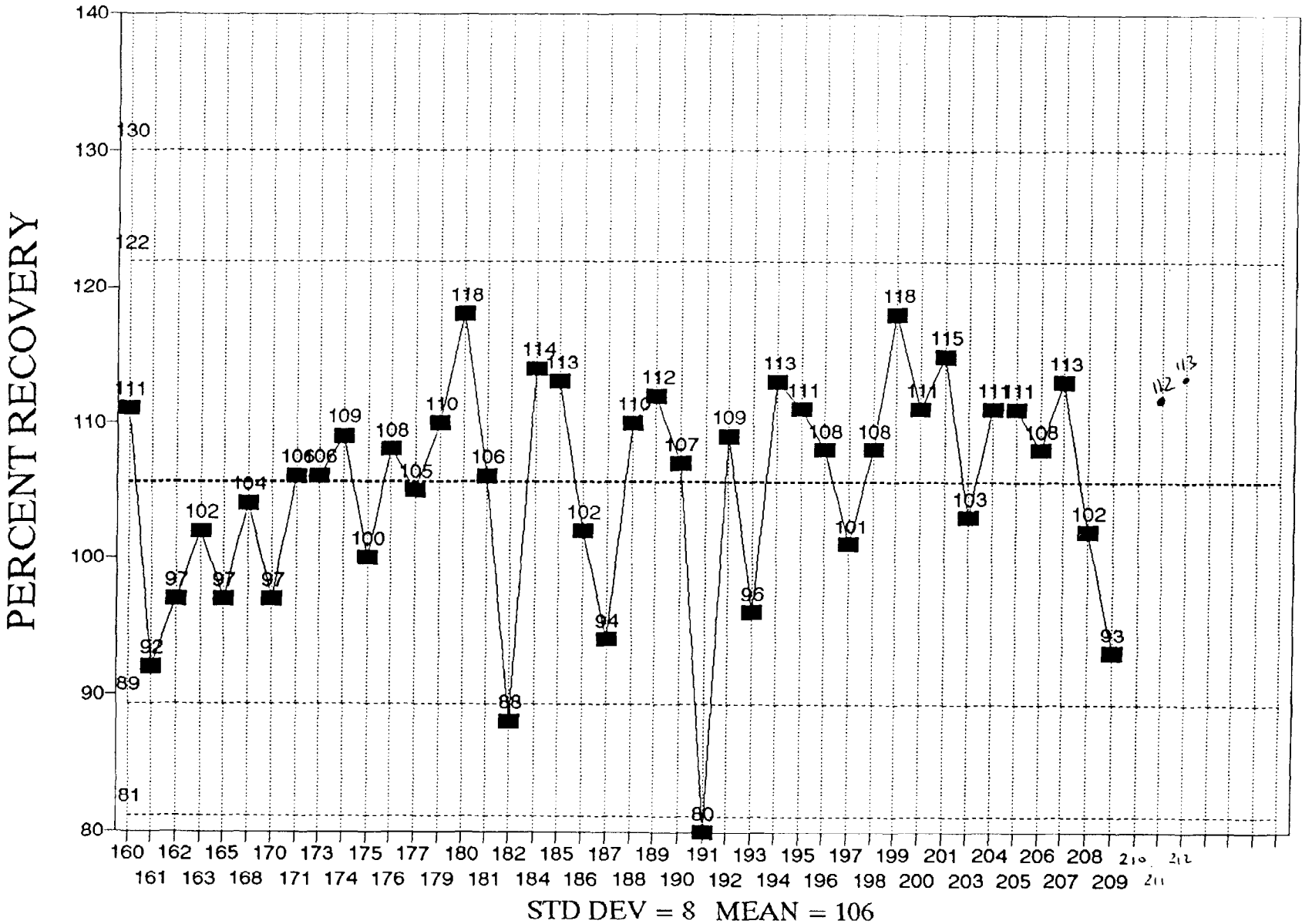


00000210

FURNACE LEAD WATER LCS RECOVERIES
LIMITS SET 10/95

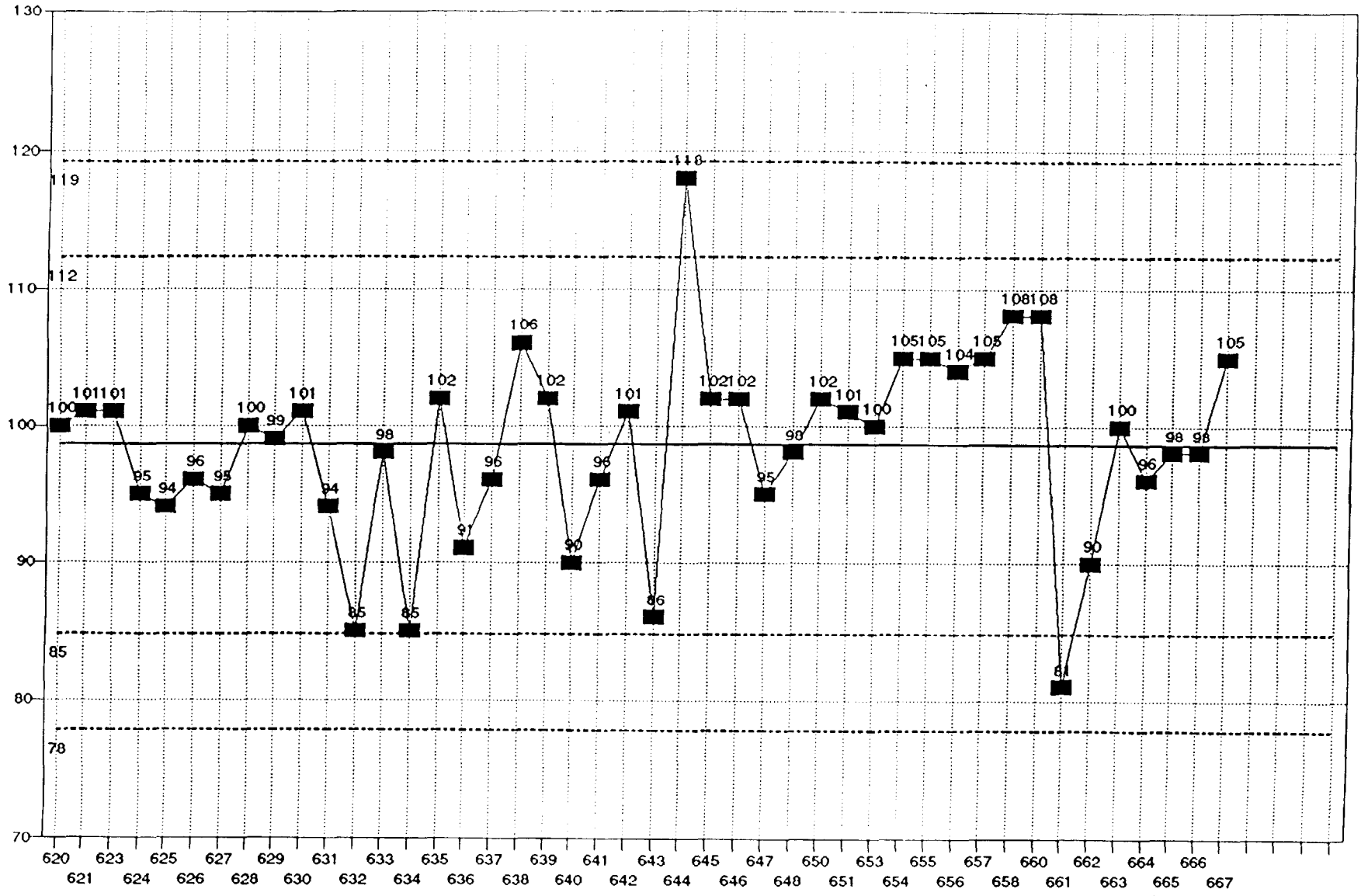


FURNACE ARSENIC WATER LCS RECOVERIES
LIMITS SET 10/95



0000212

Hg COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



STD DEV = 7 MEAN = 99

0000213

OHM Remediation Services Corp.

CHAIN-OF-CUSTODY RECORD

LAB COP

Form 00
Field Technical Servic
Rev. 08/

166415

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

45641

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	REMARKS
1	CLJ44-CC-090	10/9	0700	X		Clean Soil from Pile 23 of Area A.	4	X-1	X-2	X-3	X-3	X-3				
2	CLJ44-CC-091	10/9	0715	X		~~Clean~~ Contaminated Soil from Pile 49 of Area A	4	X	X				X			
3	CLJ44-CC-092	10/9	0720	X		Contaminated Soil from Pile 50 of Area A	4	X	X	X-4	X-4	X-4	X	X-10	X-10	
4	CLJ44-CC-093	10/9	0725	X		Contaminated Soil from Pile 51 of Area A.	4	X	X				X			
5	CLJ44-CC-094	10/9	0730	X		Contaminated Soil from Pile 52 of Area A	4	X	X				X			
6	CLJ44-CC-095	10/9	0735	X		Contaminated Soil from Pile 53 of Area A.	4	X	X				X			
7	CLJ44-CC-096	10/9	0740	X		Contaminated Soil from Pile 54 of Area A.	4	X	X				X			
8	CLJ44-CC-097	10/9	0745	X		Contaminated Soil from Pile 55 of Area A.	4	X	X	X-5	X-5	X-5	X	X-11	X-11	
9	CLJ44-CC-098-RB	10/9	0801	X		Rinsate Blank	5	X	X	X	X	X				metals -6 Semi VOA -7 VOA -8 RCRA Char -9
10	CLJ44-CC-099-TB	10/9				Trip Blank	3	X			X				X	

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-10		Fed Ex	10/9	1300
2		Fed Ex	Gretchen Francium	10/10/9	0930
3					
4					

REMARKS Send Samples to Pace Lab.
Item 1 3days TAT
Item 2-10 24hr. TAT (except TCLP analy

SAMPLER'S SIGNATURE

Final Page

00002214

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

SDG Narrative
Case: OHMRC SDG: LJN36

October 31, 1995

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

SAMPLE DELIVERY GROUP NARRATIVE

Case: OHMRC
SDG: LJN36
Laboratory: PACE New England - New Hampshire of Hampton, NH
Lab Numbers: 45645
Protocol: SW846 Methods. NEESA E deliverables. No diskette.

Sample Receipt: These samples were received at PACE, Inc. on October 11, 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 10/11/95 (45645): Samples were received in one cooler and were assigned PACE# 45645 and 45646. 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# 45646 were logged in for a 3-day turnaround per the request on the COC. Samples assigned PACE Lab# 45645 were logged in for 24-hour turnaround per the request on the COC.

GRO Analysis: Laboratory numbers 45645-1 and -2 had high recovery for 4-bromofluorobenzene. This was a probable matrix effect.

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

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 D. Willeman — 10/31/95

PACE Incorporated, New England-New Hampshire — October 31, 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# 45645
PAGE 1 of 1
COOLER ____ of ____
COC# ____
SDG# LJN36
CASE# CHMRC

CLIENT OHM
DATE/TIME RECEIVED 10/11/95 0930
DELIVERED BY Fed-Ex
RECEIVED BY [illegible]

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 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: 24 hr. TAT

CLIENT AUTHORIZATION SIGNATURE ____ DATE ____

SAMPLE TABLE

CLIENT ID.	MATRIX	PACE #	PARAMETERS
CLJ44-CC-101	SOLID	45645-001	TOTAL GASOLINE
		45645-004	OIL & GREASE BY GRAVIMETRY
			TOTAL DIESEL
CLJ44-CC-102	SOLID	45645-002	TOTAL GASOLINE
		45645-005	OIL & GREASE BY GRAVIMETRY
			TOTAL DIESEL
CLJ44-CC-104-TB	WATER	45645-003	TOTAL GASOLINE
		45645-006	GC/MS VOA

pace INCORPORATED
THE ASSURANCE OF QUALITY

Field Identification: CLJ44-CC-101 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	71	12	45645-001	10/12/95	BG1045A	8015(mod)/2
Total Diesel (ug/g)	3200	110	45645-004	10/12/95		8015(mod),3350/2
Oil and Grease by Gravimetry (ug/g)	2700	270	45645-004	10/12/95	BG1391	9071,503D/2,3

Field Identification: CLJ44-CC-102 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	67	13	45645-002	10/13/95	BG1045A	8015(mod)/2
Total Diesel (ug/g)	2400	110	45645-005	10/11/95		8015(mod),3350/2
Oil and Grease by Gravimetry (ug/g)	1900	270	45645-005	10/12/95	BG1391	9071,503D/2,3

Field Identification: CLJ44-CC-104-TB Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/L)	BDL	100	45645-003	10/11/95		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

Laboratory number: 45645-006
Sample Designation: CLJ44-CC-104-TB
Date Analyzed: 10/12/95
Matrix: WATER

Instrument File Name: >G5082

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

pace INCORPORATED
THE ASSURANCE OF QUALITY

QUALITY CONTROL DATA
TOTAL GASOLINE

BLANK DATA

Laboratory Number: BG1045
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/11/95
Matrix: SOLID

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

MATRIX SPIKE RECOVERY

Laboratory Number: LS-G1045
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/11/95
Matrix: SOLID

COMPOUND	ug/g IN SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
GASOLINE	0	50	54	107

METHOD REFERENCE: METHOD 8015 (MODIFIED)

pace INCORPORATED
THE ASSURANCE OF QUALITY

QUALITY CONTROL DATA
TOTAL GASOLINE

BLANK DATA

Laboratory Number: BG101195TGA
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/11/95
Matrix: WATER

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

MATRIX SPIKE DUPLICATE RECOVERY

Laboratory Number: LW101195TGA
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
GASOLINE	0	500	559	112

METHOD REFERENCE: METHOD 8015 (MODIFIED)

pace INCORPORATED
THE ASSURANCE OF QUALITY

QUALITY CONTROL
OIL & GREASE

BLANK DATA

Laboratory Number: B-G1391
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/12/95
Matrix: SOLID

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

MATRIX SPIKE RECOVERY

Laboratory Number: LS-G1391
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/12/95
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

BLANK DATA

Laboratory Number: B-H1419
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/11/95
Matrix: SOLID

HYDROCARBON TYPE	CONCENTRATION ug/g	DETECTION LIMIT ug/g
DIESEL	10	3

MATRIX SPIKE RECOVERY

Laboratory Number: LSH1419
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	74.1	73

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

pace INCORPORATED
THE ASSURANCE OF QUALITY

WATER VOLATILES SURROGATE RECOVERY

Client: OHM REMEDIATION SERVICES CORP. Lab No.: 45645
Project: CAMP GEIGER/LJN36

CLIENT SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
CLJ44-CC-104-TB	100	98	101		0
BG101195A2	101	101	99		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: BG101195A2
Sample Designation: LAB BLANK
Date Analyzed: 10/12/95
Matrix: WATER

Instrument File Name: >G5080

VOLATILE ORGANICS	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Chloromethane	BDL	10
Bromomethane	BDL	10
Vinyl chloride	BDL	10
Chloroethane	BDL	5
Methylene chloride	7 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

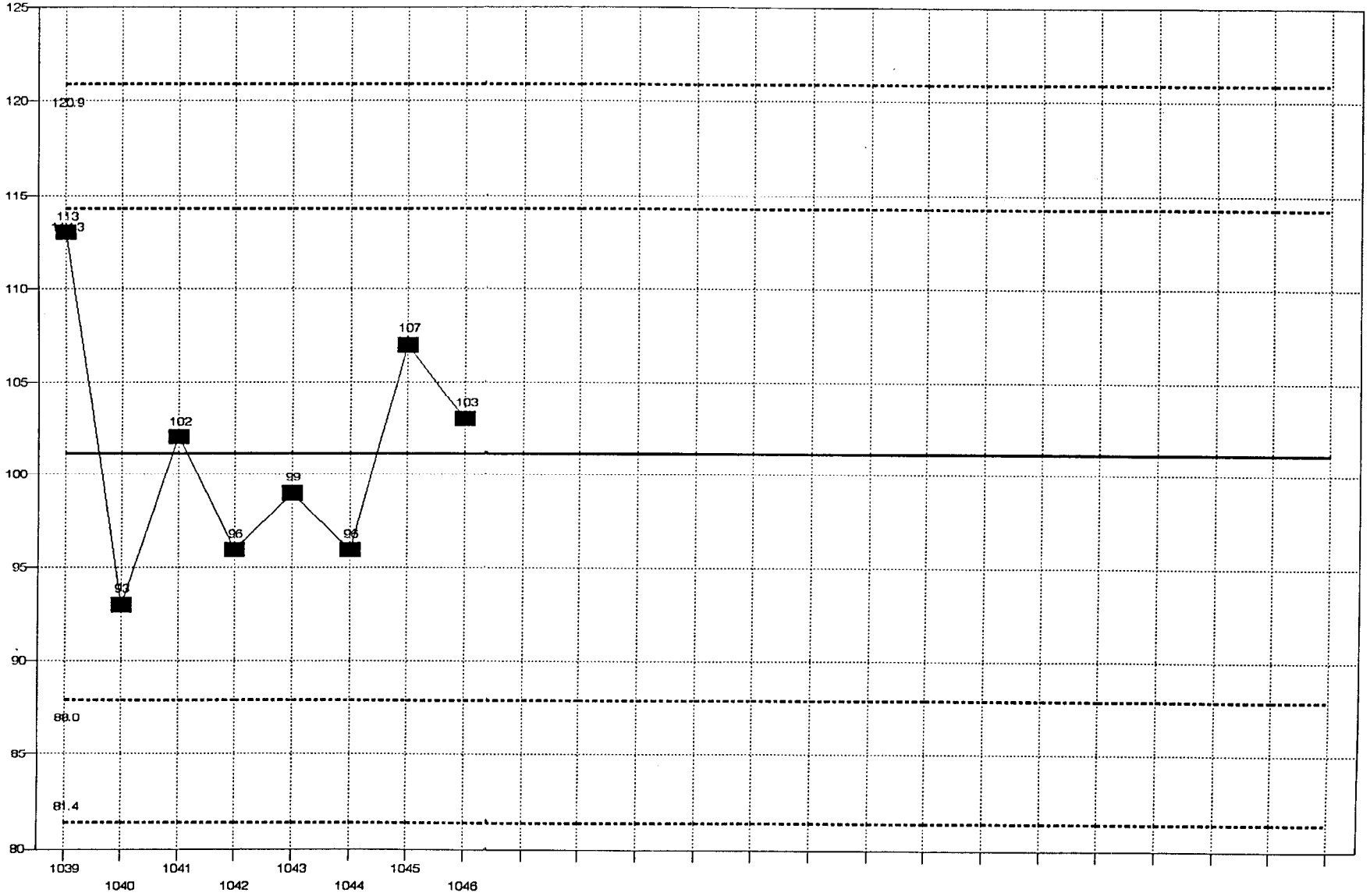
Laboratory Number: LCG101195A2
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/12/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
1,1-DICHLOROETHENE	0	50	55	109
TRICHLOROETHYLENE	0	50	57	113
BENZENE	0	50	53	106
TOLUENE	0	50	53	106
CHLOROBENZENE	0	50	60	119

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

pace INCORPORATED
THE ASSURANCE OF QUALITY

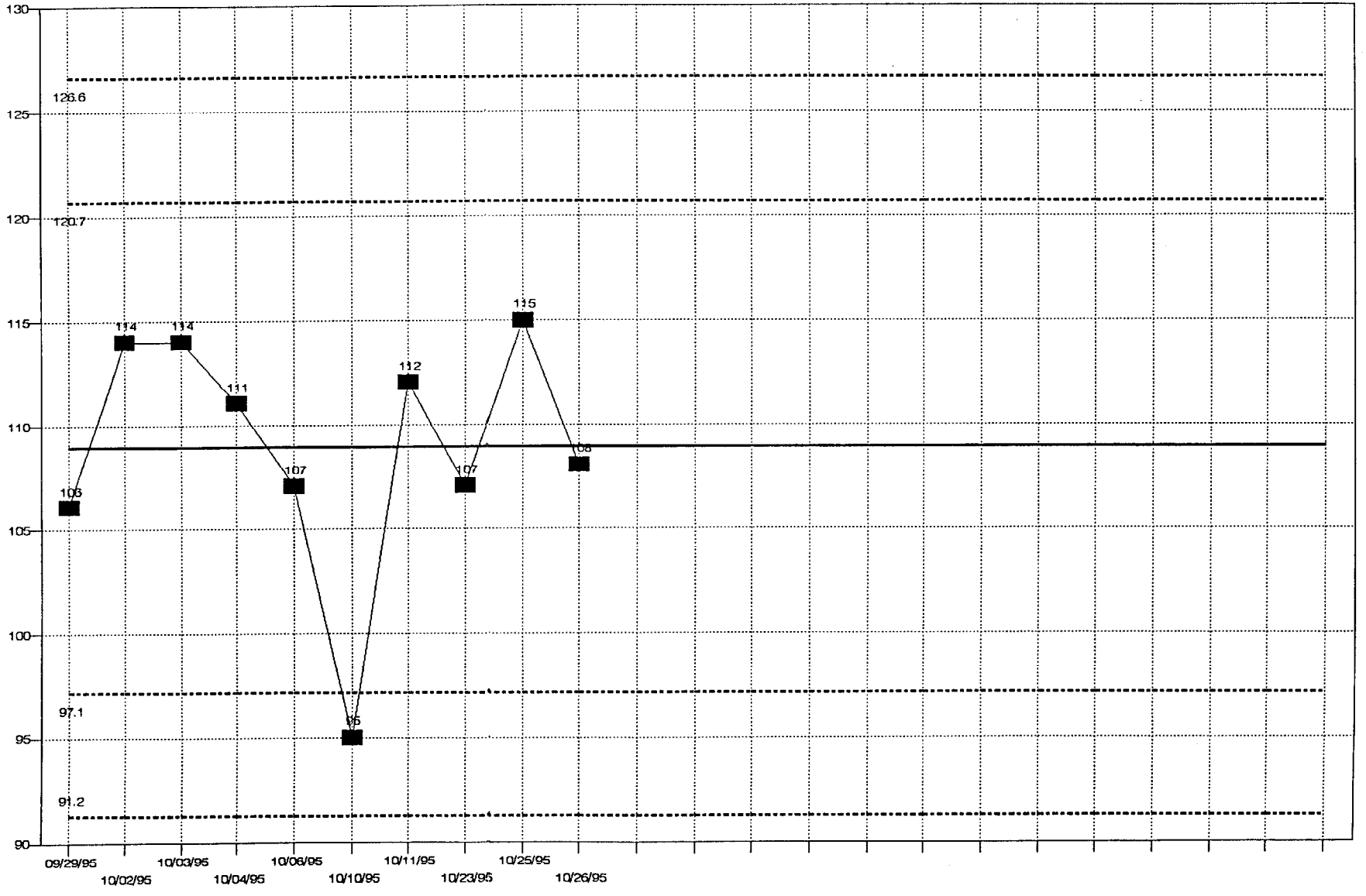
GRO SOLID LCS RECOVERIES GC05
LIMITS SET 10/27/95



STD DEV = 6.58 MEAN = 101

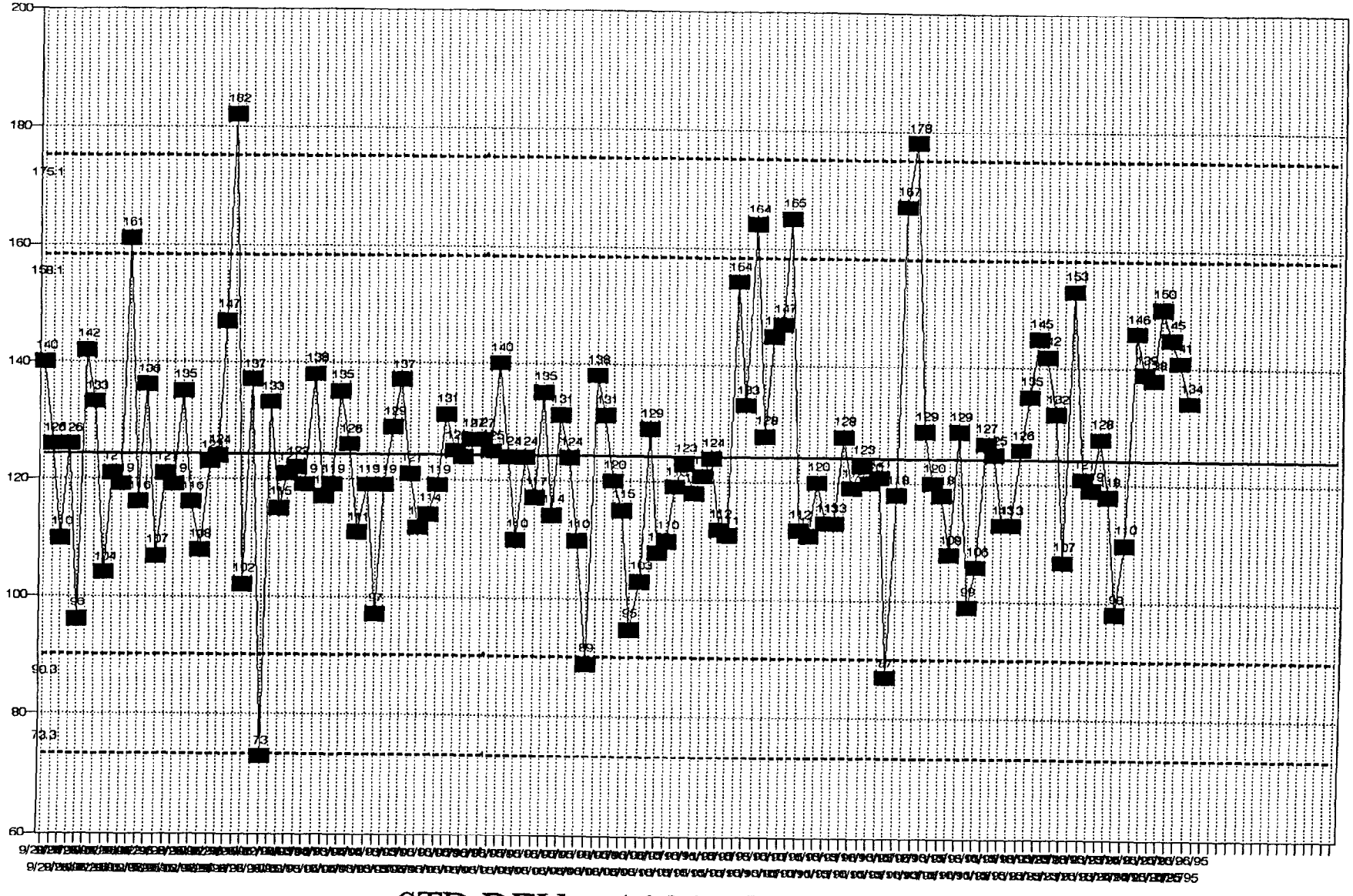
0000013

GRO LCS WATER RECOVERIES
LIMITS SET 10/27/95



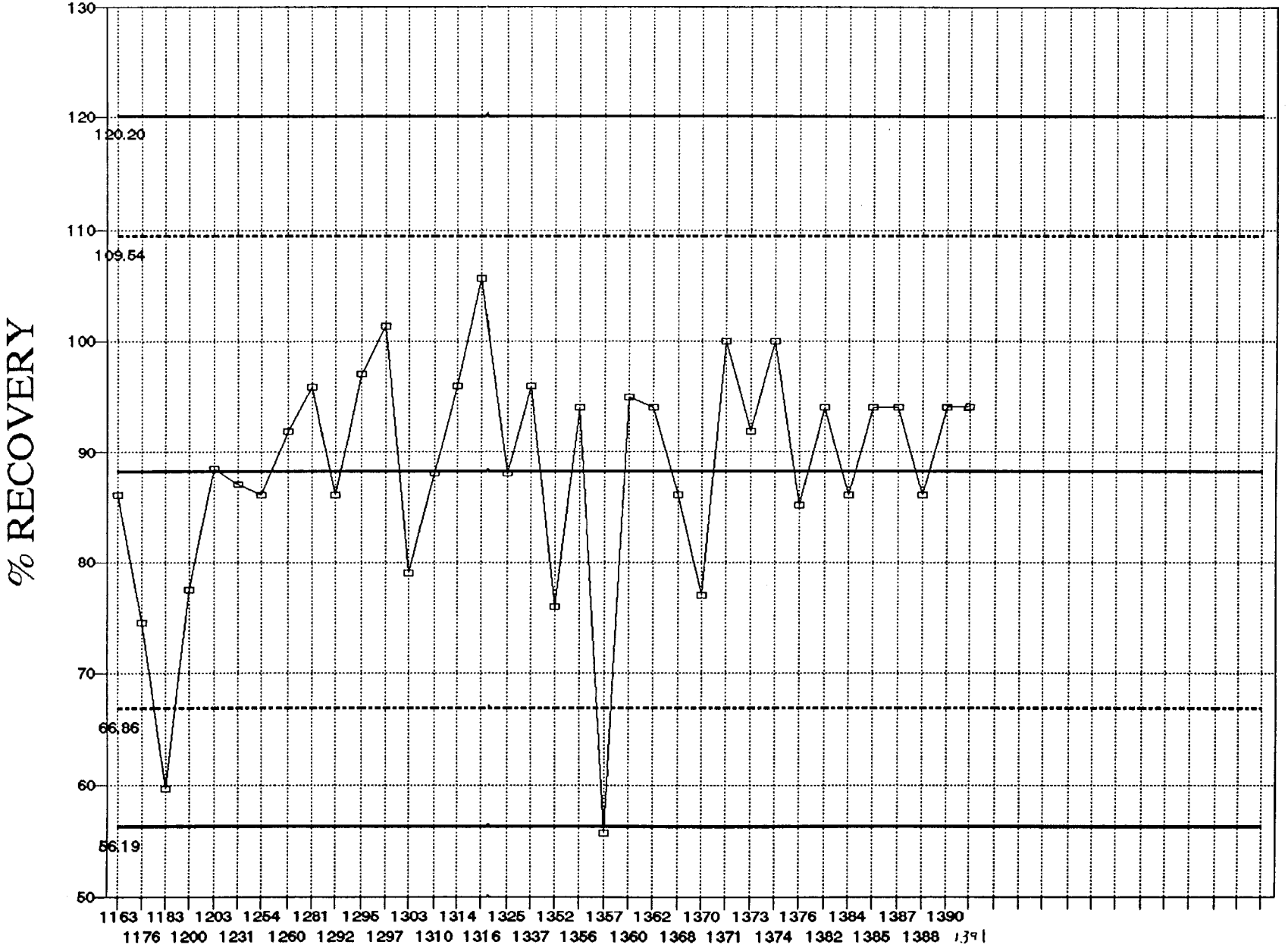
STD DEV = 5.89 MEAN = 108.9

GRO SURROGATE RECOVERIES
LIMITS SET 10/27/95



STD DEV = 16.96 MEAN = 124

O&G GRAV-S LCS RECOVERIES

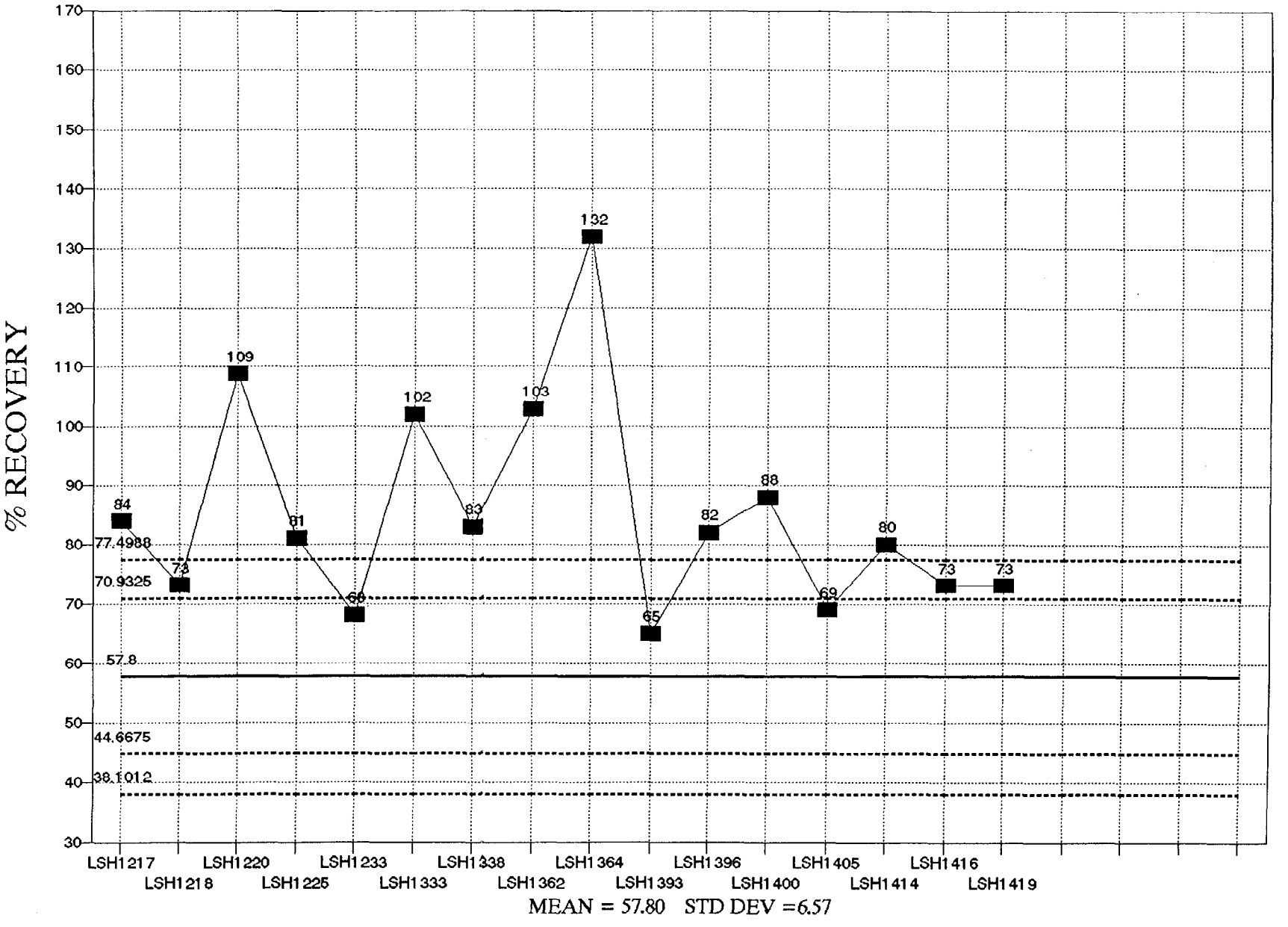


MEAN = 87.5 STD DEV = 11.3

9100016

PHC MEDIUM SOLIDS - DIESEL

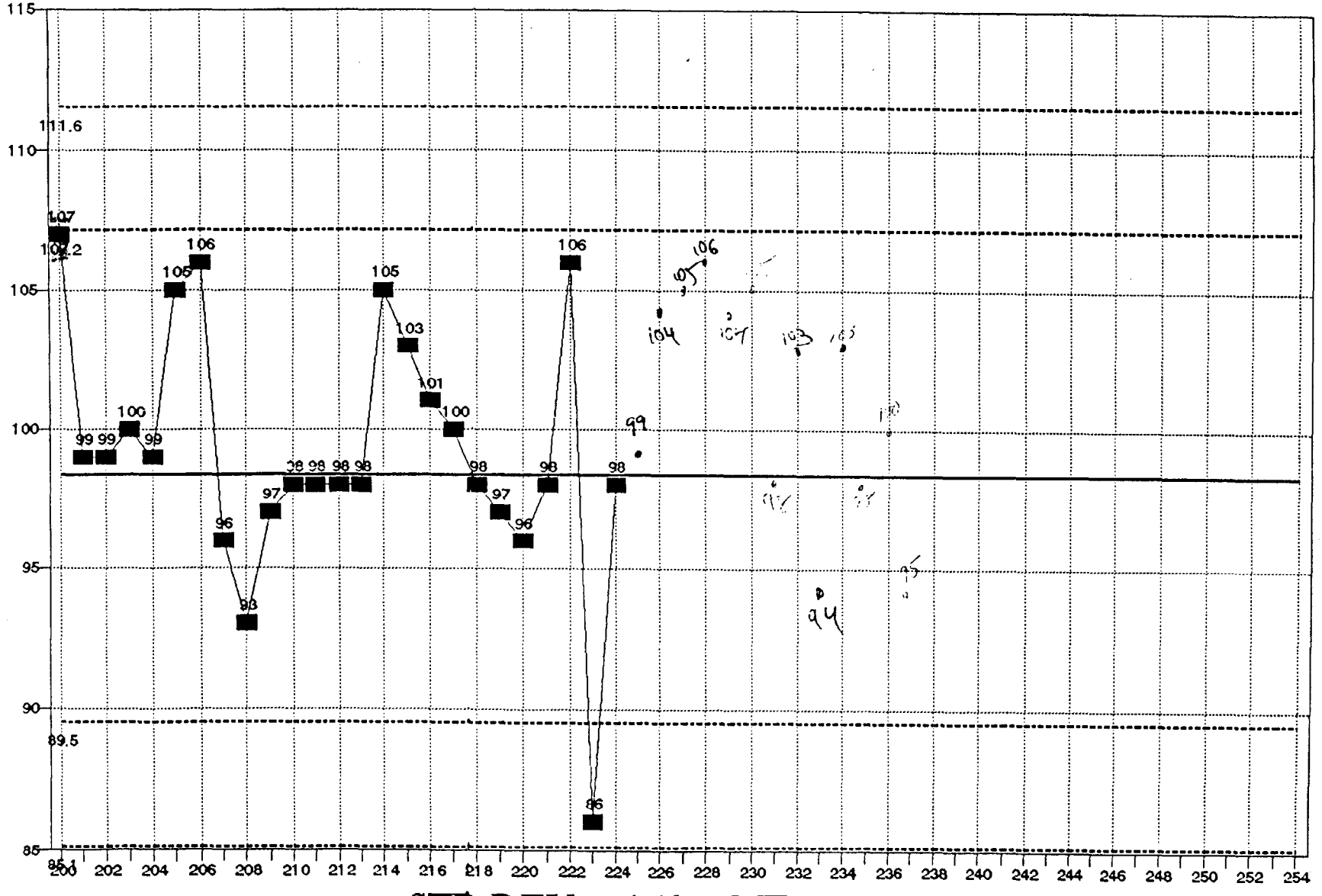
SPK REC LIMS SET195-PPCBCHT\PHCMS195



MEAN = 57.80 STD DEV =6.57

00000017

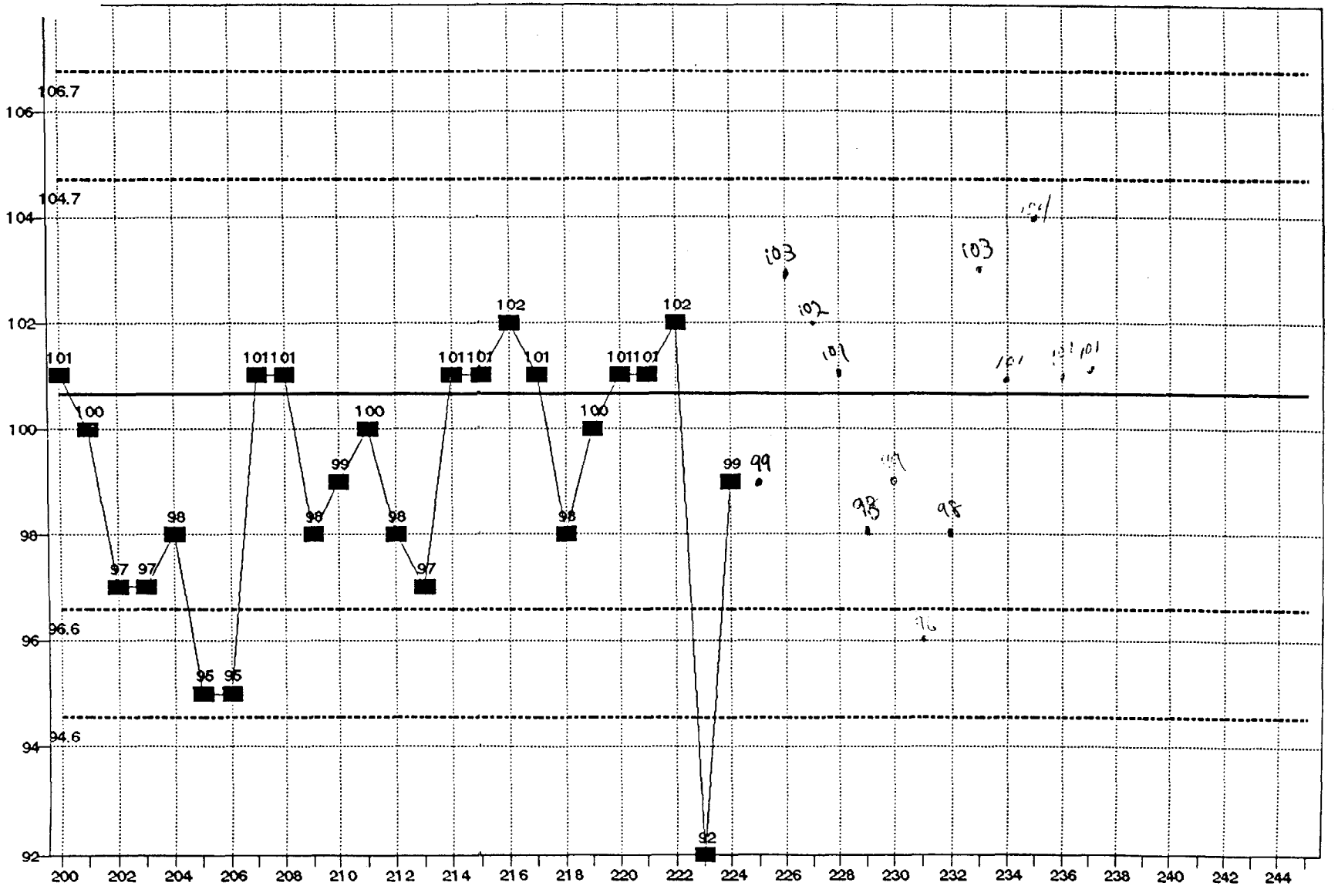
VOA WATERS - SURR DCE
LIMITS SET 4/95



STD DEV = 4.40 MEAN = 98.4

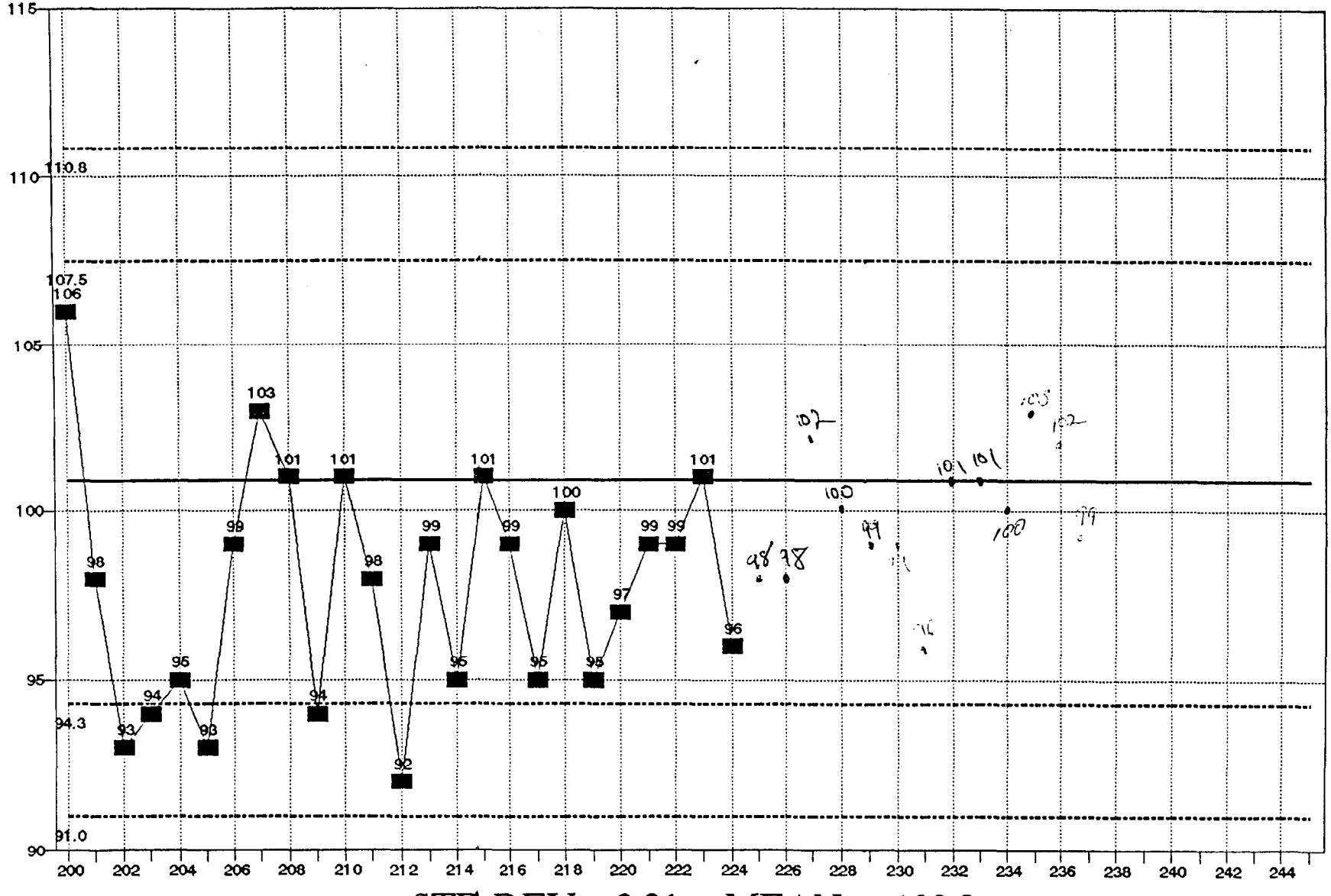
00000018

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

00000020

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	BD101695A1
84	BD072793A	132	BC110894B	180	BI080895A1	228	BD101795A1
85	BD073093A	133	BC110994A	181	BI080995A1	229	BD101995A1
86	BC080493A	134	BC111594B	182	BC080295A1	230	BD102195A1
87	BC080593A	135	BC111794B	183	BC080495A1	231	BG101495A1
88	BE091793A	136	BC111894B	184	BC080795A1	232	BD102495A1
89	BC092093B	137	BG111094A	185	BC080895A1	233	BG100995A2
90	BC093093B	138	BC120194B	186	BI081095A1	234	BD102395A1
91	BG093093A	139	BC120294B	187	BI081195A1	235	BG101395A1
92	BE120693A	140	BC120594B	188	BI080995A1	236	BG101295A1(DUP)
93	BE120793A	141	BC120694B	189	BC081195A1	237	BG101495A1(DUP)
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

166416

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

PROJECT NAME	PROJECT LOCATION
Camp Lejeune DO 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	OSG	PCB, Total Lead	Volatile + BTEX (8240)	REMARKS
1	CLJ44-CC-100	10/10	920	X		Clean soil from Pile #4 of Area A.		X	X	X	X	X				Please Do not
2	CLJ44-CC-101	10/10	930	X		Contaminated Soil from Pile 56 of Area A	1-	X	X	-4			X	-4		Analyze Rinsate
3	CLJ44-CC-102	10/10	935	X		Contaminated Soil from Pile 57 of Area A.	2-	X	X	-5			X	-5		Blank.
4	CLJ44-CC-103 RB	10/10	945	X		Rinsate Blank		X	X	X	X	X				
5	CLJ44-CC-104 TB	10/10				Trip Blank.	3-	X			X	-6			X	-6
6								(VOA)								
7																
8																
9																
10																

45645

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-5			10/10	1300
2			K. Lawson Pace NH	10/11/95	0430
3					
4					

REMARKS Send Samples to Pace LAB
Item 1 & 4 3 days TAT
Item 2, 3 & 5 24 hr. TAT

SAMPLER'S SIGNATURE

00000022

OHM Remediation Services Corp.

CHAIN-OF-CUSTODY RECORD

LAB COPY

Form 0019
Field Technical Services
Rev. 08/89

166416

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

PROJECT NAME	PROJECT LOCATION
Camp Lejeune DO 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

45645

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	OTG	PCB's Total Lead	Volatile + BTEX (8240)	REMARKS
1	CLJ44-CC-100	10/10	920	X		Clean soil from Pile 24 of Area A.		X	X	X	X	X				Please Do not
2	CLJ44-CC-101	10/10	930	X		Contaminated Soil from Pile 56 of Area A	1-	X	X	-4			X	-4		Analyze Rinsate
3	CLJ44-CC-102	10/10	935	X		Contaminated Soil from Pile 57 of Area A.	2-	X	X	-5			X	-5		Blank.
4	CLJ44-CC-103 RB	10/10	945	X		Rinsate Blank		X	X	X	X	X				
5	CLJ44-CC-104 TB	10/10				Trip Blank.	3-	X			X	-6			X	-6
6																
7																
8																
9																
10																

Final Page

TRANSFER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-5			10/10	1300
2			K. Lawson/Pace NH	10/11/05	0930
3					
4					

REMARKS Send Samples to Pace LAB
Item 1 & 4 3 days TAT
Item 2, 3 & 5 24 hr. TAT

SAMPLER'S SIGNATURE

0000023

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

October 30, 1995

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

SAMPLE DELIVERY GROUP NARRATIVE

Case: OHMRC
SDG: LJN37
Laboratory: PACE New England - New Hampshire of Hampton, NH
Lab Numbers: 45646
Protocol: SW846 Methods. NEESA C deliverables. No diskette.

Sample Receipt: These samples were received at PACE, Inc. on October 11, 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 10/11/95 (45646): Samples were received in one cooler and were assigned PACE# 45645 and 45646. 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# 45646 were logged in for a 3-day turnaround per the request on the COC. Samples assigned PACE Lab# 45645 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 numbers 45646-11, -13 and -15 through -19 for diesel range organics contained petroleum hydrocarbon products which did not match diesel.

Volatiles Analysis: Samples were analyzed within holding time and in accordance with SW846 methods. TCLP Blank #405 contained tetrachloroethene at 23.9 ug/L. This was determined to be a laboratory contaminant of the extractor. Since this result was well below the action limits for the compound, data useability was not compromised. The instrument blank of 10/16/95 contained a low level of methylene chloride, which is not a TCLP analyte. Laboratory control samples demonstrated acceptable precision and accuracy for the method.

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.

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.

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

SDG Narrative
Case: OHMRC, SDG: LJN37

The sample was prepared in one ICP batch and one mercury batch. Analyses were conducted in two sequences on two instruments:

TJA01 10/13/95 for As, Ba, Cd, Cr, Pb, Se, Ag.
PE02 10/12/95 for Hg.

Standards met all SW846 compliance criteria. Method and instrument blanks were free of contaminants with the exception of low arsenic levels. Because TCLP regulatory limits are so much higher than CLP reporting limits, the blank contamination was not believed to affect data useability. The laboratory control samples showed acceptable analyte recoveries. No difficulties were encountered during metals analysis.

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

Conventional Wet Chemistry Parameters: 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 L Wellman — 10/30/95

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

October 30, 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	D3647	VINYL CHLORIDE + 2-BUTANONE

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

cps-c:\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# 45646
PAGE ____ of ____
COOLER ____ of ____
COC# ____
SDG# LJN37
CASE# OHMRC

CLIENT OHM
DATE/TIME RECEIVED 10/11/95 0930
DELIVERED BY Fed-Ex
RECEIVED BY [illegible]
LIMS ENTRY BY [illegible]
TRANSCRIPTION REVIEW BY [illegible]
LIMS REVIEW BY/PM [illegible]

	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 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-100	SOLID	45646-001	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
		45646-002	TOTAL GASOLINE
		45646-011	TOTAL DIESEL
CLJ44-CS-015	SOLID	45646-003	TOTAL GASOLINE
		45646-012	TOTAL DIESEL
CLJ44-CS-016	SOLID	45646-004	TOTAL GASOLINE
		45646-013	TOTAL DIESEL
CLJ44-CS-017	SOLID	45646-005	TOTAL GASOLINE
		45646-014	TOTAL DIESEL
CLJ44-CS-018	SOLID	45646-006	TOTAL GASOLINE
		45646-015	TOTAL DIESEL
CLJ44-CS-019	SOLID	45646-007	TOTAL GASOLINE
		45646-016	TOTAL DIESEL
CLJ44-CS-020	SOLID	45646-008	TOTAL GASOLINE
		45646-017	TOTAL DIESEL
CLJ44-CS-021	SOLID	45646-009	TOTAL GASOLINE
		45646-018	TOTAL DIESEL
CLJ44-CS-022	SOLID	45646-010	TOTAL GASOLINE
		45646-019	TOTAL DIESEL

pace INCORPORATED THE ASSURANCE OF QUALITY

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR VOLATILE CONSTITUENTS

Laboratory Number	:	45646-001
Field Identification	:	CLJ44-CU-100
Extraction Date	:	10/11/95
TCLP Blank	:	90,002-405

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: 45646-001
Sample Designation: CLJ44-CU-100
Date Analyzed: 10/16/95 17:59
QC Batch: BD101695A1
TCLP Batch: 405
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.: 45646
Project: LEJEUNE

CLIENT SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
CLJ44-CU-100	102	98	99		0
BG101695A1	102	102	105		0
BG101795A1	101	100	106		0
TCLP405	99	101	109		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

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
ANALYSIS FOR VOLATILE CONSTITUENTS

Laboratory number: TCLP405
Sample Designation: LAB BLANK
Date Analyzed: 10/17/95 16:24
QC Batch: BD101795A1
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	0.024	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: BG101695A1
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/16/95
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	4.6 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: BG101795A1
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/17/95
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: LCD101695A1
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/16/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
1,1-DICHLOROETHENE	0	50	47	94
TRICHLOROETHYLENE	0	50	49	99
BENZENE	0	50	45	90
TOLUENE	0	50	45	90
CHLOROBENZENE	0	50	50	99

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

pace INCORPORATED
THE ASSURANCE OF QUALITY

MATRIX SPIKE RECOVERY
VOLATILE ORGANIC COMPOUNDS

Laboratory Number: LCD101795A1
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/17/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
1,1-DICHLOROETHENE	0	50	46	92
TRICHLOROETHYLENE	0	50	47	94
BENZENE	0	50	44	89
TOLUENE	0	50	45	89
CHLOROBENZENE	0	50	50	100

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.: LJN37

Lab File ID: >D3641 BFB Injection Date: 10/11/95

Instrument ID: DMS BFB Injection Time: 13:13

ION ABUNDANCE CRITERIA for D3641 are reported on a separate sheet.

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

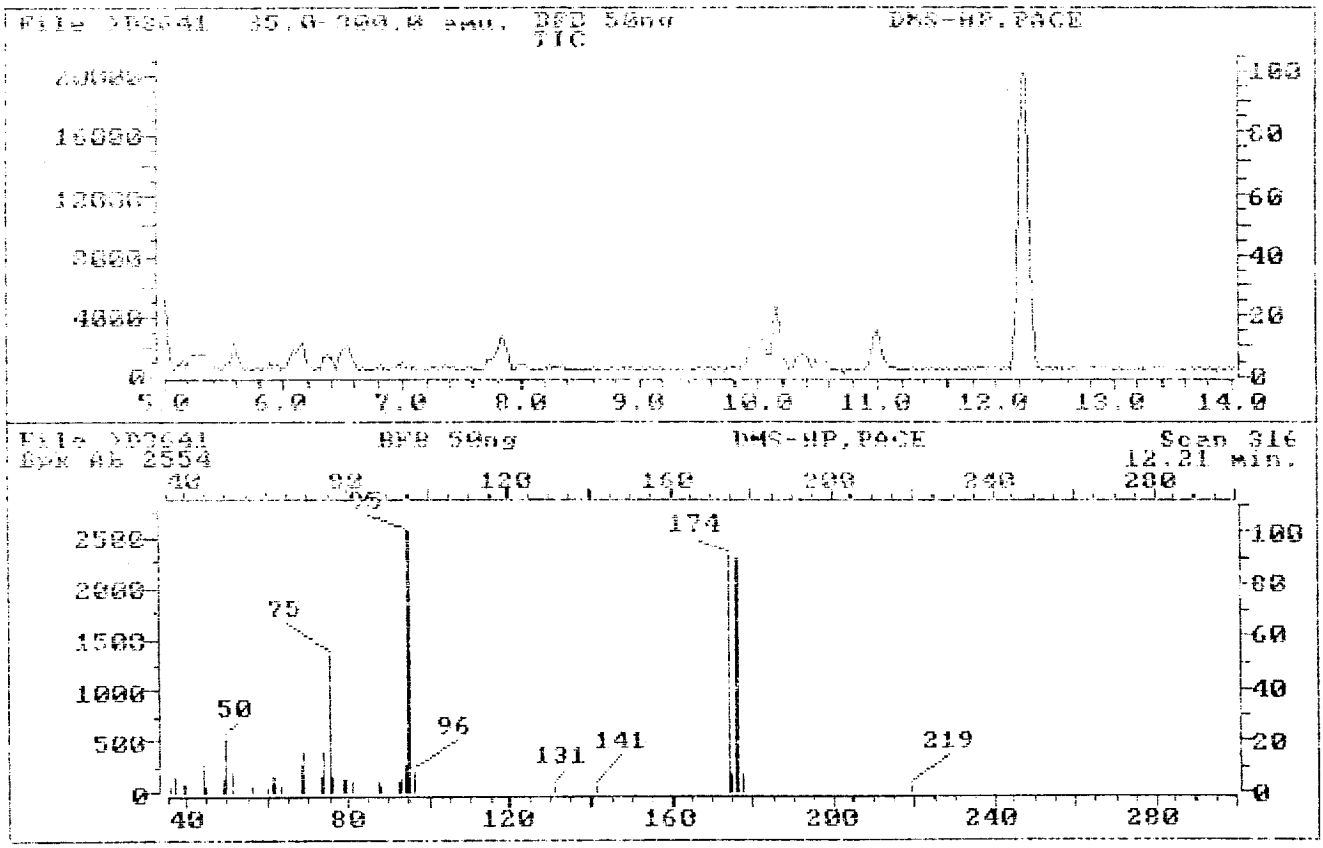
CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
VSTD200	VSTD200	D3643	10/11/95	14:19
VSTD100	VSTD100	D3644	10/11/95	14:58
VSTD050	VSTD050	D3645	10/11/95	15:37
VSTD020	VSTD020	D3646	10/11/95	16:15
VSTD010	VSTD010	D3647	10/11/95	16:54

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	21.07	21.07	Ok
75	30-60% of mass 95	52.86	52.86	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.95	7.95	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	90.72	90.72	Ok
175	5-9% of mass 174	6.66	7.34	Ok
176	95-101% of mass 174	89.82	99.01	Ok
177	5-9% of mass 176	6.81	7.59	Ok

Injection Date: 10/11/95
Injection Time: 13:13
Data File: DD3641
Scan: 316 +317+313-297



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.: LJN37

Lab File ID: >D3749 BFB Injection Date: 10/16/95

Instrument ID: DMS BFB Injection Time: 09:50

ION ABUNDANCE CRITERIA for D3749 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	D3751	10/16/95	11:00
BD101695A1	90183-017	D3752	10/16/95	11:39
LCD101695A1	90183-017MS	D3753	10/16/95	12:18
CLJ44-CU-100	45646-001	D3761	10/16/95	17:59

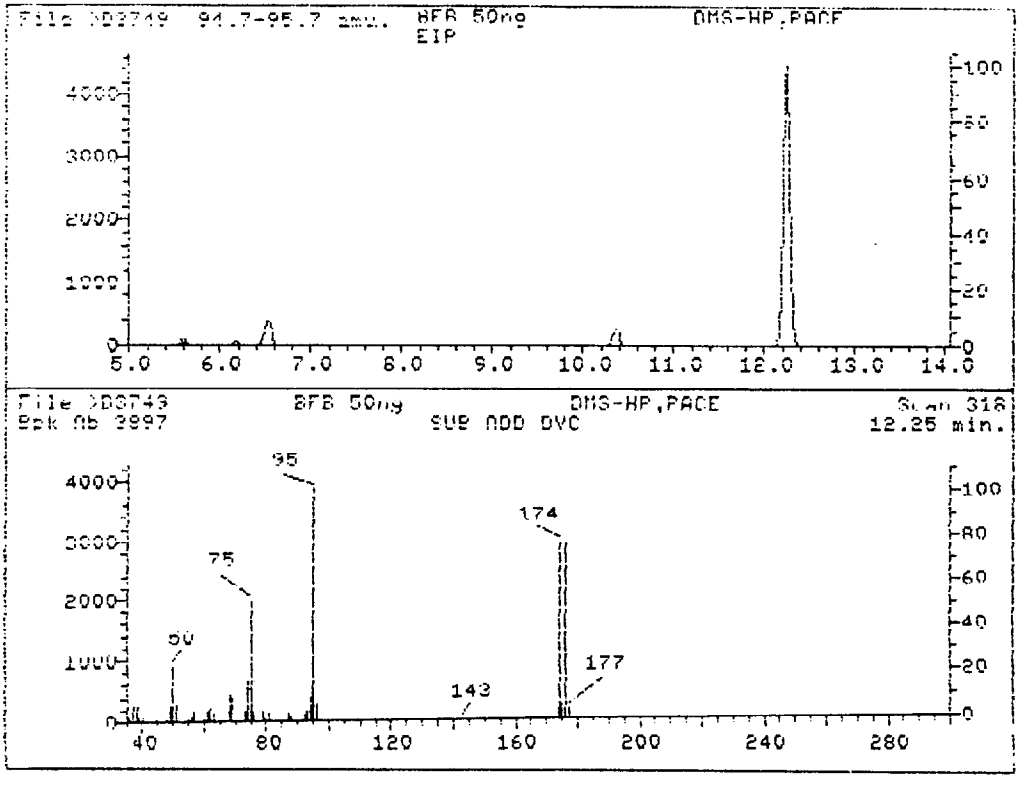
GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB) '88

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	24.33	24.33	Ok
75	30-60% of mass 95	50.57	50.57	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.27	7.27	Ok
173	Less than 2% of mass 174	1.25	1.62	Ok
174	Greater than 50% of mass 95	77.04	77.04	Ok
175	5-9% of mass 174	5.87	7.62	Ok
176	95-101% of mass 174	75.29	98.38	Ok
177	5-9% of mass 176	4.81	6.34	Ok

Injection Date: 10/16/95
Injection Time: 09:50
Data File: >D3749
Scan: 318

THIS IS THE RESULT OF AVERAGING	317.00	318.00	319.00
AND SUBTRACTING BACKGROUND SCAN	298.00		



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.: LJN37

Lab File ID: >D3775 BFB Injection Date: 10/17/95

Instrument ID: DMS BFB Injection Time: 09:36

ION ABUNDANCE CRITERIA for D3775 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	D3777	10/17/95	10:38
BD101795A1	90183-019	D3778	10/17/95	11:16
LCD101795A1	90183-019MS	D3779	10/17/95	11:55
TCLPBLK#405 5ML	90183-020	D3785	10/17/95	16:24

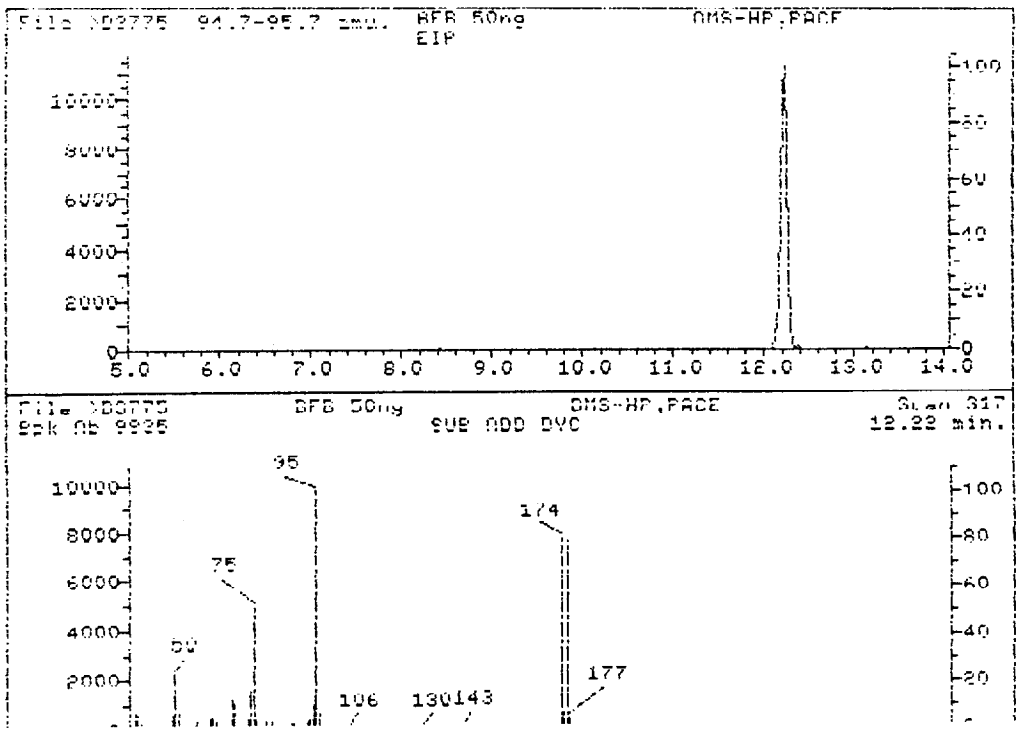
GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB) '88

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	22.84	22.84	Ok
75	30-60% of mass 95	49.77	49.77	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	79.58	79.58	Ok
175	5-9% of mass 174	6.48	8.15	Ok
176	95-101% of mass 174	78.86	99.10	Ok
177	5-9% of mass 176	5.04	6.40	Ok

Injection Date: 10/12/95
Injection Time: 09:36
Data File: >D3725
Scan: 317

THIS IS THE RESULT OF AVERAGING	316.00	312.00	318.00
AND SUBTRACTING BACKGROUND SCAN	297.00		



Initial Calibration Data
HSL Compounds

Case No: _____ Instrument ID: DMS-HP

Contractor: RESAN Calibration Date: ~~10/12/95~~

Contract No: 680200026

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

Laboratory ID:	>D3647	>D3646	>D3645	>D3644	>D3643					
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	1.39205	1.29109	1.21414	1.24470	1.30809	.417	1.29001	5.287		**
C015 BROMOMETHANE	1.43939	1.33708	1.24783	1.18981	1.20268	.505	1.28336	8.150		
C020 VINYL CHLORIDE	1.05823	.90584	.67311	.57911	.54231	.433	.75186	29.590	*	
C025 CHLOROETHANE	.74925	.72259	.69330	.72015	.76781	.516	.72262	3.663		
C030 METHYLENE CHLORIDE	2.04781	1.56823	1.32013	1.32029	1.37133	.733	1.53156	20.262		
C035 ACETONE	.75414	.59881	.51098	.44853	.47697	.635	.57792	21.107		
C040 CARBON DISULFIDE	2.38452	2.47313	2.47834	2.54857	2.82301	.740	2.54173	6.710		
C045 TRICHLOROFLUOROMETHANE	4.09110	3.72498	3.37220	3.29434	3.51769	.560	3.60007	8.681		
C049 1,1-DICHLOROETHENE	1.19884	1.16454	1.10969	1.15402	1.24866	.656	1.17469	4.400	*	
C050 TETRAHYDROFURAN	.08420	.10811	.10750	.10965	.11782	1.005	.10582	11.825		
C055 1,1-DICHLOROETHANE	2.71822	2.63441	2.48179	2.55730	2.76159	.845	2.62314	4.404		**
C059 1,2-DICHLOROETHENE(cis)	1.47360	1.37212	1.32160	1.36371	1.46146	.647	1.39870	4.736		
C063 1,2-DICHLOROETHENE(trans)	1.31403	1.33068	1.24328	1.29077	1.38436	.762	1.30869	3.463		
C060 CHLOROFORM	2.74470	2.62529	2.20561	2.20965	2.39563	.972	2.39703	5.452	*	
C110 2-BUTANONE	.50622	.55411	.63978	.57541	.61236	.913	.57619	8.775		
C065 1,2-DICHLOROETHANE	3.51431	3.20869	2.91542	2.85085	2.97736	1.106	3.09593	8.676		
MTBE	4.08403	3.80008	3.56704	3.56925	3.81935	.787	3.76785	5.683		
C813 1,2-DICHLOROETHANE-d4	2.26039	1.89122	1.88528	1.86521	2.06910	1.090	2.03624	10.261		
C115 1,1,1-TRICHLOROETHANE	.94720	.84601	.77474	.74242	.79128	.601	.82073	9.795		
C120 CARBON TETRACHLORIDE	.81231	.76427	.70706	.67919	.71502	.939	.73877	7.456		
C125 VINYL ACETATE	.56370	.58228	.59731	.63772	.70623	.782	.62345	9.147		
C130 BROMODICHLOROMETHANE	.86683	.79707	.78513	.75079	.80452	1.114	.79477	5.877		
C140 1,2-DICHLOROPROPANE	.31379	.29464	.27878	.25145	.32763	1.079	.30125	6.447	*	
C143 CIS-1,3-DICHLOROPROPENE	.51959	.48546	.47698	.46480	.53383	1.196	.50005	4.692		
C150 TRICHLOROETHENE	.41840	.39292	.38316	.38241	.38915	1.053	.38522	3.064		
C155 DIBROMOCHLOROMETHANE	.71939	.68509	.65445	.65029	.67829	1.388	.67810	4.130		
C160 1,1,2-TRICHLOROETHANE	.30779	.29178	.27712	.28095	.30418	1.302	.29237	4.650		
C165 BENZENE	.91455	.83981	.83505	.86402	.95300	.963	.88168	5.665		
C172 TRANS-1,3-DICHLOROPROPENE	.49331	.46692	.45342	.46837	.50921	1.275	.47825	4.708		
C176 2-CHLOROETHYLVINYLETHER	.15534	.15237	.15550	.16126	.16156	1.156	.16121	7.335		

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: DMS-HP

Contractor: REGAN Calibration Date: ~~10/12/95~~

Contract No: 68D200026

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

Laboratory ID:	03647	03646	03645	03644	03643					
Compound	RF 10.00	RF 20.00	RF 50.00	RF 100.00	RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C190 BROMOFORM	.60443	.66845	.64165	.62941	.67307	1.653	.66101	2.394		**
C805 TOLUENE-d8	.80693	.72203	.75386	.77375	1.03638	.832	.81374	13.732		
C205 4-METHYL-2-PENTANONE	.64956	.62138	.60826	.62698	.67686	.721	.63661	4.242		
C210 2-HEXANONE	.28101	.28436	.28437	.28038	.31146	.975	.28844	4.517		
C220 TETRACHLOROETHENE	.56374	.52566	.46385	.47439	.50782	.913	.51121	6.944		
C225 1,1,2,2-TETRACHLOROETHANE	.62532	.59937	.57215	.58780	.62958	1.130	.59885	5.353		**
C230 TOLUENE	1.41361	1.30567	1.24493	1.26594	1.38760	.841	1.32357	5.604	*	
C235 CHLOROBENZENE	.97277	.92199	.88342	.87485	.94038	1.004	.91456	4.394		**
C240 ETHYLBENZENE	.44279	.41985	.39494	.40386	.42660	1.010	.42025	5.059	*	
C245 STYRENE	.85083	.84031	.81017	.81959	.86230	1.073	.84459	3.315		
C251 XYLENE(O)	.43408	.45453	.44258	.44046	.48185	1.069	.46460	4.540		
C250 XYLENE (total)	.56428	.52473	.48714	.49023	.50143	1.019	.51416	6.115		
C810 BROMOFLUOROBENZENE	.87401	.77099	.77554	.77440	.97234	1.146	.86348	10.677		

(Conc=20.0,40.0,100.0,200

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

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

$\overline{RF}$ - Average Response Factor

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

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/16/95

Contractor: RESAN Time: 11:00

Contract No: 68D20026 Laboratory ID: >D3751

Instrument ID: OMS-HP Initial Calibration Date: ~~10/19/95~~

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

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C010 CHLOROMETHANE	1.29008	1.30739	.95		**
C015 BROMOMETHANE	1.28336	1.23649	3.65		
C020 VINYL CHLORIDE	.75183	.85621	13.88	*	
C025 CHLOROETHANE	.73186	.76472	4.49		
C030 METHYLENE CHLORIDE	1.53156	1.51214	1.27		
C035 ACETONE	.57782	.61914	7.15		
C040 CARBON DISULFIDE	2.54173	2.82905	11.30		
C042 TRICHLOROFLUOROMETHANE	3.60007	3.82131	6.15		
C045 1,1-DICHLOROETHENE	1.17459	1.27839	8.84	*	
C058 TETRAHYDROFURAN	.10532	.12119	15.08		
C050 1,1-DICHLOROETHANE	2.62314	2.83651	8.13		**
C054 1,2-DICHLOROETHENE(cis)	1.39870	1.58384	13.24		
C053 1,2-DICHLOROETHENE(trans)	1.30869	1.41943	8.46		
C060 CHLOROFORM	3.39783	3.61213	6.31	*	
C110 2-BUTANONE	.57819	.64924	12.29		
C065 1,2-DICHLOROETHANE	3.09593	3.32009	7.24		
MTBE	3.76795	4.02130	6.72		
CS15 1,2-DICHLOROETHANE-d4	2.03624	2.38463	17.11		
C115 1,1,1-TRICHLOROETHANE	.82073	.86445	5.33		
C120 CARBON TETRACHLORIDE	.73677	.81228	10.25		
C125 VINYL ACETATE	.62345	.70244	12.67		
C130 BROMODICHLOROMETHANE	.79477	.85568	7.66		
C140 1,2-DICHLOROPROPANE	.30129	.32274	7.12	*	
C143 CIS-1,3-DICHLOROPROPENE	.50009	.54873	9.73		
C150 TRICHLOROETHENE	.38522	.43830	13.78		
C155 DIBROMOCHLOROMETHANE	.67810	.76854	13.34		
C160 1,1,2-TRICHLOROETHANE	.29237	.32087	9.75		
C165 BENZENE	.88168	.95673	8.51		
C172 TRANS-1,3-DICHLOROPROPENE	.47825	.52219	9.19		
C176 2-CHLOROETHYLVINYLETHER	.16121	.17361	7.70		
C180 BROMOFORM	.66101	.77363	17.04		**
CS05 TOLUENE-d8	.81374	.96103	18.10		

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

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

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

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/16/95

Contractor: RESAN Time: 11:00

Contract No: 680200026 Laboratory ID: >D3751

Instrument ID: DMS-HP Initial Calibration Date: ~~10/12/95~~

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

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
C205 4-METHYL-2-PENTANONE	.63660	.67362	5.81			
C210 2-HEXANONE	.28844	.30350	5.22			
C220 TETRACHLOROETHENE	.51121	.59728	16.84			
C225 1,1,2,2-TETRACHLOROETHANE	.59885	.62681	4.67		**	
C230 TOLUENE	1.32357	1.39935	5.73	*		
C235 CHLOROBENZENE	.91458	1.01108	10.55		**	
C240 ETHYLBENZENE	.42025	.45831	9.06	*		
C245 STYRENE	.84459	.94443	11.82			
C251 XYLENE(O)	.46060	.51474	11.75			
C250 XYLENE (total)	.51416	.57856	12.52			(Conc=100.000)
CS10 BROMOFLUOROBENZENE	.83346	1.04175	24.99			

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: 10/17/95

Contractor: RESAN Time: 10:38

Contract No: 68D00026 Laboratory ID: >03777

Instrument ID: DMS-HP Initial Calibration Date: ~~10/17/95~~

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

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C010 CHLOROMETHANE	1.29008	1.21339	5.94		**
C015 BROMOMETHANE	1.28336	1.31793	2.69		
C020 VINYL CHLORIDE	.75183	.83872	11.56	*	
C025 CHLOROETHANE	.73186	.73455	.37		
C030 METHYLENE CHLORIDE	1.53156	1.39709	8.78		
C035 ACETONE	.57782	.48833	15.49		
C040 CARBON DISULFIDE	2.54173	2.71123	6.67		
C042 TRICHLOROFLUOROMETHANE	3.60007	3.50944	2.52		
C045 1,1-DICHLOROETHENE	1.17459	1.25515	6.86	*	
C058 TETRAHYDROFURAN	.10532	.12003	13.97		
C050 1,1-DICHLOROETHANE	2.62314	2.75962	5.20		**
C054 1,2-DICHLOROETHENE(cis)	1.39820	1.53640	9.84		
C053 1,2-DICHLOROETHENE(trans)	1.30869	1.37076	4.74		
C060 CHLOROFORM	3.39783	3.54971	4.47	*	
C110 2-BUTANONE	.57819	.61227	5.89		
C065 1,2-DICHLOROETHANE	3.09593	3.20951	3.67		
MTBE	3.76795	3.93070	4.32		
CS15 1,2-DICHLOROETHANE-d4	2.03624	2.35820	15.81		
C115 1,1,1-TRICHLOROETHANE	.82073	.85676	4.39		
C120 CARBON TETRACHLORIDE	.73677	.79230	7.54		
C125 VINYL ACETATE	.62545	.70671	13.36		
C130 BROMODICHLOROMETHANE	.79477	.83133	4.60		
C140 1,2-DICHLOROPROPANE	.30129	.32014	6.25	*	
C143 CIS-1,3-DICHLOROPROPENE	.50009	.52399	4.78		
C150 TRICHLOROETHENE	.38522	.42985	11.59		
C155 DIBROMOCHLOROMETHANE	.67810	.74311	9.59		
C160 1,1,2-TRICHLOROETHANE	.29237	.31486	7.69		
C165 BENZENE	.88168	.93540	6.09		
C172 TRANS-1,3-DICHLOROPROPENE	.47825	.50431	5.45		
C176 2-CHLOROETHYLVINYLETHER	.16121	.13289	17.57		
C180 BROMOFORM	.66101	.75991	14.96		**
CS05 TOLUENE-d8	.81374	.95243	17.04		

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

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/17/95

Contractor: RESAN Time: 10:38

Contract No: 680200026 Laboratory ID: >D3777

Instrument ID: DMS-HP Initial Calibration Date: ~~10/12/95~~ 10/11/95

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

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C205 4-METHYL-2-PENTANONE	.63660	.59516	6.51		
C210 2-HEXANONE	.28844	.27746	3.80		
C220 TETRACHLOROETHENE	.51121	.58553	14.54		
C225 1,1,2,2-TETRACHLOROETHANE	.59885	.59857	.05		**
C230 TOLUENE	1.32357	1.36381	3.04	*	
C235 CHLOROBENZENE	.91458	.96506	5.52		**
C240 ETHYLBENZENE	.42025	.44600	6.13	*	
C245 STYRENE	.84459	.91468	8.30		
C251 XYLENE(O)	.46068	.50159	8.90		
C250 XYLENE (total)	.51416	.55729	8.39		(Conc=100.000)
CS10 BROMOFLUOROBENZENE	.83346	1.05031	26.07		

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 (**)

8A
VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN37

Lab File ID (Standard): >D3751 Date Analyzed: 10/16/95

Instrument ID: DMS Time Analyzed: 11:00

	IS1(BCM)		IS2(DFB)		IS3(CBZ)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	60193	14.06	247577	16.24	191399	24.11
UPPER LIMIT	120386	14.56	495154	16.74	382798	24.61
LOWER LIMIT	30097	13.56	123789	15.74	95700	23.61
CLIENT I.D.						
BD101695A1	57525	14.09	238327	16.24	180049	24.13
LCD101695A1	56089	14.06	229870	16.22	176196	24.10
CLJ44-CU-100	62024	14.07	264404	16.23	205985	24.11

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.: LJN37

Lab File ID (Standard): >D3777 Date Analyzed: 10/17/95

Instrument ID: DMS Time Analyzed: 10:38

	IS1(BCM)		IS2(DFB)		IS3(CBZ)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	61835	14.04	254355	16.22	199698	24.08
UPPER LIMIT	123670	14.54	508710	16.72	399396	24.58
LOWER LIMIT	30918	13.54	127178	15.72	99849	23.58
CLIENT I.D.						
BD101795A1	57693	14.06	238955	16.21	184384	24.10
LCD101795A1	56001	14.07	232663	16.22	180261	24.08
TCLPBLK#405 5ML	53175	14.02	223597	16.20	178144	24.09

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

624/8240 MSD-A01 VOLTAGE = 1660 IS = V-6469 S = V-6476 IS(IS) = V-6471 0000004

Page 4 of 100

PACE New England

GCMS/VOA Instr DMS-HP Analyst/Date TN 10/11/95 STD Lot # TCO: 10/5/95 V-6474A

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
>D3641	1479	—	—	BFB-DI	50ng	MTH 1 M/z 95 = 24K		Y	✓
				TIME: 13:13					
				'91 SCAN: 316+317+318-297		'88 SCAN: 316			
>D3642		ID1011	1	VSID 200	5ml	ID1011/CD1011		N	
43			2	VSID 200				Y	/
44			3	VSID 100				Y	/
45			4	VSID 050				Y	/
46			5	VSID 020				Y	/
47			6	VSID 000		C-4 (IV) C-16 (ED)		Y	/
48			7	VSID 010				N	
				2nd WINDOW 624/8240					
>D3649		—	—	BFB-DI	50ng	MTH 1 M/z 95=		Y	✓
				TIME: 18:35					
				SCAN: 315+311+317-296		'88 + '91			
>D3650		ID1011	8	VSID 050	5ml	+603/8030 + FREON DSID		Y	✓
51		ID1011	9	BD101195A2	↓	UNK DM		Y	✓
52			9	LCD101195A2	5ml			Y	✓
53			10	45561-4	5ml	(RG24 MeCl2) DSID2	<2	Y	✓
54			11	45553-1		RE 1ml	>2	N	
55			12	-2				Y	✓
56			13	-3				Y	✓
57			14	-4	↓		<2	Y	✓
58			15	45516-1	850µl			X	✓
59			16	45541-1	5ml			Y	✓
60			~~17~~ 1	45544-1				Y	✓
61			~~18~~ 2	-2	↓	(RG63)	>2	Y	✓
62			~~19~~ 3	45549-1	1.2ml	RE 5ml LR	<2	N	
63			~~20~~ 4	-2	5ml			Y	✓
64			~~21~~ 5	-3	↓			Y	✓
65			~~22~~ C	-4	2ml	(RG24 FRE) RE 5ml		N	
CC			~~23~~ 7	-5	1.9ml	↓		N	
67			~~24~~ 8	-6	5ml	NO FRE		Y	✓
								V	

624(8,4)

PACE New England

GCMS/VOA Instr D **MS-HP** Analyst/Date JSL/TN 10-16-95 STD Lot # TGN1C095

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
2D3748				BFB-DI 50ng/µL	1µL			U	
2D3749				BFB-DI 50ng/µL	1µL	MTH: H/7695-27L Lot#s 317+318+319-100 TIME: 9:50		Y	✓
J0		ID1011	1	VSTD050	5mL			N	
J1			2	VSTD050				Y	✓
J2		ID1016	3	BD101695A1		VBLKDQ		Y	✓
J3			4	LCD101695A1				Y	✓
J4			5	45608-1	5ml	CAS 52 (RG24HCCLW)	2	Y	✓
J5			6	-2				Y	✓
J6			7	-3				Y	✓
J7			8	45623-3	5ml	(RG24LWHTBE)		Y	✓
J8			9	-4				Y	✓
J9			10	45622-1 RE		(RG24GMS)		Y	✓
K0			11	BV1126A-B-C	100ME			Y	✓
K1			12	~~BV1126A-C~~	100ME	volif (RG24LWHTBE) (ACLVOC) 45646-1 5ml		Y	✓
K2			13	45630-1 RE	100ME	LR		Y	✓
K3			14	-2				Y	✓
K4			15	-3				Y	✓
K5			16	45631-1	5ml	(RG24LWHTBE)	2	Y	✓
K6			1	-2				Y	✓
K7			2	45586-1	5ml			Y	✓
K8			3	45649-1	3µl	LR RE 30µl SR		N	
K9			4	45611-1	5µl	LR CLI SCREENING RE 8µl		N	
L0			5	-7	5µl	RE 8µl		N	
L1			6	-13	700µl	RE 700µl		N	
L2			7	BAKE					
L3			8			NOT RUN TN			

624/8240 8260SIM

PACE New England

GCMS/VOA Instr D **MS-HP** Analyst/Date TN/SEL 10-17-95 STD Lot # VSTD050 TZ,NICOLET

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
SD3774				BFB-DI 50NG/µL	1µL			✓	
75				BFB-DI 50NG/µL	1µL	RT: 1.292 = 58K 95 = 91 TIME: 9:36 SCAN: 36+317+318 = 297		Y	✓
76		ID1011	1	VSTD050	5mL	Not Used		✓	
77			2	VSTD050	↓			Y	✓
78		ID1016	3	OD101795A1	↓	VBLKDR		Y	✓
79			4	LCD101795A1	↓			Y	✓
80			5	45611-1	85µL	MW-1 RE 55µL 5X5	<2	N	
81			6	-7	8µL	MW-2 RE 5µL	1	N	
82			7	-13	180µL	MW-3	V	Y	✓
83			8	-19	5mL	TRIP BLANK	<2	Y	✓
84			9	-20	↓	EQUIPMENT BLANK	↓	Y	✓
85			10	TCLP BLK = 405	5mL	(RG24 TCLP) 35&2		Y	✓
86			11	45611-1	55µL	MW1	<2	Y	✓
87			12	-1 MS	↓	↓	↓	Y	✓
88			13	-1 MSD	↓	↓	↓	Y	✓
89			14	45631-3	5mL	(RG24 WATER)	<2	Y	✓
90			15	-4	↓	↓	↓	Y	✓
91			16	-5	↓	↓	↓	Y	✓
92			1	45611-7	5µL	MW-2	<2	Y	✓
93			2	45653-1	4µL	(RG24 WATER) RE 10µL ↓R	↓	Y	✓
94			3	45649-1	30µL	~~OUT OF~~ SEL 10-18 95 RE 1mL	5.8 X 1.8 2.3	Y	✓
95			1	45627-1	5mL		↓	Y	✓
96				BAKE			SEL 10-18-95		

TN 10/19/95

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

Laboratory Number : 45646-001
Field Identification : CLJ44-CU-100
Extraction Date : 10/11/95
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 5.99. 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 : 19.00 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

Laboratory number: 45646-001
Sample Designation: CLJ44-CU-100
Date Extracted: 10/12/95
Date Analyzed: 10/12/95 16:00
QC Batch: BA2494
TCLP Batch: 282
Matrix: TCLP EXTRACT

Instrument File Name: >F2777

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.: 45646
Project: LEJEUNE

CLIENT SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	OTHER	TOT OUT
CLJ44-CU-100	56	54	31*	37	38	30		1
BA2494	67	64	44	30	38	35		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: BA2494
Sample Designation: LAB BLANK
Date Extracted: 10/12/95
Date Analyzed: 10/12/95 14:46
QC Batch: BA2494
TCLP Batch:
Matrix: TCLP EXTRACT

Instrument File Name: >F2775

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-A2494
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/12/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
PHENOL	0	200	53	26
2-CHLOROPHENOL	0	200	95	48
1,4-DICHLOROBENZENE	0	100	44	44
N-NITROSO-DI-N-PROPYLAMINE	0	100	64	64
1,2,4-TRICHLOROBENZENE	0	100	39	39
4-CHLORO-3-METHYLPHENOL	0	200	98	49
ACENAPHTHENE	0	100	51	51
4-NITROPHENOL	0	200	40	20
2,4-DINITROTOLUENE	0	100	47	47
PENTACHLOROPHENOL	0	200	69	35
PYRENE	0	100	38	38

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 #: OA5514 STEAMBATH TEMP: F6 (Range 80-90°C) METHOD: CONT/3520 (SEPF/3510)

MATRIX: AQUEOUS Reviewed By/Date: 10/12/95 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
—	JEW 10/12/95	BA7494	1.0	N/A	E1418 100+200		10.0	10.0	1.0	N/A	
—	↓	LS12494	1.0	↓	500µl	EP#6 1000µl	↓	↓	↓	↓	10/12/95
3	↓	9564-1	.2	↓	↓		↓	↓	↓	↓	

JEW

JEW 10/12/95

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

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.: LJN37

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

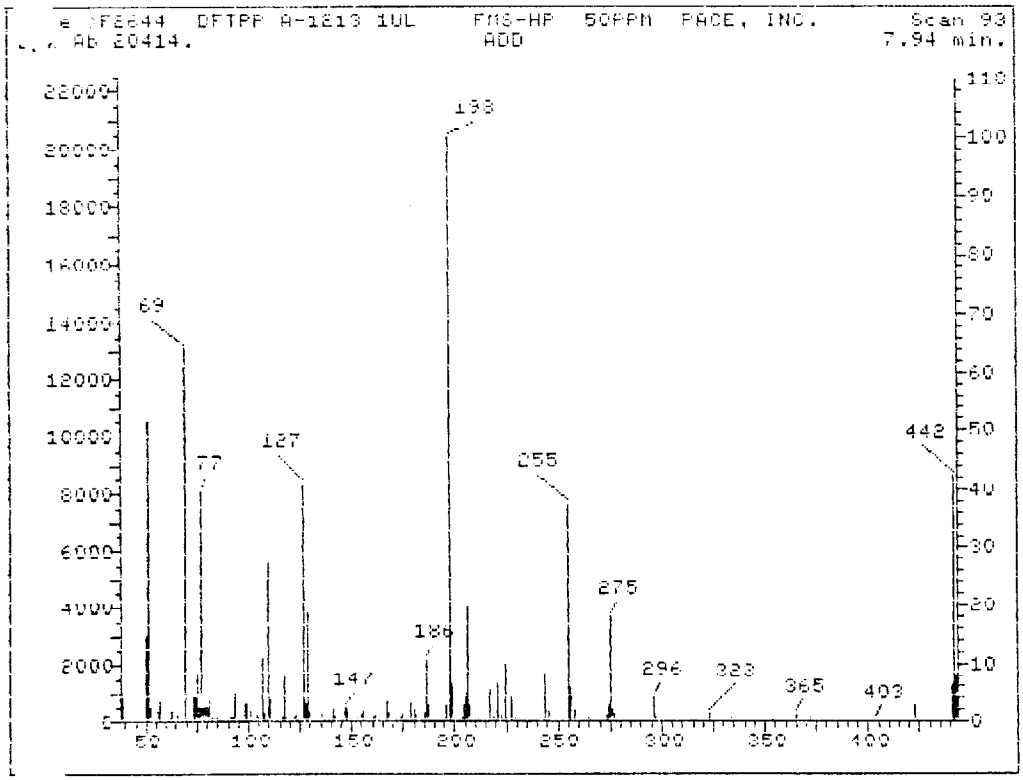
GC/MS PERFORMANCE STANDARD

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.: LJN37

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
TCLPBLANK#282	90001-282	F2721	10/05/95	20:22

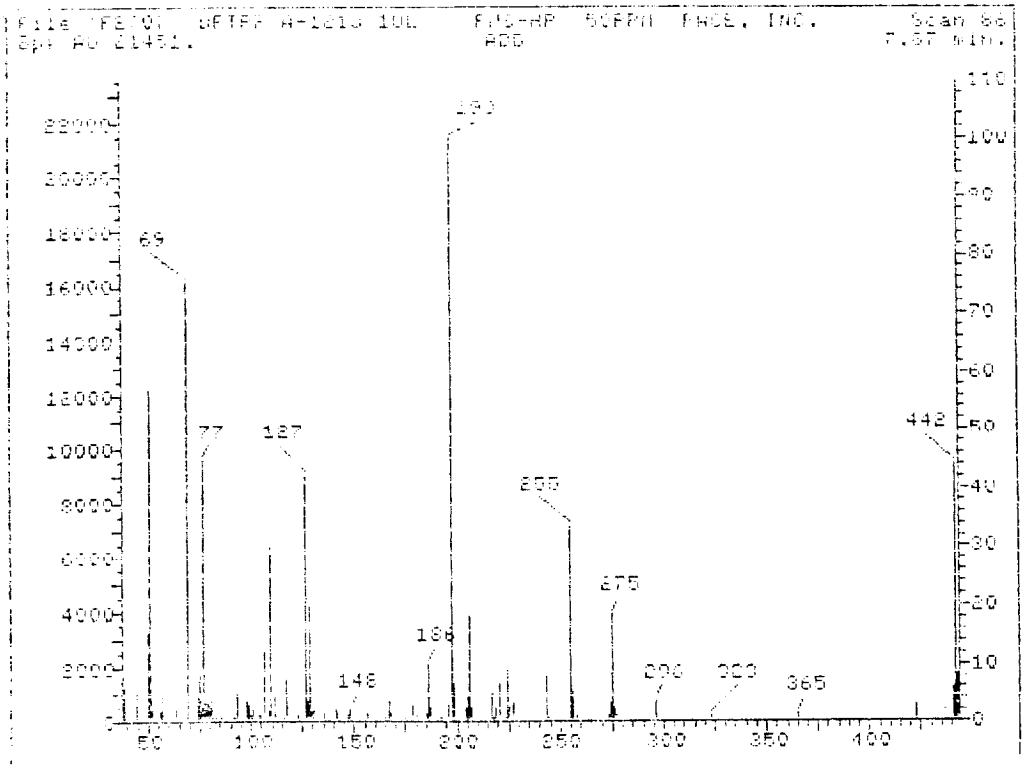
GC/MS PERFORMANCE STANDARD

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.: LJN37

Lab File ID: >F2766 DFTPP Injection Date: 10/12/95

Instrument ID: FMS DFTPP Injection Time: 10:11

ION ABUNDANCE CRITERIA for F2766 are reported on a separate sheet.

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

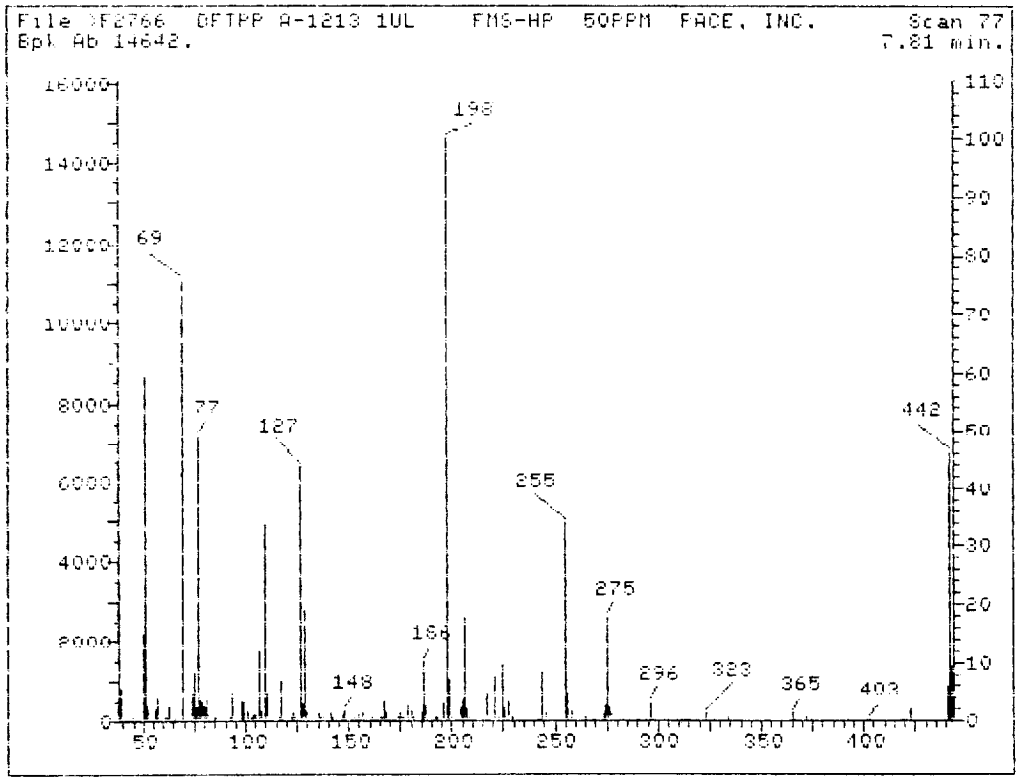
CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
ABNSTD050	ABNSTD050	F2768	10/12/95	10:27
BA2494	90176-162	F2775	10/12/95	14:46
LSA2494	90176-162MS	F2776	10/12/95	15:23
CLJ44-CU-100	45646-001	F2777	10/12/95	16:00

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	59.13	59.13	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	75.55	75.55	Ok
70	Less than 2% of mass 69	.30	.40	Ok
127	40-60% of mass 198	43.67	43.67	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	7.25	7.25	Ok
275	10-30% of mass 198	17.70	17.70	Ok
365	Greater than 1% of mass 198	1.28	1.28	Ok
441	0-100% of mass 443	5.81	63.67	Ok
442	Greater than 40% of mass 198	46.08	46.08	Ok
443	17-23% of mass 442	9.12	19.79	Ok

Injection Date: 10/12/95
Injection Time: 10:11
Data File: >F2766
Scan: 77



Initial Calibration Data
HSL Compounds

Case No: Instrument ID: FMS-HP

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

Contract No:

10/2/95

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		
C315 PHENOL	1.84389	1.71334	1.75253	1.63694	1.70075	.936	1.72949	4.410	*	
C320 ANILINE	1.42437	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	1.27985	1.12568	1.02277	1.050	1.27164	15.838		
C355 2-METHYLPHENOL	1.18581	1.10063	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		
3 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	1.03588	1.01215	.93428	1.118	.98767	4.757		**
C375 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	.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	.18801	.979	.17730	10.814		
C435 BIS(2-CHLOROETHOXY)METHAN	.56694	.51971	.54135	.51911	.55086	.958	.53960	3.815		
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

- 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					
		RF	RF	RF	RF	RF					
	Compound	20.00	50.00	80.00	120.00	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	1.47846	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					
	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	1.58659	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	.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		

$\overline{RF}$ - 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	
C550 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	1.05709	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

%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: >FZ709

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		
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	1.97751	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	.53980	.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: RESAR FACE, 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	.29903	.26167	12.50		
C525	2-FLUOROBIPHENYL	1.18142	1.21982	3.25		
C510	HEXACHLOROCYCLOPENTADIENE	.31454	.26647	15.23		**
C515	2,4,6-TRICHLOROPHENOL	.47311	.46219	2.32	*	
C520	2,4,5-TRICHLOROPHENOL	.49408	.48570	1.70		
C529	2-CHLORONAPHTHALENE	1.15012	1.16274	2.89		
C550	2-NITROANILINE	.54131	.60333	11.46		
C555	DIMETHYLPHTHALATE	1.59809	1.55532	2.68		
C540	ACENAPHTHYLENE	1.63291	1.77650	8.79		
C545	3-NITROANILINE	.41668	.43888	4.61		
C590	ACENAPHTHENE	1.09786	1.12518	6.36	*	
C565	2,4-DINITROPHENOL	.26752	.21107	19.50		**
C560	4-NITROPHENOL	.20525	.20309	1.05		**
C605	DIBENZOFURAN	1.54788	1.60302	3.56		
C569	2,6-DINITROTOLUENE	.34316	.37699	8.89		
C575	2,4-DINITROTOLUENE	.57352	.57735	.67		
C920	DIETHYLPHTHALATE	1.59211	1.62764	2.11		
C580	4-CHLOROPHENYL-PHENYLETHE	.52091	.57629	10.63		
C590	FLUORENE	1.05752	1.15043	9.20		
C595	4-NITROANILINE	.44148	.44366	.47		
C610	4,6-DINITRO-2-METHYLPHENO	.18612	.21362	14.72		
C615	N-NITROSODIPHENYLAMINE	.48060	.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	.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		
C930	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	1.43904	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	1.07685	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: RESEARCH Time: 12:51

Contract No: _____ Laboratory ID: >FZ709

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
C590 PYRIDINE	1.42242	1.57855	10.98		
C559 2-FLUOROPHENOL	1.41792	1.58163	2.56		
C545 PHENOL-d5	1.54687	1.73093	11.84		
C533 2-CHLOROPHENOL-d4	1.36769	1.45033	4.58		
C540 1,2-DICHLOROBENZENE-d4	.79768	.82884	9.39		
C540 1,4-DICHLOROBENZENE	1.42698	1.49996	5.12	*	
C555 2-METHYLPHENOL	1.10151	1.21540	10.34		
C567 3,4-METHYLPHENOLS	1.16537	1.26569	8.61		
C575 HEXACHLOROETHANE	.63809	.72307	13.32		
C610 NITROBENZENE	.43366	.48263	11.34		
C620 NITROBENZENE-d5	.42554	.47075	10.62		
C650 ISOPHORONE	.21501	.21967	2.17	*	
C675 2,4,6-TRICHLOROPHENOL	.29903	.26167	12.50		
C525 2-FLUOROBIPHENYL	1.28142	1.21982	3.25		
C515 2,4,6-TRIBROMOPHENOL	.47311	.46215	2.32	*	
C520 2,4,5-TRICHLOROPHENOL	.49180	.48570	1.24		
C570 2,4-DINITROTOLUENE	.57392	.57759	.67		
C600 FLUOROBENZENE	.34829	.33977	2.45		
C635 PENTACHLOROPHENOL	.25796	.19707	16.87	*	
C570 TERPHENYL-d14	1.14736	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: 10/12/95

Contractor: KESAN PACE, INC. Time: 10:27

Contract No: Laboratory ID: >F2768

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	1.26172	30.26		
CS50 2-FLUOROPHENOL	1.41792	1.59420	12.43		
CS45 PHENOL-d5	1.54687	1.93937	25.37		
CS70 2-CHLOROPHENOL-d4	1.36769	1.48092	8.28		
CS75 1,2-DICHLOROBENZENE-d4	.75768	.79758	5.27		
C315 PHENOL	1.72949	2.23397	29.17	*	
C320 ANILINE	1.24738	1.69954	36.25		
C325 BIS(2-CHLOROETHYL)ETHER	1.77684	1.94588	9.51		
C330 2-CHLOROPHENOL	1.36857	1.51034	10.36		
C335 1,3-DICHLOROBENZENE	1.57248	1.63284	3.84		
C340 1,4-DICHLOROBENZENE	1.42696	1.49404	4.70	*	
C345 BENZYL ALCOHOL	.74671	.89256	19.53		
C350 1,2-DICHLOROBENZENE	1.27164	1.40183	10.24		
C355 2-METHYLPHENOL	1.10151	1.28795	16.93		
C360 BIS(2-CHLOROISOPROPYL)ETH	2.12632	2.65392	24.81		
C365 4-METHYLPHENOL	1.16537	1.29724	11.32		
C370 N-NITROSO-DI-N-PROPYLAMIN	.98767	1.16744	18.20		**
C375 HEXACHLOROETHANE	.63809	.75114	17.72		
C410 NITROBENZENE	.43366	.51649	19.10		
C415 ISOPHORONE	.94539	1.09673	16.01		
CS20 NITROBENZENE-d5	.42554	.49271	15.78		
C420 2-NITROPHENOL	.25197	.26107	3.61	*	
C425 2,4-DIMETHYLPHENOL	.38779	.41042	5.84		
C430 BENZOIC ACID	.17730	.19272	8.70		
C435 BIS(2-CHLOROETHOXY)METHAN	.53960	.62018	14.93		
C440 2,4-DICHLOROPHENOL	.32720	.30631	6.38	*	
C445 1,2,4-TRICHLOROBENZENE	.36421	.33589	7.78		
C450 NAPHTHALENE	.95398	1.01901	6.82		
C455 4-CHLOROANILINE	.43235	.44331	2.53		
C460 HEXACHLOROBUTADIENE	.21501	.17723	17.57	*	
C465 4-CHLORO-3-METHYLPHENOL	.36180	.40298	11.38	*	
C470 2-METHYLNAPHTHALENE	.61488	.64159	4.34		

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: 10/12/95

Contractor: RESRH PACE, INC. Time: 10:27

Contract No: Laboratory ID: >F2768

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	.21286	28.82		
C525	2-FLUOROBIPHENYL	1.18142	1.18107	.03		
C510	HEXACHLOROCYCLOPENTADIENE	.31434	.29820	5.13		**
C515	2,4,6-TRICHLOROPHENOL	.47311	.43381	8.31	*	
C520	2,4,5-TRICHLOROPHENOL	.49408	.46184	6.53		
C525	2-CHLORONAPHTHALENE	1.13012	1.17049	3.57		
C530	2-NITROANILINE	.54131	.65684	21.34		
C535	DIMETHYLPHTHALATE	1.59809	1.53283	4.08		
C540	ACENAPHTHYLENE	1.63291	1.77344	8.61		
C545	3-NITROANILINE	.41668	.45521	9.25		
C550	ACENAPHTHENE	1.05786	1.10199	4.17	*	
C555	2,4-DINITROPHENOL	.26352	.25373	3.72		**
C560	4-NITROPHENOL	.20525	.20328	.96		**
C565	DIBENZOFURAN	1.54786	1.54204	.38		
C545	2,6-DINITROTOLUENE	.34610	.37324	7.82		
C570	2,4-DINITROTOLUENE	.57352	.57441	.16		
C580	DIETHYLPHTHALATE	1.59211	1.65619	4.02		
C585	4-CHLOROPHENYL-PHENYLETHE	.52091	.48410	7.07		
C590	FLUORENE	1.05352	1.05806	.43		
C595	4-NITROANILINE	.44148	.45389	2.81		
C610	4,6-DINITRO-2-METHYLPHENO	.18622	.21452	15.20		
C615	N-NITROSODIPHENYLAMINE	.48060	.54943	14.32	*	
C620	AZOBENZENE	.20956	.20202	3.59		
C625	4-BROMOPHENYL-PHENYLETHER	.22504	.21473	4.58		
C630	HEXACHLOROBENZENE	.34829	.29460	15.41		
C635	PENTACHLOROPHENOL	.23706	.19585	17.39	*	
C640	PHENANTHRENE	1.04986	1.08152	3.02		
C645	ANTHRACENE	1.02536	1.11636	8.87		
C650	DI-N-BUTYLPHTHALATE	1.57983	1.78397	12.92		
C655	FLUORANTHENE	1.23398	1.23843	.36	*	
C660	BENZIDINE	.09544	.06207	34.96		
C530	TERPHENYL-d14	1.14336	1.02813	10.08		

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: 10/12/95

Contractor: RESAN PACE, INC. Time: 10:27

Contract No: Laboratory ID: >F2768

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	1.73050	5.57		
C720 BUTYLBENZYLPHTHALATE	1.19309	1.25829	5.46		
C725 3,3'-DICHLOROBENZIDINE	.66704	.56541	15.24		
C730 BENZO(A)ANTHRACENE	1.39789	1.38972	.58		
C745 BIS(2-ETHYLHEXYL)PHTHALAT	1.06421	1.20509	13.24		
C740 CHRYSENE	1.43904	1.21865	15.32		
C760 DI-N-OCTYLPHTHALATE	1.71485	2.40398	40.19	*	
C765 BENZO(B)FLUORANTHENE	1.21029	1.10010	9.10		
C770 BENZO(K)FLUORANTHENE	.86488	1.13529	31.27		
C775 BENZO(A)PYRENE	1.01861	1.07682	5.71	*	
C780 INDENO(1,2,3-CD)PYRENE	1.24358	1.19536	3.88		
C785 DIBENZ(A,H)ANTHRACENE	1.02429	.96681	5.61		
C790 BENZO(G,H,I)PERYLENE	1.06272	1.01761	4.25		

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: 10/12/95

Contractor: RESAN Time: 10:27

Contract No: Laboratory ID: >F2768

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	1.94457	36.71		
C550 2-FLUOROPHENOL	1.41792	1.59420	12.43		
C545 PHENOL-d5	1.54687	1.93937	25.37		
C535 2-CHLOROPHENOL-d4	1.36769	1.48092	8.28		
C540 1,2-DICHLOROBENZENE-d4	.75768	.79758	5.27		
C340 1,4-DICHLOROBENZENE	1.42696	1.49404	4.70	*	
C355 2-METHYLPHENOL	1.10151	1.28795	16.93		
C367 3,4-METHYLPHENOLS	1.16537	1.29724	11.32		
C375 HEXACHLOROETHANE	.63809	.75114	17.72		
C410 NITROBENZENE	.43366	.51649	19.10		
C520 NITROBENZENE-d5	.42554	.49271	15.78		
C460 HEXACHLOROBUTADIENE	.21501	.17723	17.57	*	
C555 2,4,6-TRIBROMOPHENOL	.29903	.21286	28.82		
C525 2-FLUOROBIPHENYL	1.18142	1.18107	.03		
C515 2,4,6-TRICHLOROPHENOL	.47311	.43381	8.31	*	
C520 2,4,5-TRICHLOROPHENOL	.49180	.46184	6.09		
C570 2,4-DINITROTOLUENE	.57352	.57441	.16		
C630 HEXACHLOROBENZENE	.34829	.29460	15.41		
C635 PENTACHLOROPHENOL	.23706	.19585	17.39	*	
C530 TERPHENYL-d14	1.14336	1.02813	10.08		

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.: LJN37

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.												
TCLPBLANK#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.: LJN37

Lab File ID (Standard): >F2768 Date Analyzed: 10/12/95

Instrument ID: FMS Time Analyzed: 10:27

	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	39704	6.55	142103	8.68	75891	11.73	118489	14.30	84715	18.98	113497	22.40
UPPER LIMIT	79408	7.05	284206	9.18	151782	12.23	236978	14.80	169430	19.48	226994	22.90
LOWER LIMIT	19852	6.05	71052	8.18	37946	11.23	59245	13.80	42358	18.48	56749	21.90
CLIENT I.D.												
BA2494	40655	6.54	136949	8.67	71336	11.73	110749	14.29	98653	18.95	100863	22.37
LSA2494	37285	6.55	138980	8.67	73034	11.73	111391	14.30	96463	18.95	98229	22.36
CLJ44-CU-100	41712	6.55	141545	8.66	73765	11.73	114857	14.29	96503	18.96	102007	22.37

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** — **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
DASOP 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
-	7F2644	DFTPP50	A-1213				m/e198=17K inj 1011 scan 93+94		✓	✓	A1/3B	
✓	46	ABN STD50	A-1488	IFOC02			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	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	4546--7					Acsurr's fail - REX					
	64	-18	↓	↓	↓		Acsurr's low, but passing		✓	✓		
							TCLP spkcal - CFTCLP/IFTCLP (AF---- files)					
			10/3/95				CFPNA } PNTemp ds - 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 MSEFST | 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 85+86+87		✓	✓	A1/329	
✓	09	ABW STD 50	A-1488	IF0402 IFTCLP			Compliant 8270	✓NS	✓	✓		
✓	10	BA2473	ABWL	IF1005	1/1	Rust			✓	✓		
✓	11	LSA2473		↓	↓	↓			✓	✓		
	12	45461-7RE		IFT005	↓				✓	✓		
	13	-9		↓	1/5	↓			✓	✓		
✓	14	BA2478		IF1005	1/1	LWN27			✓	✓		
✓	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 NA	26	surr check	E-1419	↓	↓				✓	✓		

10/6/95

PACE New England

GCMS Semi Volatiles
RUN LOG

0000019

Voltage 1500 Tune Meth MSFDFT Initial Cal 10/2/95 Date 10/13/95
Threshold 30 Sample Meth MSFFST Batch File FCK12A Analyst JN
QASOP 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
/	>F2766	DFTPP 50	A-1213				m/e 198 = 100% scan		✓	✓	A/577	
✓	68	ABNSTD50	A-1492	IFCC02 IFTCLP			di-n-octyl phth high	JN	✓	✓		
✓	69	BA2491	ABNL	IF1012	1/1	LJN35			✓	✓		
✓	70	LSA2491	↓	↓	↓	↓			✓	✓		
	71	45641-3		IFT009					✓	✓		
	72	-4		↓					✓	✓		
	73	-5							✓	✓		
	74	-7		↓		↓			✓	✓		
	75	BA2494		IF1012		LJN37			✓	✓		
	76	LSA2494		↓		↓						
	77	45646-1	↓	IFT009		↓						
	78	BA2487	ABNS	IF1012								
	79	LSA2487	↓	↓	↓							
	80	45629-1			1/20							
	81	-2			1/4							
	82	-3	↓	↓	1/10							

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

4CU100

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

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN37

Matrix (soil/water): WATER Lab Sample ID: 45646-001

Level (low/med): LOW Date Received: 10/11/95

% 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	18.3			P
7440-39-3	Barium	98.6	B		P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	4.8	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	0.10	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-100

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

Laboratory Number : 45646-001
Field Identification : CLJ44-CU-100
Extraction Date : 10/11/95
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 5.99. 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 : 19.00 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

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.: MLJN37

Initial Calibration Source: VHG\SPEX

Continuing Calibration Source: SOL+\IV\MALL

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	986.32	98.6	10000.0	8988.48	89.9	8866.44	88.7	P
Barium	1000.0	973.03	97.3	40000.0	37859.86	94.6	37281.82	93.2	P
Beryllium									NR
Cadmium	500.0	477.30	95.5	1000.0	928.41	92.8	909.47	90.9	P
Calcium									NR
Chromium	1000.0	1018.87	101.9	4000.0	3943.04	98.6	3880.55	97.0	P
Cobalt									NR
Copper									NR
Iron									NR
Lead	1000.0	939.66	94.0	10000.0	9178.57	91.8	9048.92	90.5	P
Magnesium									NR
Manganese									NR
Mercury	4.0	4.12	103.0	5.0	5.44	108.8			CV
Nickel									NR
Potassium									NR
Selenium	1000.0	927.68	92.8	10000.0	9112.92	91.1	9024.56	90.2	P
Silver	200.0	199.80	99.9	1000.0	996.07	99.6	984.90	98.5	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.: MLJN37

Initial Calibration Source: VHG\SPEX

Continuing Calibration Source: SOL+\IV\MALL

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	9393.95	93.9	9180.80	91.8	P
Barium				40000.0	37611.15	94.0	36239.37	90.6	P
Beryllium									NR
Cadmium				1000.0	955.09	95.5	944.91	94.5	P
Calcium									NR
Chromium				4000.0	3892.93	97.3	3810.86	95.3	P
Cobalt									NR
Copper									NR
Iron									NR
Lead				10000.0	9507.83	95.1	9328.06	93.3	P
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium				10000.0	9609.49	96.1	9364.23	93.6	P
Silver				1000.0	990.39	99.0	968.31	96.8	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.: MLJN37

Initial Calibration Source: VHG\SPEX

Continuing Calibration Source: SOL+\IV\MALL

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	8962.41	89.6			P
Barium				40000.0	35853.81	89.6			P
Beryllium									NR
Cadmium				1000.0	934.76	93.5			P
Calcium									NR
Chromium				4000.0	3758.09	94.0			P
Cobalt									NR
Copper									NR
Iron									NR
Lead				10000.0	9218.82	92.2			P
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium				10000.0	9165.06	91.7			P
Silver				1000.0	958.90	95.9			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

3
BLANKS

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

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN37

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	26.7		41.770		P
Barium	2.7	U	5.7	B	8.8	B	10.6	B	16.130	B	P
Beryllium											P
Cadmium	1.5	U	1.5	U	1.5	U	-1.6	B	1.500	U	P
Calcium											NR
Chromium	3.7	U	3.7	U	3.7	U	3.7	U	4.700	B	P
Cobalt											NR
Copper											NR
Iron											NR
Lead	10.8	U	10.8	U	10.8	U	10.8	U	10.800	U	P
Magnesium											NR
Manganese											NR
Mercury	-0.1	B	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	1.9	U	1.9	U	1.9	U	1.900	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.: MLJN37

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					P
Barium			11.8	B	10.4	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			-3.2	B	1.9	U					P
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

U.S. EPA - CLP

4

ICP INTERFERENCE CHECK SAMPLE

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

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN37

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	492577	496151.6	99.2	472472	471940.2	94.4
Antimony								
Arsenic			-99	-71.4		118	136.4	
Barium		500	-3	471.4	94.3	-2	444.7	88.9
Beryllium								
Cadmium		1000	3	892.1	89.2	3	897.0	89.7
Calcium	500000	500000	481044	483860.2	96.8	457489	457220.1	91.4
Chromium		500	-1	466.0	93.2	-1	442.8	88.6
Cobalt								
Copper								
Iron	200000	200000	181749	183199.0	91.6	172099	172506.6	86.3
Lead		1000	17	893.7	89.4	34	922.4	92.2
Magnesium	500000	500000	483378	486319.3	97.3	463044	462610.6	92.5
Manganese								
Mercury								
Nickel								
Potassium								
Selenium			53	99.8		64	77.5	
Silver		1000	1	950.1	95.0	0	914.5	91.4
Sodium								
Thallium								
Vanadium								
Zinc								

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

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

Lab Code: Case No.: OHMRC SAS No.: SDG No.: MLJN37

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	1914.19	95.7						
Barium	2000.0	1855.32	92.8						
Beryllium									
Cadmium	50.0	50.77	101.5						
Calcium									
Chromium	200.0	199.11	99.6						
Cobalt									
Copper									
Iron									
Lead	500.0	472.09	94.4						
Magnesium									
Manganese									
Mercury	8.0	8.39	104.9						
Nickel									
Potassium									
Selenium	2000.0	1867.09	93.4						
Silver	50.0	45.54	91.1						
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

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.: MLJN37

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:

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.: MLJN37

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).

Field Identification: CLJ44-CU-100 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Corrosivity (pH, units)	5.3		45646-001	10/12/95	370	2.1.2/2
Releasable Sulfide (mg/Kg)	BDL	50	45646-001	10/12/95	313	7.3.4.2/2
Releasable Cyanide (mg/Kg)	BDL	1	45646-001	10/12/95	313	7.3.3.2/2
Flash Point (degrees F)	>150	50	45646-001	10/12/95	345	1010/2
Total Gasoline (ug/g)	BDL	13	45646-002	10/13/95	BG1045A	8015(mod)/2
Total Diesel (ug/g)	56	3.7	45646-011	10/12/95		8015(mod),3350/2

Field Identification: CLJ44-CS-015 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	14	45646-003	10/11/95	BG1045A	8015(mod)/2
Total Diesel (ug/g)	12	3.9	45646-012	10/12/95		8015(mod),3350/2

Field Identification: CLJ44-CS-016 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	15	45646-004	10/11/95	BG1045A	8015(mod)/2
Total Diesel (ug/g)	150	4.0	45646-013	10/12/95		8015(mod),3350/2

Field Identification: CLJ44-CS-017 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	14	45646-005	10/11/95	BG1045A	8015(mod)/2
Total Diesel (ug/g)	220	3.9	45646-014	10/13/95		8015(mod),3350/2

Field Identification: CLJ44-CS-018 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	13	45646-006	10/13/95	BG1045A	8015(mod)/2
Total Diesel (ug/g)	110	3.8	45646-015	10/13/95		8015(mod),3350/2

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

pace INCORPORATED THE ASSURANCE OF QUALITY

Field Identification: CLJ44-CS-019 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	13	45646-007	10/11/95	BG1045A	8015(mod)/2
Total Diesel (ug/g)	29	3.7	45646-016	10/13/95		8015(mod),3350/2

Field Identification: CLJ44-CS-020 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	14	45646-008	10/11/95	BG1045A	8015(mod)/2
Total Diesel (ug/g)	23	3.8	45646-017	10/13/95		8015(mod),3350/2

Field Identification: CLJ44-CS-021 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	13	45646-009	10/11/95	BG1045A	8015(mod)/2
Total Diesel (ug/g)	9.2	3.7	45646-018	10/13/95		8015(mod),3350/2

Field Identification: CLJ44-CS-022 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	14	45646-010	10/11/95	BG1045A	8015(mod)/2
Total Diesel (ug/g)	70	4.3	45646-019	10/13/95		8015(mod),3350/2

Results expressed on a dry weight basis.

References: 2) EPA SW 846, 3rd Edition

pace INCORPORATED THE ASSURANCE OF QUALITY

QUALITY CONTROL
Corrosivity
Method: 7.2 SW846 3rd Edition

QC Batch: 370 For: 45646
Matrix: SOLID

LABORATORY CONTROL SAMPLES:

	True Value Units	Observed Value Units
LCS1	7.0	7.02

QUALITY CONTROL DATA
TOTAL GASOLINE

BLANK DATA

Laboratory Number: BG1045
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/11/95
Matrix: SOLID

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

MATRIX SPIKE RECOVERY

Laboratory Number: LS-G1045
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/11/95
Matrix: SOLID

COMPOUND	ug/g IN SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
GASOLINE	0	50	54	107

METHOD REFERENCE: METHOD 8015 (MODIFIED)

pace INCORPORATED
THE ASSURANCE OF QUALITY

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 : VSTD1000 5ML

Report No :470.01

Instrument : GC05

Subseq/Sample/Bottle: 1/ 4/ 4

Sequence File: /DATA/GC05/SEQUENCE/G510:1.SEQ
Method File : /DATA/GC05/METHOD/TEAS0926A.MTH
Result File : /DATA/GC05/RESULT/G5CF116012.RES

Run Time : 37.83 Minutes Injected on 1031 10Oct1995
Report Time : 1513 11Oct1995
Run Status : RunStatusOK
EndOfBaseline
SpectraInteg

Timed Events	Time	Events	Logic	Value	EventUpdate
1	.000	EndIntegrateAtB	NoLogic	-1	True
2	8.086	SetBLandIntegra	NoLogic	-1	True
3	29.590	EndIntegrateAtB	NoLogic	-1	True
4	34.671	SetBLandIntegra	NoLogic	-1	True

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

Pk#	RT	ID-Tm	Factor	Area	Code	UG/L	Name
1	9.30			2152428	FF	64.5729	
2	9.47			75868	FF	2.2760	
3	9.87			1571157	FF	47.1341	
4	10.40			1302328	FF	39.0699	
5	10.53			494664	FF	49.9307	C7 N-HEPTANE
6	11.47			969655	FF	29.0896	
7	12.13			80495	FF	2.4148	
9	13.17			747405	FF	22.4221	
10	13.50			2338670	FF	70.1601	
11	14.20			1570174	FF	47.1052	
12	14.65			378710	FF	11.3613	
13	14.35			761951	FF	22.8585	
14	15.10			518066	FF	15.5420	
15	15.30			225045	FF	6.6914	
16	15.87			188374	FF	5.6500	
17	16.33			186366	FF	5.5910	
18	16.57			330656	FF	9.9197	
19	17.20			460017	FF	13.8005	
20	17.83			768326	FF	23.0493	
21	18.30			1086256	FF	32.5877	
22	18.90			551918	FF	16.5575	
23	19.17			213237	FF	6.3971	
24	19.73			49634	FF	1.4890	
25	20.10			162665	FF	4.8800	
26	20.33			395455	FF	11.8636	
27	20.70			204596	FF	6.1379	
28	20.93			2093420	FF	62.8026	
29	21.33			115830	FF	3.4747	
30	21.73			200241	FF	6.0072	

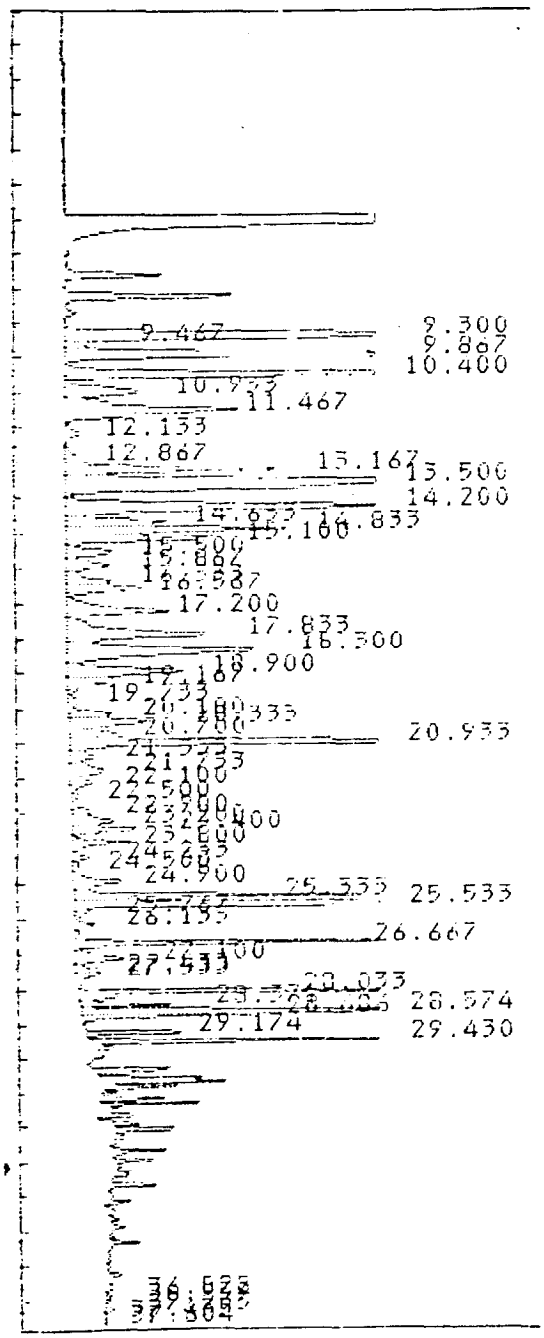
PACE INCORPORATED

Pk#	RT	ID-tm	Factor	Area	Code	UG/L	Name
31	22.10			112031	FF	3.3609	
32	22.50			30677	FF	.9203	
33	22.90			73715	FF	2.2114	
34	23.20			164918	FF	4.9475	
35	23.40			248534	FF	7.4560	
36	23.80			205754	FF	6.1726	
37	24.23			46710	FF	1.4013	
38	24.50			34206	FF	1.0262	
39	24.90			229528	FF	6.8858	
40	25.33			576885	FF	17.3065	
41	25.53			2016215	FF	60.4865	
42	25.77			50327	FF	1.5098	
43	26.13			59244	FF	1.7773	
44	26.67			747876	FF	22.4363	
45	27.10			218847	FF	6.5654	
46	27.43			59150	FF	1.7745	
47	27.53			87734	FF	2.6320	
48	28.03	#28.04		1166731	PV	1166731.0000	4 BROMOFLUOROBENZENE
49	28.37			182557	VV	5.4767	
50	28.57			872599	VV	26.1780	
51	28.69			308586	VV	9.2576	
52	29.17			195835	PV	5.8750	
53	29.43			883608	PV	26.5082	
54	36.82			11714	BV	.3514	
55	36.96			9295	VV	.2790	
56	37.24			25776	VV	.7733	
57	37.44			4034	PV	.1210	
58	37.60			4499	VB	.1350	

Total Area DRO only : 26819140

59/50

933/1000



TGAS

Total Gas: Gas Range Organics (GRO)

PACE N.E.
REV00

Batch 1045
Method 8015 mod SW-846 3rd Ed
Matrix solid

	RESULT	SURR
Slope	28543.54	19686.8
Intercept	1001874	7555.03

IDC	*	ANAL	PREP	DATE	*	*	*	*	*	*	VAL	DL	*	*	*	*	SURR
		Inits	Date	Date	Init	PegVol	LCS	AREA	SURR	Instr	Obs	Det		Rpted	% Rec	%	SURR
			Prepared	Analyzed	Wt	Loaded	SPK		AREA	Result	Conc.	Limit		Conc.		Diff	
Sample	Code				g	ME	LEV			ug/L							
BG1045A	BW	CF	10/11/95	10/11/95	4	100		2121759	1272730	-5.3548	-0.67	12.5	<	12.5			64.265
LSG1045	LCS1	CF	10/11/95	10/11/95	4	100	50	14413660	1183643	428.4032	53.55	12.5		53.55	107.1		59.739
BG101195TGA		CF	10/11/95	10/11/95				1432123	1219524	-27.6516							61.562
BG101395TGA		CF	10/13/95	10/13/95				1444262	1190656	-26.215							60.096
LW101195TGA		CF	10/11/95	10/11/95				18162260	1198921	559.1971							60.515
45645-3		CF	10/11/95	10/11/95				1713326	867249	-5.45822							43.668
VSTD1000		CF	10/11/95	10/11/95				28819140	1166731	933.6801							58.880
45645-1	S2	CF	10/11/95	10/12/95	4.5	100		19461676	1650098	588.9145	65.43	11.11		65.43			83.433
45645-2	S3	CF	10/11/95	10/13/95	4.3	100		17436452	1763140	514.002	59.77	11.63		59.77			89.175
45646-2	S4	CF	10/11/95	10/13/95	4.4	100		2129645	1274609	-5.14435	-0.58	11.36	<	11.36			64.360
45646-3	S5	CF	10/11/95	10/11/95	4.2	100		2887515	1190490	24.35406	2.899	11.9	<	11.9			60.087
45646-4	S6	CF	10/11/95	10/11/95	4.1	100		3461583	1169519	45.20077	5.512	12.2	<	12.2			59.022
45646-5	S7	CF	10/11/95	10/11/95	4.3	100		2856081	1074395	27.32009	3.177	11.63	<	11.63			54.190
45646-6	S8	CF	10/11/95	10/13/95	4.4	100		2190110	1278145	-3.14989	-0.36	11.36	<	11.36			64.54
45646-7	S9	CF	10/11/95	10/11/95	4.3	100		2072435	986080	2.959724	0.344	11.63	<	11.63			49.704
45646-8	S10	CF	10/11/95	10/11/95	4.1	100		2235093	1046919	6.526871	0.796	12.2	<	12.2			52.794
45646-9	S11	CF	10/11/95	10/11/95	4.5	100		1687047	1258495	-20.0859	-2.23	11.11	<	11.11			63.542
45646-10	S12	CF	10/11/95	10/11/95	4.5	100		3734529	1240715	52.26892	5.808	11.11	<	11.11			62.638
VSTD1000		CF	10/13/95	10/13/95				28177884	1122238	912.773							56.620
VSTD1000		CF	10/13/95	10/13/95				28146132	1116382	911.8657							56.323
	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 10/10/95		BV1044	4.0						MeOH Lot#
		LS1044	4.0						
	S1	45646-1	4.0						
	S2	2	4.2						
	S3	3	4.2						
	S4	4	4.3						
	S5	5	4.5						
	S6	6	4.4						
	S7	7	4.1						
	S8	8	Water						
	S9	9	WATER						
	S10	45641-1	4.3						
		1MS	4.2						
		1MSD	4.5						
CF 10/11/95		BV1045	4.0						
		LS1045	4.0						
		45645-1	4.5						
		2	4.3						
		45646-2	4.4						
		3	4.2						
		4	4.1						
		5	4.3						
		6	4.4						
		7	4.3						
		8	4.1						
		9	4.5						
		10	4.5						

V6461 Surrogate
V6462 Spike

PACE New England
VOA Screening Analyst/Date OK 10/13/95

GC05		SCRNA			GC04		SCRNB		
FRN	tube	Sample#	Vol.	Comments	FRN	tube	Sample#	Vol.	Comments
G5CK116035	1	BLV10395TBA	5ml	BDL	G4CF114792	1	Blank	500µl	
36	2	V6TD1000	5ml	9/12/1000 99% Rec	93	2	624Std	500µl	
37	3	V6TD1000	5ml	9/12/1000 99% Rec	94	3	45622-1	20mL	100mL
39	4	45645-1	100mL	✓	95	4	45630-2	20mL	100mL
40	5	2	100mL	✓	96	5	45659-1	500µl	5ml
41	6	45640-2	50mL	✓	97	6	-2	500µl	5ml
42	7	-3	50mL	✓	98	7	45658-1	500µl	5ml
43	8	45646-2	100mL	✓					
44	9	6	100mL	✓					
	10			OK 10/16/95					
G5CF116047	1	Blank	5ml		G4CF114804	1	Blank	5ml	✓
48	2	624Std	5ml		05	2	624Std	5ml	✓
					06	1	45627-1	500µl	5ml
					07	2	45668-3		5ml
					08	3	6		5ml
					09	4	7		5ml
					10	5	8		5ml
					11	6	45671-1		5ml
					12	7	45672-1		780µl?
					13	8	2		5ml
					14	9	3	✓	5ml
				OK 10/19/95					
					G4CF114817	1	45684-2	5ml	25ml
					18	2	10		5ml? Cl boceth
					19	3	13		5ml? Cl boceth
					20	4	26		25ml
					21	5	34		25ml
					22	6	42		25ml
					23	7	50		25ml
					24	8	58		25ml
					25	9	64		25ml
					26	10	70		25ml
					27	11	84	✓	25ml

PACE New England
VOA Screening **Analyst/Date** 10/11/95

GC05		SCRNA			GC04		SCRNB		
FRN	tube	Sample#	Vol.	Comments	FRN	tube	Sample#	Vol.	Comments
G5CF116009 missed		BLANK			G4CF114744	1	Blank	5ml	
11	1	BV101195TCA	5ml	ODL	45	2	u24std		
12	2	V6TD1000		93%/1000 95%Rec	46	3	45608-1		5ml
13	3	LW101195TCA		559/500 112%Rec	47	4	2		5ml
14 missed	4	45640-8		1st level ODL	48	5	3		5ml
15 16	5	9		pH<2 ODL	49 missed 50	7	45641-3		5ml
16 17	6	45645-3	5ml	pH<2 ODL	51	8	4		5ml
17 18	7	45641-1MS	100ml	✓	52	9	5		5ml
18 19	8	-1MSD		✓	53	10	45633-5		5ml
20	9	BV1045	100ml	✓	54	11	6		15ml
21	10	45645-1	30ml	✓ 100ml	55	12	45620-27		5ml
22	1	-2	30ml	✓ 100ml	56	13	45553-7		5ml
23	2	45646-2	100ml	✓ DUP	57	14	45529-1		5ml
24	3	3		✓	58	15	45643-1		5ml
25	4	4		✓	59	16	2		5ml
26	5	5		✓	60	17	3		5ml
27	6	6		✓ DUP	61	18	4	✓	5ml
28	7	7		✓					
29	8	8		✓					
30	9	45646-9	100ml	✓					
31	10	-10	100ml	✓					
32	1	LS1045	100ml	107%Rec					
33	2	45641-10	20ml	100 mg/L	+5pl Astmis				
34	3	-11	20ml	100 mg/L	+5pl Astmis				

CA 10/11/95

QUALITY CONTROL DATA
PETROLEUM HYDROCARBONS BY GCFID

BLANK DATA

Laboratory Number: B-H1420
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/12/95
Matrix: SOLID

HYDROCARBON TYPE	CONCENTRATION ug/g	DETECTION LIMIT ug/g
DIESEL	4	3

MATRIX SPIKE RECOVERY

Laboratory Number: LSH1420
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/12/95
Matrix: SOLID

COMPOUND	ug/g SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
DIESEL	0	33.6	24.1	72

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

PHC SOLIDS PREP LOG

INITIALS/DATE: MC / 10/12/15

LOG BOOK NO: 5

PROTOCOL: EPA SW846

SOP #: QA5547

STEAMBATH TEMP: 85°C (Range 80-90°C)

METHOD: SONC/3550

REVIEWED BY/DATE: JEK / 10/12/15

TEST/LEVEL: PHC / Low

MATRIX: SOLIDS

COUNT	BLANK SPIKES SAMPLE #	INIT WT. (g)	NaSO4 (g) MIX WELL	SURR 0.5 ML E 1416 101 PPM	SPIKE 0.2 ML E 1394 ~~5019~~ PPM ~~6033~~ 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
—	BH1420	30.0	60.0	✓	✓ N/A	✓	✓	✓	✓	10.0	10.0	1.0	MC 10/12/15
—	LSH1420	30.0		✓	✓	✓							
9	45646-11	30.39		✓	N/A								
10	-12	30.89		✓									
11	-13	30.95											
12	-14	30.81											
13	-15	30.79											
14	-16	30.74											
15	-17	30.17											
16	-18	30.90											
17	-19	30.18			✓								
—	-11MSI	30.96			✓	✓							
—	-11MSDI	30.23			✓	✓							

MC JEK 10/12/15

COMMENTS: Assigned QC: 45646-11 MSI/MSDI

F:\APPS\WP51\NANCY\EXPHCS

FACE, 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 Fri Oct 27, 1995 4:35:57 pm

/DATA/GC06/RESULT/G6H18242.RES
/DATA/GC06/METHOD/DIESEL016A.MTH

Sample: DRO 2013PPM P8870
Injected: Thu Oct 12, 1995 7:22:37 am

RetTime	Analyte	Found	Nominal	%D	Recovery
13.83	DIESEL FUEL	1701.74	2013.000	15.5	84.5

PACE, Incorporated
Continuing Calibration Report

Fri Oct 27, 1995 4:36:56 pm

/DATA/GC06/RESULT/G6H18254.RES
/DATA/GC06/METHOD/DIESEL016A.MTH

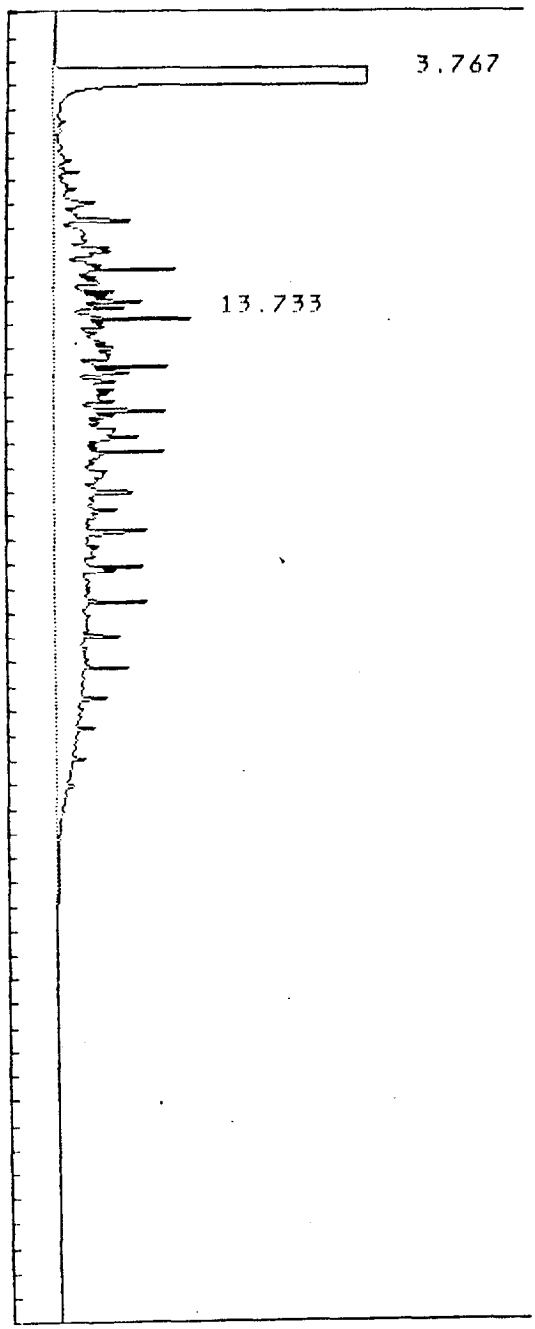
Sample: DRO 2013PPM P8870
Injected: Thu Oct 12, 1995 9:01:56 pm

RetTime	Analyte	Found	Nominal	%D	Recovery
13.80	DIESEL FUEL	1844.77	2013.000	8.4	91.6

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
9/28/95	BJ	c111805-8	Lwinjection	N	N	Diesel 16	G9 154/157	G6 092 8A
		G9 059	45480-44 Bechtel DRO-S D10/3	Y	Y		154	G9
		G6 059	Lw injection	N	N		157	G6
		G9 060	45480-45 Bechtel DRO-S D10/3	Y	Y		154	G9
		G6 060	Lw injection	N	N		157	G6
9/28/95		G9 061	BH 1393 DRO-S OHM	Y	Y		154	G9
		G6 061	Lw injection	N	N		157	G6
		G9 062	L.S1H1393 DRO-S OHM	Y	Y		154	G9
		G6 062	Lw injection (3)	N	N		157	G6
		G9 063	45515-4 DRO-S OHM V9/29 1:10	Y	Y		154	G9
		G6 063	Lw injection	N	N		157	G6
		G9 064	DRO 2013ppm P8843	Y	Y		154	G9
		G6 064	Lw injection	N	N		157	G6
		G9 065	45515-5 DRO-S OHM V9/29 1:10	Y	Y		154	G9
		G6 065	Lw injection	N	N		157	G6
		G9 066	45515-6 DRO-S OHM V9/29 1:10	Y	Y		154	G9
		G6 066	Lw injection	N	N		157	G6
		G9 067	Meck	Y	Y		154	G9
		G6 067	Lw injection	N	N		157	G6
9/29/95	BJ	G9 068	BH1392 DRO-S Bechtel D10/3	Y	Y	Diesel 16	154	G9 092 9
		G6 068	Meck				157	G6
		G9 069	LSH1392-DRO-S Bechtel D10/3				154	G9
		G6 069	DRO 2015 4 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 505ppm 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
10/11/95	WS	G61118230	LSH1419 DRO-MS	Y	Y	Diesel Oil	157	G6 1009
		G9 231	45625-3 DRO-S Fuel-ME				159	G9
		G6 231	DRO 2013 PPM P8870 89%				157	G6
		G9 232	45626-20 DRO-S Bechtel				159	G9
		G6 232	45645-4 DRO-S OHM 1:10		N	file missed	157	G6
		G9 233	45626-19 ↓ Bechtel 1:10		Y		159	G9
		G6 233	45645-5 ↓ OHM 1:10		Y		157	G6
		G9 234	DRO 2013PPM P8870		N		159	G9
		G6 234	45640-10 DRO-S OHM 1:10		Y		157	G6
		G9 235	Kerosene 5019PPM P8610				159	G9
		G6 235	45640-11 DRO-S OHM 1:10				157	G6
10/12/95		G9 236	10,000 PPM #6 Fuel Oil P8578				159	G9
		G6 236	45640-12 DRO-S OHM 1:10				157	G6
		G9 237	5000 PPM #4 Fuel P8869				159	G9
		G6 237	45640-13 DRO-S OHM 1:10				157	G6
		G9 238	SPL/C18 501/241PPM P8591				159	G9
		G6 238	45640-14 DRO-S OHM 1:10				157	G6
		G9 239	H2O Injection		N		159	G9
		G6 239	45640-15 DRO-S OHM 1:10		Y		157	G6
		G9 240	DRO 2013PPM P8870 78%		Y		159	G9
		G6 240	45640-16 DRO-S OHM 1:10				157	G6
		G6 241	BH1418 DRO-LS OHM					G6 1007
		G61118242	DRO 2013PPM P8870 84		Y			
		243	LSH1418 DRO-LS OHM					
		244	45645-4 DRO-MS OHM 1:10					
		245	45558-29 DRO-S Bechtel					
		246	-30 ↓					
		247	Kerosene 5019PPM P8610		Y			G6 1012
		248	10,000 PPM #6 Fuel Oil P8578					
		249	5000 PPM #4 Fuel Oil P8869					
		250	~~Kerosene 5019PPM P8610~~ SPL/C18 501/241PPM P8591					

PACE, INCORPORATED
GC Instrument Run Log

0000091

Reviewed by _____ Date _____

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

Date	init	result file	Sample	MI	V	Method	column	Sequence
10/12/95	HS	G66H8251	BH1420 DRO-LS	Y	Y	Dieseloil	157	GC 1
		252	LSH1420 DRO-LS					
		253	45646-11 ↓ OHM					
		254	DRO 2013ppm P8870 9/12					
		255	45646-12 DRO-LS OHM					
		256	-13					
10/13/95		257	-14					
		258	-15					
		259	-16					
		260	-17					
		261	-18					
		262	-19					
		263	-11MS					
		264	-11MSD ↓					
		265	DRO 2013ppm P8870 11					
		266	45642 DRO-LS OHM					
		267	-2MS ↓					
		268	-2MSD ↓					
		269	DRO 2013ppm P8870					
10/13/95	HS	270	Meoh changed liners, septas, ferrules Gc9/66	N	N			
10/15/95	HS	G9H18271	Meoh	N	N		154	S.S.
10/15/95		G6 271					157	
10/17/95		G9 272					154	
		G6 272					157	
		G9 273					154	
		G6 273					157	
		G9 274					154	
		G6 274					157	
		G9 275					154	
		G6 275					157	
		G9 276					154	

0000094

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

QC Batch: 313 For: 45646
Matrix: SOLID

METHOD BLANK:

	Result ug/g
	< 50.00

LABORATORY CONTROL SAMPLES:

	True Value ug/g	Observed Value ug/g	Accuracy Recovery %
LCS1	1512.2	1677.1	110.9

FIELD SAMPLE:

Precision Lab No.	Replicate 1 ug/g	Replicate 2 ug/g	Average ug/g	Relative Percent Difference %
0	< 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: 313 For: 45646
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	8.1	20.1

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.

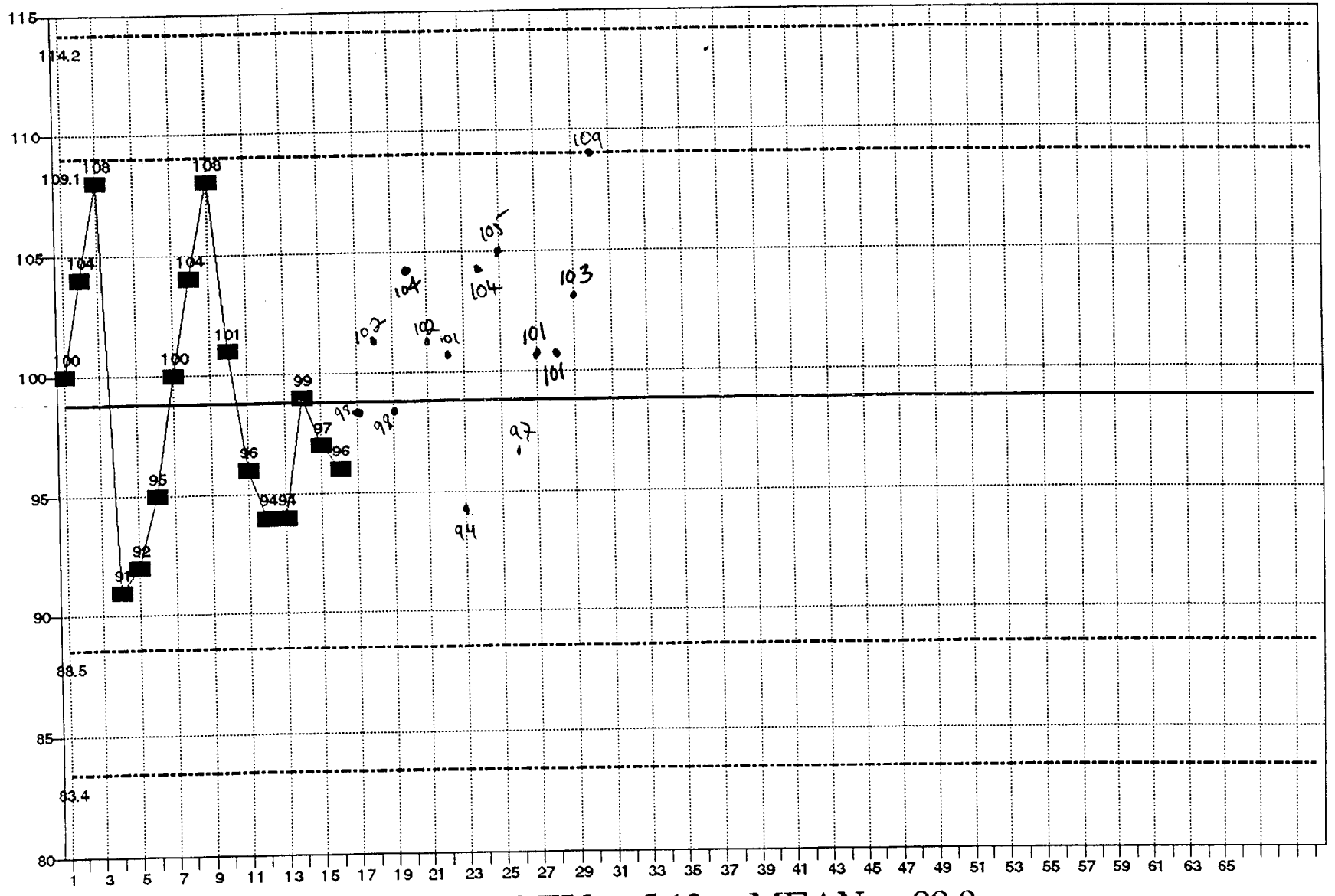
QUALITY CONTROL
Flashpoint
Method: D93-80, ASTM

QC Batch: 346 For: 45646
Matrix: SOLID

LABORATORY CONTROL SAMPLES:

	True Value deg F	Observed Value deg F
LCS1	81.0	82.00

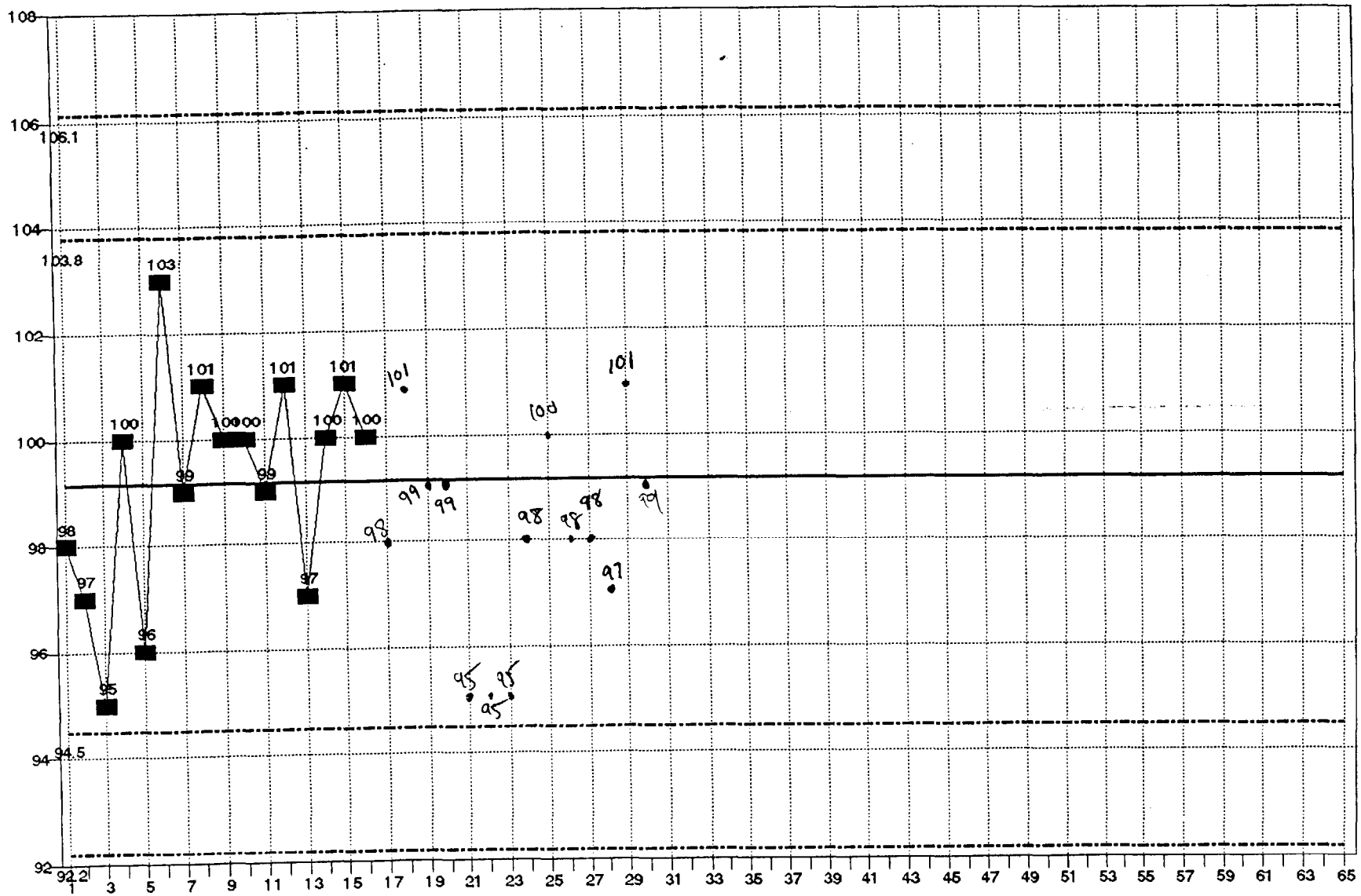
VOA TCLP - SURR DCE
LIMIT SET 7/93



STD DEV = 5.13 MEAN = 98.8

8600098

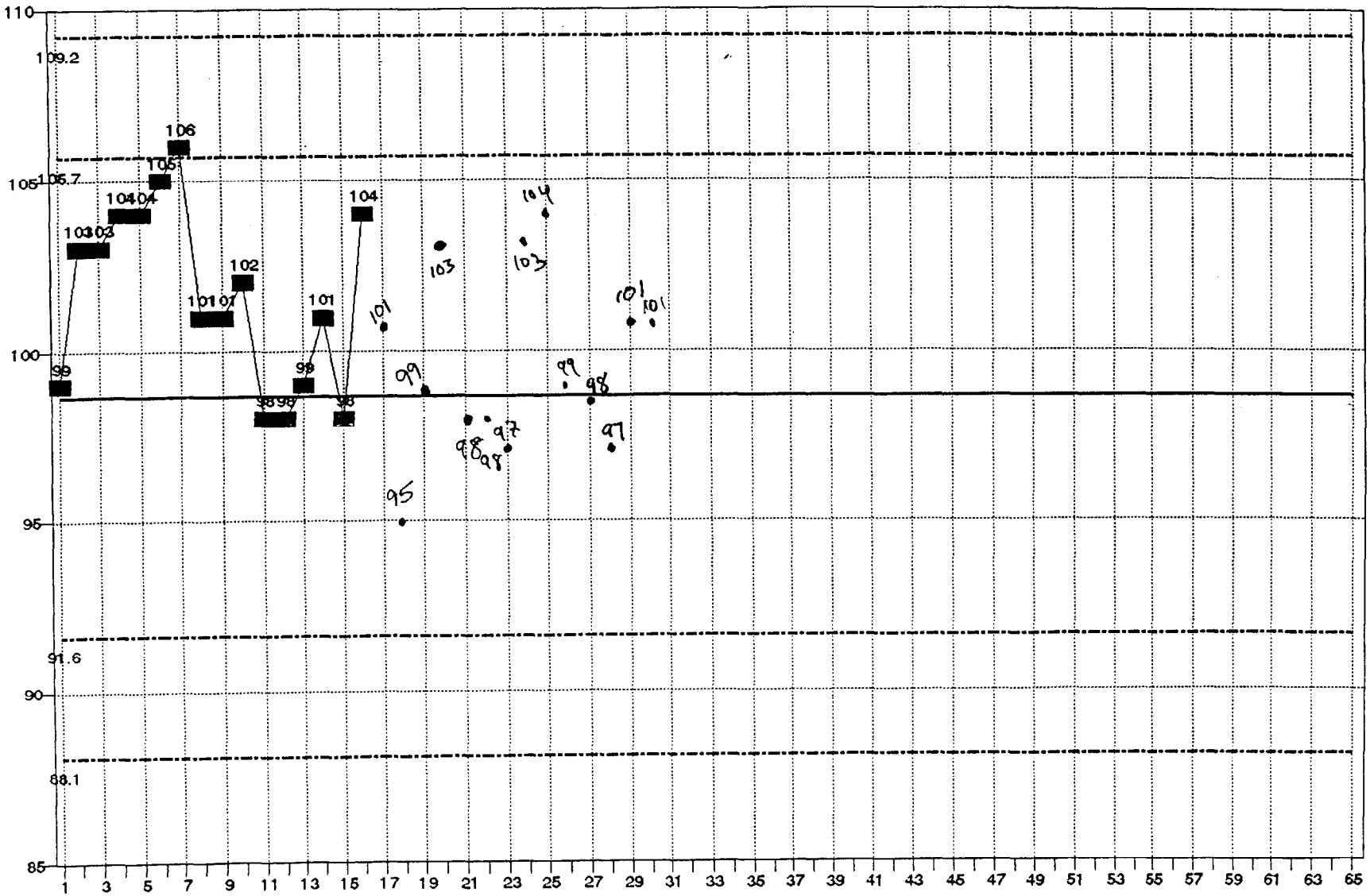
VOA TCLP - SURR TOL
LIMIT SET 7/93



STD DEV = 2.32 MEAN = 99.1

6600000

VOA TCLP - SURR BFB
LIMIT SET 7/93

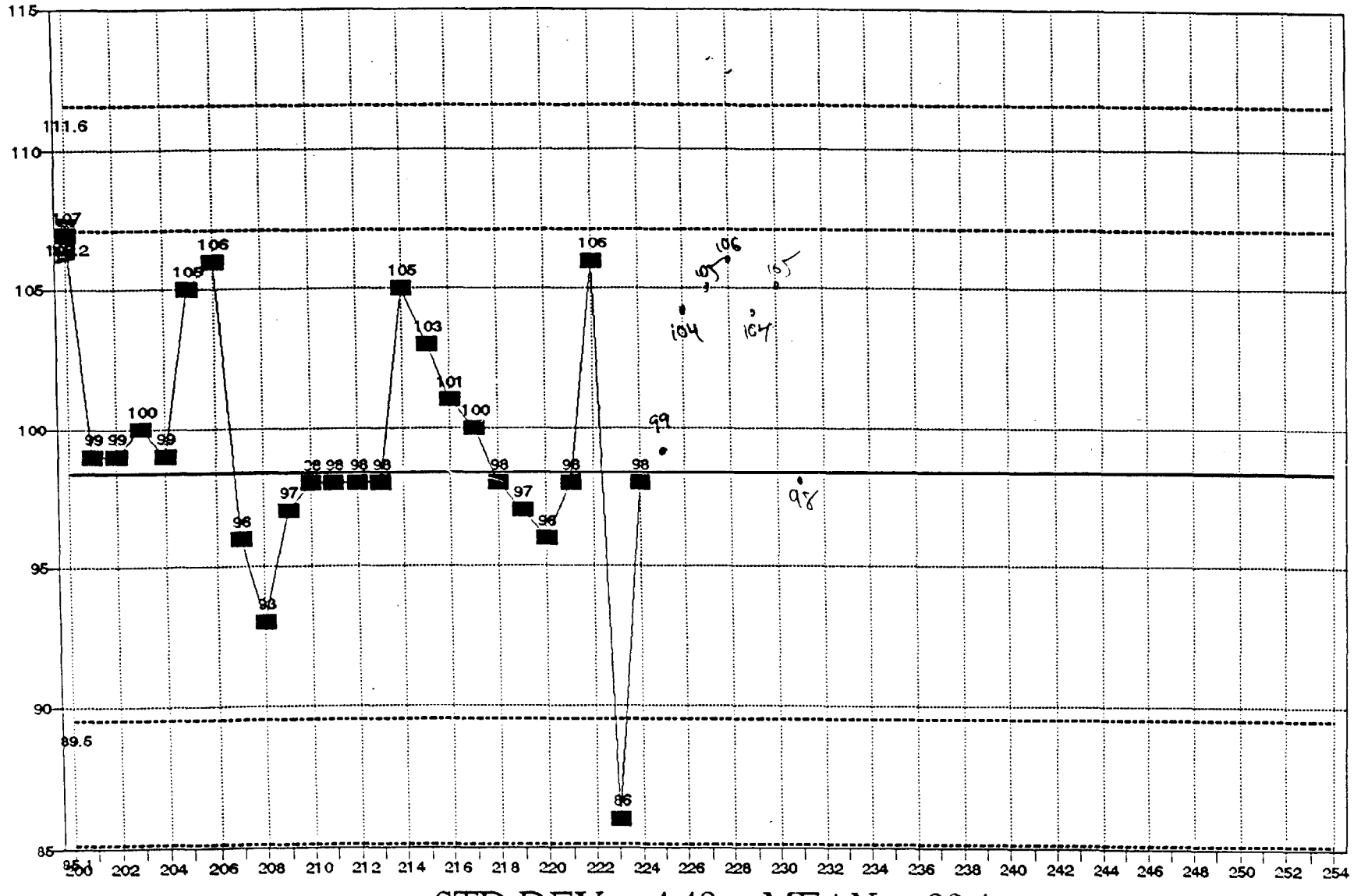


STD DEV =3.51 MEAN = 98.6

00001100

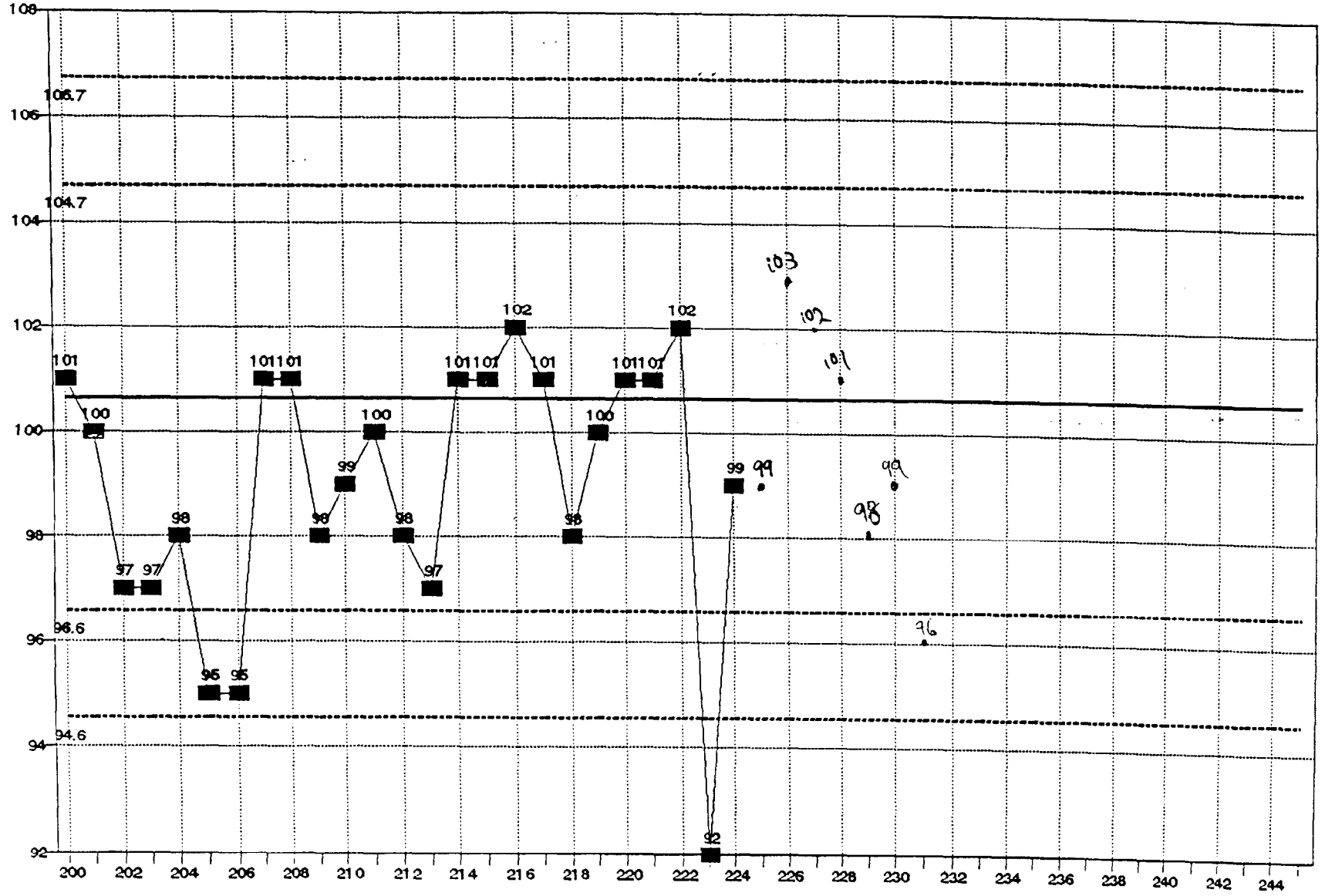
1	TCLP BLANK	340	03/16/94
2	TCLP BLANK	340	03/17/94
3	TCLP BLANK	341	03/17/94
4	TCLP BLANK	341	03/18/94
5	TCLP BLANK	342	03/18/94
6	TCLP BLANK	341	03/22/94
7	TCLP BLANK	343	03/25/94
8	TCLP BLANK	343	03/28/94
9	TCLP BLANK	344	03/28/94
10	TCLP BLANK	345	03/28/94
11	TCLP BLANK	346	04/07/94
12	TCLP BLANK	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
30	TCLP BLK	405	10/17/95

VOA WATERS - SURR DCE
LIMITS SET 4/95



STD DEV = 4.40 MEAN = 98.4

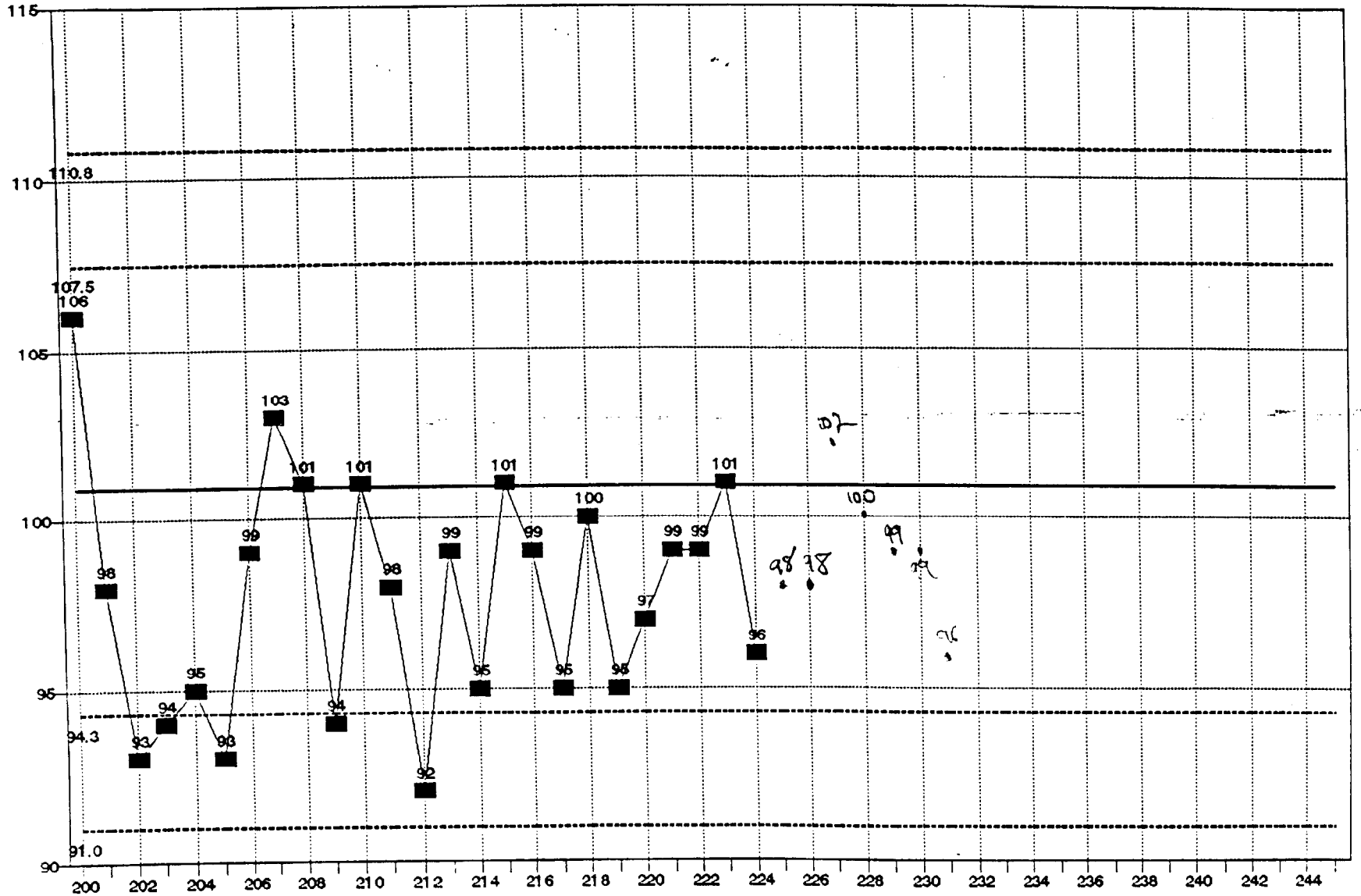
VOA WATERS - SURR TOL
LIMIT SET 4/95



STD DEV = 2.03 MEAN = 100.6

00001003

VOA WATERS - SURR BFB
LIMIT SET 4/95



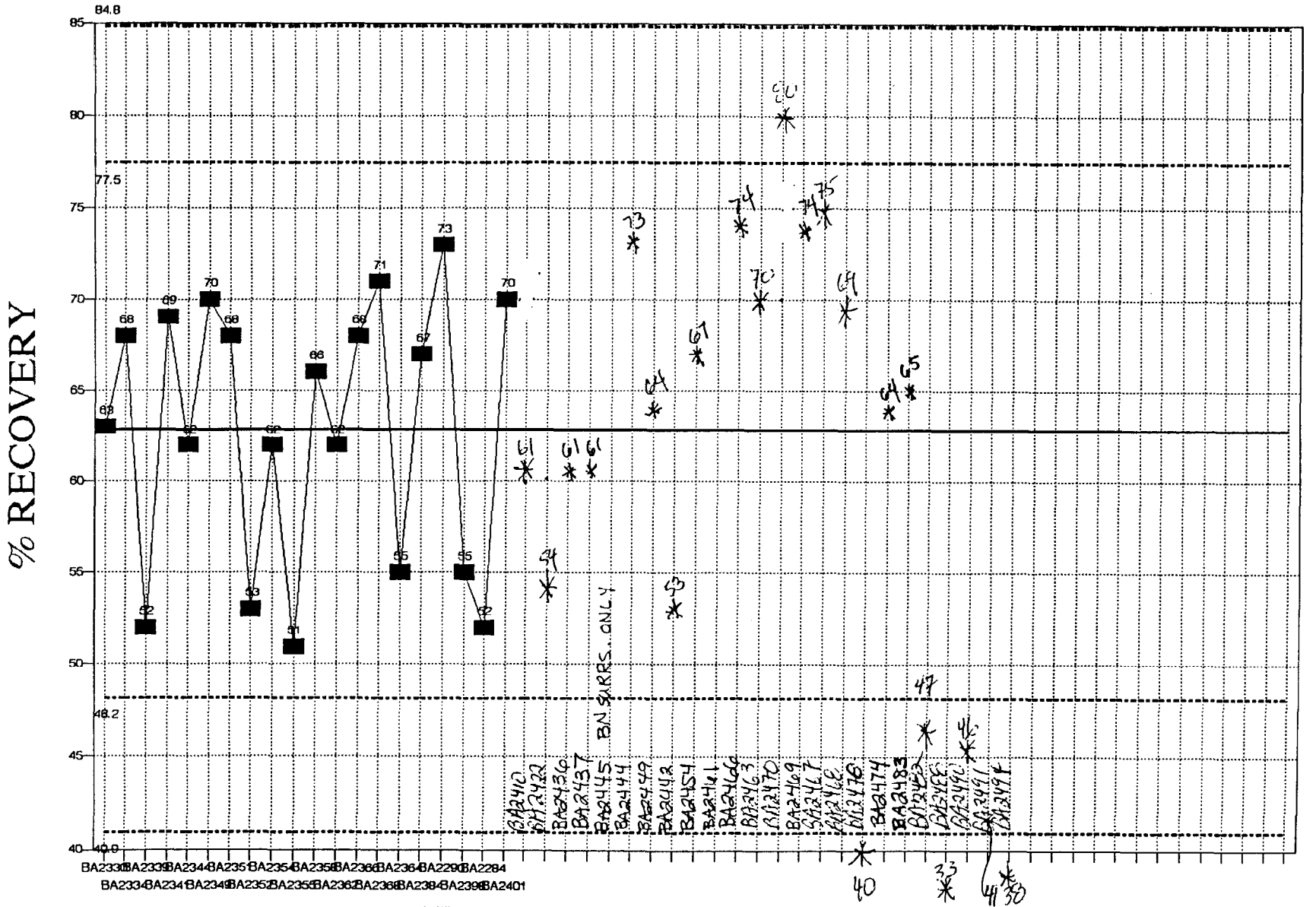
STD DEV =3.31 MEAN = 100.9

VOLATILES -- WATER SURROGATE CONTROL CHARTS

POINT / BLANK

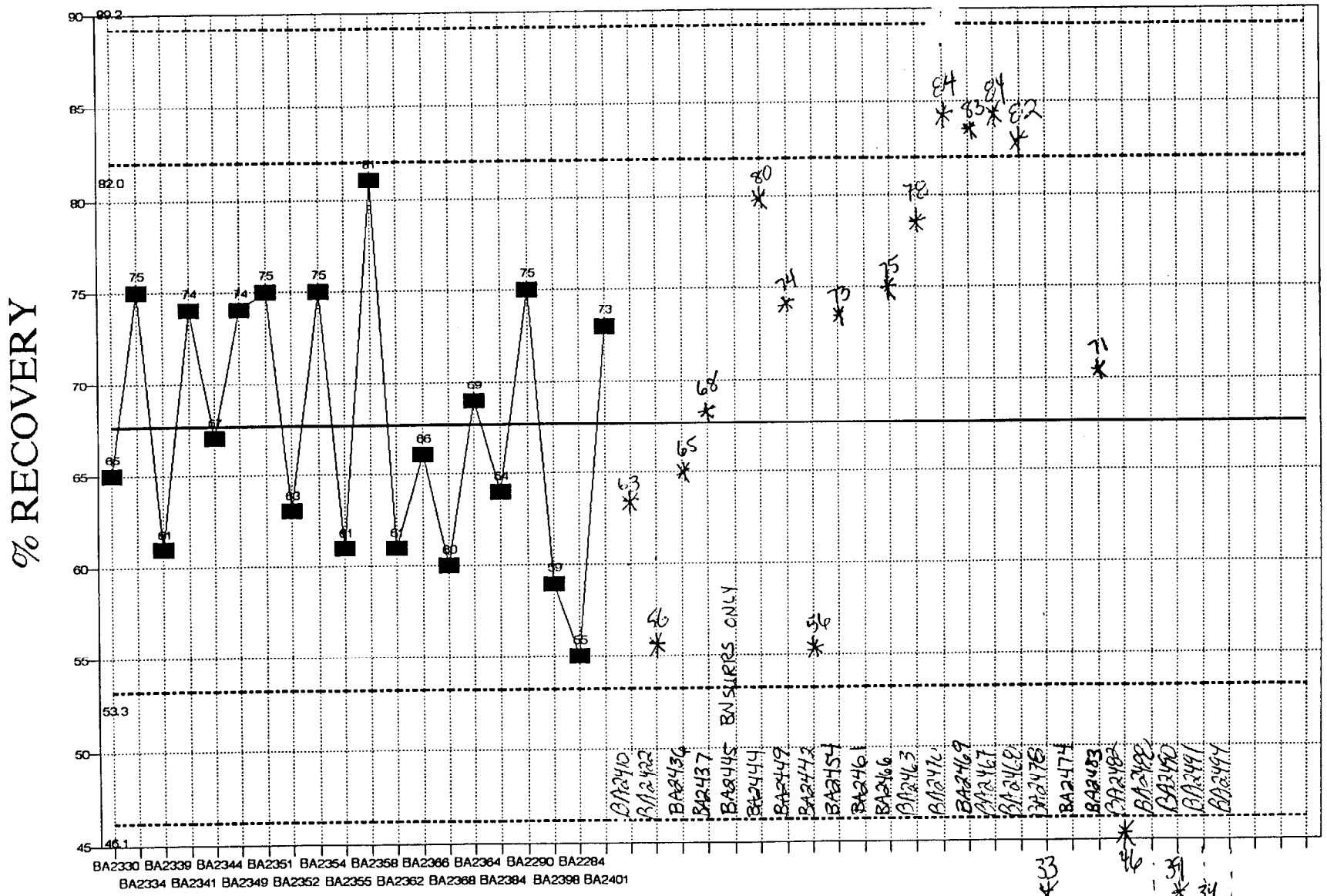
69	BC041493A	117	BE070794A	165	BC041295A	213	BG100195B2
70	BE052593B	118	BE070894A	166	BI042095B	214	BG100395A1
71	BE060193A	119	BC063094A	167	BI042195A	215	BG100495B2
72	BE060393A	120	BC072794A	168	BI042495A	216	BG100595A1
73	BC062193A	121	BD072794A	169	BC042595B	217	BG100695A1
74	BE051393A	122	BD072894A	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	BD101895A1
86	BC080493A	134	BC111594B	182	BC080295A1	230	BD101995A1
87	BC080593A	135	BC111794B	183	BC080495A1	231	BG101995A1
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	

ABN WATER 3520/8270B, 2-FLUOROPHENOL SURR, LIMITS SET 8/95



STD DEV = 7.31 MEAN = 62.8

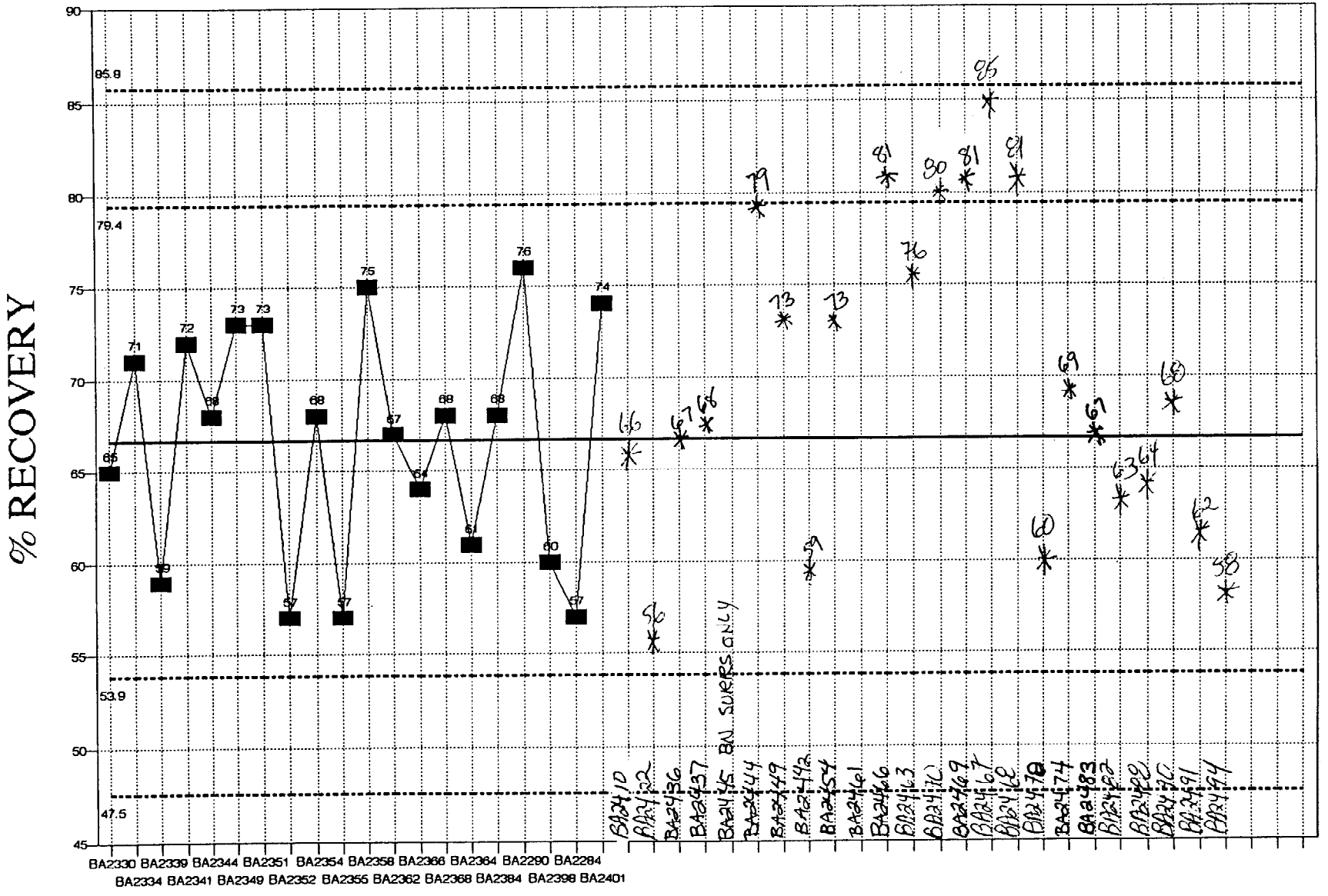
ABN WATER 3520/8270B, PHENOL-D5
SURR, LIMITS SET 8/95



STD DEV = 7.17 MEAN = 67.6

00000107

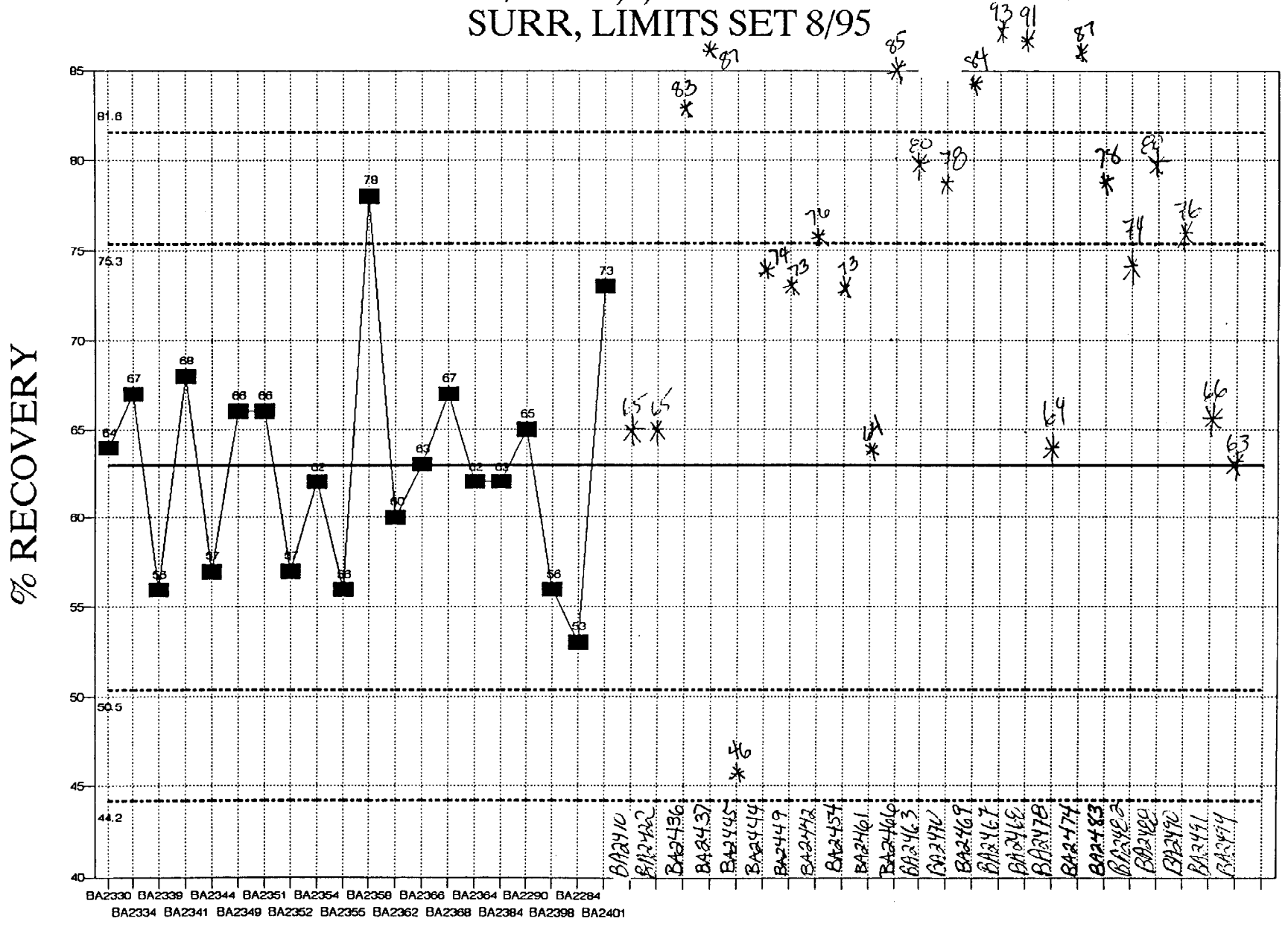
ABN WATER 3520/8270B, 2-CHLOROPHENOL-D4
SURR, LIMITS SET 8/95



STD DEV = 6.37 MEAN = 66.6

38

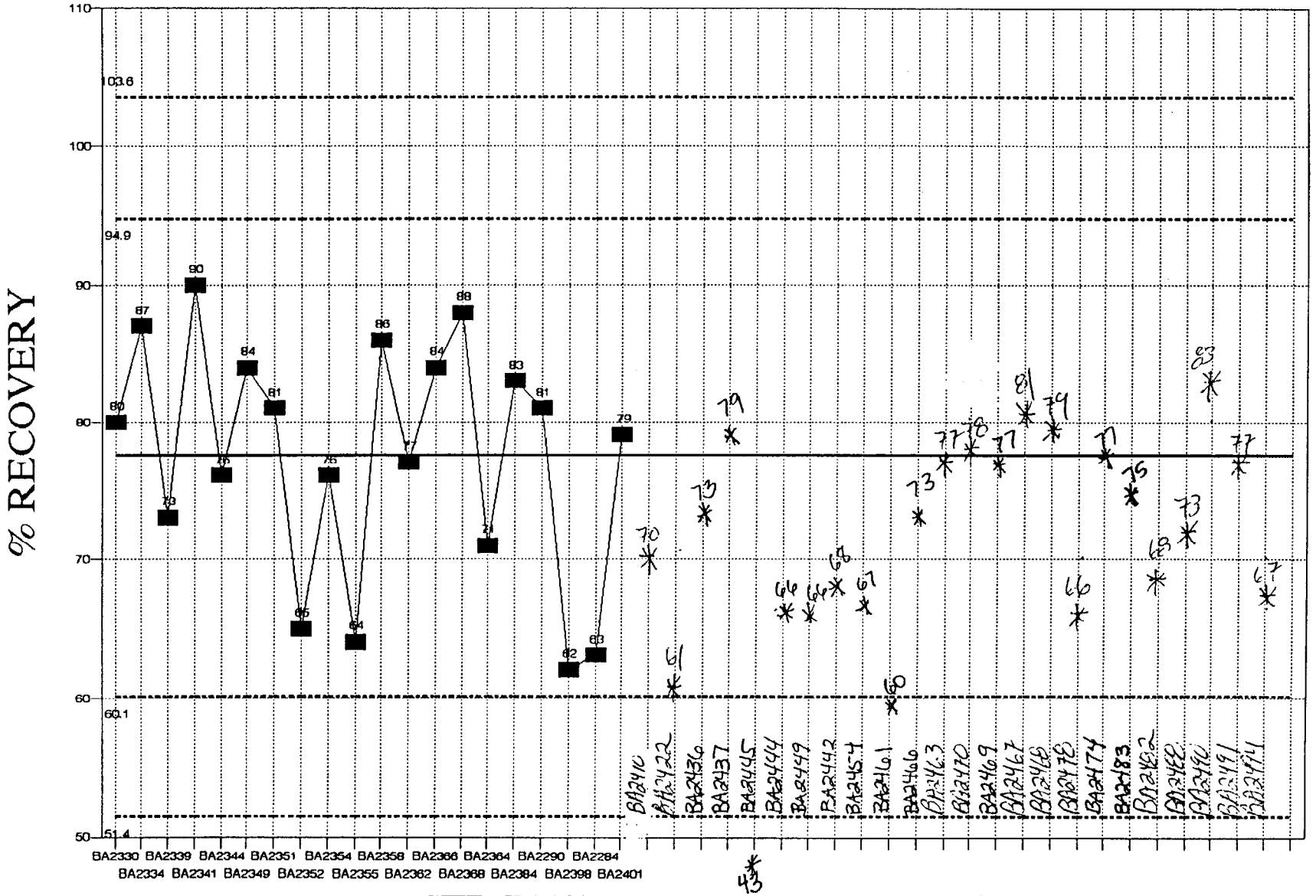
ABN H2O 3520/8270B,1,2-DICHLOROBENZENE-SURR, LIMITS SET 8/95



STD DEV = 6.22 MEAN = 62.9

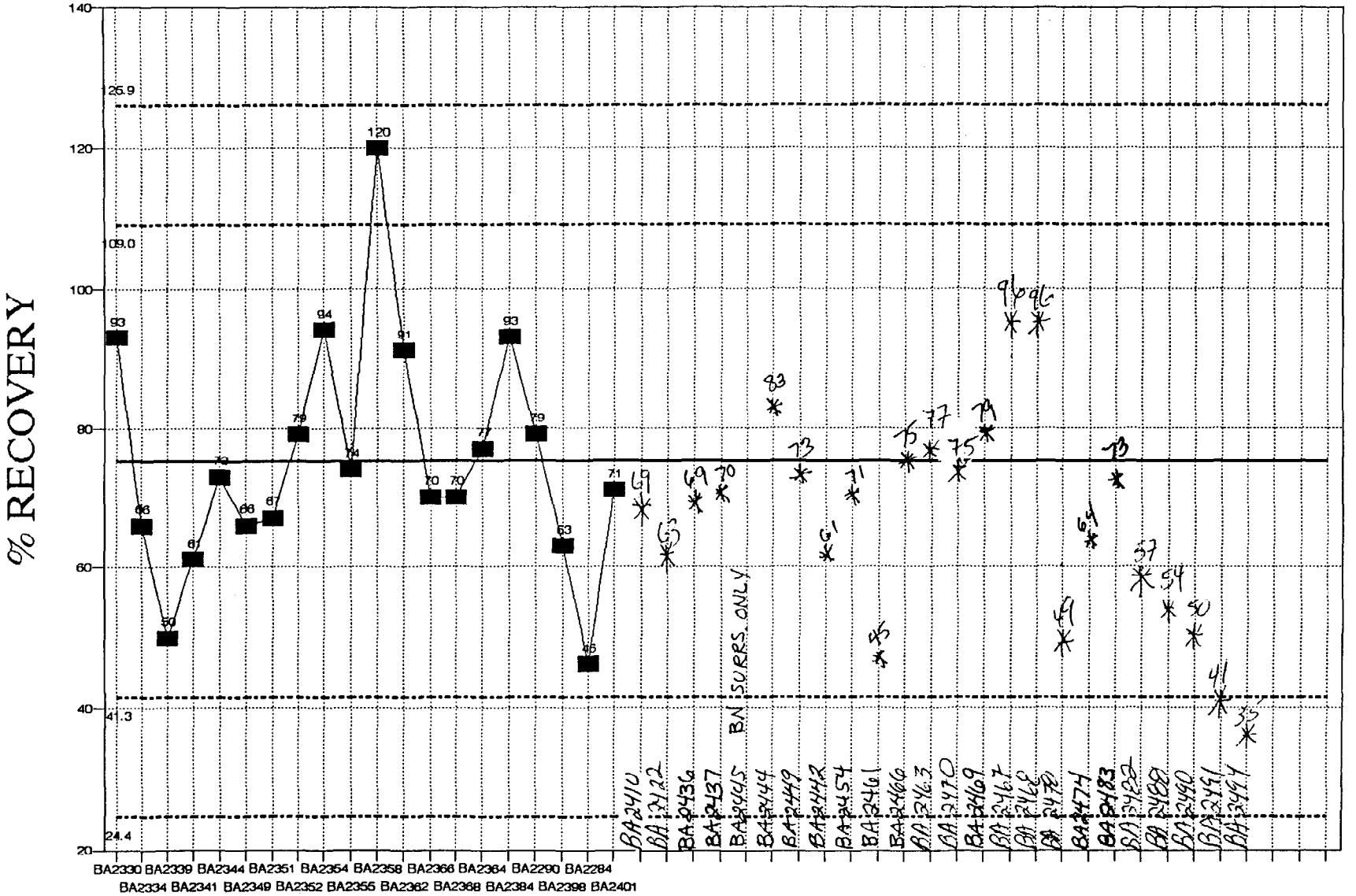
6010000

ABN H2O 3520/8270B, NITROBENZENE-D5
SURR, LIMITS SET 8/95



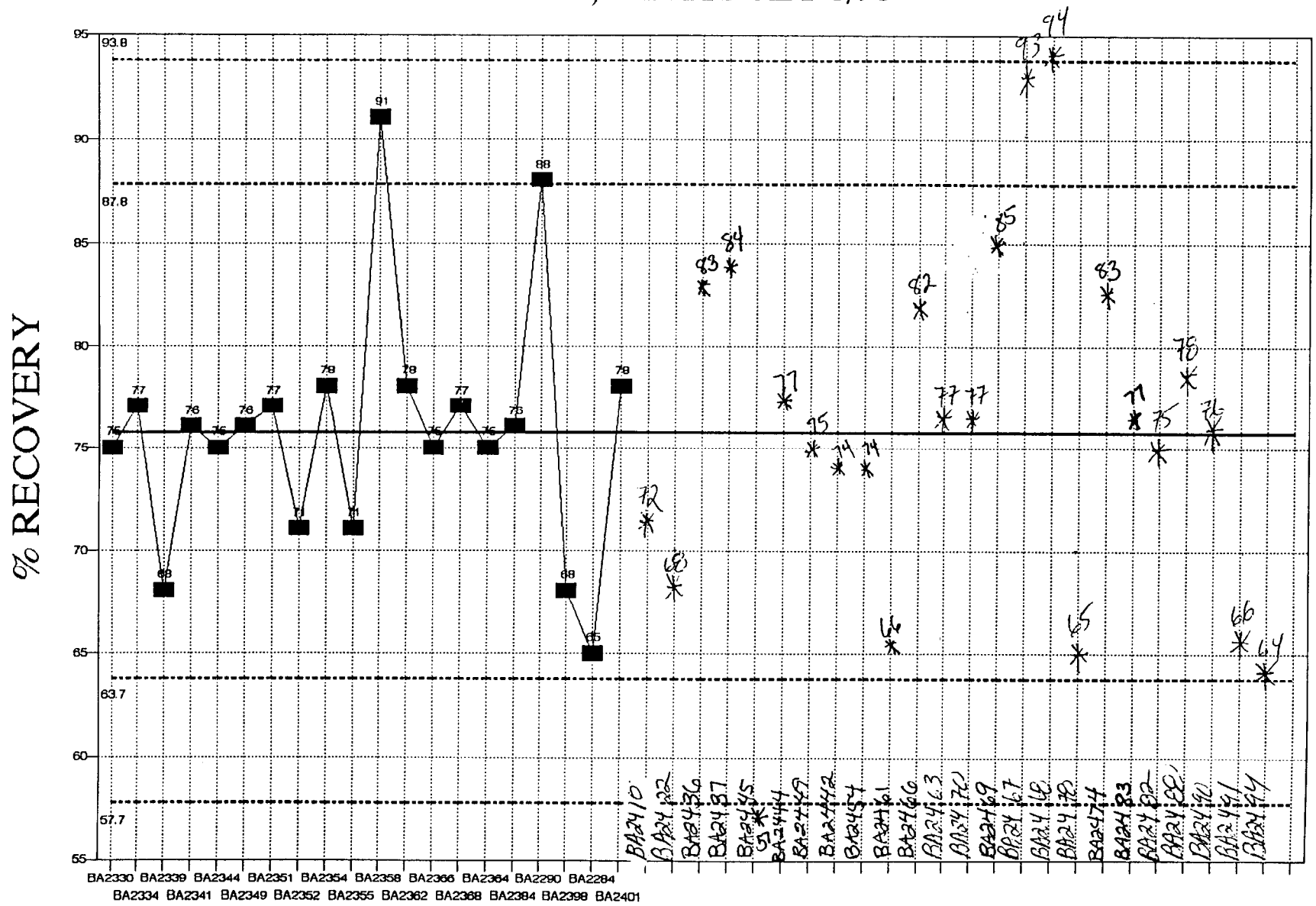
STD DEV = 8.68 MEAN = 77.5

ABN H2O 3520/8270B,2,4,6-TRIBROMOPHENOL
SURR, LIMITS SET 8/95



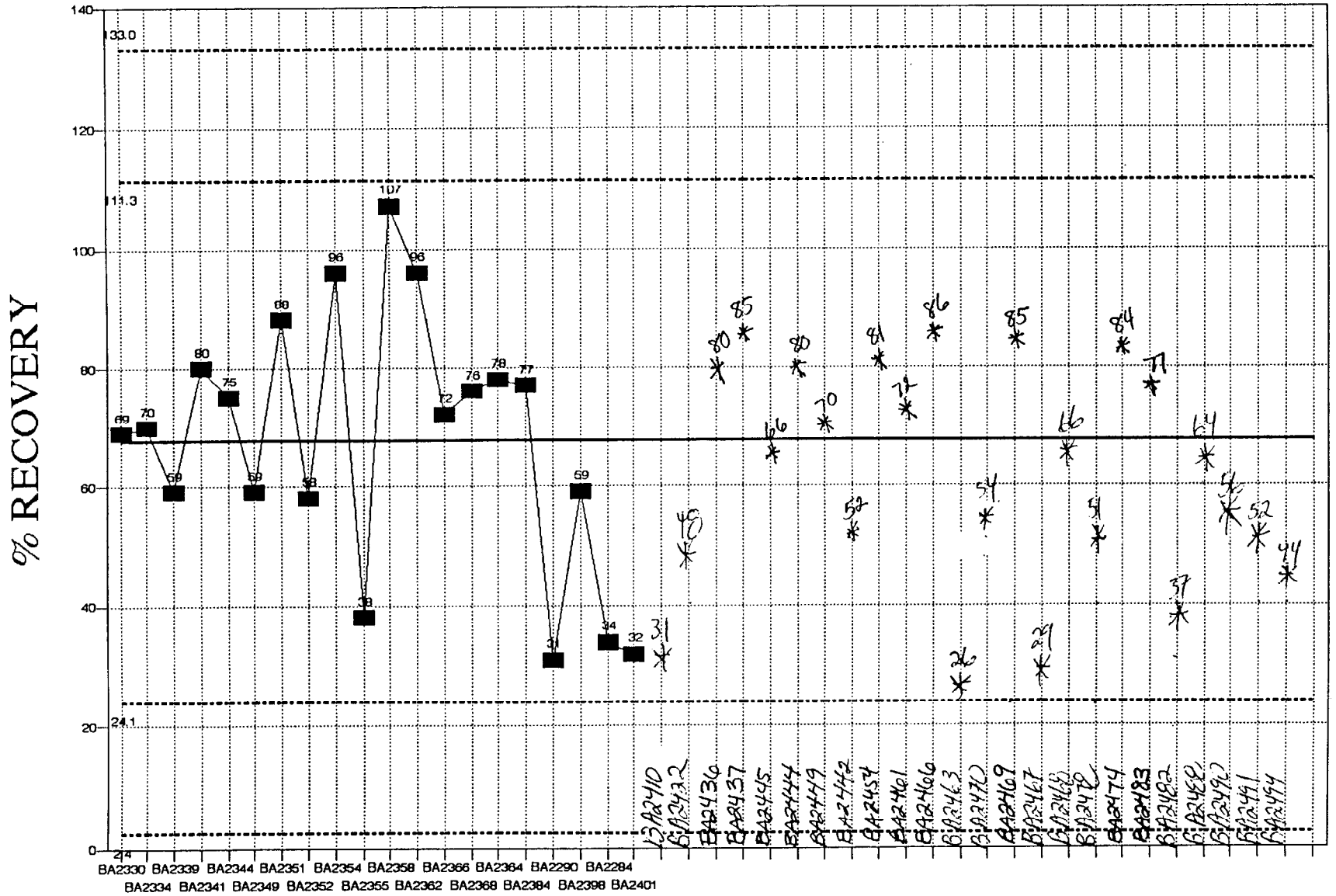
STD DEV = 16.9 MEAN = 75.2

ABN H2O 3520/8270B, 2-FLUOROBIPHENYL SURR, LIMITS SET 8/95



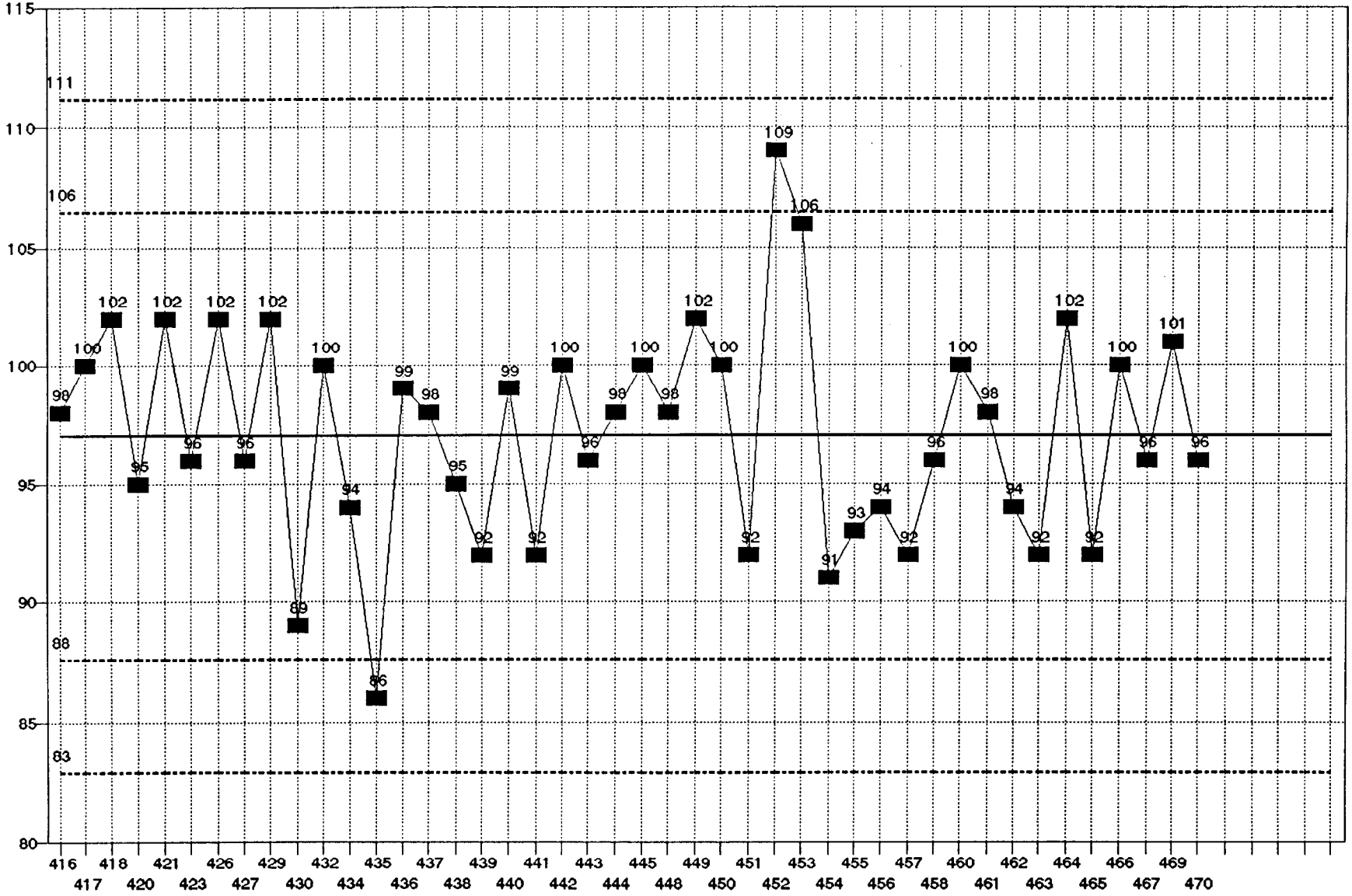
STD DEV = 6.01 MEAN = 75.8

ABN H2O 3520/8270B, TERPHENYL-D14
SURR, LIMITS SET 8/95



STD DEV = 21.8 MEAN = 67.7

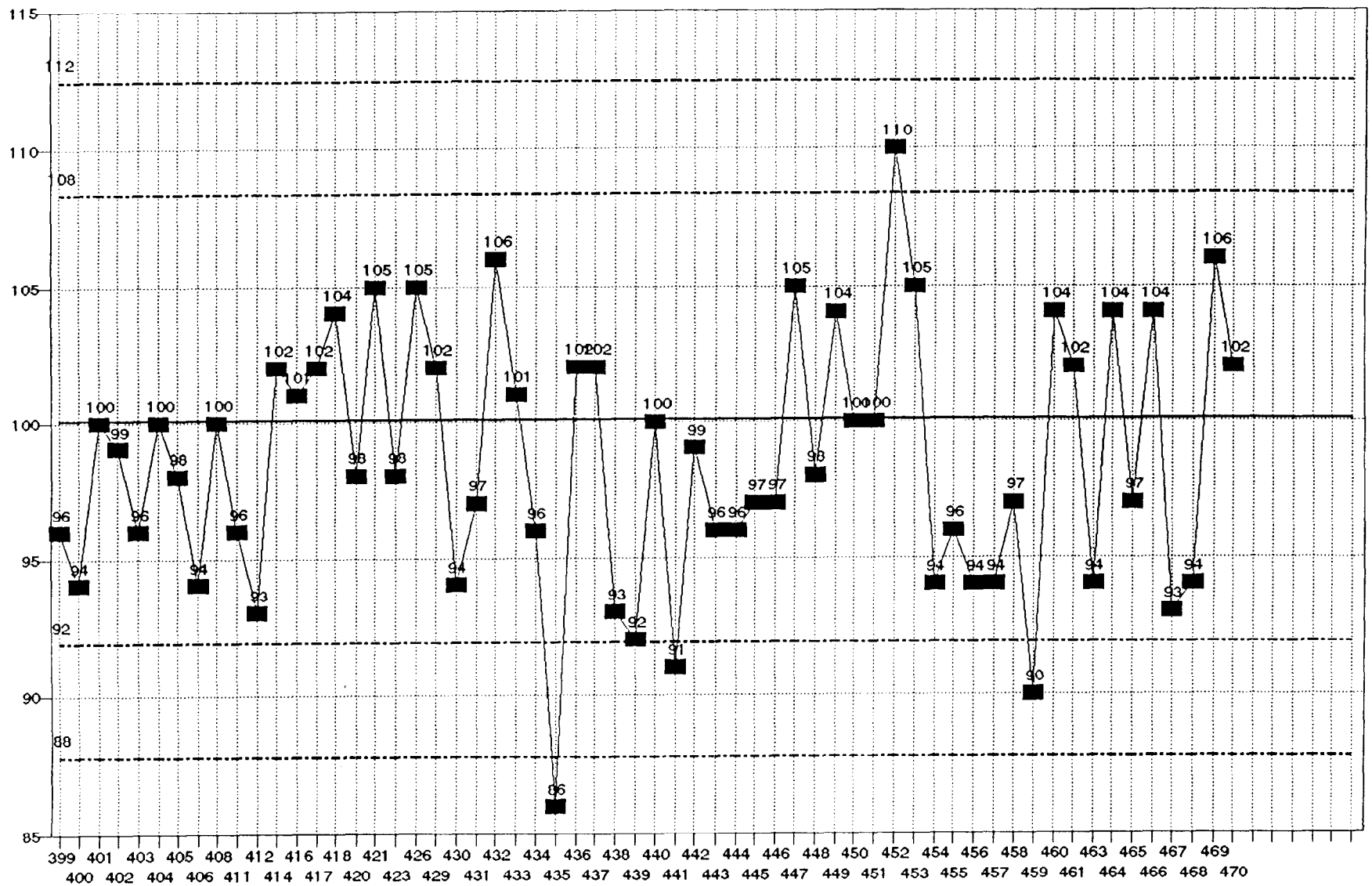
As COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



STD DEV = 5 MEAN = 97

0000114

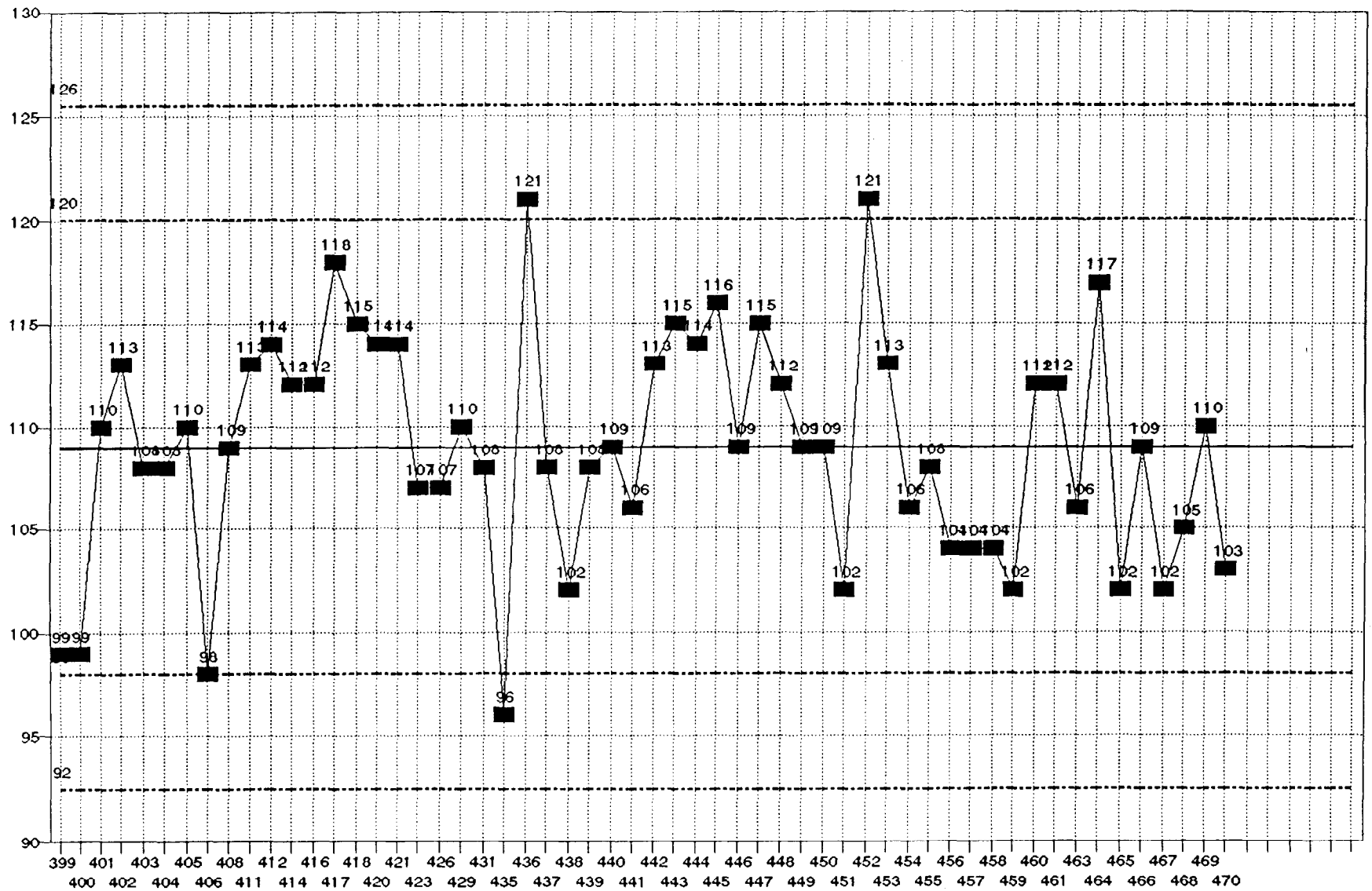
Ba COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 9/95



STD DEV = 4 MEAN = 100

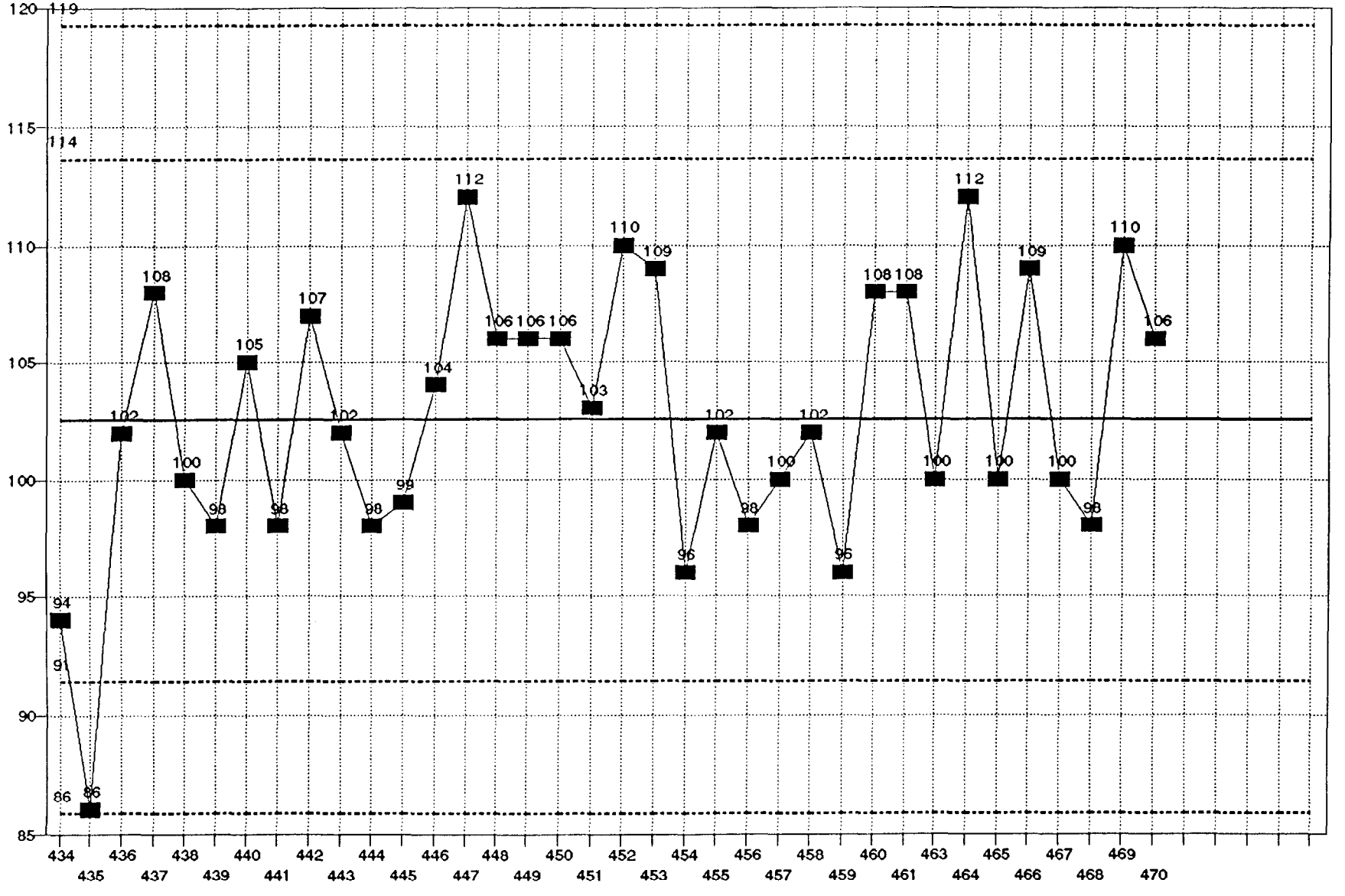
0000115

Cd COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 7/95



STD DEV = 5.51 MEAN = 109

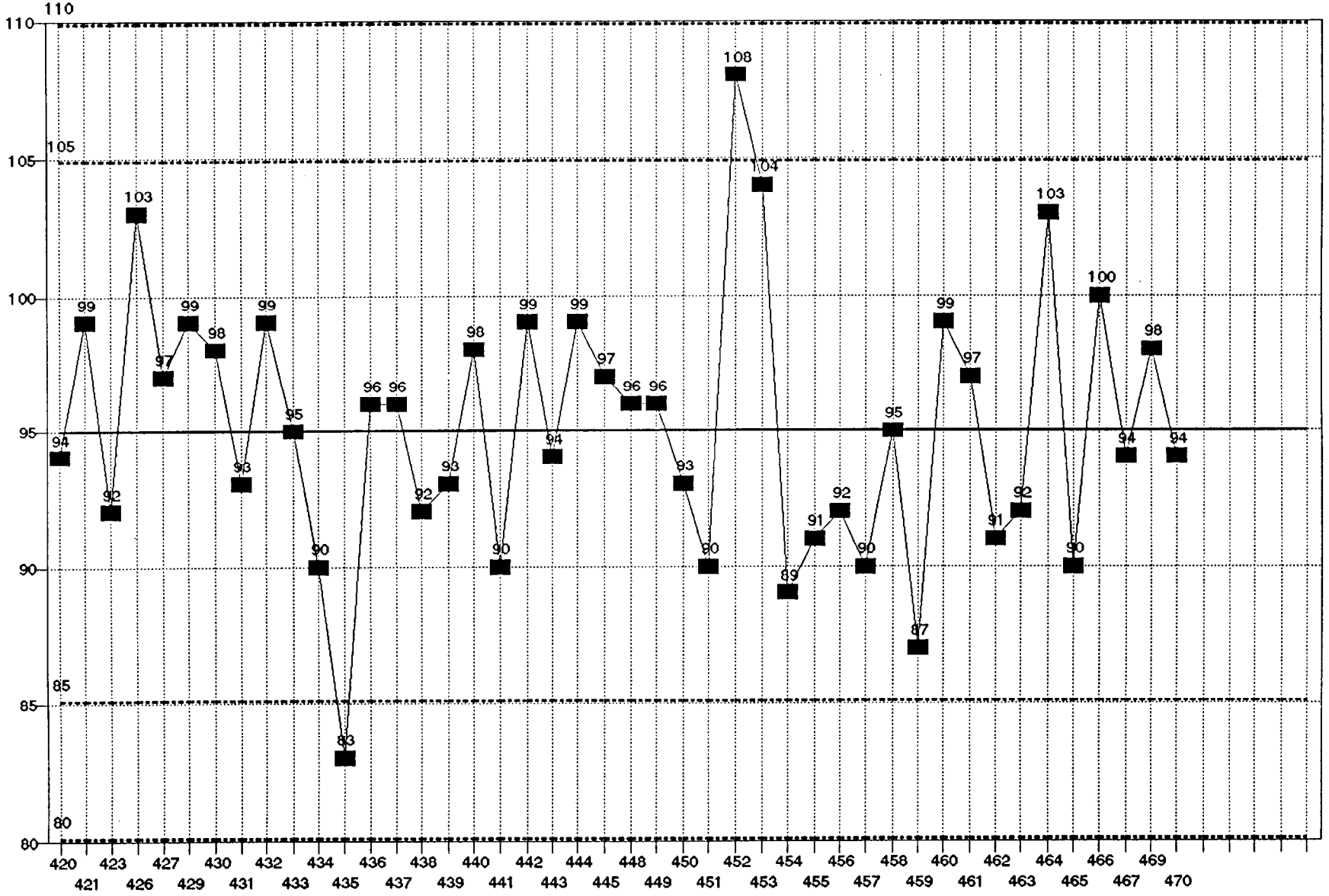
Cr COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



STD DEV = 6 MEAN = 103

00001117

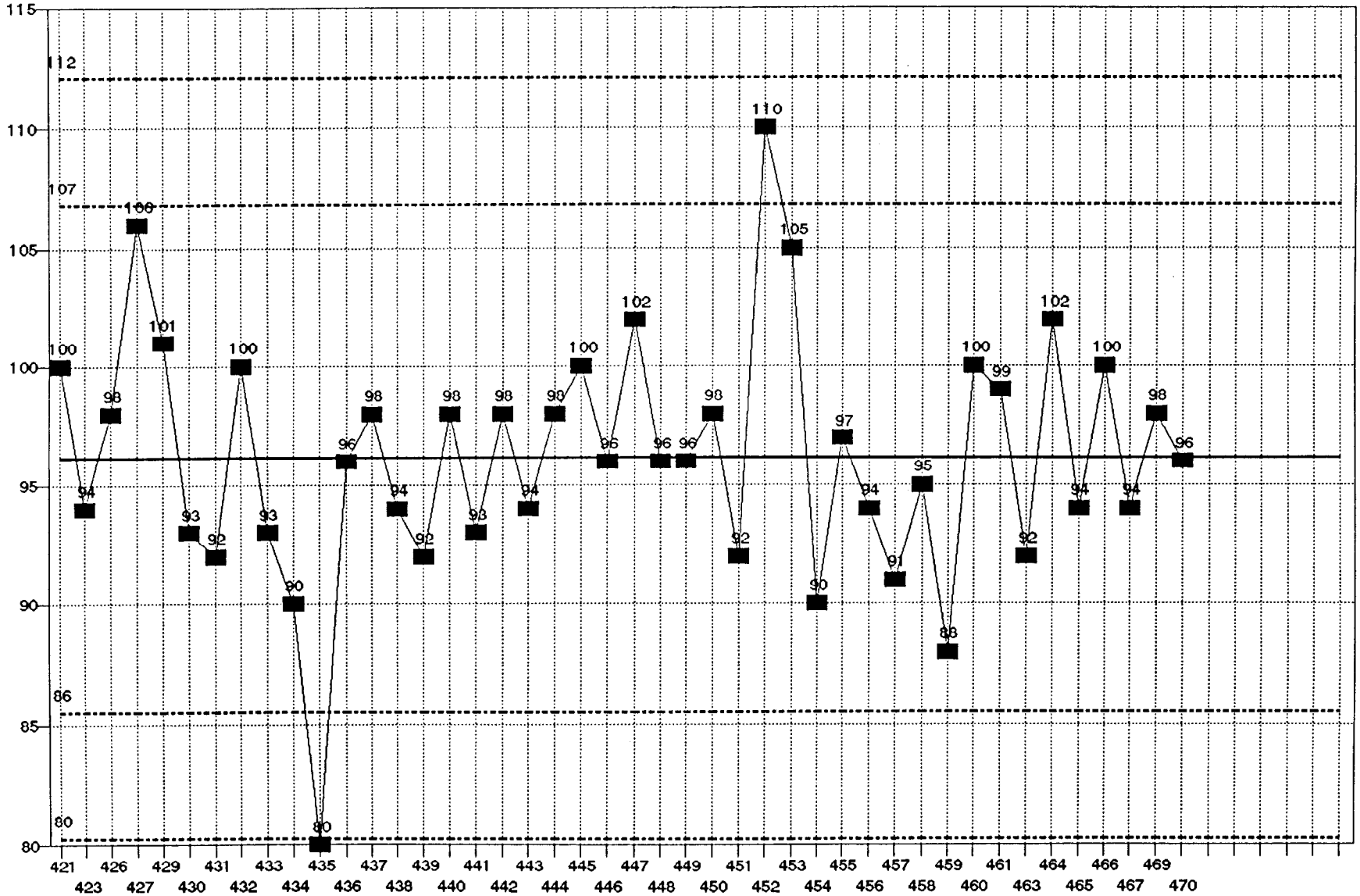
Pb COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



STD DEV = 5 MEAN = 95

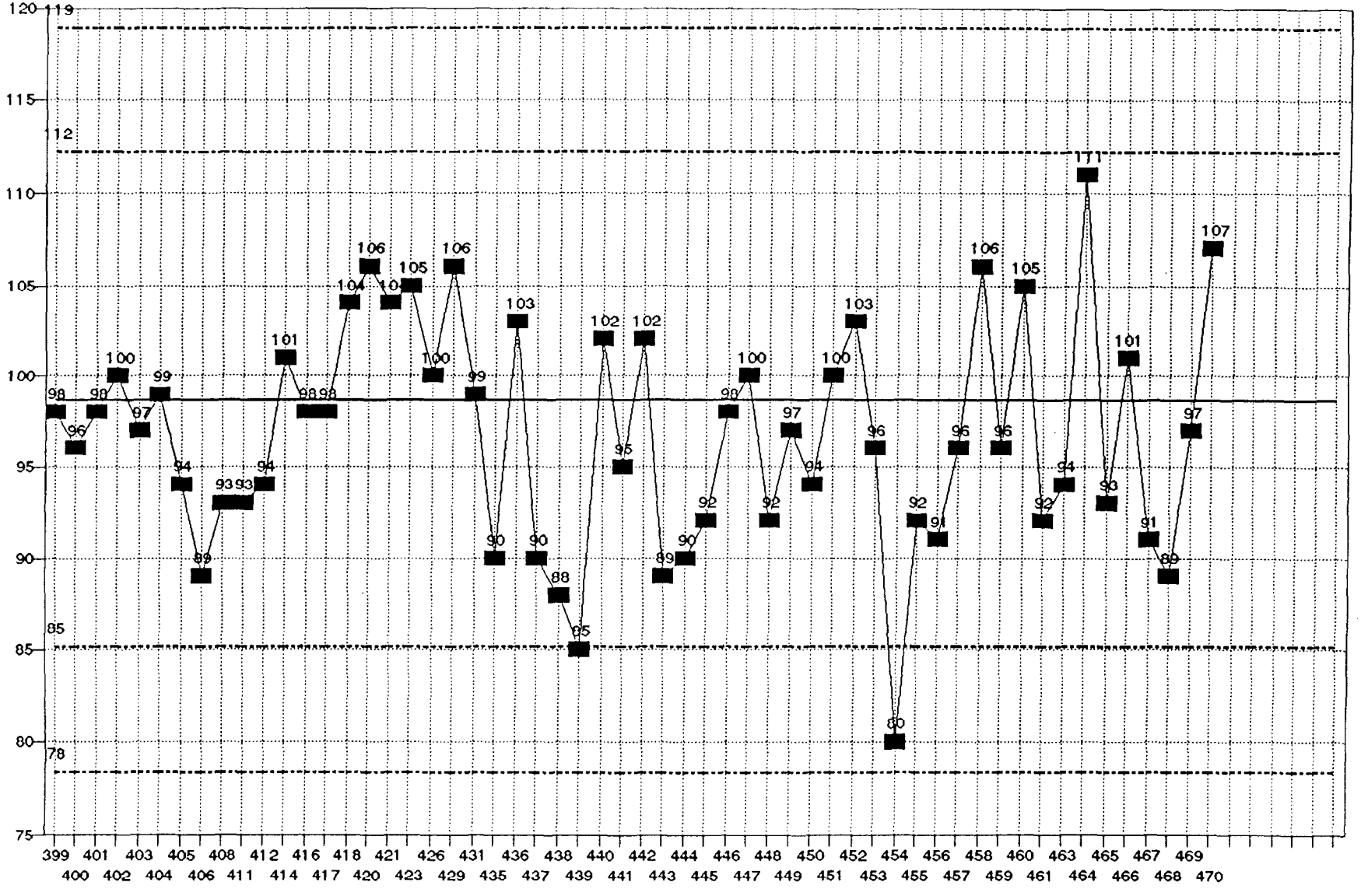
0000118

Se COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



STD DEV = 5 MEAN = 96

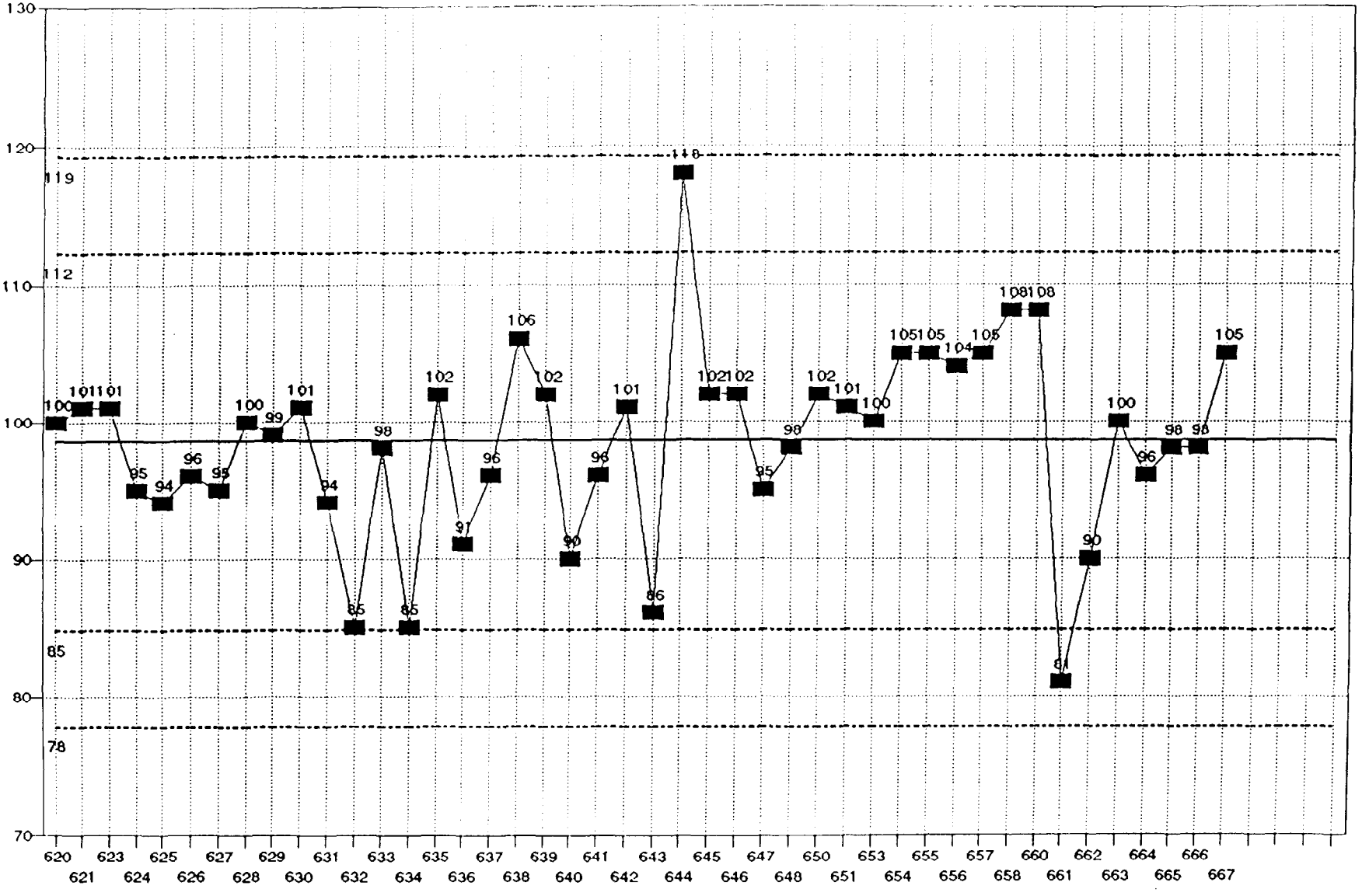
Ag COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 8/95



STD DEV = 7 MEAN = 99

0000120

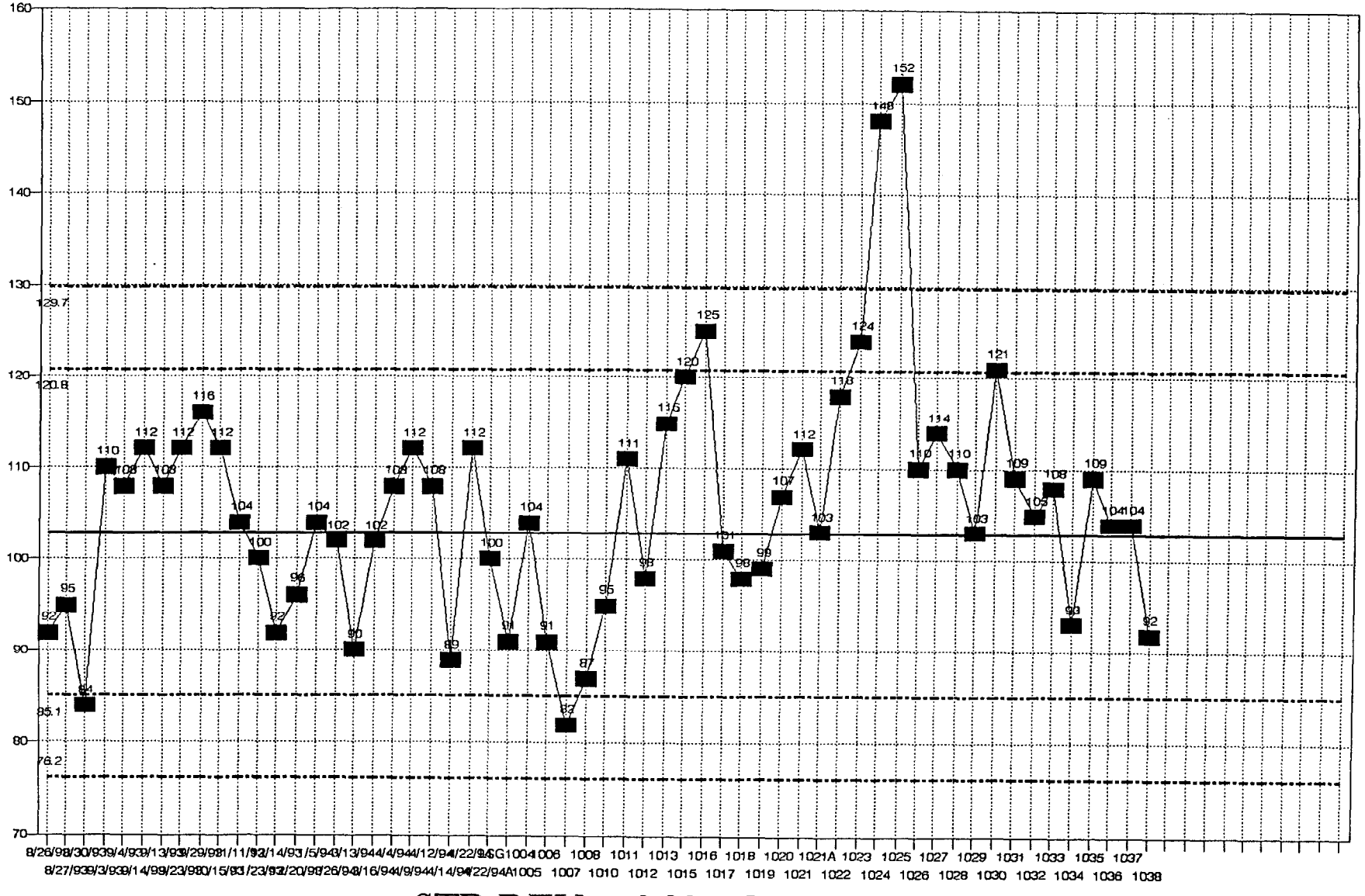
Hg COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



STD DEV = 7 MEAN = 99

0000121

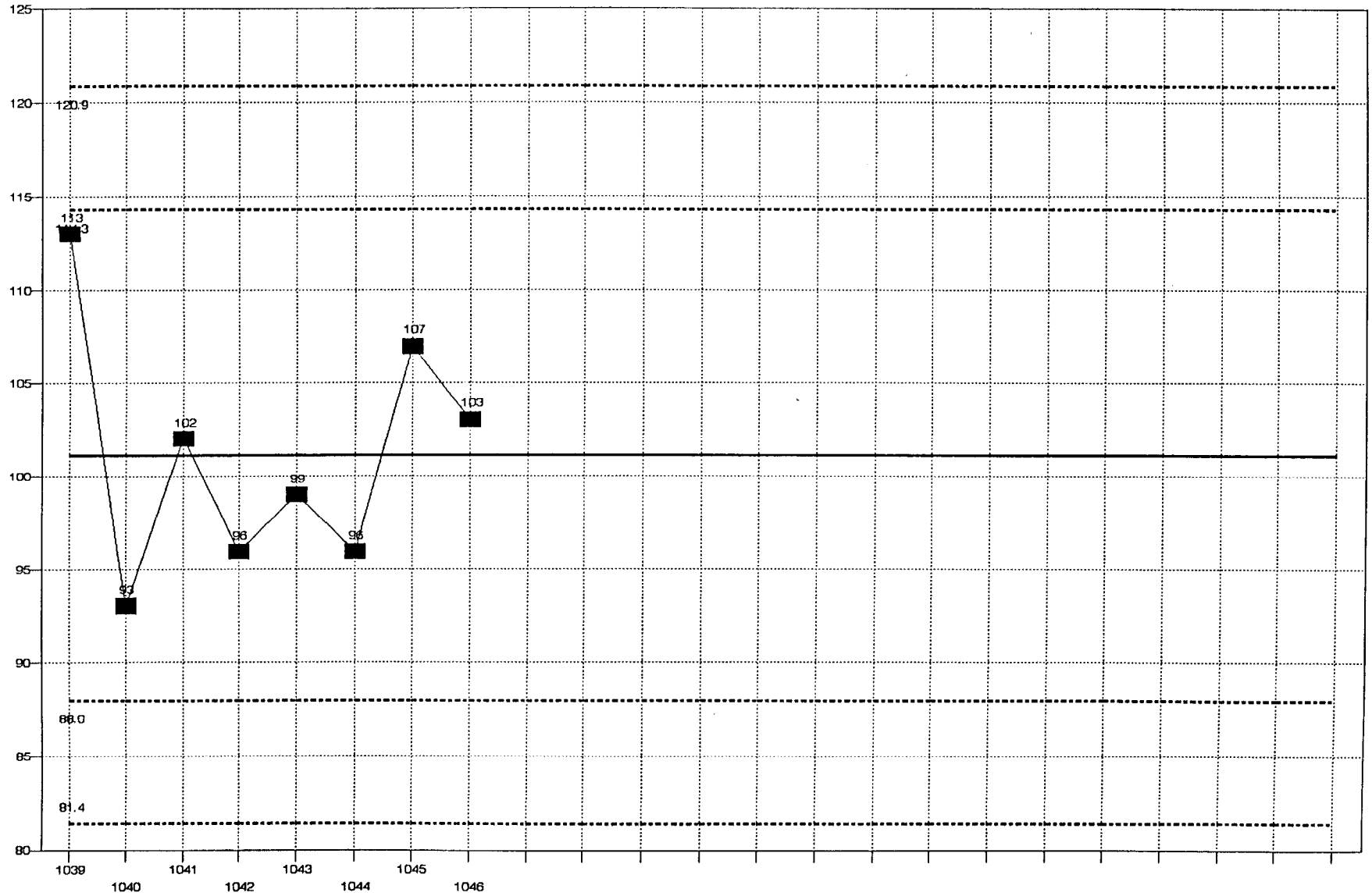
GRO SOLID LCS RECOVERIES GC07
LIMITS SET 4/13/94



STD DEV = 8.93 MEAN = 103

0000122

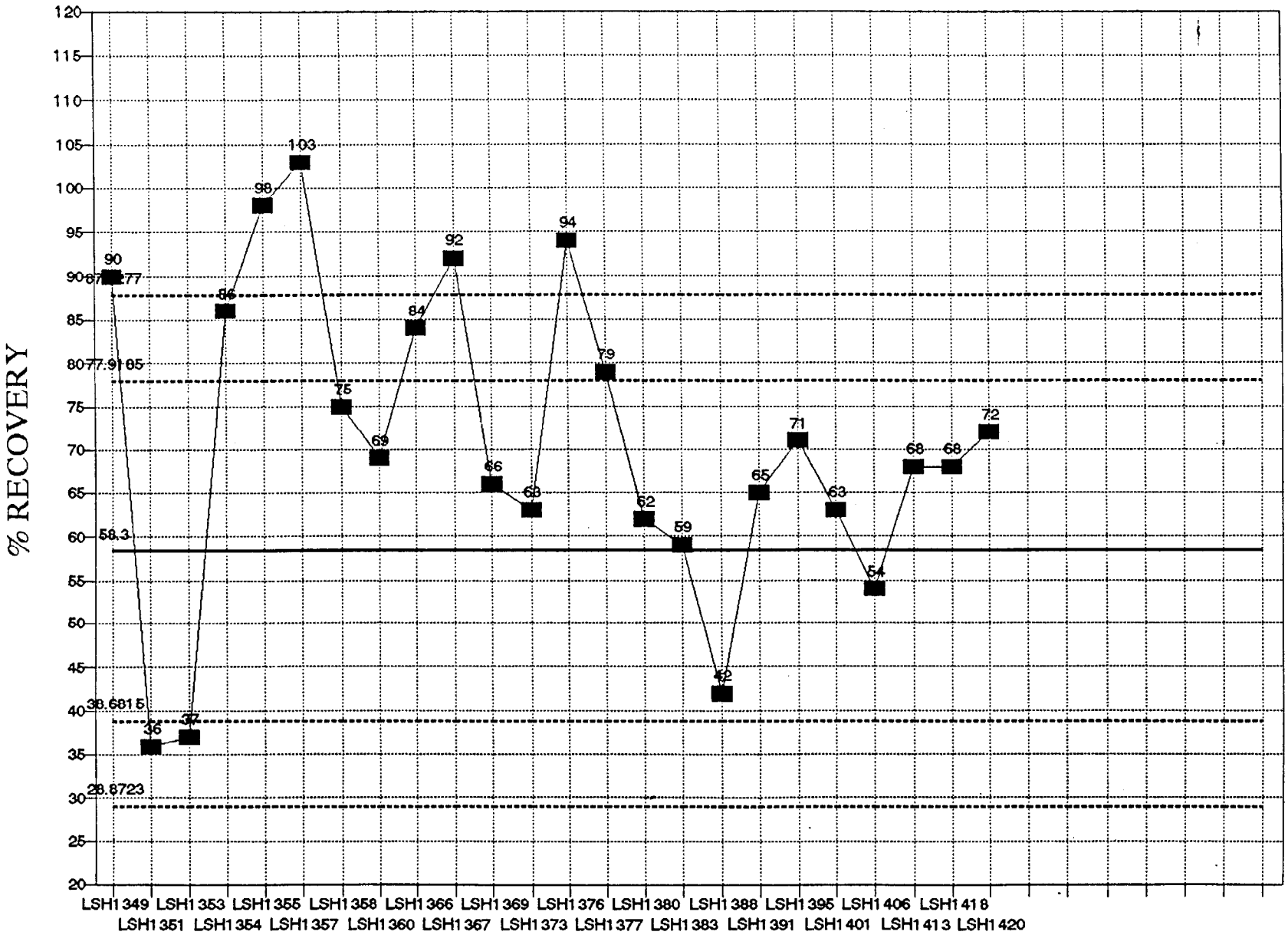
GRO SOLID LCS RECOVERIES GC05
LIMITS SET 10/27/95



STD DEV = 6.58 MEAN = 101

PHC LOW SOLIDS - DIESEL

SPK REC LIMS SET6/6/95-PPCBCHT\PHCS1294



MEAN = 58.30 STD DEV =9.81

0000124

OHM Remediation Services Corp.

CHAIN-OF-CUSTODY RECORD

LAB COPY

Form 0019
Field Technical Services
Rev. 08/89

166416

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

PROJECT NAME	PROJECT LOCATION
Camp Lejeune DO 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

45646

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	OTC	PCBs, Total Lead	Volatile + BTEX (8240)	REMARKS
1	CLJ44-CC-100	10/10	920	X		Clean Soil from Pile 24 of Area A.	2	X	X	X	X	X	-1			~~Please Do not~~
2	CLJ44-CC-101	10/10	930	X		Contaminated Soil from Pile 56 of Area A		X	X				X			Analyze Rinsate
3	CLJ44-CC-102	10/10	935	X		Contaminated Soil from Pile 57 of Area A.		X	X				X			Blank.
4	CLJ44-CC-103 RB	10/10	945	X		Rinsate Blank		X	X	X	X	X				
5	CLJ44-CC-104 TB	10/10				Trip Blank.		X			X				X	
6																
7																
8																
9																
10																

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-5	[signature]		10/10	1300
2					
3					
4					

REMARKS Send Samples to Pace LAB
Item 1 & 4 3 days TAT
Item 2, 3 & 5 24 hr. TAT

[signature]
SAMPLER'S SIGNATURE

0000125

OHM Remediation Services Corp.

LAB COPY

CHAIN-OF-CUSTODY RECORD

Form 0019
Field Technical Services
Rev. 08/89

166417

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	45646	REMARKS
1	CLJ44-CS-015	10/10	1000	X		See Graph map - 002	2	X	X	12	
2	CLJ44-CS-016	10/10	1005	X		See Graph map - 003	2	X	X	13	
3	CLJ44-CS-017	10/10	1010	X		See Graph Map - 004	2	X	X	14	
4	CLJ44-CS-018	10/10	1015	X		See Gra Map - 005	2	X	X	15	
5	CLJ44-CS-019	10/10	1020	X		See Map - 006	2	X	X	16	
6	CLJ44-CS-020	10/10	1025	X		See Map - 007	2	X	X	17	
7	CLJ44-CS-021	10/10	1030	X		See map - 008	2	X	X	18	
8	CLJ44-CS-022	10/10	1035	X		See Map - 009	2	X	X	19	
9											
10											

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-8			10/10	1300
2					
3					
4					

REMARKS Send Samples to Pace Lab
3 days TAT

SAMPLER'S SIGNATURE

Final Page

0000126

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

SDG Narrative
Case: OHMRC SDG: LJN38

November 9, 1995

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

SAMPLE DELIVERY GROUP NARRATIVE

Case: OHMRC
SDG: LJN38
Laboratory: PACE New England - New Hampshire of Hampton, NH
Lab Numbers: 45748
Protocol: SW846 Methods. NEESA E deliverables. No diskette.

Sample Receipt: These samples were received at PACE, Inc. on October 21, 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 10/21/95 (45748): Samples were received in one cooler and were assigned PACE# 45748, 45749, and 45750. 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# 45750 were logged in for a 7-day turnaround per the request on COC# 166423. Samples assigned PACE Lab# 45749 were logged in for a 3-day turnaround per the request on COC# 166422 and samples assigned PACE Lab# 45748 were logged in for 24-hour turnaround.

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 numbers 45748-3, -4, -5, -6 and -8 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.

Volatiles Analysis: The method 8240 blank "BD102395A1" contained low levels of methylene chloride. The sample results for this analyte should be used with due consideration.

Semivolatiles Analysis: Recoveries for 2-fluorophenol and phenol-d5 have been low; out of control recently. However, this is an artifact due to the fact that these recent blanks have been extracted by separatory funnel instead of continuous extractor in order to meet rapid turn around times. It is known that these two surrogates do not extract as well by separatory funnel. We do not have separate control charts for separatory funnel extractions, as we do not consistently perform these extractions.

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

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

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

Conventional Wet Chemistry Parameters: 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.

Leonard D. Williamson — 11/9/95

PACE Incorporated, New England-New Hampshire — November 9, 1995

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

pace INCORPORATED
ENVIRONMENTAL LABORATORIES

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

LAB# 45748
PAGE 1 of 1
COOLER ____ of ____
COC# ____
SDG# LJN38
CASE# Other RC

CLIENT OHM
DATE/TIME RECEIVED 10/21/95 1200
DELIVERED BY Fed-Ex
RECEIVED BY
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	
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:

3 -26 samples comm. VOA FIRST : TAPS + DRO
-8 = ACIDS BN, DRO
-9 = 8240
-10 = METALS + HAZ WASTE -11

24 hr TAT

CLIENT AUTHORIZATION SIGNATURE ____ DATE ____

SAMPLE TABLE

CLIENT ID.	MATRIX	PACE #	PARAMETERS
CLJ44-CC-105	SOLID	45748-001	TOTAL GASOLINE
		45748-007	OIL & GREASE BY GRAVIMETRY
			TOTAL DIESEL
CLJ44-CC-106-RB	WATER	45748-002	TOTAL GASOLINE
		45748-008	ACID EXTRACTABLES
			BASE/NEUTRAL EXTRACTABLES
			TOTAL DIESEL
		45748-009	GC/MS VOA
		45748-010	Ba, Cd, Cr, Pb, Hg, Ag, As, Se
		45748-011	CORROSIVITY
			FLASH POINT
			RELEASABLE CYANIDE
			RELEASABLE SULFIDE
CLJ44-SB03-4'	SOLID	45748-003	TOTAL GASOLINE
			TOTAL DIESEL
CLJ44-SB01-4'	SOLID	45748-004	TOTAL GASOLINE
			TOTAL DIESEL
CLJ44-SB02-4'	SOLID	45748-005	TOTAL GASOLINE
			TOTAL DIESEL
CLJ44-SB04-4'	SOLID	45748-006	TOTAL GASOLINE
			TOTAL DIESEL

pace INCORPORATED
THE ASSURANCE OF QUALITY

Field Identification: CLJ44-CC-105 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	140	13	45748-001	10/23/95	BG1046A	8015(mod)/2
Total Diesel (ug/g)	1300	37	45748-007	10/24/95		8015(mod),3350/2
Oil and Grease by Gravimetry (ug/g)	2000	280	45748-007	10/24/95	BG1393	9071,503D/2,3

Field Identification: CLJ44-CC-106-RB Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/L)	BDL	100	45748-002	10/23/95		8015(mod)/2
Total Diesel (ug/L)	130	100	45748-008	10/24/95		8015(mod),3350/2
Arsenic, total (mg/L)	BDL	0.01	45748-010	10/24/95	51211	7060/2
Barium, total (mg/L)	BDL	0.1	45748-010	10/23/95	12474	3010,6010/2
Cadmium, total (mg/L)	BDL	0.005	45748-010	10/23/95	12474	3010,6010/2
Chromium, total (mg/L)	0.02	0.01	45748-010	10/23/95	12474	3010,6010/2
Lead, total (mg/L)	BDL	0.005	45748-010	10/23/95	31337	3020,7421/2
Mercury, total (mg/L)	BDL	0.0003	45748-010	10/24/95	61674	7470/2
Selenium, total (mg/L)	BDL	0.01	45748-010	10/23/95	51211	7740/2
Silver, total (mg/L)	BDL	0.02	45748-010	10/23/95	12474	3010,6010/2
Corrosivity (pH, units)	6.0		45748-011	10/23/95	375	2.1.2/2
Releasable Sulfide (mg/Kg)	BDL	50	45748-011	10/23/95	317	7.3.4.2/2
Releasable Cyanide (mg/Kg)	BDL	1	45748-011	10/24/95	317	7.3.3.2/2
Flash Point (degrees F)	>150	50	45748-011	10/23/95	349	1010/2

Field Identification: CLJ44-SB03-4' Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	14	45748-003	10/23/95	BG1046A	8015(mod)/2
Total Diesel (ug/g)	9.1	3.8	45748-003	10/24/95		8015(mod),3350/2

Field Identification: CLJ44-SB01-4' Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	15	45748-004	10/23/95	BG1046A	8015(mod)/2
Total Diesel (ug/g)	27	4.1	45748-004	10/24/95		8015(mod),3350/2

Results for solid samples expressed on a dry weight basis.

pace INCORPORATED
THE ASSURANCE OF QUALITY

Field Identification: CLJ44-SB02-4' Matrix:

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	15	45748-005	10/23/95	BG1046A	8015(mod)/2
Total Diesel (ug/g)	8.7	4.0	45748-005	10/24/95		8015(mod),3350/2

Field Identification: CLJ44-SB04-4' Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	14	45748-006	10/24/95	BG1046A	8015(mod)/2
Total Diesel (ug/g)	59	3.7	45748-006	10/24/95		8015(mod),3350/2

Results for solid samples expressed on a dry weight basis.

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

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: 45748-008
Sample Designation: CLJ44-CC-106-RB
Date Extracted: 10/23/95
Date Analyzed: 10/23/95
Matrix: WATER

Instrument File Name: >F2847

ACID/BASE/NEUTRAL EXTRACTABLES	CONCENTRATION (ug/L)	REPORTING 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
Dimethylphthalate	BDL	10
Acenaphthylene	BDL	10
2,6-Dinitrotoluene	BDL	10

ACID/BASE/NEUTRAL EXTRACTABLES	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
3-Nitroaniline	BDL	50
Acenaphthene	BDL	10
2,4-Dinitrophenol	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
Butylbenzylphthalate	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
Indeno(1,2,3,-CD)pyrene	BDL	10
Dibenz(A,H)anthracene	BDL	10
Benzo(G,H,I)perylene	BDL	10

METHOD REFERENCE: 40 CFR PART 136, FRIDAY , OCTOBER 26, 1984
METHOD 625(MODIFIED)

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

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: 45748-009
Sample Designation: CLJ44-CC-106-RB
Date Analyzed: 10/23/95
Matrix: WATER

Instrument File Name: >D3877

VOLATILE ORGANICS	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Vinyl chloride	BDL	10
1,1-Dichloroethene	BDL	5
1,2-Dichloroethane	BDL	5
2-Butanone	BDL	25
Carbon Tetrachloride	BDL	5
Trichloroethene	BDL	5
Benzene	BDL	5
Tetrachloroethene	BDL	5
Chlorobenzene	BDL	5

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

BDL = Below reporting limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

QUALITY CONTROL DATA
TOTAL GASOLINE

BLANK DATA

Laboratory Number: BG1046A
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/23/95
Matrix: SOLID

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

MATRIX SPIKE RECOVERY

Laboratory Number: LS-G1046
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/23/95
Matrix: SOLID

COMPOUND	ug/g IN SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
GASOLINE	0	50	52	104

METHOD REFERENCE: METHOD 8015 (MODIFIED)

pace INCORPORATED
THE ASSURANCE OF QUALITY

QUALITY CONTROL DATA
TOTAL GASOLINE

BLANK DATA

Laboratory Number: BG102395TGA
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/23/95
Matrix: WATER

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

MATRIX SPIKE DUPLICATE RECOVERY

Laboratory Number: LW102395TGA
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/23/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
GASOLINE	0	500	533	107

METHOD REFERENCE: METHOD 8015 (MODIFIED)

pace INCORPORATED
THE ASSURANCE OF QUALITY

QUALITY CONTROL
OIL & GREASE

BLANK DATA

Laboratory Number: B-G1393
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/24/95
Matrix: SOLID

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

MATRIX SPIKE RECOVERY

Laboratory Number: LS-G1393
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/24/95
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

pace INCORPORATED
THE ASSURANCE OF QUALITY

QUALITY CONTROL DATA
PETROLEUM HYDROCARBONS BY GCFID

BLANK DATA

Laboratory Number: B-H1431
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/23/95
Matrix: SOLID

HYDROCARBON TYPE	CONCENTRATION ug/g	DETECTION LIMIT ug/g
DIESEL	4.5	3

MATRIX SPIKE RECOVERY

Laboratory Number: LSH1431
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/23/95
Matrix: SOLID

COMPOUND	ug/g SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
DIESEL	0	33.6	28.6	85

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-H1429
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/24/95
Matrix: WATER

HYDROCARBON TYPE	CONCENTRATION ug/L	DETECTION LIMIT ug/L
DIESEL	110	100

MATRIX SPIKE RECOVERY

Laboratory Number: LSH1429
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/24/95
Matrix: SOLID

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
DIESEL	0	1007	1086	108

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

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: B-A2507
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/23/95
Matrix: WATER

ACID/BASE/NEUTRAL EXTRACTABLES	CONCENTRATION (ug/L)	REPORTING 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
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	50
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: 40 CFR PART 136, FRIDAY, OCTOBER 26, 1984
METHOD 625

BDL = Below detection limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

MATRIX SPIKE RECOVERY
ACID/BASE/NEUTRAL EXTRACTABLE ORGANIC COMPOUNDS

Laboratory Number: LS-A2507
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/23/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
PHENOL	0	200	76	38
2-CHLOROPHENOL	0	200	118	59
1,4-DICHLOROBENZENE	0	100	72	72
N-NITROSO-DI-N-PROPYLAMINE	0	100	92	92
1,2,4-TRICHLOROBENZENE	0	100	74	74
4-CHLORO-3-METHYLPHENOL	0	200	140	70
ACENAPHTHENE	0	100	71	71
4-NITROPHENOL	0	200	50	25
2,4-DINITROTOLUENE	0	100	78	78
PENTACHLOROPHENOL	0	200	119	60
PYRENE	0	100	56	56

METHOD REFERENCE: 40 CFR PART 136, FRIDAY, OCTOBER 26, 1984
METHOD 625

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: BD102395A1
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/23/95
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	7.5 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

VOLATILE ORGANIC COMPOUNDS
BLANK SPIKE RECOVERY REPORT

Matrix: WATER

Lab Id	Date Analyzed	File name
BD102395A1	10/23/95 11:30	>D3863
LCD102395A1	10/23/95 12:09	>D3864

Analyte	Original Amount UG/L	Amount Spiked UG/L	Replicate 1 Found UG/L	%Rec %
1,1-Dichloroethene	.00	50.0	49.3	99
Trichloroethene	.00	50.0	50.6	101
Benzene	.00	50.0	45.6	91
Toluene	.00	50.0	46.8	94
Chlorobenzene	.00	50.0	51.2	102

pace INCORPORATED
THE ASSURANCE OF QUALITY

PACE New England, Inc.

Metals QC Results for : 45748

QC BATCH: 12474
MATRIX: WATER
CONCENTRATION UNITS: UG/L

ELEMENT	LCS TRUE VALUE	LCS RESULT	LCS % RECOVERY		METHOD BLANK
Aluminum	2000.00	1940.00	97.0	U	15.4
Antimony	500.00	497.00	99.4	U	11.9
Arsenic	2000.00	1890.00	94.5	U	22.4
Arsenic -	2000.00	1870.00	93.5	U	1.8
Barium	2000.00	1930.00	96.5	U	0.8
Beryllium	50.00	47.80	95.6	U	0.2
Boron	1000.00	1050.00	105.0	U	34.6
Cadmium	50.00	54.50	109.0	U	1.4
Calcium	10000.00	10200.00	102.0	U	7.3
Chromium	200.00	209.00	104.5	U	2.0
Cobalt	500.00	500.00	100.0	U	2.4
Copper	250.00	240.00	96.0	U	5.6
Iron	1000.00	1030.00	103.0	U	11.0
Lead	500.00	465.00	93.0	U	15.4
Lead -	500.00	469.00	93.8	B	1.5
Magnesium	10000.00	10000.00	100.0	U	22.8
Manganese	500.00	498.00	99.6	U	0.5
Molybdenum	1000.00	962.00	96.2	U	1.6
Nickel	500.00	489.00	97.8	U	5.5
Potassium	10000.00	10000.00	100.0	U	500.0
Selenium	2000.00	1850.00	92.5	U	25.3
Selenium -	2000.00	1810.00	90.5	U	2.3
Silicon	1000.00	958.00	95.8	U	200.0
Silver	50.00	50.90	101.8	U	1.9
Sodium	10000.00	9930.00	99.3	U	15.0
Thallium	2000.00	1800.00	90.0	U	21.7
Thallium -	2000.00	1780.00	89.0	U	2.5
Tin	1000.00	1000.00	100.0	U	5.3
Titanium	1000.00	1000.00	100.0	B	0.5
Vanadium	500.00	485.00	97.0	U	2.5
Zinc	500.00	484.00	96.8	B	6.0

B = Result between instrument detection limit and reporting limit.
U = Result below instrument detection limit.
N = LCS recovery not within advisory QC limits (80% - 120%)
with the exception of Silver QC limits (52% - 136%).

PACE New England, Inc.

Metals QC Results for : 45748

QC BATCH: 31337
MATRIX: WATER
CONCENTRATION UNITS: UG/L

ELEMENT	LCS TRUE VALUE	LCS RESULT	LCS % RECOVERY	METHOD BLANK
Lead	50.00	56.60	113.2	U 0.9

B = Result between instrument detection limit and reporting limit.
U = Result below instrument detection limit.
N = LCS recovery not within advisory QC limits (80% - 120%)
with the exception of Silver QC limits (52% - 136%).

PACE New England, Inc.

Metals QC Results for : 45748

QC BATCH: 51211
MATRIX: WATER
CONCENTRATION UNITS: UG/L

ELEMENT	LCS TRUE VALUE	LCS RESULT	LCS % RECOVERY	METHOD BLANK	
Arsenic	50.00	55.80	111.6	U	1.5
Selenium	50.00	45.00	90.0	U	1.0

B = Result between instrument detection limit and reporting limit.
U = Result below instrument detection limit.
N = LCS recovery not within advisory QC limits (80% - 120%)
with the exception of Silver QC limits (52% - 136%).

PACE New England, Inc.

Metals QC Results for : 45748

QC BATCH: 61674
MATRIX: WATER
CONCENTRATION UNITS: UG/L

ELEMENT	LCS TRUE VALUE	LCS RESULT	LCS % RECOVERY	METHOD BLANK
Mercury	8.00	8.10	101.3	U 0.10

B = Result between instrument detection limit and reporting limit.
U = Result below instrument detection limit.
N = LCS recovery not within advisory QC limits (80% - 120%)
with the exception of Silver QC limits (52% - 136%).

METALS SAMPLE QC RESULTS

SAMPLE NUMBER: 45748-010
MATRIX: WATER
CONCENTRATION UNITS: ug/L

ELEMENT	QC REPLICATE ANALYSIS					SPIKE RESULT	SPIKE VALUE	PERCENT RECOVERY
	SAMPLE RESULT		DUPLICATE RESULT		RPD			
Arsenic	U	1.5	U	1.5	N/C	54.0	50.0	108.0
Lead	B	2.3	U	0.9	87.5	58.2	50.0	111.8
Selenium	U	1.0	U	1.0	N/C	46.4	50.0	92.8

B = Result between instrument detection limit and reporting limit.
U = Result below instrument detection limit.
N = Spike recovery not within advisory limits (75-125%, if sample < 4x spike value).
* = Relative Percent Difference not within advisory limits (20%, if sample > 5x reporting limit).
N/C = Not Calculable. Sample and duplicate below instrument detection limit.

QUALITY CONTROL
Corrosivity
Method: 7.2 SW846 3rd Edition

QC Batch: 375 For: 45748
Matrix: WATER

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: 317 For: 45748
Matrix: SOLID

METHOD BLANK:

	Result ug/g
	< 50.00

LABORATORY CONTROL SAMPLES:

	True Value ug/g	Observed Value ug/g	Accuracy Recovery %
LCS1	1465.0	1489.9	101.7

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: 317 For: 45748
Matrix: SOLID

METHOD BLANK:

	Result ug/g
	< 1.00

LABORATORY CONTROL SAMPLES:

	True Value ug/g	Observed Value ug/g	Accuracy Recovery %
LCS1	40.0	9.050	22.6

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
THE ASSURANCE OF QUALITY

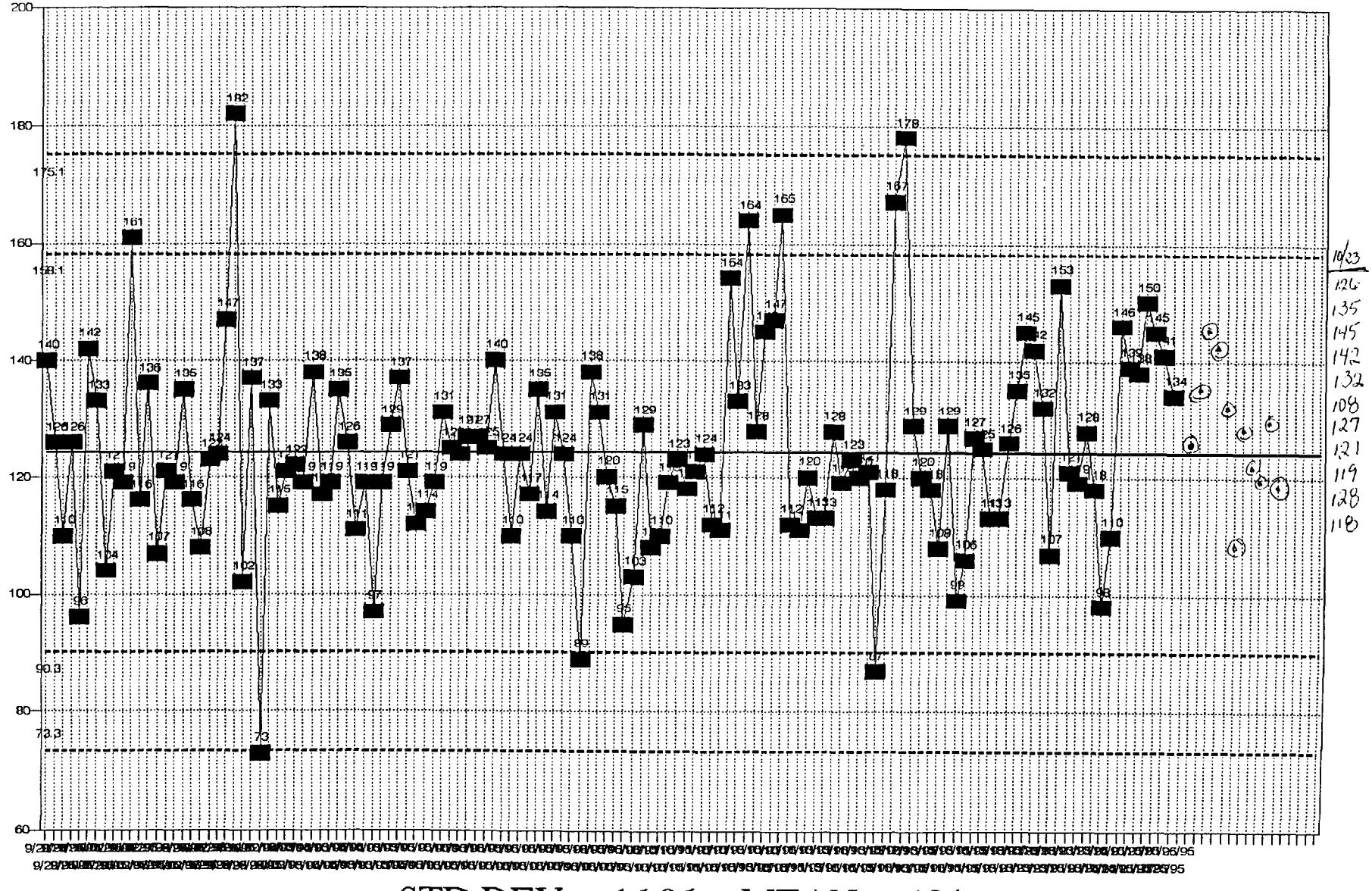
QUALITY CONTROL
Flashpoint
Method: D93-80, ASTM

QC Batch: 349 For: 45748
Matrix: SOLID

LABORATORY CONTROL SAMPLES:

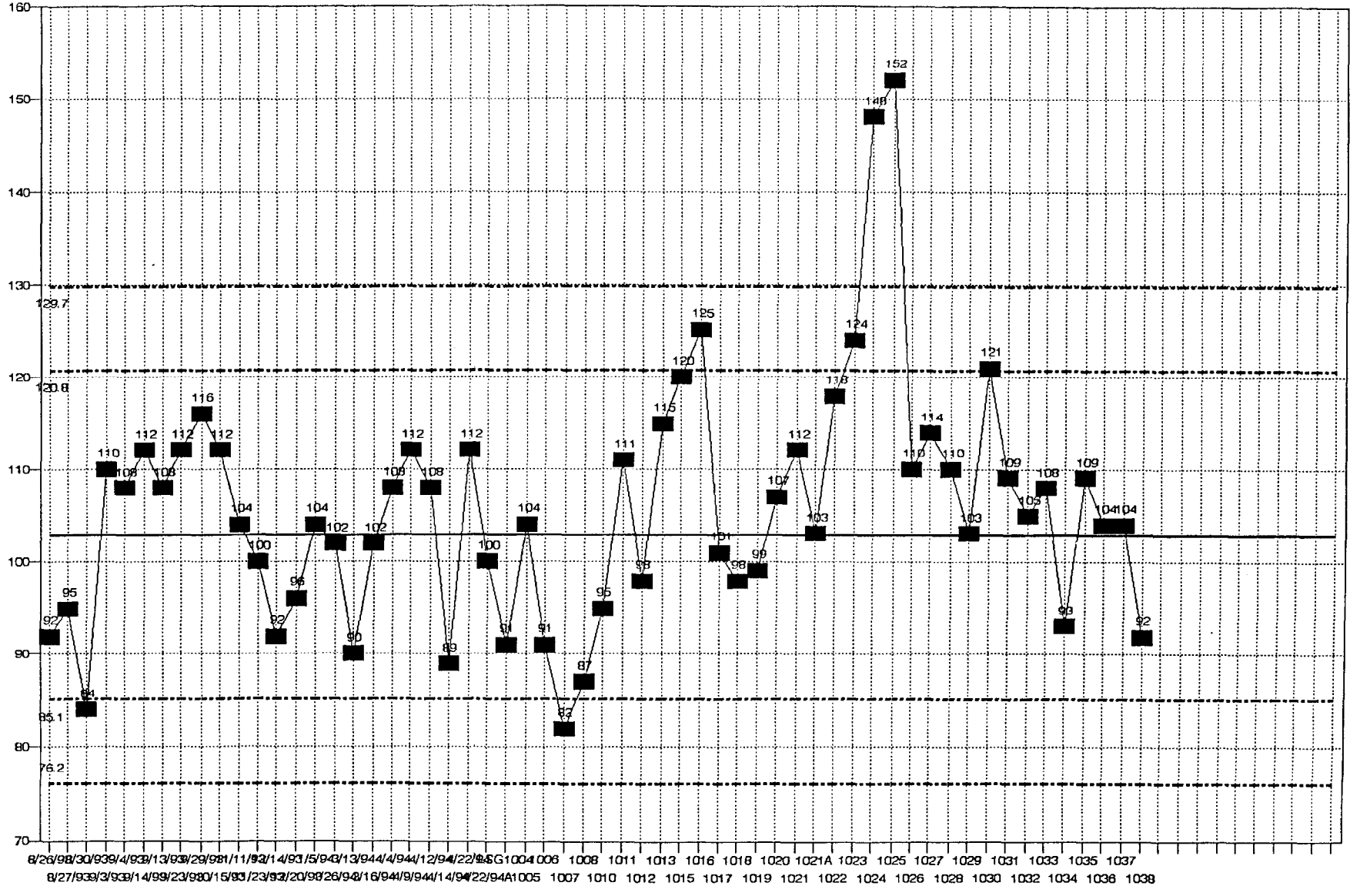
	True Value Deg F	Observed Value Deg F
LCS1	81.0	81.00

GRO SURROGATE RECOVERIES
LIMITS SET 10/27/95



STD DEV = 16.96 MEAN = 124

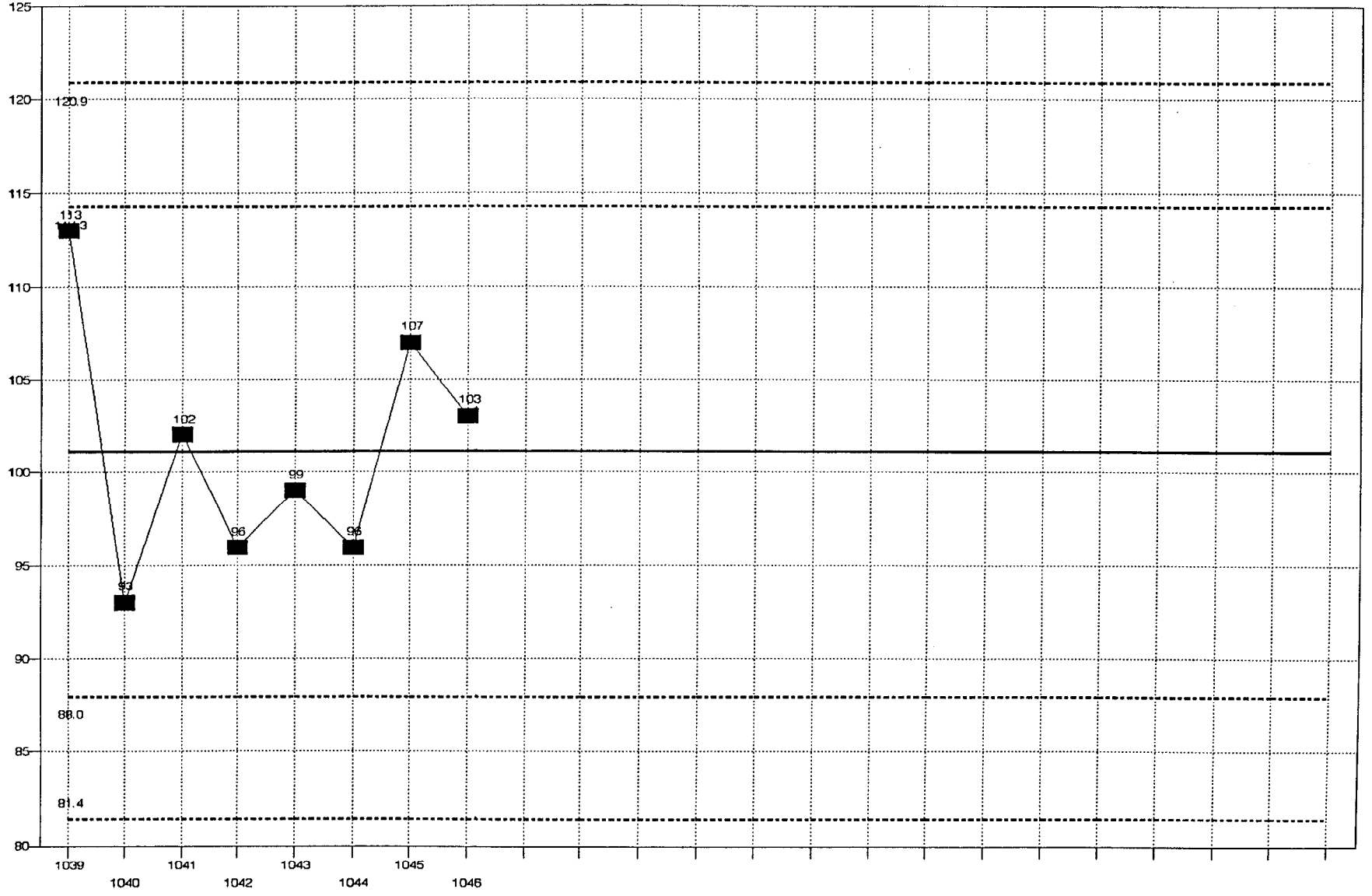
GRO SOLID LCS RECOVERIES GC07
LIMITS SET 4/13/94



STD DEV = 8.93 MEAN = 103

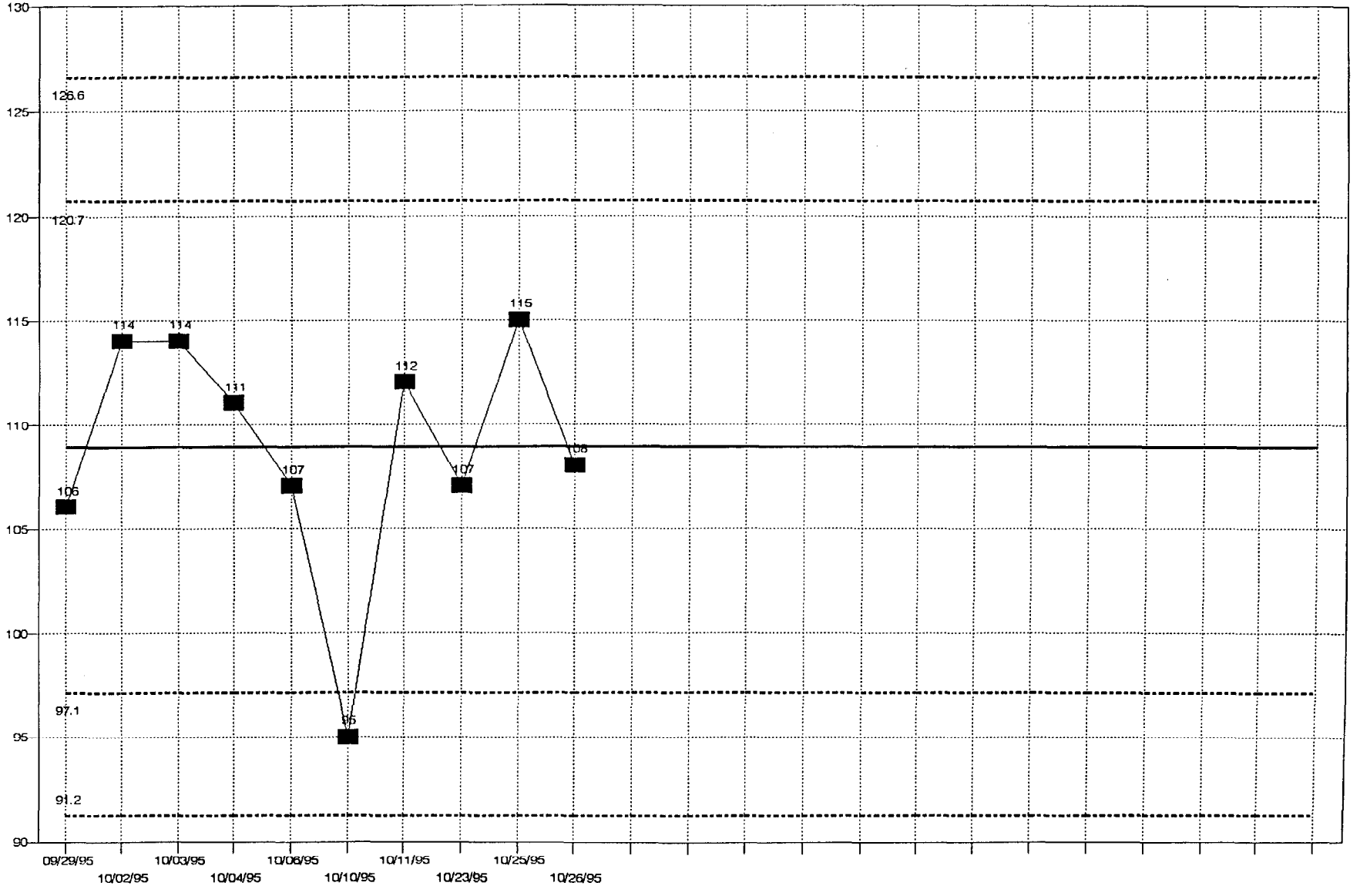
0000028

GRO SOLID LCS RECOVERIES GC05
LIMITS SET 10/27/95



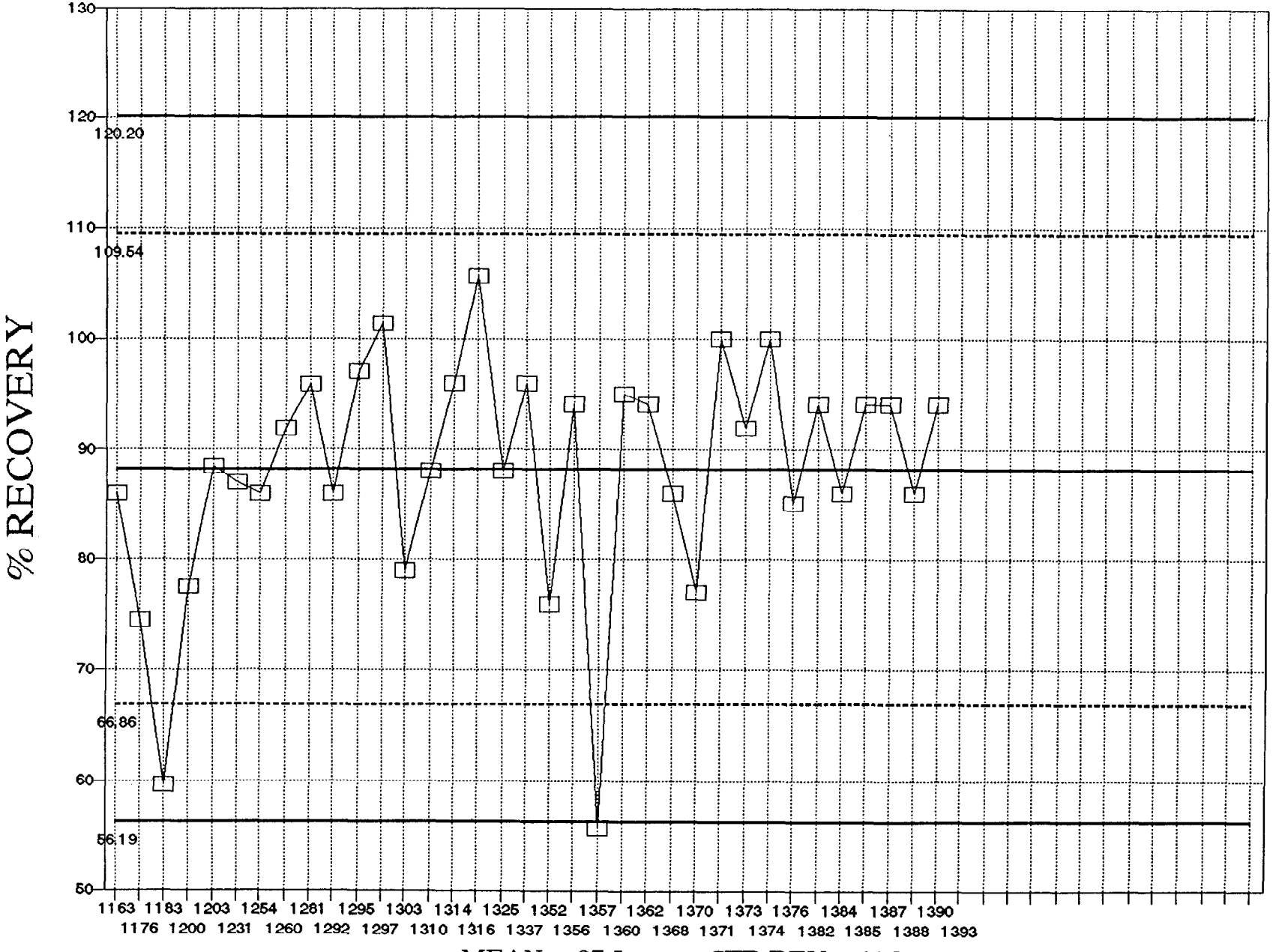
STD DEV = 6.58 MEAN = 101

GRO LCS WATER RECOVERIES
LIMITS SET 10/27/95



STD DEV = 5.89 MEAN = 108.9

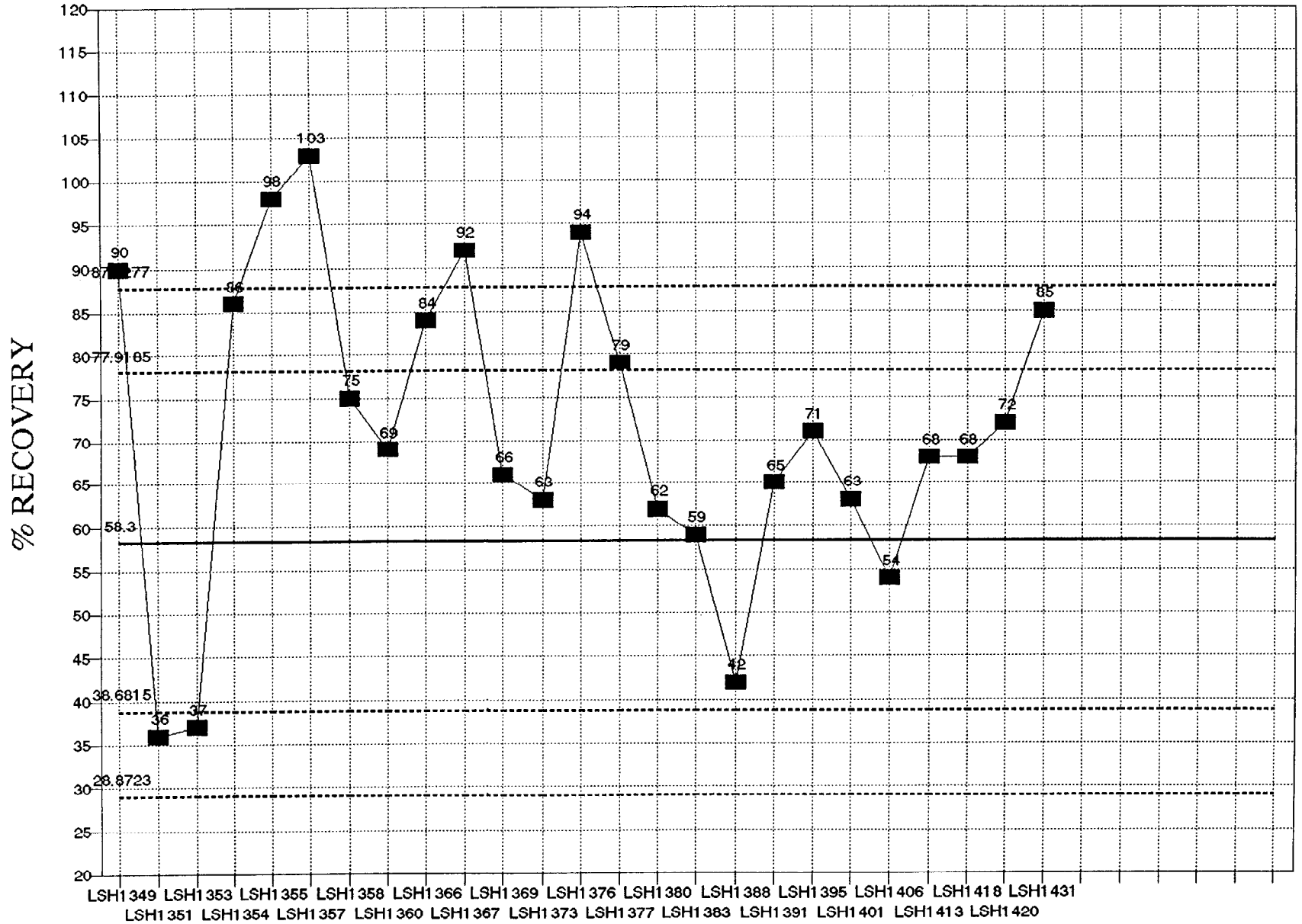
O&G GRAV-S LCS RECOVERIES



MEAN = 87.5 STD DEV = 11.3

PHC LOW SOLIDS - DIESEL

SPK REC LIMS SET6/6/95-PPCBCHT\PHCS1294

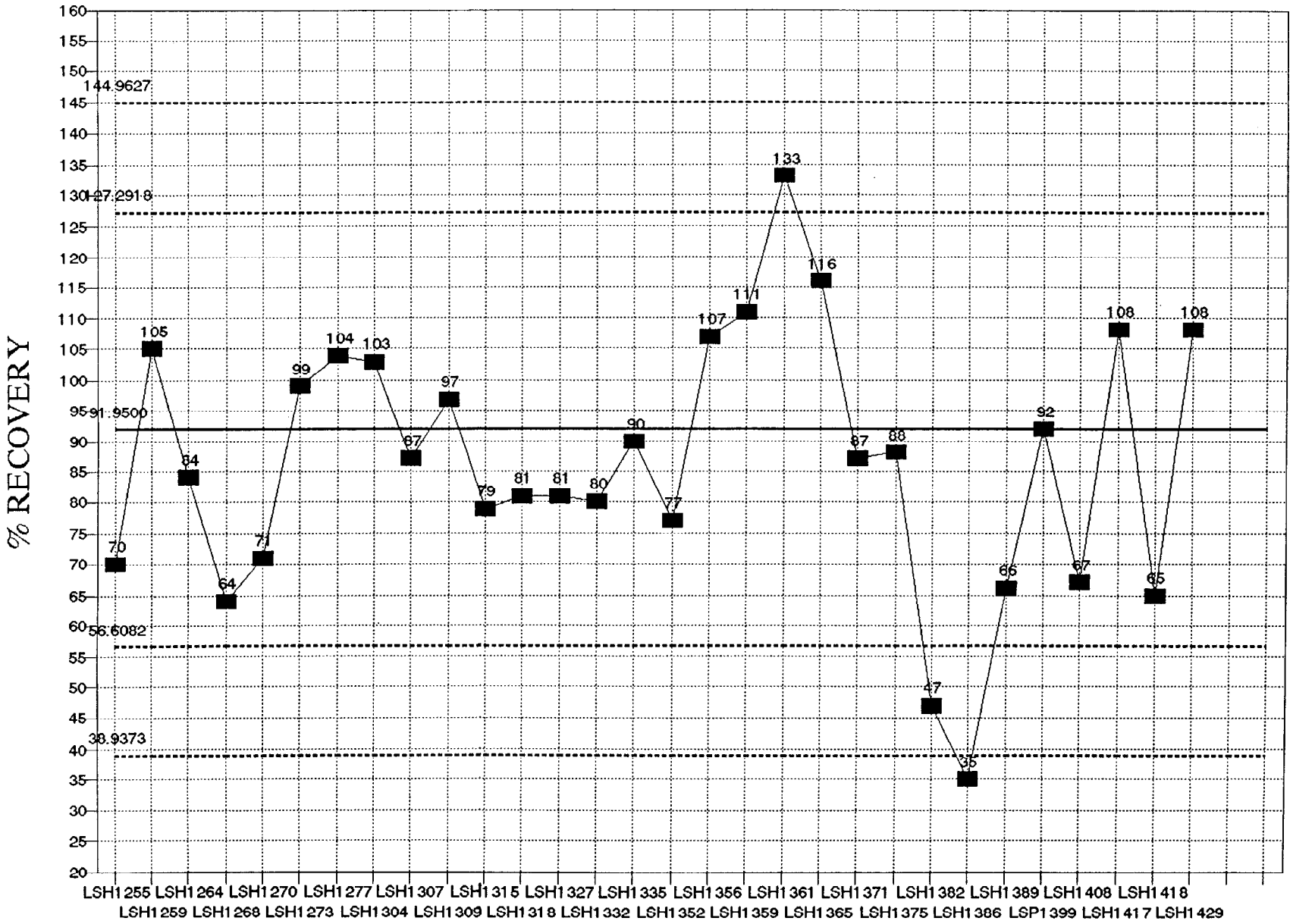


MEAN = 58.30 STD DEV =9.81

00000032

PHC WATERS BY SEPF - DIESEL

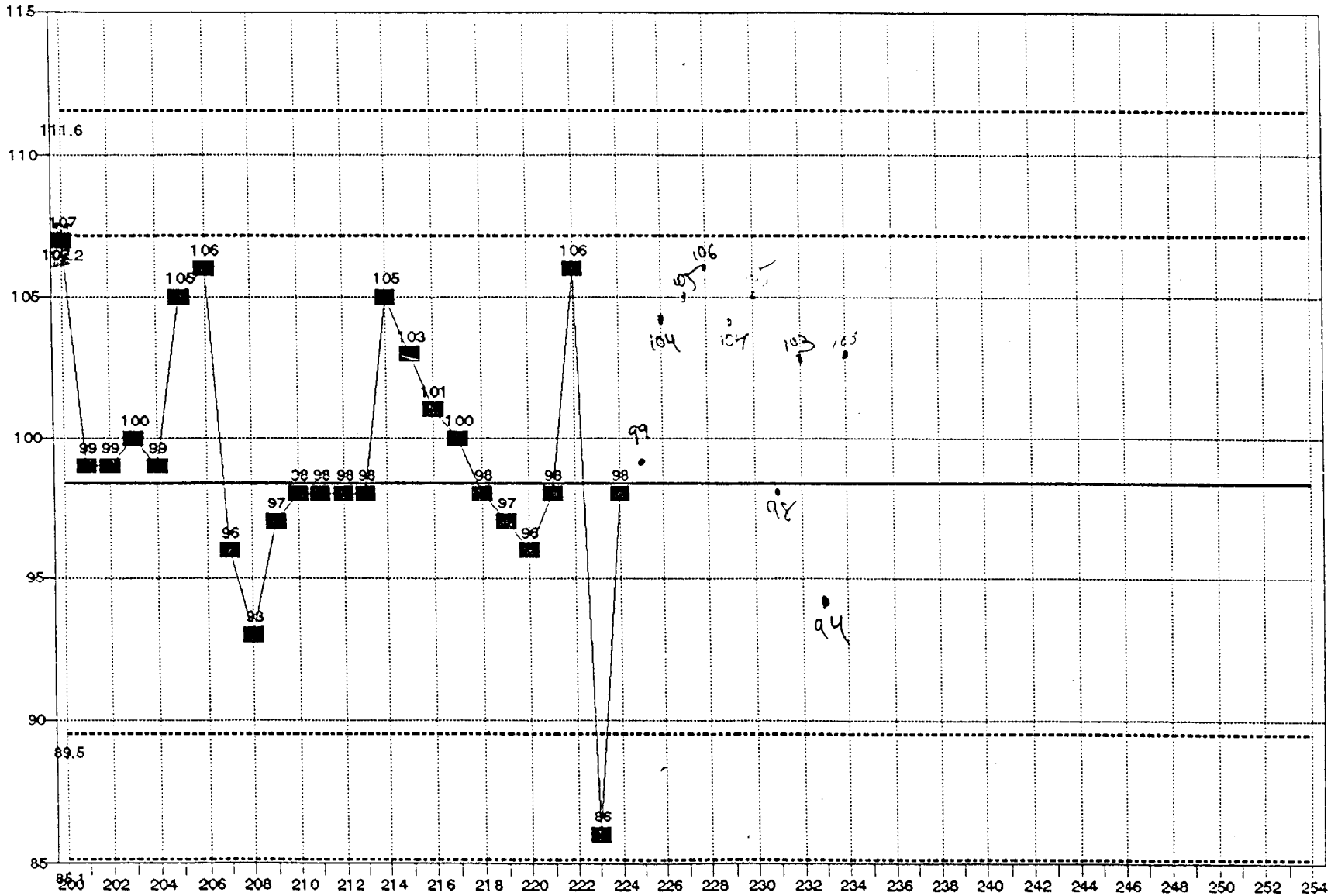
SPK REC LIMS SET0795-PPCBCHT\PHCWSF94



MEAN = 91.95 STD DEV = 17.67

00000033

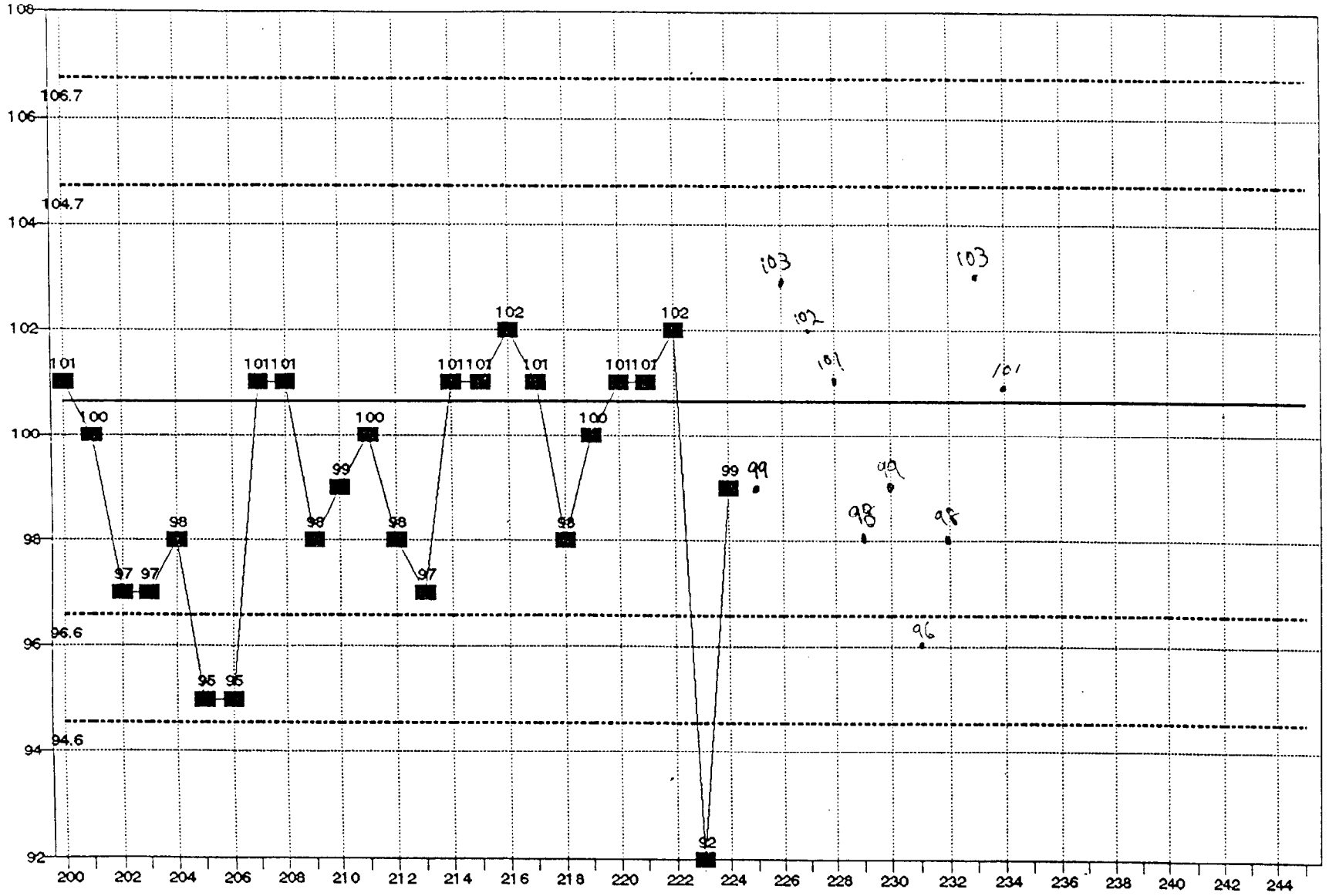
VOA WATERS - SURR DCE
LIMITS SET 4/95



STD DEV = 4.40 MEAN = 98.4

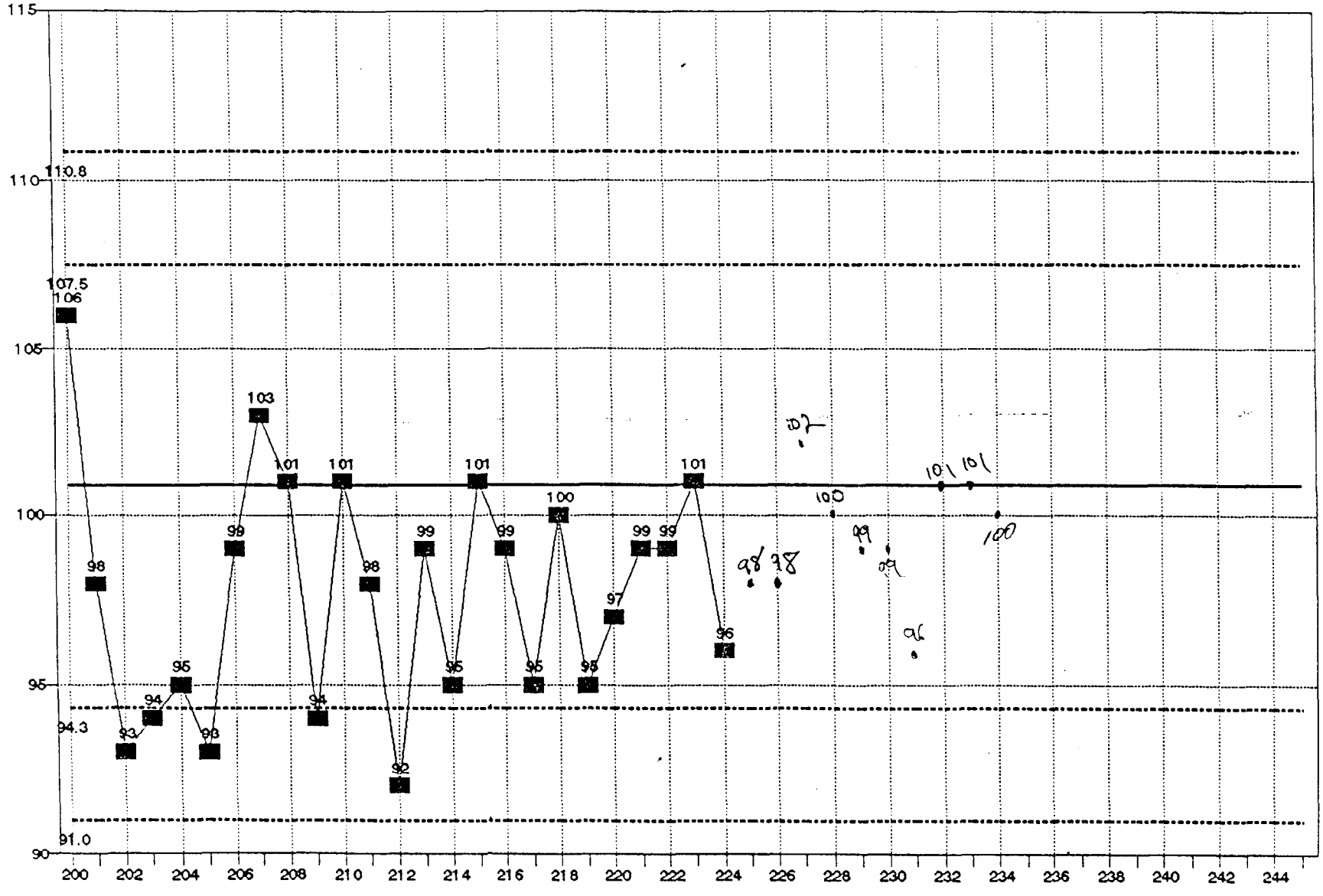
0000034

VOA WATERS - SURR TOL
LIMIT SET 4/95



STD DEV = 2.03 MEAN = 100.6

VOA WATERS - SURR BFB
LIMIT SET 4/95



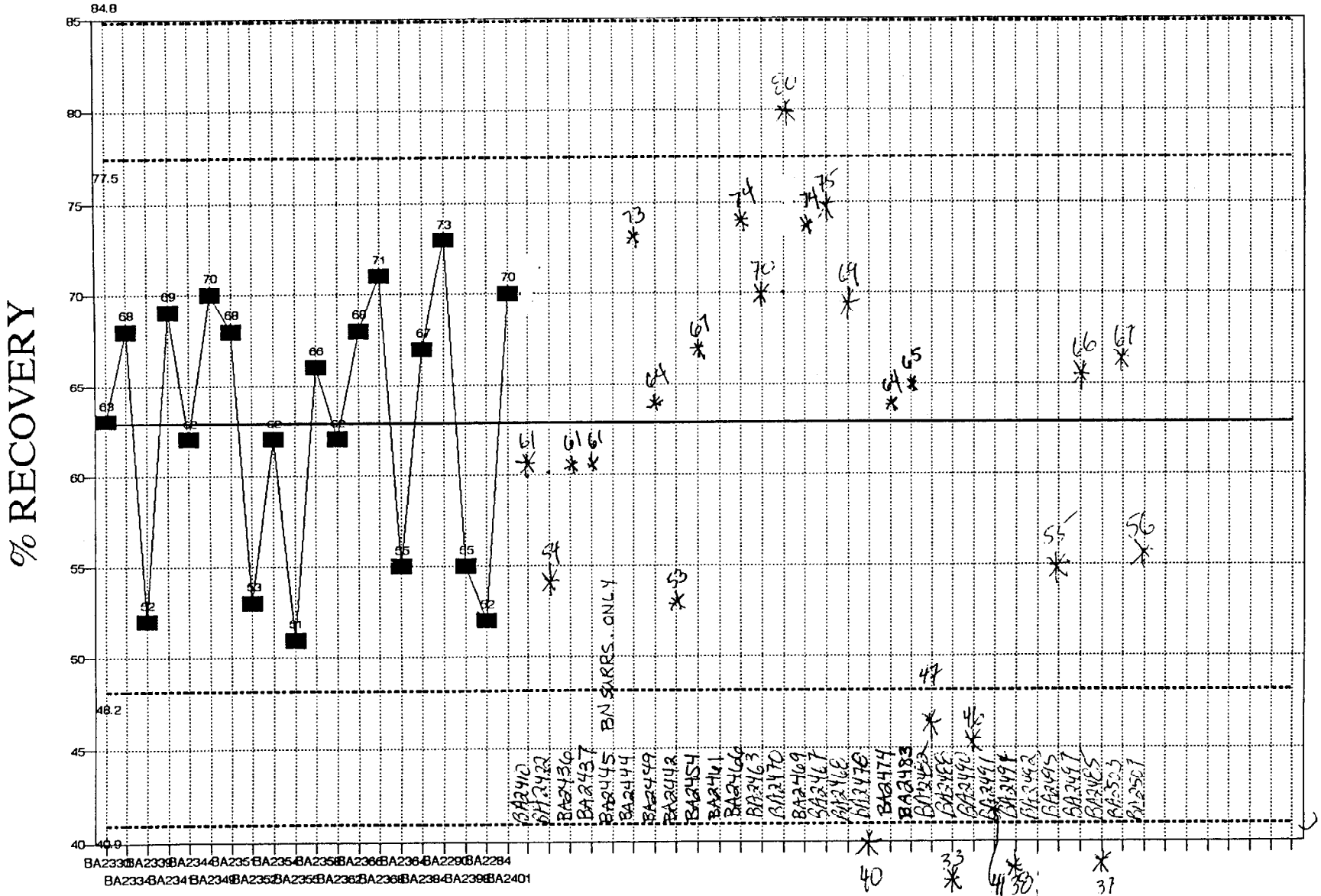
STD DEV =3.31 MEAN = 100.9

00000036

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 BD101695A1
84 BD072793A	132 BC110894B	180 BI080895A1	228 BD101795A1
85 BD073093A	133 BC110994A	181 BI080995A1	229 BD101595A1
86 BC080493A	134 BC111594B	182 BC080295A1	230 BD101895A1
87 BC080593A	135 BC111794B	183 BC080495A1	231 BG101495A1
88 BE091793A	136 BC111894B	184 BC080795A1	232 BD102495A1
89 BC092093B	137 BG111094A	185 BC080895A1	233 BG100995A2
90 BC093093B	138 BC120194B	186 BI081095A1	234 BD102395A1
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

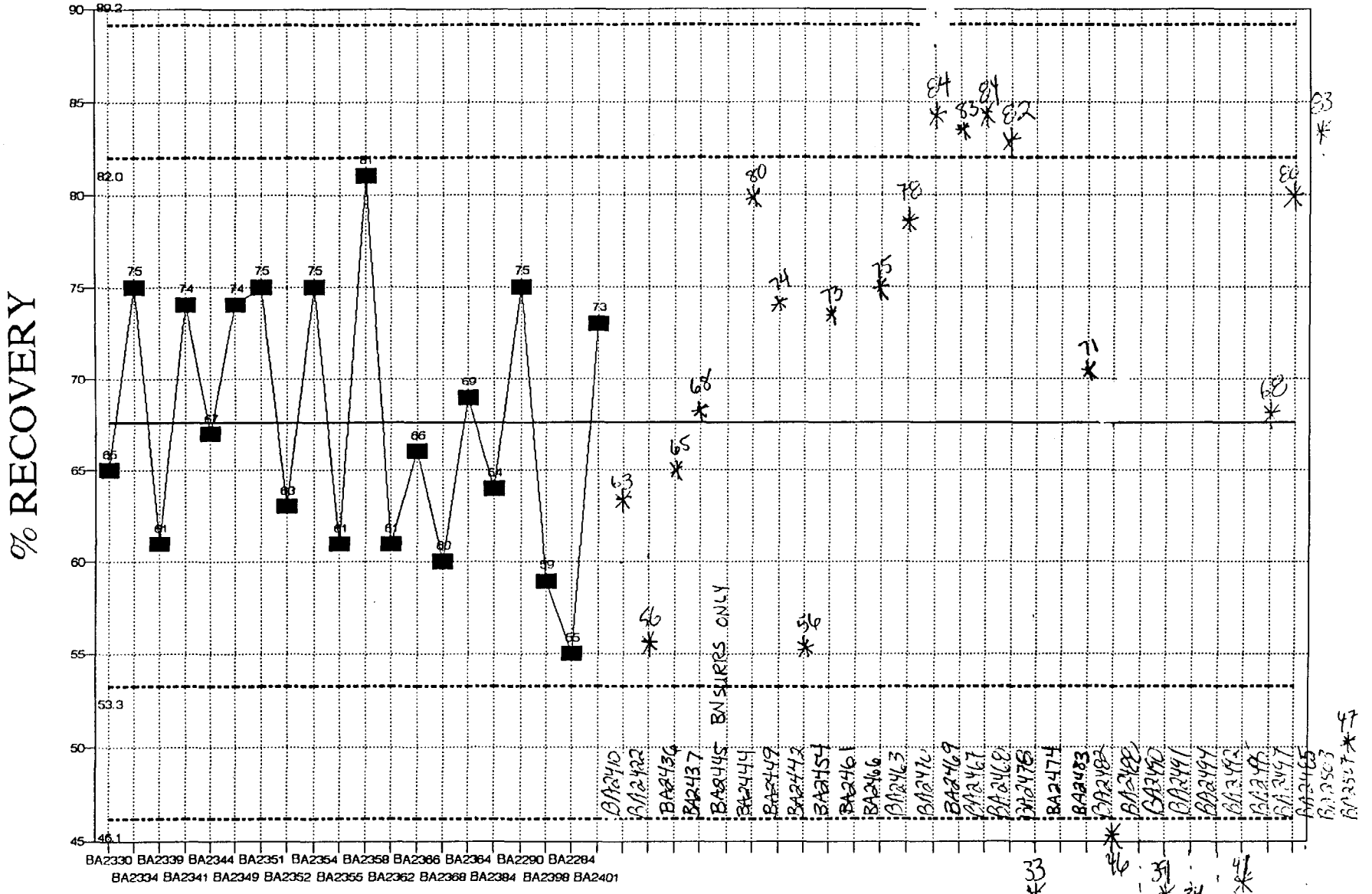
ABN WATER 3520/8270B, 2-FLUOROPHENOL SURR, LIMITS SET 8/95



STD DEV = 7.31 MEAN = 62.8

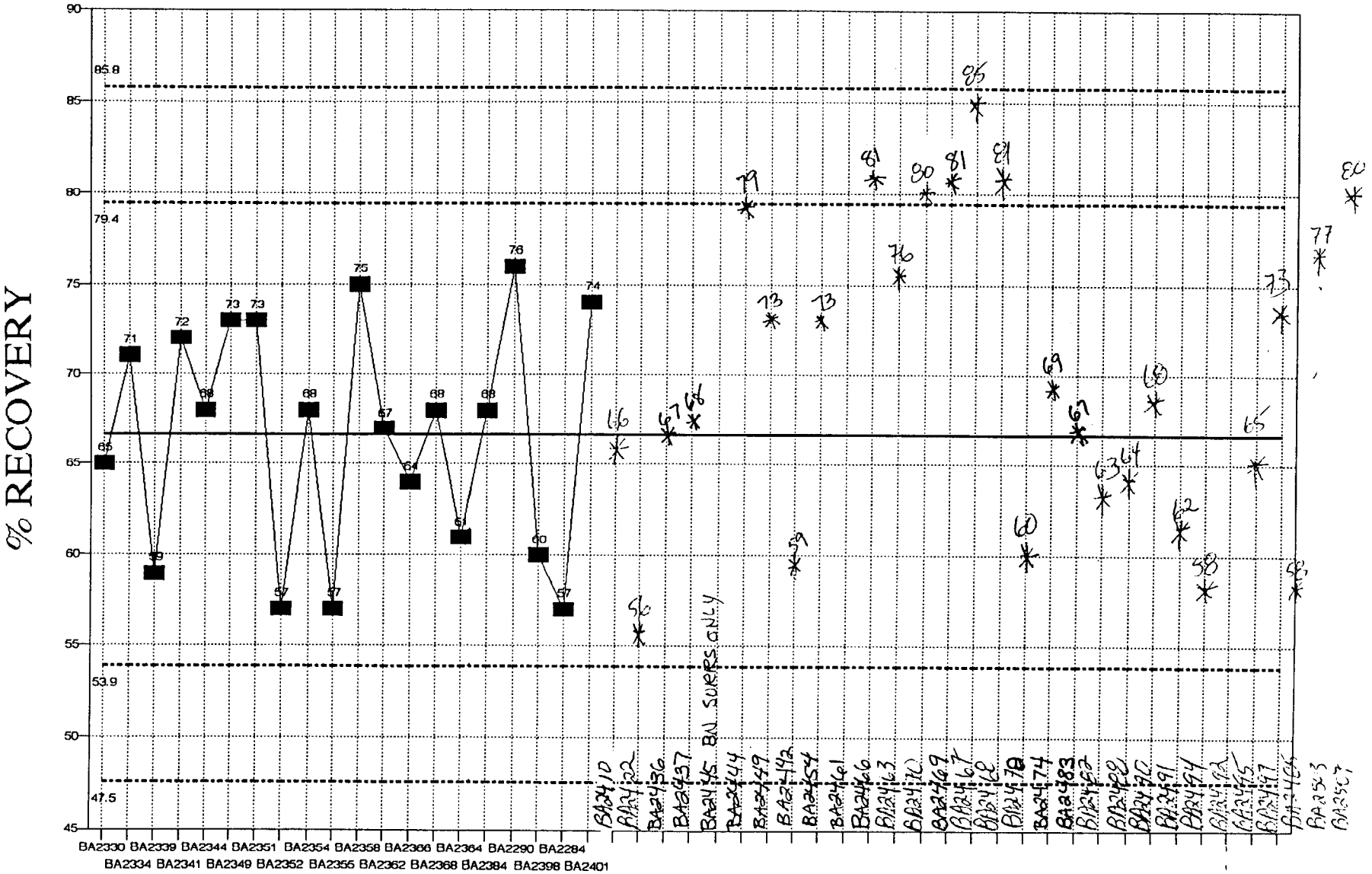
0000038

ABN WATER 3520/8270B, PHENOL-D5
SURR, LIMITS SET 8/95



STD DEV = 7.17 MEAN = 67.6

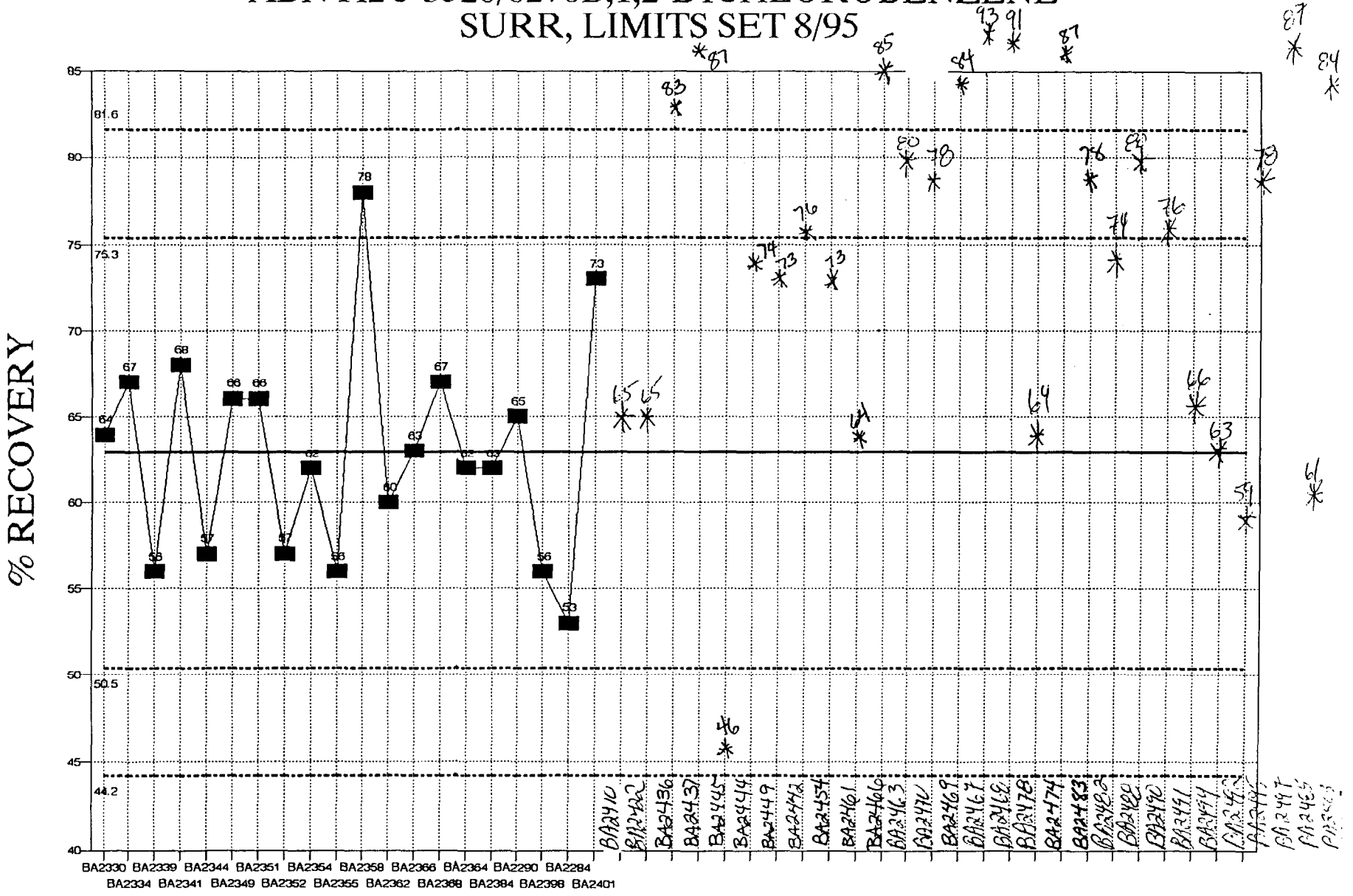
ABN WATER 3520/8270B, 2-CHLOROPHENOL-D4
SURR, LIMITS SET 8/95



STD DEV = 6.37 MEAN = 66.6

00000040

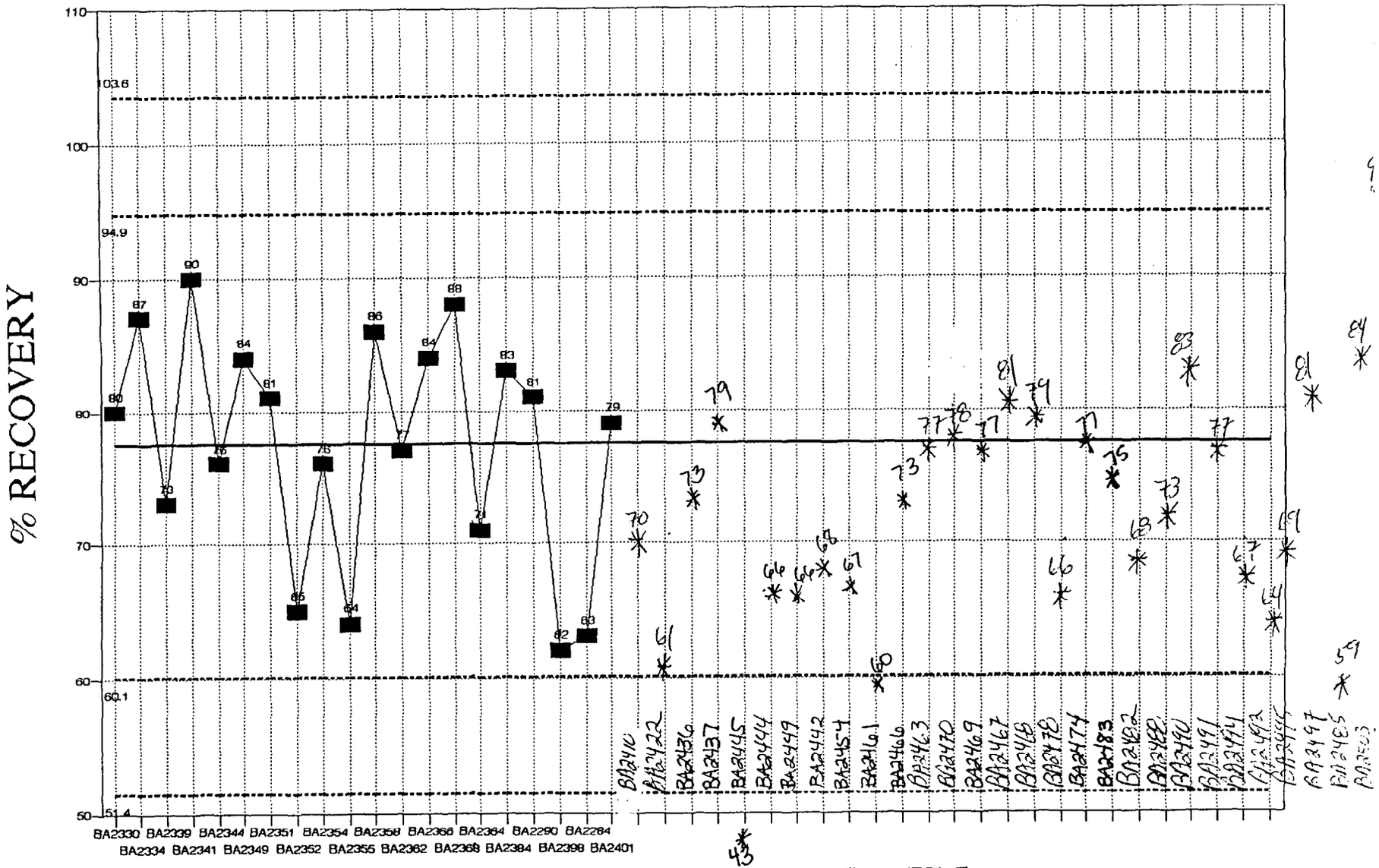
ABN H2O 3520/8270B,1,2-DICHLOROBENZENE-SURR, LIMITS SET 8/95



STD DEV = 6.22 MEAN = 62.9

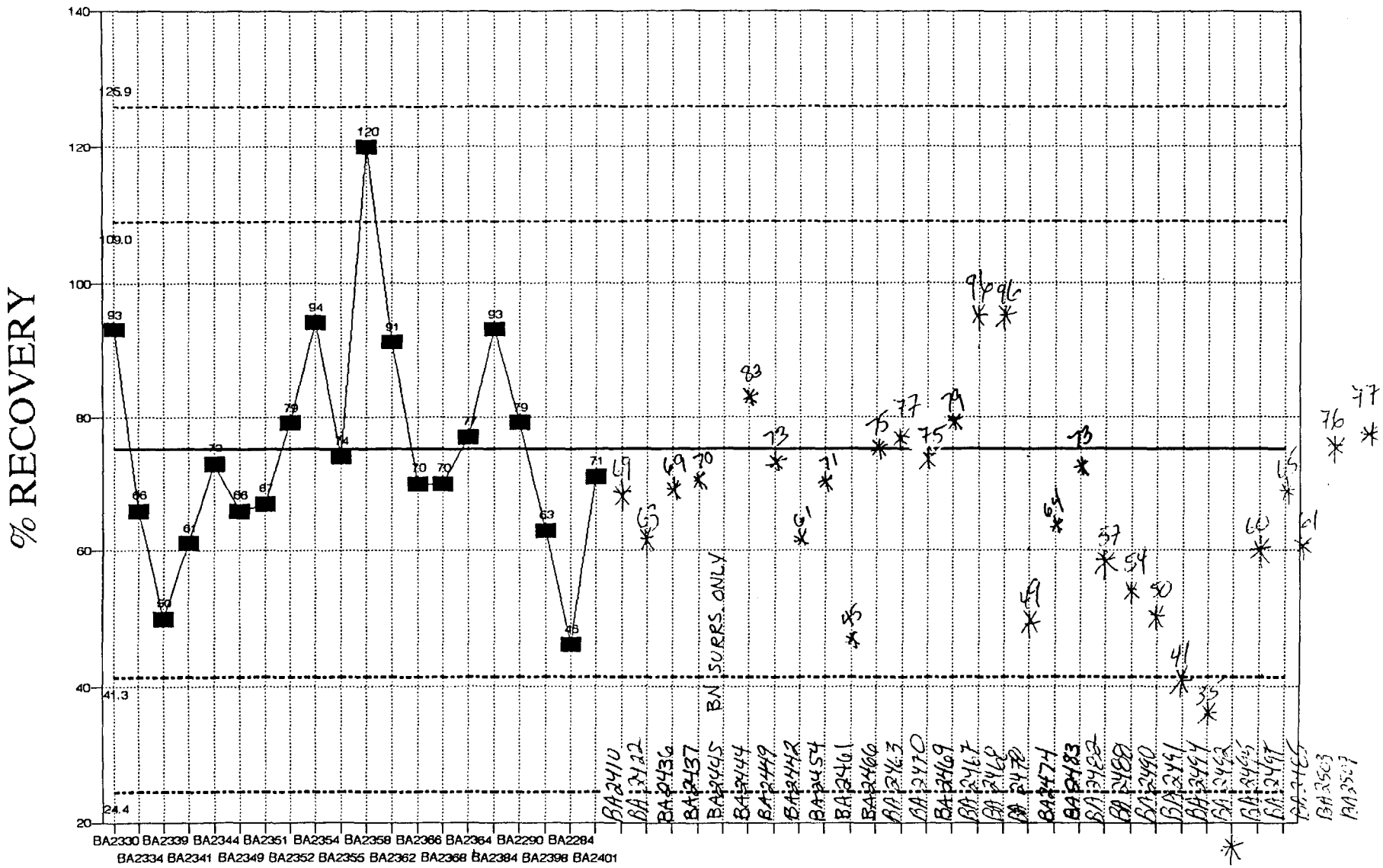
00000041

ABN H2O 3520/8270B, NITROBENZENE-D5
SURR, LIMITS SET 8/95



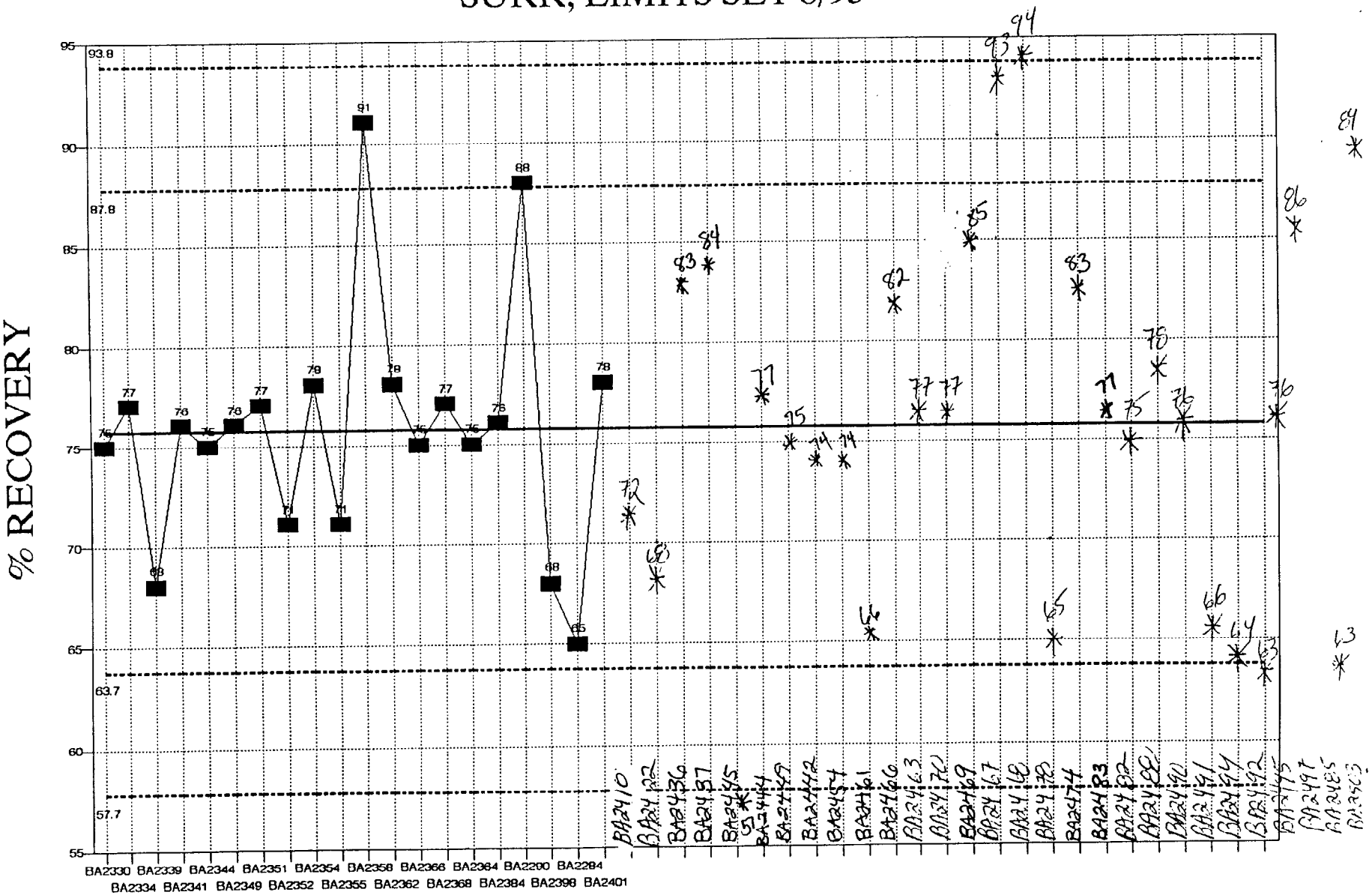
STD DEV = 8.68 MEAN = 77.5

ABN H2O 3520/8270B,2,4,6-TRIBROMOPHENOL SURR, LIMITS SET 8/95



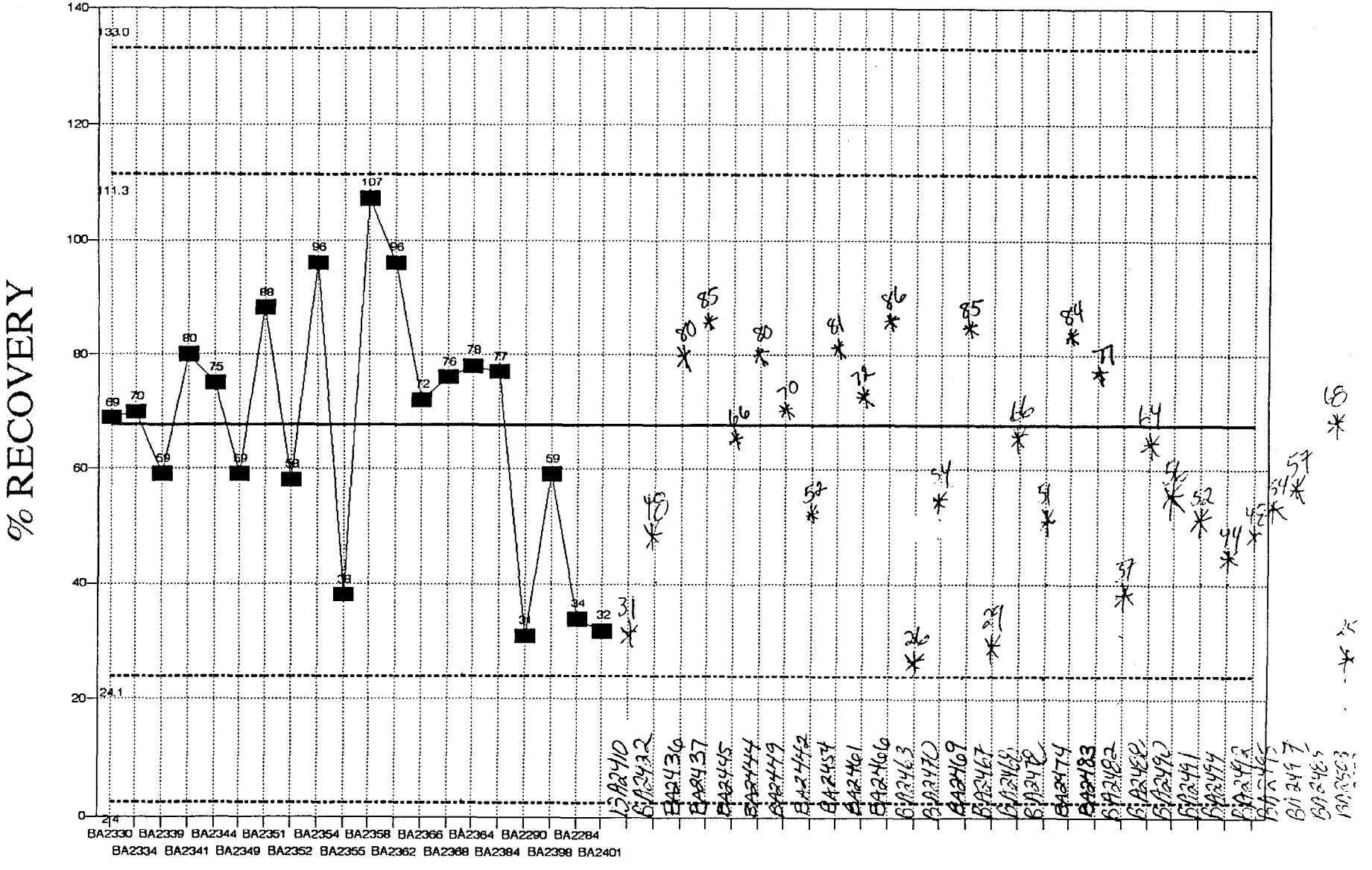
STD DEV = 16.9 MEAN = 75.2

ABN H2O 3520/8270B, 2-FLUOROBIPHENYL SURR, LIMITS SET 8/95



STD DEV = 6.01 MEAN = 75.8

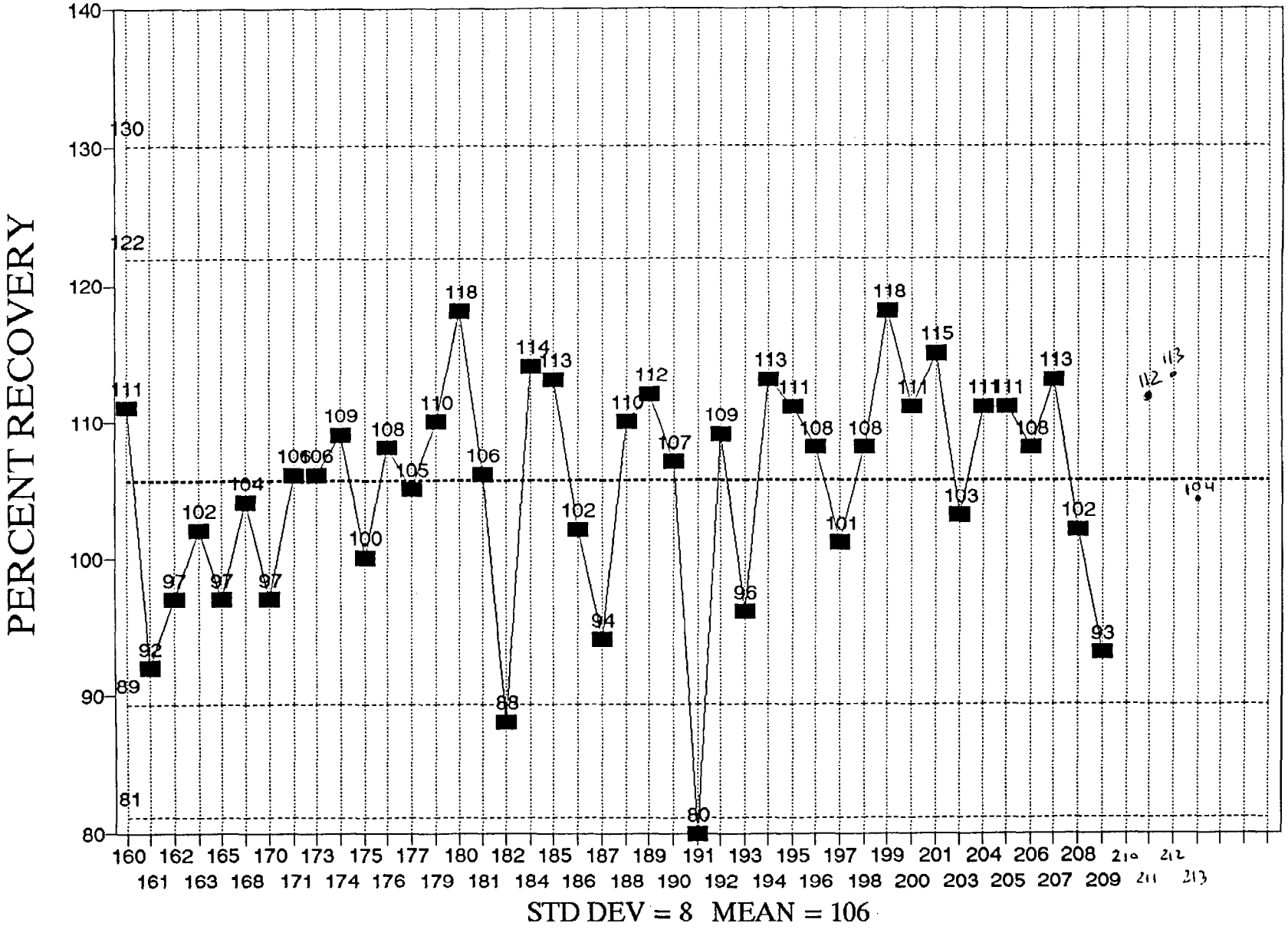
ABN H2O 3520/8270B, TERPHENYL-D14
SURR, LIMITS SET 8/95



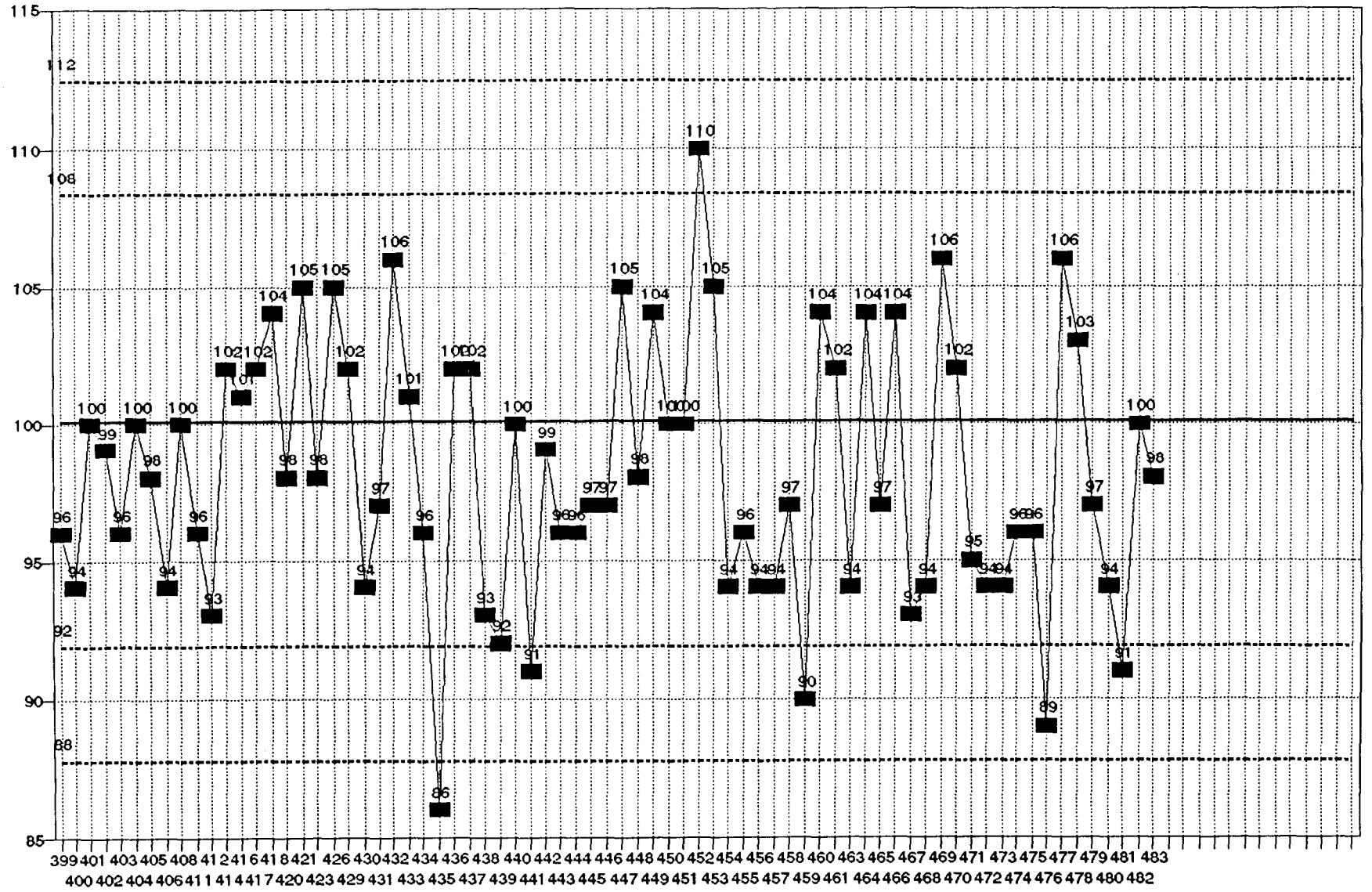
STD DEV = 21.8 MEAN = 67.7

0000045

FURNACE ARSENIC WATER LCS RECOVERIES
LIMITS SET 10/95



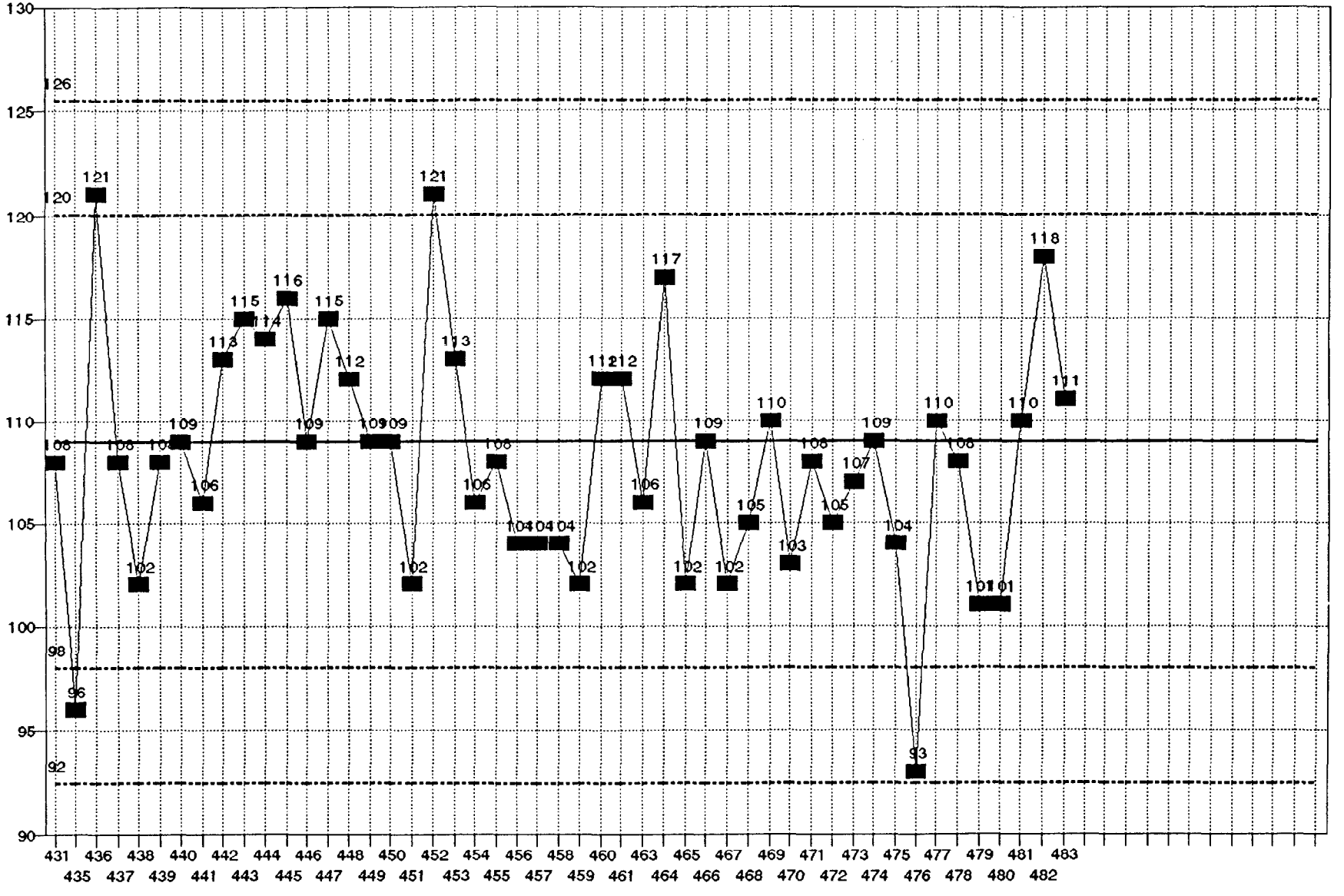
Ba COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 9/95



STD DEV = 4 MEAN = 100

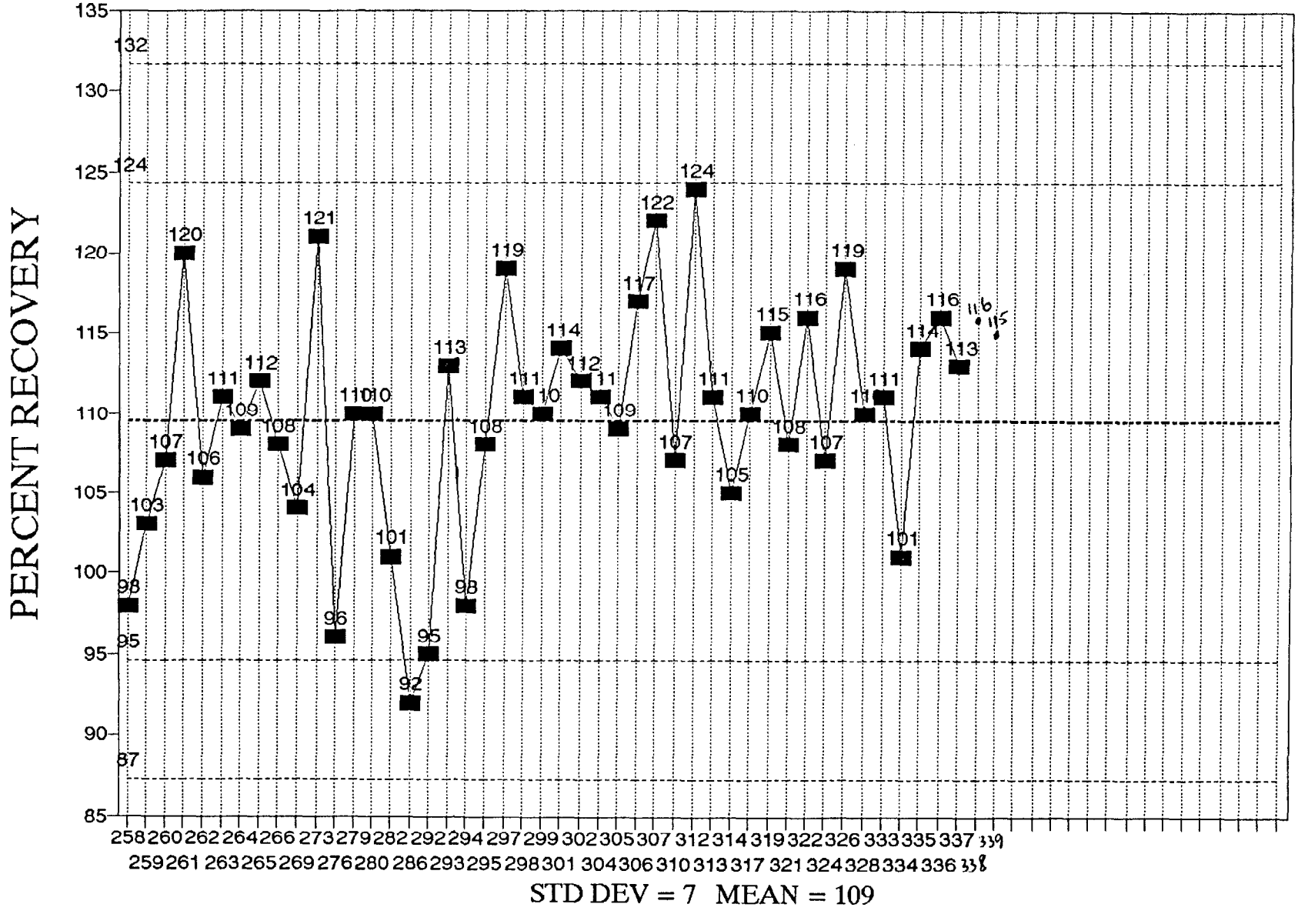
00000047

Cd COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 7/95

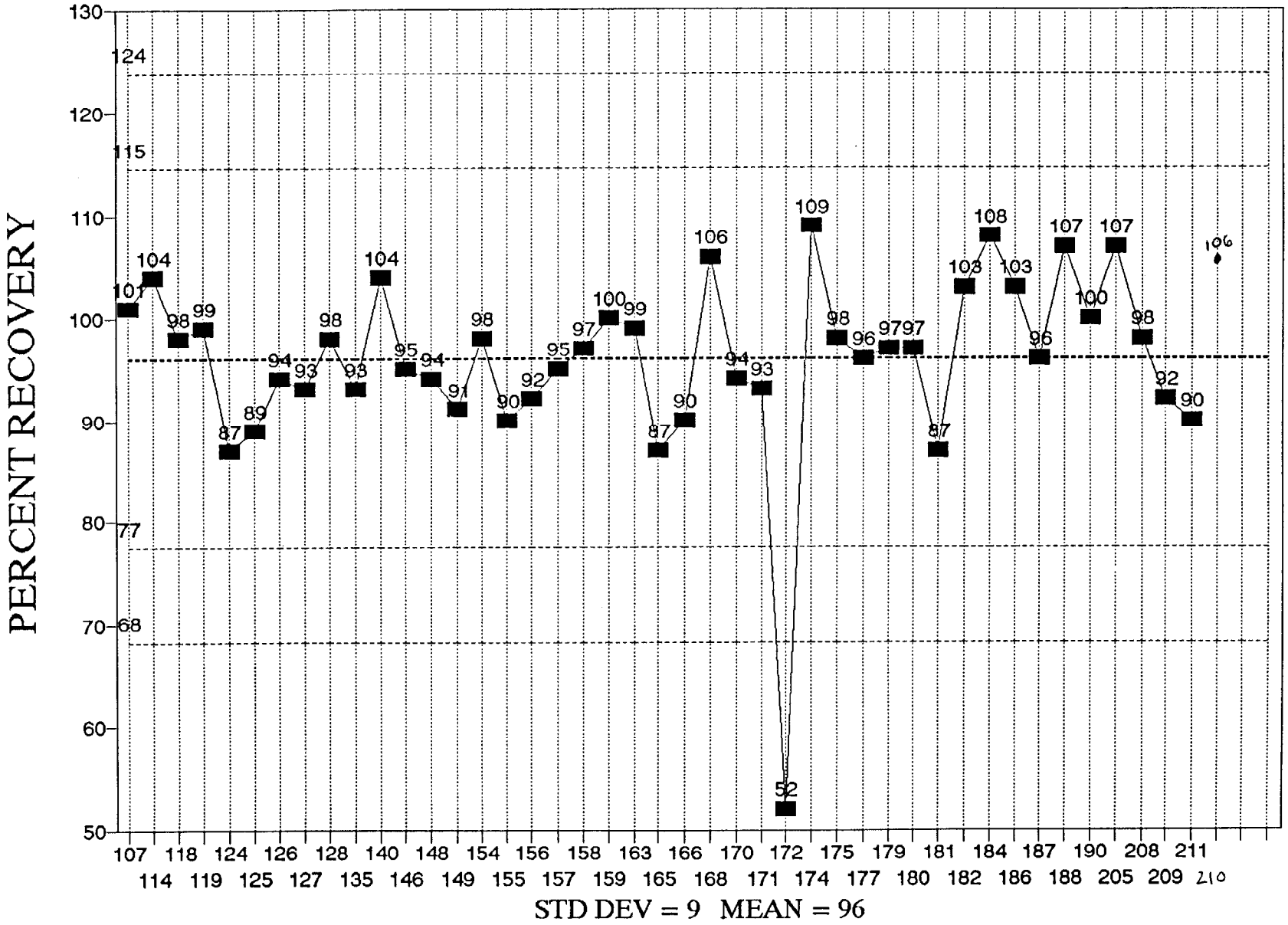


STD DEV = 5.51 MEAN = 109

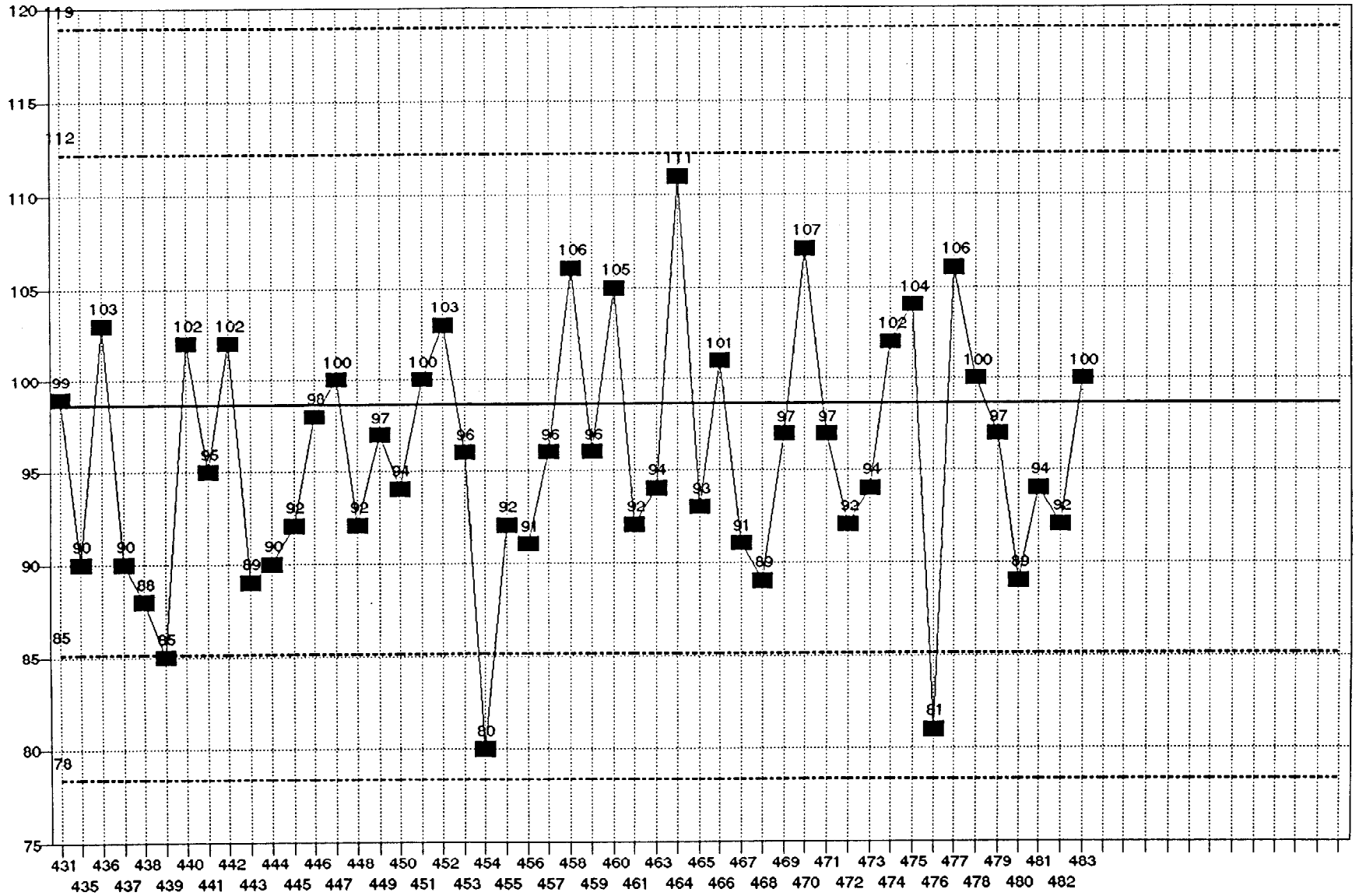
FURNACE LEAD WATER LCS RECOVERIES
LIMITS SET 10/95



FURNACE SELENIUM WATER LCS RECOVERIES
LIMITS SET 10/95



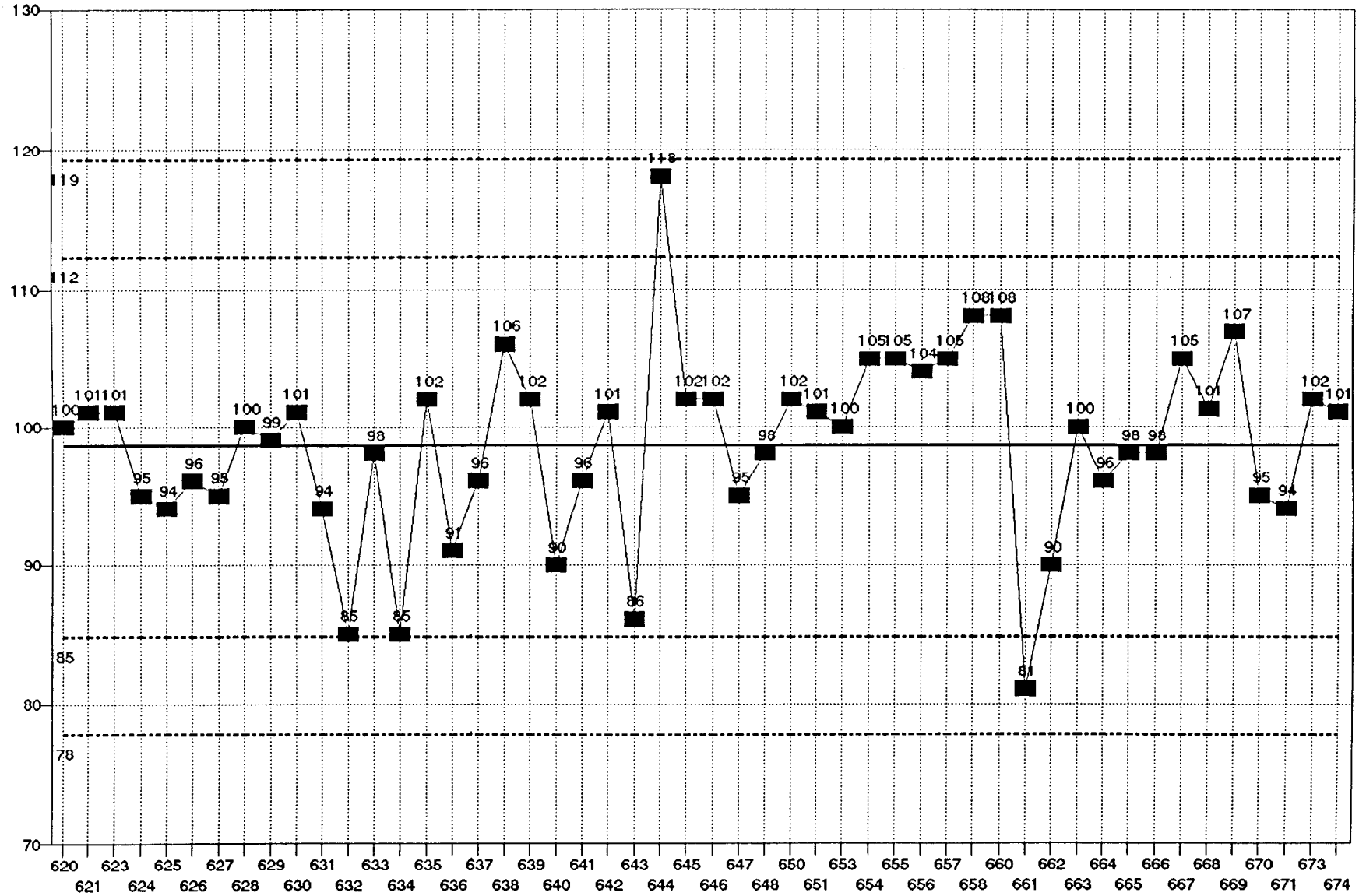
Ag COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 8/95



STD DEV = 7 MEAN = 99

00000051

Hg COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



STD DEV = 7 MEAN = 99

0000052

OHM Remediation Services Corp.

CHAIN-OF-CUSTODY RECORD

LAB COPY

Form 001
Field Technical Service
Rev. 08/8

166422

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; O&G; PCB; Total Lead; Volatile + BTEX (8240)	REMARKS (45748)
1	CLJ44-CC-105	10/19	1035		X	Contaminated Soil from Pile 58 of Area A.	1	X X-7 X-7	
2	CLJ44-CC-106-RB	10/19	1045	X		Rinsate Blank	2	X X-8 X X-9 X-11	-10 metals
3	CLJ44-CC-107-TB					Trip Blank		X X X	
4	CLJ44-SB03-4'	10/20	0815		X	Soil Sample at 4' from Area D	3	X X	
5	CLJ44-SB01-4'	10/20	0825		X	Soil Sample at 4' from Area D	4	X X	
6	CLJ44-SB02-4'	10/20	0835		X	Soil Sample at 4' from Area D	5	X X	
7	CLJ44-SB04-4'	10/20	0845		X	Soil Sample at 4' from Area D	6	X X	
8									
9									
10									

Final Page

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-7		FED EX Air Bill #	10/20	1300
2			[illegible]	10/21/95	1200
3					
4					

REMARKS Send Samples to Pace Lab
Items 1, 2 & 4-7 24hr. TAT = 45748
Item #3 3 days TAT

SAMPLER'S SIGNATURE

0000053

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

November 9, 1995

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

SAMPLE DELIVERY GROUP NARRATIVE

Case: OHMRC
SDG: LJN39
Laboratory: PACE New England - New Hampshire of Hampton, NH
Lab Numbers: 45749
Protocol: SW846 Methods. NEESA C deliverables. No diskette.

Sample Receipt: These samples were received at PACE, Inc. on October 21, 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 10/21/95 (45749): Samples were received in one cooler and were assigned PACE# 45748, 45749, and 45750. 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# 45750 were logged in for a 7-day turnaround per the request on COC# 166423. Samples assigned PACE Lab# 45749 were logged in for a 3-day turnaround per the request on COC# 166422 and samples assigned PACE Lab# 45748 were logged in for 24-hour turnaround.

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

Volatiles 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

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY 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 A. Williamson — 11/9/95

PACE Incorporated, New England-New Hampshire — November 9, 1995

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

pace INCORPORATED
ENVIRONMENTAL LABORATORIES

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

LAB# 45749
PAGE 1 of 1
COOLER ____ of ____
COC# ____
SDG# LJN39
CASE# OHM RC,

CLIENT OHM
DATE/TIME RECEIVED 10/21/95 1200
DELIVERED BY Fed-Ex
RECEIVED BY [signature]
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	
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 # ____

C

Log-in Notes:
3 day TAT

CLIENT AUTHORIZATION SIGNATURE ____ DATE ____

0000003

SAMPLE TABLE

CLIENT ID.	MATRIX	PACE #	PARAMETERS
CLJ44-CC-107-TB	WATER	45749-001	TOTAL GASOLINE
		45749-002	GC/MS VOA

Field Identification: CLJ44-CC-107-TB

Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/L)	BDL	100	45749-001	10/26/95		8015(mod)/2

References: 2) EPA SW 846, 3rd Edition

pace INCORPORATED THE ASSURANCE OF QUALITY

QUALITY CONTROL DATA
TOTAL GASOLINE

BLANK DATA

Laboratory Number: BG102695TGA
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/26/95
Matrix: WATER

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

MATRIX SPIKE RECOVERY

Laboratory Number: LW102695TGA
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/26/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
GASOLINE	0	500	540	108

METHOD REFERENCE: METHOD 8015 (MODIFIED)

pace INCORPORATED
THE ASSURANCE OF QUALITY

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 : STD1000 5ml

Report No :625.00

Instrument : GC05

Subseq/Sample/Bottle: 1/ 1/ 1

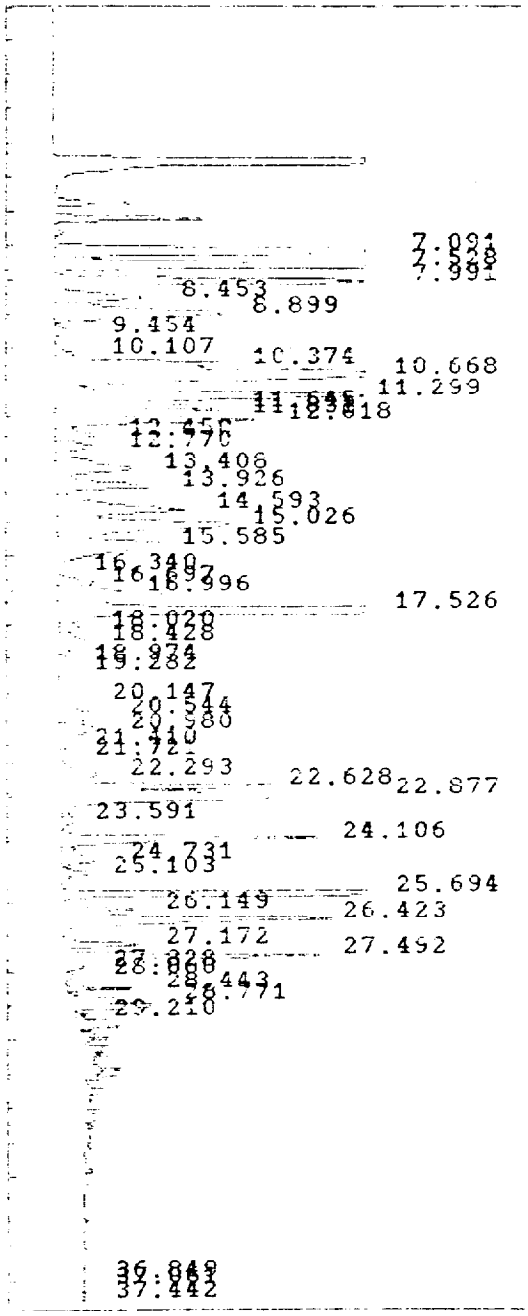
Sequence File: /DATA/GC05/SEQUENCE/GF1024.SEQ
Method File : /DATA/GC05/METHOD/TC450926.MTH
Result File : /DATA/GC05/RESULT/GC5F1024.RES

Run Time : 37.83 Minutes Injected on 1206 26Oct1995
Report Time : 1247 26Oct1995
Run Status : RunStatusOK
fm00:Baseline

Timed Events	Time	Events	Logic	Value	EventUpdate
1	.500	EnableIntegrate2	NoLogic	-1	True
2	6.750	SetBlendFactor	NoLogic	-1	True
3	11.250	EnableIntegrate1	NoLogic	-1	True
4	36.000	SetBaselineIntegrate	Logic	-1	True

Spl-Peak : 100.000 Sample Amt: 0.0000 Standard Amt: 1.0000

Pk#	RT	10-Cm Factor	Area	Code	08/t	Name
1	7.17		1482111	BV	74.4652	
2	7.57		1074471	VV	56.5341	
3	8.19		1401071	VV	43.3736	
4	8.45		444127	VV	12.3227	
5	8.69		1021??	VV	28.6472	
6	9.45		90113	VV	1.6809	
7	10.11		27?3?	Vv	2.3374	
8	11.31		798:97	VV	22.7815	
9	12.07		2637745	VV	39.1284	
10	12.30		1719?8?	VV	51.5980	
11	12.69		706621	Vv	19.6363	
12	12.87		71664	VV	22.1469	
13	13.03		742???	V.	23.9713	
14	13.47		227?40	VV	6.3289	
15	13.77		6?3343	VV	106.1761	DB-OCTANE
16	13.41		555303	VV	16.6173	
17	15.93		487773	VV	14.6532	
18	14.59		850157	vV	24.9041	
19	15.05		1174259	VV	35.2778	
20	15.59		867867	VV	25.9160	
21	16.34		47010	VV	1.4103	
22	16.70		142?e0	VV	6 2888	
23	17.53		2467403	VV	74.0821	
25	8.02		114611	VV	3.4383	
26	16 45		352594	VV	8.9778	
27	18.97		26461	VV	2.5938	
28	19.28		40396	VV	1.2469	
29	20.15		253?55	PU	7.7613	
30	20.74		268?70	VV	8.0647	
31	21.03		262?87	VV	7.8717	



PAGE INCORPORATED

Pk#	RT	IS-te	Factor	Area	Code	UG/L	Name
32	21.41			45812	VV	1.4644	
33	21.72			43815	VV	1.3144	
34	22.29			207152	VV	6.2146	
35	22.63			678229	VV	20.3467	
36	22.88			2337258	VV	70.1178	
37	23.59			72775	VV	2.1832	
38	24.11			832894	VV	24.9868	
39	24.73			228586	VV	6.8152	
40	25.10			115066	VV	3.4520	
41	25.69	25.75		1465856	VV	1465856.0000	4 BROMOFLUOROBENZENE
42	26.15			249410	VV	7.4823	
43	26.42			1159537	VV	34.7862	
44	27.17			207173	PV	6.2152	
45	27.49			639390	VV	19.1817	
46	27.85			88010	VV	2.6403	
47	28.06			49563	VV	1.4869	
48	28.44			134243	PV	4.0273	
49	28.77			477173	PV	14.3151	
50	29.21			26262	VV	.7879	
51	36.85			3071	BV	.0921	
52	37.01			5239	VV	.1572	
53	37.44			1488	VV	.0446	

Total Area DPC only : 33350692

75/50

104/100

VSTD1000 5ml
G51024
TG-W50926
(MULTIPLIED)

PACE New England
VOA Screening Analyst/Date CF 10/26/95

GC05		SCRNA			GC04		SCRNB		
FRN	tube	Sample#	Vol.	Comments	FRN	tube	Sample#	Vol.	Comments
65CF116123	1	8STD1000	5ml	1045/1000 105% Rec	64CF114895	1	Blank	5ml	✓
24	2	BG09826B5TBA	5ml	BDL	96	2	62454		RT only
25	3	45449-1 (cancel 10/27/95)	5ml	BDL	97	3	45766-56		25ml
26	4	LW09826B5TBA	5ml	540/500 108% Rec	98	4	-58		25ml
					99	5	-59		25ml
					900	6	-60		25ml
					1	7	-61		25ml
					2	8	-62		25ml
					3	9	-63		25ml
					4	10	-64		25ml
					5	11	-65		18ml 1,4C
					6	12	-66		35ml 1,4C
					7	13	45766-42		25ml
					8	14	-43		25ml
					9	15	-44		25ml 1
					10	16	-45		25ml
					11	17	-46		25ml 1
					12	18	-47		25ml
					13	19	-48	V	1 (cancel)
				CF 10/27/95					

Laboratory number: 45749-002
Sample Designation: CLJ44-CC-107-TB
Date Analyzed: 10/25/95
Matrix: WATER

Instrument File Name: >D3907

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	100	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	2.9 J	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	3.2 J	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

WATER VOLATILES SURROGATE RECOVERY

Client: OHM REMEDIATION SERVICES CORPORATION Lab No.: 45749
Project: CAMP GEIGER/LJN39

CLIENT SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
BD102595A1	100	100	103		0
CLJ44-CC-107-TB	98	99	106		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

Laboratory number: BD102595A1
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/25/95
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: LCD102595A1
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/25/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
1,1-DICHLOROETHENE	0	50	49	97
TRICHLOROETHYLENE	0	50	51	102
BENZENE	0	50	46	91
TOLUENE	0	50	47	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.: LJN39

Lab File ID: >D3849 BFB Injection Date: 10/20/95

Instrument ID: DMS BFB Injection Time: 10:39

ION ABUNDANCE CRITERIA for D3849 are reported on a separate sheet.

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

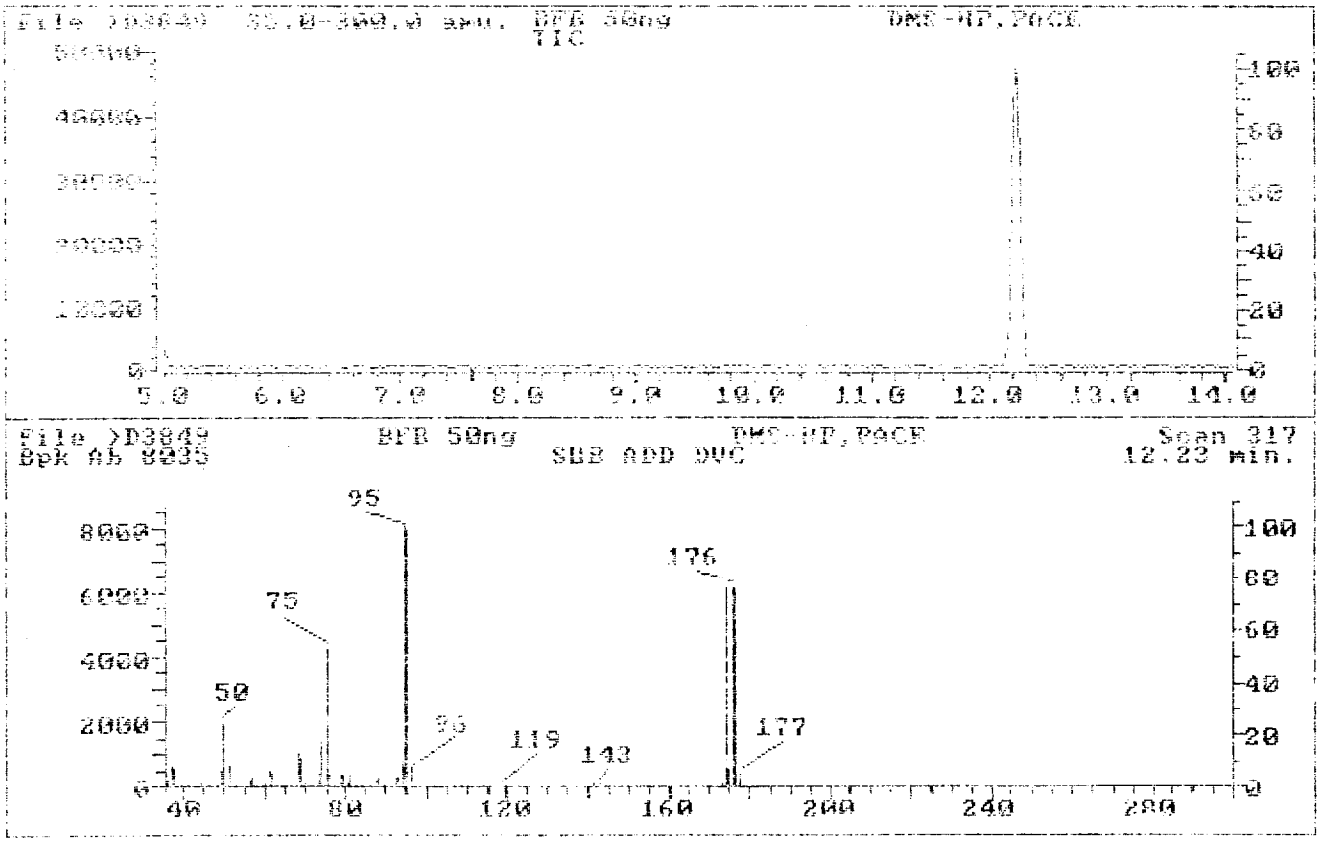
CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
VSTD200	VSTD200	D3851	10/20/95	11:49
VSTD100	VSTD100	D3852	10/20/95	12:28
VSTD050	VSTD050	D3853	10/20/95	13:06
VSTD020	VSTD020	D3854	10/20/95	13:45
VSTD010	VSTD010	D3855	10/20/95	14:24

GC/MS PERFORMANCE STANDARD -- 8/91 SOW

Bromofluorobenzene (BFB)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	8-40% of mass 95	24.36	24.36	Ok
75	30-66% of mass 95	53.13	53.13	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	6.70	6.70	Ok
173	Less than 2% of mass 174	.88	1.14	Ok
174	50-120% of mass 95	77.00	77.00	Ok
175	4-9% of mass 174	6.35	6.25	Ok
176	93-101% of mass 174	77.24	100.21	Ok
177	5-9% of mass 176	4.55	5.38	Ok

Injection Date: 10/10/95
Injection Time: 10:58
Data File: \D3849
Sven, BT



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.: LJN39

Lab File ID: >D3901 BFB Injection Date: 10/25/95

Instrument ID: DMS BFB Injection Time: 10:19

ION ABUNDANCE CRITERIA for D3901 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	D3903	10/25/95	11:38
BD102595A1	90183-027	D3904	10/25/95	12:16
LCD102595A1	90183-027MS	D3905	10/25/95	12:55
CLJ44-CC-107-TB	45749-002	D3907	10/25/95	14:29

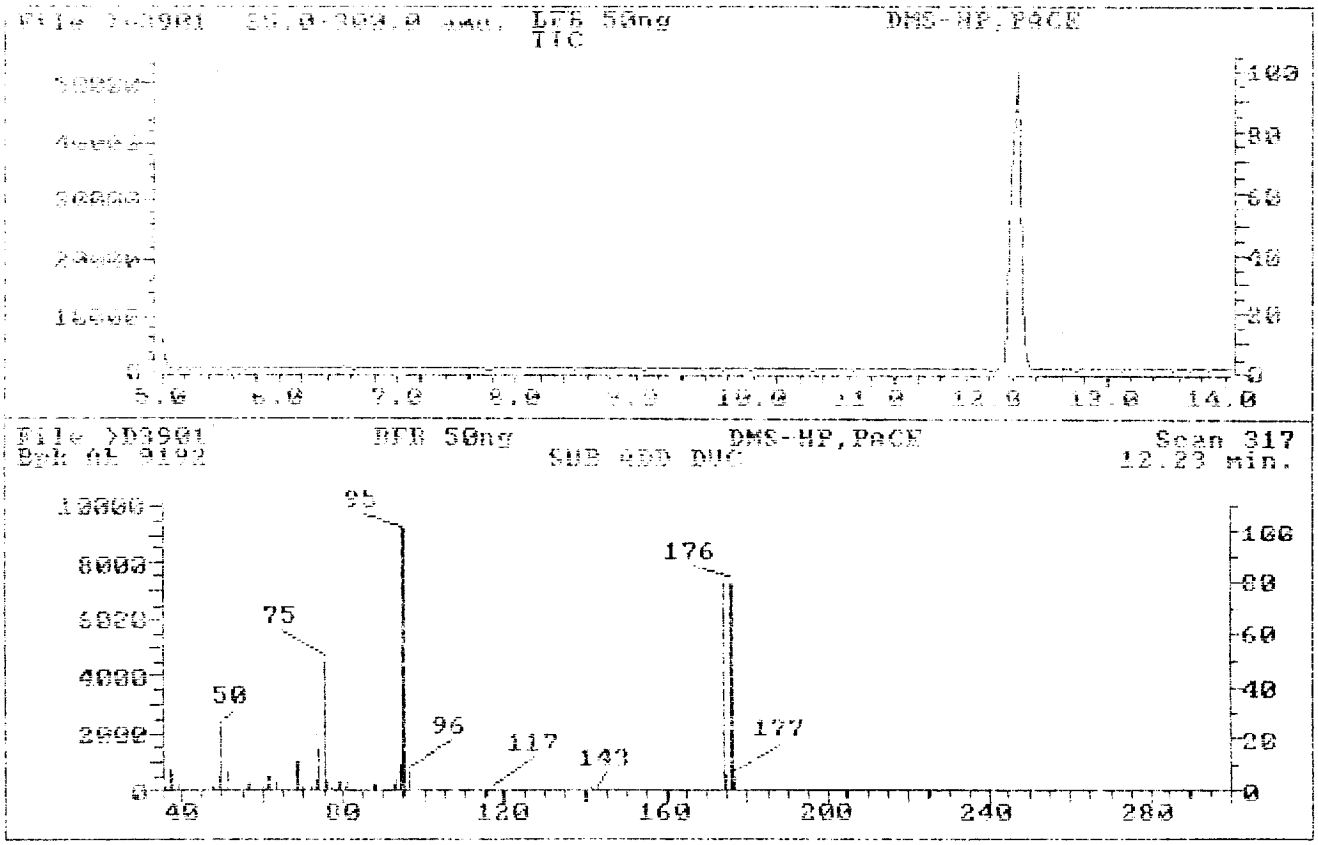
GC/MS PERFORMANCE STANDARD -- 8/91 SOW

Bromofluorobenzene (BFB)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	8-40% of mass 95	23.67	23.67	Ok
75	30-66% of mass 95	48.86	48.86	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	6.82	6.82	Ok
173	Less than 2% of mass 174	.17	.21	Ok
174	50-120% of mass 95	79.32	79.32	Ok
175	4-9% of mass 174	6.05	7.62	Ok
176	93-101% of mass 174	79.71	100.49	Ok
177	5-9% of mass 176	5.21	6.53	Ok

Injection Date: 10/10/95
Injection Time: 10:19
Data File: JD3901
Scan: 317

TN 10/9/95



8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN39

Lab File ID (Standard): >D3903 Date Analyzed: 10/25/95

Instrument ID: DMS Time Analyzed: 11:38

	IS1(BCM)		IS2(DFB)		IS3(CBZ)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	63770	14.06	266740	16.22	202943	24.10
UPPER LIMIT	127540	14.56	533480	16.72	405886	24.60
LOWER LIMIT	31885	13.56	133370	15.72	101472	23.60
CLIENT I.D.						
BD102595A1	60223	14.04	246227	16.21	187094	24.10
LCD102595A1	59989	14.06	243258	16.21	188768	24.10
CLJ44-CC-107-TB	57650	14.06	232570	16.22	180904	24.10

IS1 (BCM) = Bromochloromethane UPPER LIMIT = + 100%
IS2 (DFB) = 1,4-Difluorobenzene of internal standard area.
IS3 (CBZ) = Chlorobenzene LOWER LIMIT = - 50%

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

Initial Calibration Data
HSL Compounds

Case No: _____ Instrument ID: DMS-HP

Contractor: RESAN Calibration Date: 10/20/95

Contract No: 680200026

ID 1020 | CD 1020

AN 11/1/95

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

Laboratory ID:	>D3855	>D3854	>D3853	>D3852	>D3851					
	RF	RF	RF	RF	RF					
Compound	10.00	20.00	50.00	100.00	200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
0010 CHLOROMETHANE	1.01399	1.08522	1.04342	1.05036	1.18000	.419	1.07480	6.115		**
0015 BROMOMETHANE	1.42553	1.51888	1.38391	1.40348	1.33408	.507	1.41307	4.803		
0020 VINYL CHLORIDE	.99302	.91076	.72805	.63749	.60124	.435	.77331	22.053	*	
0025 CHLOROETHANE	.76567	.83716	.81176	.83904	.83970	.520	.81667	3.390		
0030 METHYLENE CHLORIDE	1.57859	1.57824	1.42161	1.44277	1.43024	.703	1.48967	5.368		
0035 ACETONE	.63244	.58986	.52338	.56299	.45095	.387	.55394	13.119		
0040 CARBON DISULFIDE	2.42566	2.59920	2.59196	2.65066	2.70353	.741	2.65224	4.187		
0042 TRICHLOROFLUOROMETHANE	3.70909	3.88792	3.56127	3.55177	3.57429	.561	3.65215	4.011		
0043 1,1-DICHLOROETHENE	1.24970	1.33960	1.27748	1.29558	1.31072	.658	1.29456	2.618	*	
0053 TETRAHYDROFURAN	.10571	.12068	.12820	.12518	.12216	1.006	.12225	7.928		
0050 1,1-DICHLOROETHANE	2.87810	2.99875	2.76931	2.84701	2.90071	.849	2.88577	2.238		**
0054 1,2-DICHLOROETHENE(cis)	1.52696	1.58182	1.50072	1.50143	1.54857	.947	1.53390	2.461		
0057 1,2-DICHLOROETHENE(trans)	1.34003	1.51068	1.42435	1.42546	1.42437	.782	1.42498	4.234		
0060 CHLOROFORM	3.75667	3.78796	3.50009	3.51603	3.56359	.973	3.62543	3.765	*	
0110 2-BUTANONE	.63748	.69459	.70203	.66256	.67516	.914	.67437	3.836		
0065 1,2-DICHLOROETHANE	3.56177	3.50472	3.20262	3.15314	3.13103	1.106	3.31672	5.487		
0135	4.18481	4.19067	3.80504	3.82477	3.87421	.757	4.01430	3.111		
0815 1,2-DICHLOROETHANE-d4	3.62027	3.20661	2.74441	2.79817	2.66082	1.091	3.00546	13.402		
0115 1,1,1-TRICHLOROETHANE	.91384	.90453	.85369	.83180	.82668	.801	.87106	5.473		
0127 CARBON TETRACHLORIDE	.82829	.84782	.78702	.76505	.74857	.939	.79535	5.298		
0128 VINYL ACETATE	.71094	.72942	.73831	.73449	.81758	.782	.75004	5.721		
0130 BROMODICHLOROMETHANE	.86324	.85867	.83974	.84575	.83859	1.114	.85875	2.606		
0140 1,2-DICHLOROPROPANE	.33671	.35042	.33511	.34628	.34500	1.073	.34270	1.510	*	
0142 CIS-1,3-DICHLOROPROPENE	.51627	.57366	.55364	.56223	.57651	1.197	.55566	4.232		
0150 TRICHLOROETHENE	.45475	.46392	.43320	.42394	.42069	1.053	.44050	4.106		
0155 DIBROMOCHLOROMETHANE	.75833	.78790	.75852	.74879	.71851	1.387	.75469	3.282		
0160 1,1,2-TRICHLOROETHANE	.34160	.34235	.32983	.31981	.31980	1.301	.33068	3.357		
0165 BENZENE	.98781	1.00765	.97839	.99801	1.01605	.963	.99758	1.509		
0172 TRANS-1,3-DICHLOROPROPENE	.49338	.53769	.53092	.54051	.54287	1.275	.52907	3.865		
0176 2-CHLOROETHYLVINYLETHER	.12859	.17240	.18445	.16819	.16700	1.157	.16813	14.115		

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: DMS-HP

Contractor: REGAN Calibration Date: 10/20/95

Contract No: 68D20026

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

Laboratory ID: >D3855 >D3854 >D3853 >D3852 >D3851

Compound	RF 10.00	RF 20.00	RF 50.00	RF 100.00	RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
0160 BROMOFORM	.75145	.80352	.79714	.77401	.74320	1.653	.77413	3.446		**
0505 TOLUENE-d8	1.45948	1.35707	1.13735	1.28949	1.22827	.852	1.30713	7.862		
0205 4-METHYL-2-PENTANONE	.66415	.73594	.75671	.74588	.70378	.781	.72133	5.100		
0210 2-HEXANONE	.30675	.32321	.34086	.32068	.32609	.875	.32496	3.736		
0220 TETRACHLOROETHENE	.61057	.64796	.59042	.62552	.54905	.912	.56677	8.056		
0225 1,1,2,2-TETRACHLOROETHANE	.54293	.59744	.63360	.66444	.67863	1.123	.58565	2.430		**
0230 TOLUENE	1.42546	1.47105	1.33624	1.42987	1.43452	.941	1.43147	2.137	*	
0235 CHLOROBENZENE	1.03071	1.05245	.99265	1.01150	.98719	1.004	1.01344	3.005		**
0240 ETHYLBENZENE	.47103	.49252	.46072	.46265	.45249	1.010	.46798	3.290	*	
0245 STYRENE	.91582	.93050	.84318	.97755	.94714	1.073	.95602	3.058		
0251 XYLENE-PC	.51160	.53943	.51122	.52705	.50798	1.066	.51956	2.574		
0250 XYLENE (total)	.570.2	.59851	.55553	.55453	.51418	1.019	.55865	5.466		(Conc=20.0,40.0,100.0,200
0510 BROMOFLUOROBENZENE	1.29348	1.17675	1.08390	1.08001	.98444	1.141	1.11697	10.741		

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 (**)

ID 1025

Continuing Calibration Check
HSL Compounds

Case No: _____ Calibration Date: 10/25/95

Contractor: REGAN Time: 11:30

Contract No: 6900000026 Laboratory ID: 103903

Instrument ID: DMS-HP Initial Calibration Date: 10/20/95

TW 11/6/95

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

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
0010 CHLOROMETHANE	1.27480	1.14932	9.83		**
0015 BROMOMETHANE	1.41307	1.27886	9.50		
0020 VINYL CHLORIDE	.77991	.75957	1.55	*	
0025 CHLOROETHANE	.81867	.76763	6.23		
0030 METHYLENE CHLORIDE	1.48867	1.42584	4.22		
0035 ACETONE	.56394	.54057	5.15		
0040 CARBON DISULFIDE	2.69224	2.19751	14.39		
0042 TRICHLOROFLUOROMETHANE	3.66215	3.39.25	7.40		
0045 1,1-DICHLOROETHENE	1.29455	1.19913	7.29	*	
0050 TETRAHYDROFURAN	.12228	.12602	3.10		
0055 1,1,1-TRICHLOROETHANE	2.86677	2.75309	5.76		**
0064 1,2-DICHLOROETHENE(total)	1.50330	1.48543	3.12		
0063 1,2-DICHLOROETHENE(trans)	1.42466	1.34058	5.71		
0060 CHLOROFORM	3.62543	3.54364	2.33	*	
0110 2-BUTANONE	.67427	.67845	.91		
0065 1,2-DICHLOROETHANE	3.31672	3.14613	5.14		
4186	4.01498	3.88725	3.42		
0815 1,2-DICHLOROETHANE-d4	3.00648	2.88644	4.82		
0115 1,1,1-TRICHLOROETHANE	.87108	.81853	6.02		
0120 CARBON TETRACHLORIDE	.79559	.74176	6.77		
0125 VINYL ACETATE	.77004	.71962	6.52		
0130 BROMODICHLOROETHANE	.85676	.81657	4.69		
0140 1,2-DICHLOROPROPANE	.34270	.32899	4.00	*	
0142 CIS-1,3-DICHLOROPROPENE	.55568	.54071	2.69		
0150 TRICHLOROETHENE	.44050	.42018	4.61		
0155 DIBROMOCHLOROMETHANE	.76469	.74135	1.77		
0160 1,1,2-TRICHLOROETHANE	.33060	.31726	4.05		
0165 BENZENE	.99758	.93668	6.11		
0172 TRANS-1,3-DICHLOROPROPENE	.52907	.50611	4.34		
0176 2-CHLOROETHYLVINYLETHER	.16813	.17355	3.22		
0180 BROMOFORM	.77413	.78054	.83		**
0805 TOLUENE-d8	1.30713	1.28911	1.38		

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: 10/25/95

Contractor: FEDAN Time: 11:38

Contract No: 68C20002S Laboratory ID: NB0303

Instrument ID: DMS-HP Initial Calibration Date: 10/20/95

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

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C20E 4-METHYL-2-PENTANONE	.72169	.71689	.67		
C210 2-HEXANONE	.32498	.30489	6.18		
C22A TETRACHLOROETHENE	.59677	.58536	1.91		
C22B 1,1,2,2-TETRACHLOROETHANE	.68565	.60279	4.94		**
C23B TOLUENE	1.40147	1.37200	4.15	*	
C25E CHLOROBENZENE	1.01244	.99497	1.52		**
C26A ETHYLBENZENE	.40766	.48101	3.62	*	
C26E STYRENE	.95602	.95117	.51		
C27E XYLENE(S)	.5.359	.5.861	2.13		
C28E XYLENE (total)	.85668	.84527	2.36		(Concentration)
C3[illegible] [illegible]BENZENE	1.11687	1.11256	.49		

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 (**)

PACE New England

GCMS/VOA Instr D **MS-HP** Analyst/Date [illegible] 10-20-95 STD Lot #[illegible]

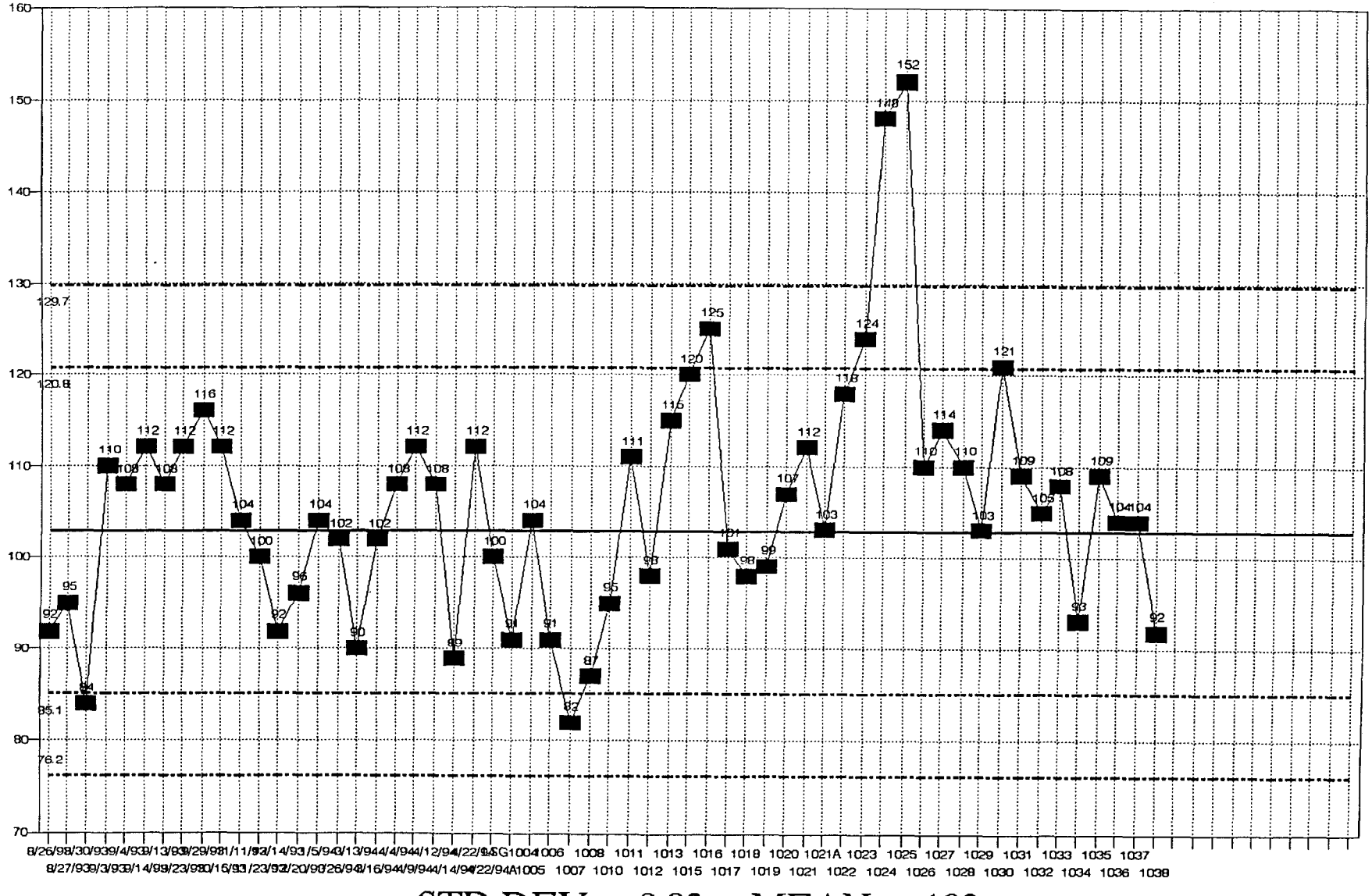
FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
2D35347 2D35404	[illegible]			BFB-DI 50ng/µL	1µL	INJ 1 10/20/95 = 4:14			✓
				TIME = 10:31	SCAN# =	[illegible]			
50		ID1020	1	VSTD050	5mL	IS1 [illegible] 10/20/95 Vial A			
51			2	VSTD200					✓
52			3	VSTD100		TD1020/CCV1020			✓
53			4	VSTD050					
54			5	VSTD020					✓
55			6	VSTD010					✓
56		IDOC20	7	CD1020SA1	5mL				
57			8	LCD1020SA1	5mL				
58			9	43643-2	5mL	(RUSHWICK) Acetone 2nd Incubation extraction between Vials B+C			

PACE New England

GCMS/VOA Instr D **MS-HP** Analyst/Date PEK 10-25-95 STD Lot #

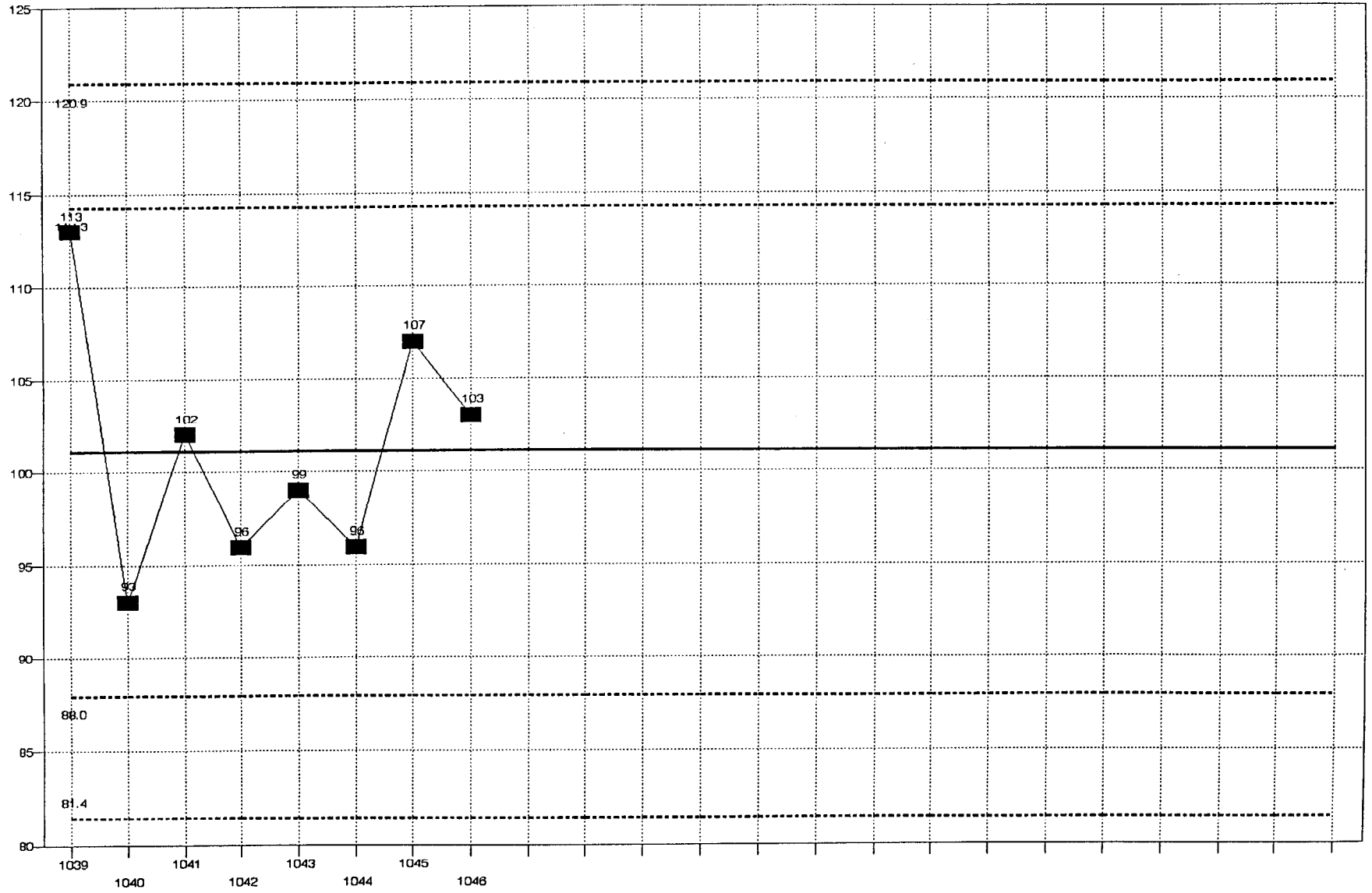
FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
>D3901				BFB-DFTPP 50ng/µL	1µL	N Conc = 316+317+318-299		Y	
				10:19					
02		FD0020	1	VSTD070	5mL	NOT USED		N	
03			2	VSTD050				Y	
04		FD0021	3	BD102595A1		VOA ID B		Y	
05			4	LCSD102595A1				Y	
06			5	45713-1 C	20µL	(R91VOAWAS) EX02XXDL	<2	Y	
07			6	45749-2 B	5mL	(RG24MCRTN)		Y	
08			7	45746-1 B	5mL			Y	
09			8	45753-1 B		(RG24MCRTN)		Y	
10			9	-2 B			>2	Y	
11			10	45754 B			<2	Y	
12			11	45743-1 A			>2	Y	
13			12	45713-1	20µL	EX02XXDL Acetone only	<2	N	
14			13	45713-1	10µL	EX02XXDL	<2	Y	
						Methylene Chl			

GRO SOLID LCS RECOVERIES GC07
LIMITS SET 4/13/94



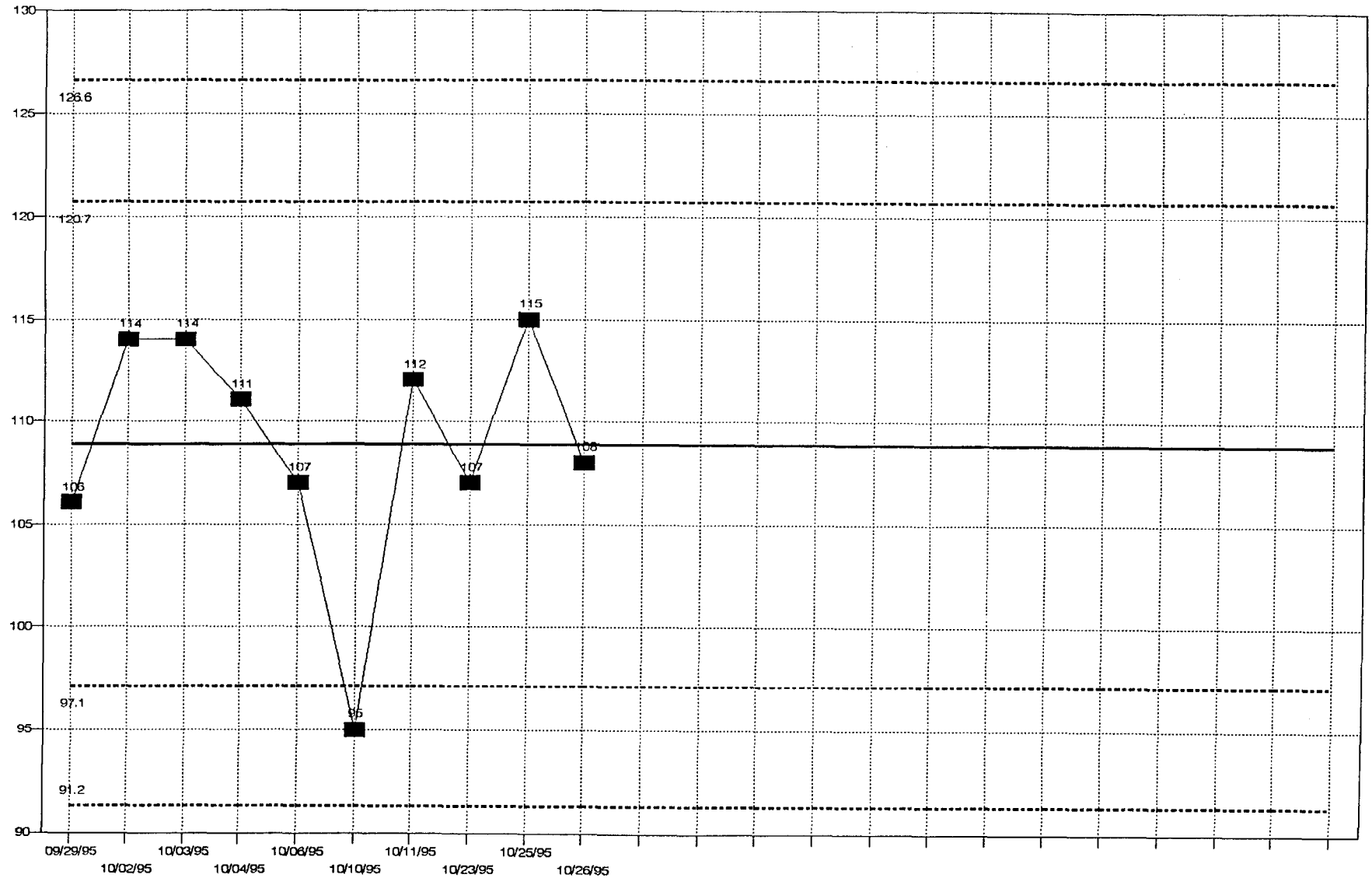
STD DEV = 8.93 MEAN = 103

GRO SOLID LCS RECOVERIES GC05
LIMITS SET 10/27/95



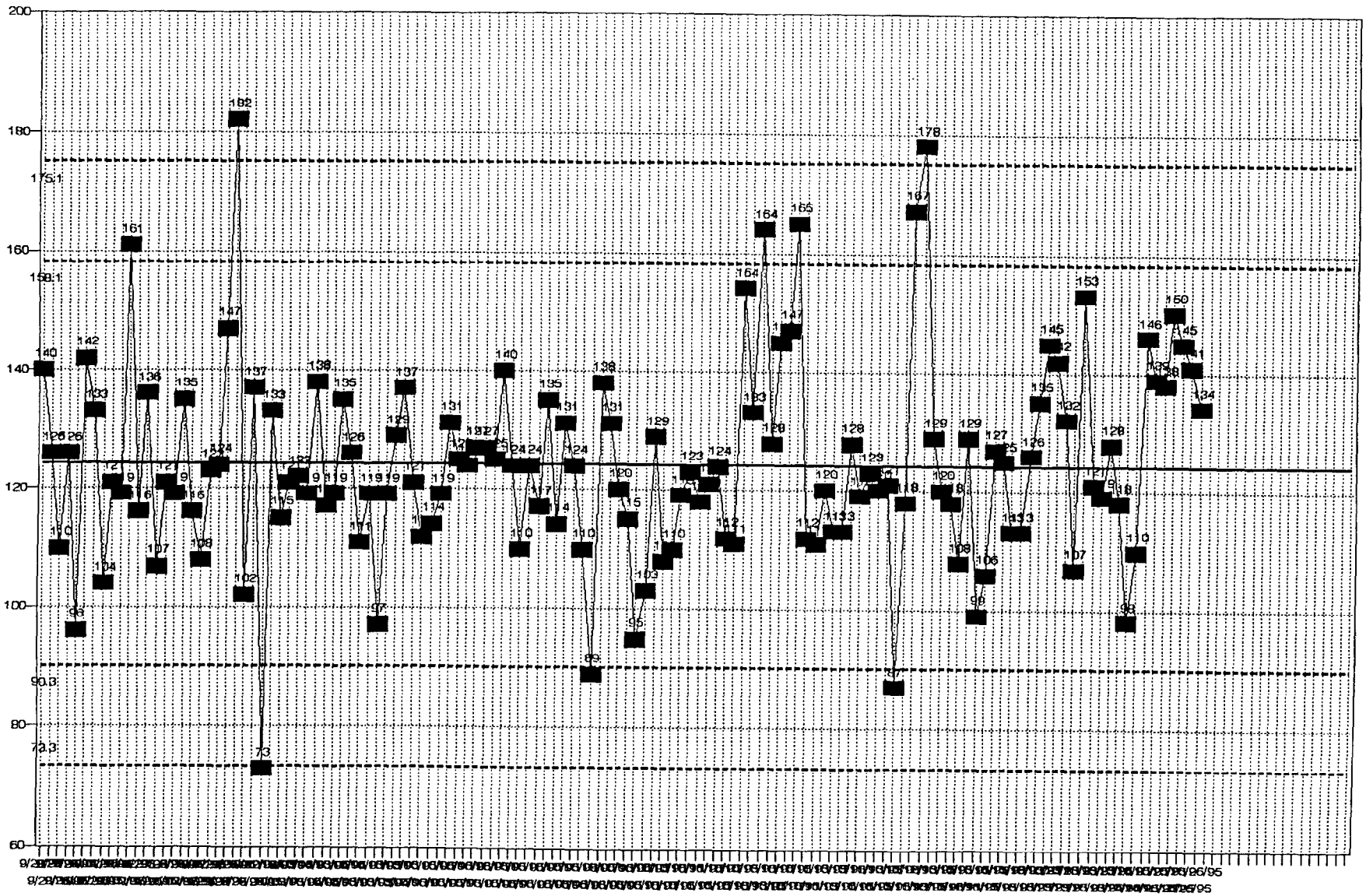
STD DEV = 6.58 MEAN = 101

GRO LCS WATER RECOVERIES
LIMITS SET 10/27/95



STD DEV = 5.89 MEAN = 108.9

GRO SURROGATE RECOVERIES
LIMITS SET 10/27/95

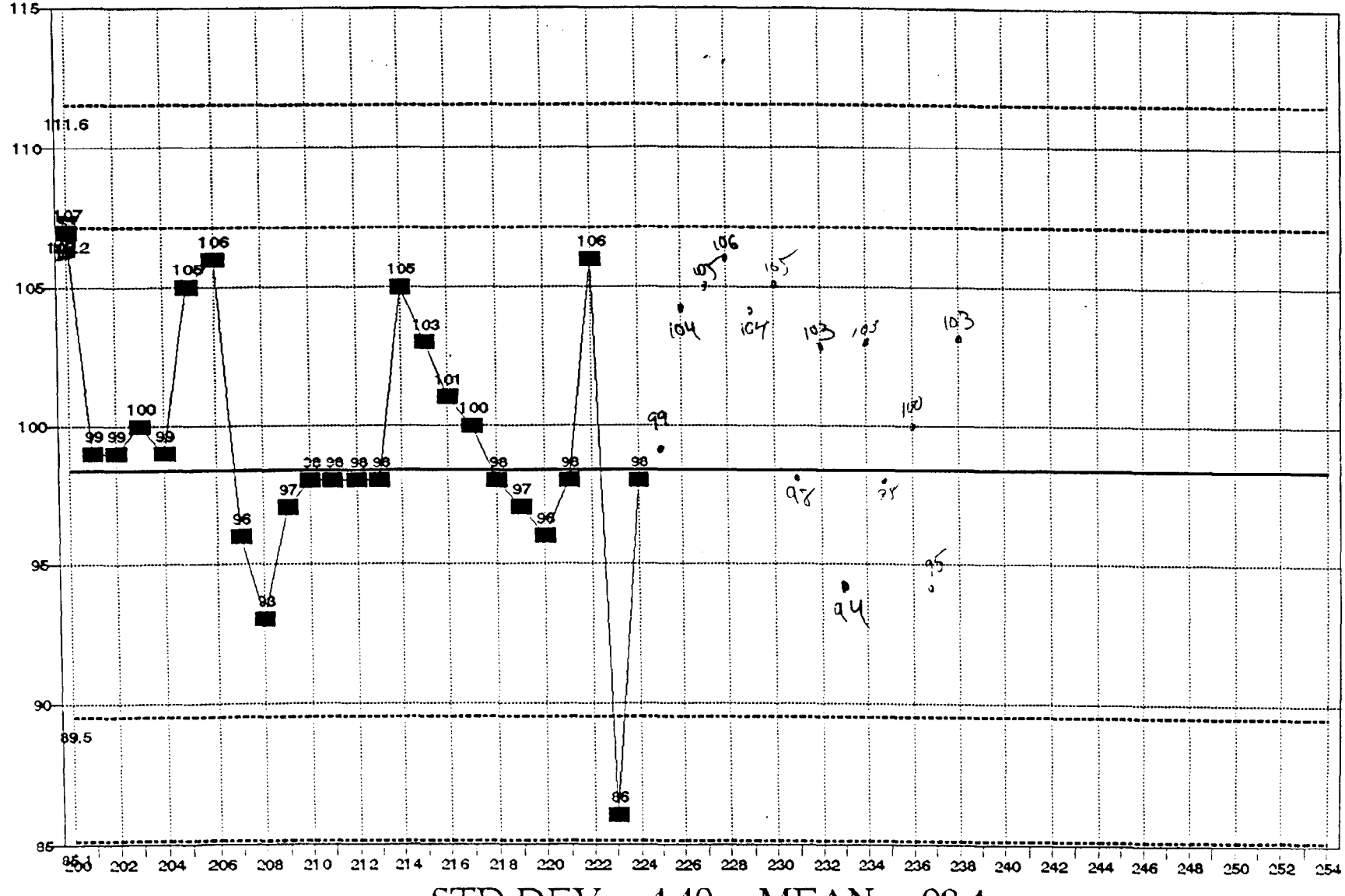


STD DEV = 16.96 MEAN = 124

VOLATILES -- WATER SURROGATE CONTROL CHARTS
POINT / BLANK

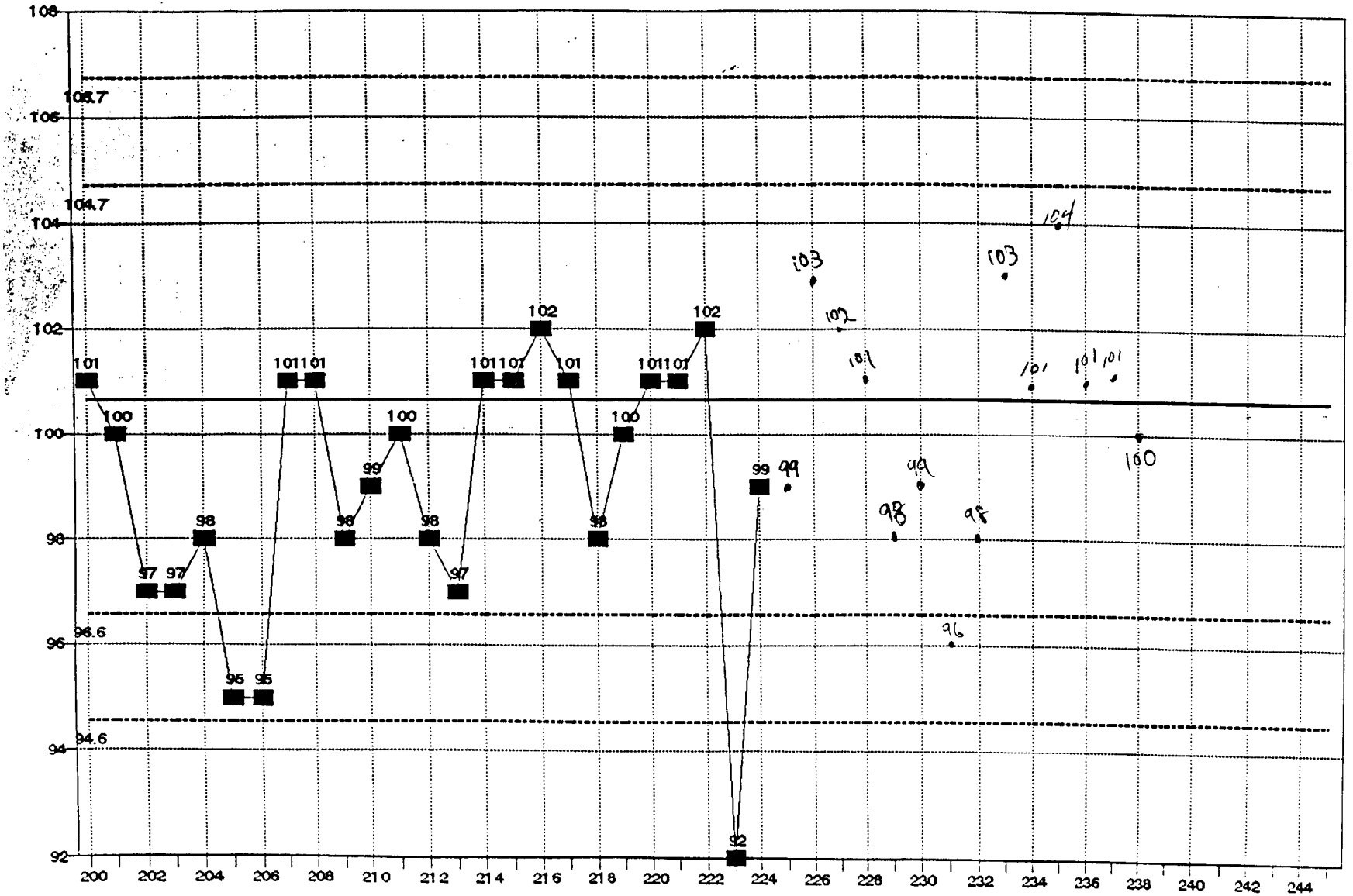
69 BC041493A	117 BE070794A	165 BC041295A	213 BG100195B2
70 BE052593B	118 BE070894A	166 BI042095B	214 BG100395A1
71 BE060193A	119 BC063094A	167 BI042195A	215 BG100495B2
72 BE060393A	120 BC072794A	168 BI042495A	216 BG100595A1
73 BC062193A	121 BD072794A	169 BC042595B	217 BG100695A1
74 BE051393A	122 BD072894A	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 BD101695A1
84 BD072793A	132 BC110894B	180 BI080895A1	228 BD101795A1
85 BD073093A	133 BC110994A	181 BI080995A1	229 BD101895A1
86 BC080493A	134 BC111594B	182 BC080295A1	230 BD101995A1
87 BC080593A	135 BC111794B	183 BC080495A1	231 BG101995A1
88 BE091793A	136 BC111894B	184 BC080795A1	232 BD102495A1
89 BC092093B	137 BG111094A	185 BC080895A1	233 BG100995A2
90 BC093093B	138 BC120194B	186 BI081095A1	234 BD102595A1
91 BG093093A	139 BC120294B	187 BI081195A1	235 BG101795A1
92 BE120693A	140 BC120594B	188 BI080995A1	236 BG101295A1 (reanalysis)
93 BE120793A	141 BC120694B	189 BC081195A1	237 BG101495A1 (1/96 or 97)
94 BE121793A	142 BC120794B	190 BC081495A1	238 BD102515A1
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 WATERS - SURR DCE
LIMITS SET 4/95



STD DEV = 4.40 MEAN = 98.4

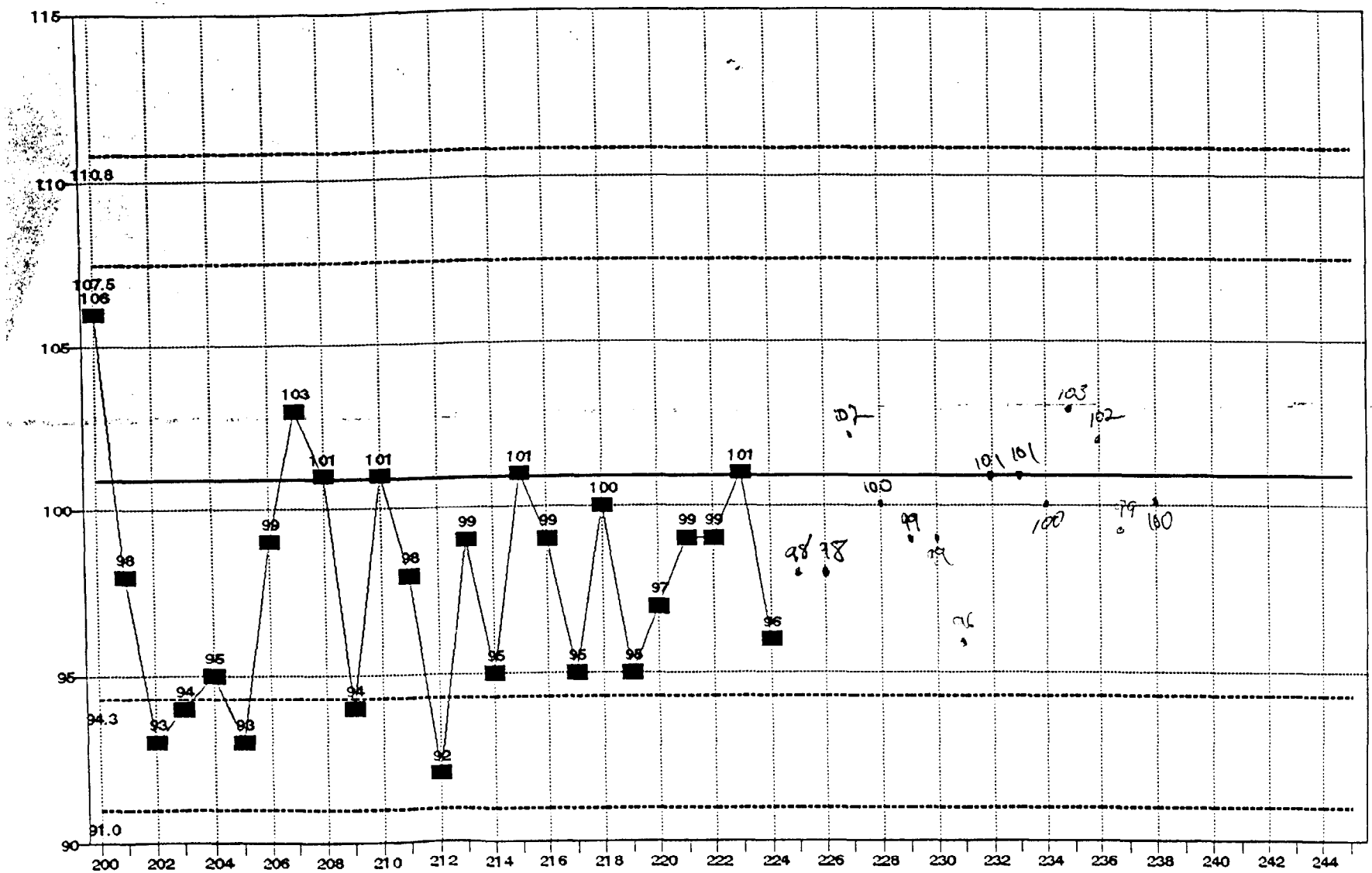
VOA WATERS - SURR TOL
LIMIT SET 4/95



STD DEV = 2.03 MEAN = 100.6

00000033

VOA WATERS - SURR BFB
LIMIT SET 4/95



STD DEV =3.31 MEAN = 100.9

00000034

OHM Remediation Services Corp.

CHAIN-OF-CUSTODY RECORD

LAB CO

Form 0(
Field Technical Servi
Rev. 08.

166422

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	TPH-GRO	TPH-DRO	TCLP Metals	TCLP Volatile	TCLP Semi-Volatile	RCRA Haz Waste	OEG	PCB	Total Lead Volatile + BTEX (8240)	REMARKS
1	CLJ44-CC-105	10/19	1035		X	Contaminated Soil from Pile 58 of Area A.		X	X				X				45749
2	CLJ44-CC-106-RB	10/19	1045	X		Rinsate Blank		X	X	X	X	X					
3	CLJ44-CC-107-TB					Trip Blank		X-1			X-2				X-2		
4	CLJ44-SB03-4'	10/20	0815		X	Soil Sample at 4' from Area D		X	X								
5	CLJ44-SB01-4'	10/20	0825		X	Soil Sample at 4' from Area D		X	X								
6	CLJ44-SB02-4'	10/20	0835		X	Soil Sample at 4' from Area D		X	X								
7	CLJ44-SB04-4'	10/20	0845		X	Soil Sample at 4' from Area D.		X	X								
8																	
9																	
10																	

Final Page

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-7		FED EX Air Bill #	10/20	1300
2			K. Lawson / Lee 24	10/21/95	1200
3					
4					

REMARKS Send Samples to Pace Lab.
Items 1, 2 & 4-7 24hr. TAT
Item #3 3 days TAT = 45749

SAMPLER'S SIGNATURE

000035

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

SDG Narrative
Case: OHMRC SDG: LJN40

November 10, 1995

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

SAMPLE DELIVERY GROUP NARRATIVE

Case: OHMRC
SDG: LJN40
Laboratory: PACE New England - New Hampshire of Hampton, NH
Lab Numbers: 45750
Protocol: SW846 Methods. NEESA C deliverables. No diskette.

Sample Receipt: These samples were received at PACE, Inc. on October 21, 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 10/21/95 (45750): Samples were received in one cooler and were assigned PACE# 45748, 45749, and 45750. 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# 45750 were logged in for a 7-day turnaround per the request on COC# 166423. Samples assigned PACE Lab# 45749 were logged in for a 3-day turnaround per the request on COC# 166422 and samples assigned PACE Lab# 45748 were logged in for 24-hour turnaround.

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 numbers 45750-1 and -2 for diesel range organics contained petroleum hydrocarbon products which did not match diesel.

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 Ullman — 11/10/95

PACE Incorporated, New England-New Hampshire — November 10, 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# 45750
PAGE 1 of 1
COOLER ____ of ____
COC# GNF
SDG# LJN3540
CASE# OHMRE

CLIENT OHM
DATE/TIME RECEIVED 10/21/95 1200
DELIVERED BY Fed-Ex
RECEIVED BY [signature]
LIMS ENTRY BY GNF
TRANSCRIPTION REVIEW BY GNF
LIMS REVIEW BY/PM GNF

	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	☐	☐	☑	No Temp Blank	
Ice/Ice Packs Present? (Y) or N					
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: 7day TAT
1 ⇒ 3 = Temp. Comm. Voa First

CLIENT AUTHORIZATION SIGNATURE ____ DATE ____

0000002

SAMPLE TABLE

CLIENT ID.	MATRIX	PACE #	PARAMETERS
CLJ44-CS-023	SOLID	45750-001	TOTAL GASOLINE
			TOTAL DIESEL
CLJ44-CS-024	SOLID	45750-002	TOTAL GASOLINE
			TOTAL DIESEL
CLJ44-CS-025	SOLID	45750-003	TOTAL GASOLINE
			TOTAL DIESEL

pace INCORPORATED
THE ASSURANCE OF QUALITY

Field Identification: CLJ44-CS-023 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	13	45750-001	10/24/95	BG1046A	8015(mod)/2
Total Diesel (ug/g)	12	3.7	45750-001	10/24/95		8015(mod),3350/2

Field Identification: CLJ44-CS-024 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	13	45750-002	10/24/95	BG1046A	8015(mod)/2
Total Diesel (ug/g)	17	4.0	45750-002	10/24/95		8015(mod),3350/2

Field Identification: CLJ44-CS-025 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	730	70	45750-003	10/25/95	BG1046A	8015(mod)/2
Total Diesel (ug/g)	7800	180	45750-003	10/24/95		8015(mod),3350/2

Results expressed on a dry weight basis.

References: 2) EPA SW 846, 3rd Edition

pace INCORPORATED THE ASSURANCE OF QUALITY

QUALITY CONTROL DATA
TOTAL GASOLINE

BLANK DATA

Laboratory Number: BG1046A
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/23/95
Matrix: SOLID

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

MATRIX SPIKE RECOVERY

Laboratory Number: LS-G1046
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/23/95
Matrix: SOLID

COMPOUND	ug/g IN SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
GASOLINE	0	50	52	104

METHOD REFERENCE: METHOD 8015 (MODIFIED)

pace INCORPORATED
THE ASSURANCE OF QUALITY

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 10/25/95		BG1046	4.0						MeOH Lot#
		LS1046	4.0						
		45748-1	4.4						
		-3	4.0						
		4	4.1						
		5	4.2						
		6	4.1						
		45756-1	4.4						
		2	4.5						
		3	4.0						
CF 10/27/95		BG1047	4.0						
		LS1047	4.0						
		45802-1	4.1	C1	1.3	14.9	13.3	0.88	
		-2	Water						
		45803-1	4.3	C2	1.3	8.3	7.3	0.86	
		4	4.0	C3	1.3	8.4	7.1	0.82	
		5	4.1	CX	1.3	9.0	7.8	0.84	
CF 11/1/95		BG1048	4.0						
		LS1048	4.0						
		45815-4	4.0						
		-4MS	4.2						
		-4MSD	4.2						
		-5	4.2						
		-6	4.2						
CF 11/6/95		BG1049	4.0						V6532, V6533
		LS1049	4.0						
		45851-1	4.5	C1	1.3	8.0			
		2	4.0	C2	1.3	8.1			
		3	4.1	C3	1.3	7.1			
CF 11/8/95		BG1048B	4.0						
		45815-4	4.3						
		-4MS	4.0						
		-4MSD	4.5						

surrogate V6502
spike V6504

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 — Page 1
Sample Name : vstd1000 5ulv6419 5ulv6501 — Report No :588.02

Instrument : GC05 — Subseq/Sample/Bottle: 1/ 9/ 9

Sequence File: /DATA/GC05/SEQUENCE/051023.SEQ
Method File : /DATA/GC05/METHOD/TGAS0926.MTH
Result File : /DATA/GC05/RESULT/S5CF116C90.REC

Run Time : 37.83 Minutes Injected on 1657 230ct1995
Report Time : 0833 240ct1995
Run Status : RunStatusOK
EndOfBaseline

Timed Events	Time	Events	Logic	Value	Evt Update
1	8c0	EndIntegrateA.B	NoLogic	-1	True
2	1 7e5	SetBlandIntegra	NoLogic	-1	True
3	29.35e	EndIntegrateB.B	NoLogic	-1	True
4	3e.67e	SetBlandIntegra	NoLogic	-1	True

Cal-Fact : 100.00 Sample Amt: 0.0000 Standard Amt: 1.0000

Pea	RT	10-Um Factor	Area	Code	UG/L	Name
1	7.10		2475990	VV	74.2714	
2	7.92		1915bc9	VV	57.4609	
3	8.01		1380835	VV	41.4248	
4	8.46		461577	VV	13.2417	
5	8.89		976917	VV	29.3047	
6	9.02		1449b6	VV	4.3481	
7	10.11		84018	PB	2.5442	
8	10.40		770226	VV	27.1071	
9	10.69		2374774	VV	71.2432	
10	11.32		1530114	VV	45.9034	
11	11.70		584101	VV	17.5242	
12	11.91		80e171	VV	24.2451	
13	12.07		539213	VV	16.1786	
14	12.47		223121	VV	6.710-	
15	12.83		770506	VV	23.7377	CC N OCTANE
16	13.46		493827	VV	14.8648	
17	13.98		46e730	VV	13.9302	
18	14.64		737703	VV	22.1017	
19	15.39		1041738	VV	31.2530	
20	15.66		742761	VV	22.2818	
21	16.75		161be0	VV	4.8318	
22	17.60		2527519	VV	75.1256	
24	18.51		213412	VV	6.4079	
25	19.04		87422	VV	2.6227	
26	20.23		256706	VV	7.6892	
27	21.64		227e61	VV	6.7887	
28	21.97		200355	VV	6.1107	
29	22.76		254298	VV	7.6289	
30	22.98		67b407	VV	20.1122	
31	23.95		2516232	VV	75.4879	

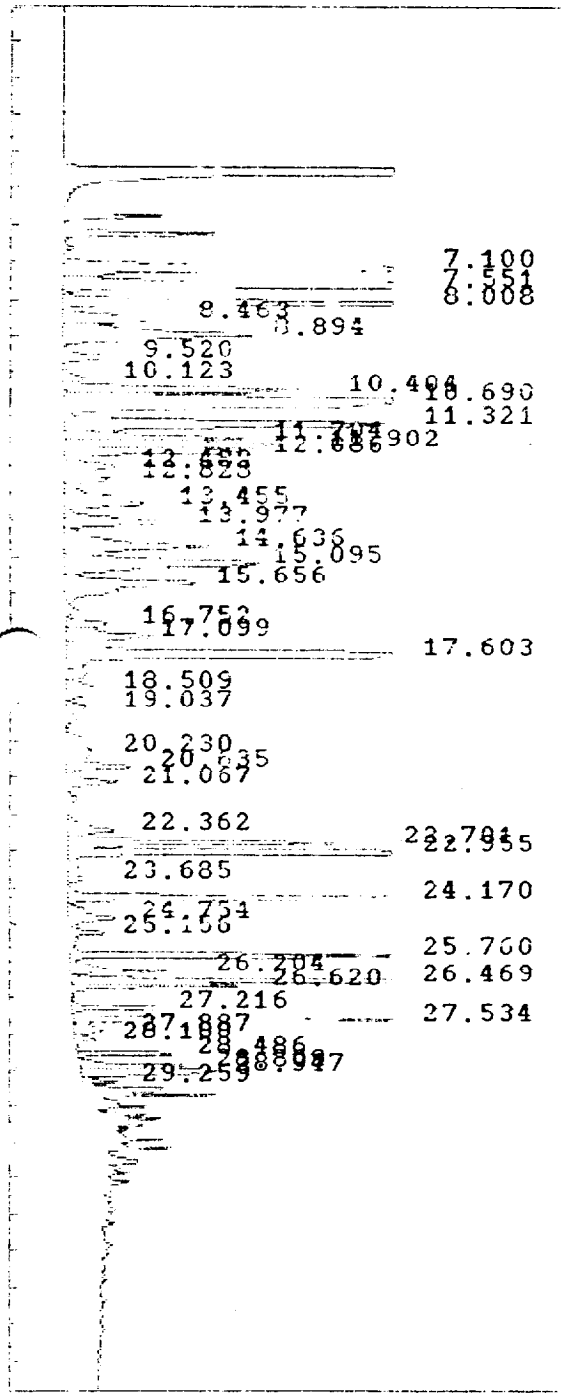
PACE INCORPORATED

Pk#	RT	ID-tm	Factor	Area	Code	UG/L	Name
32	23.69			62236	VV	1.8671	
33	24.17			880673	PV	26.4022	
34	24.75			244898	VV	7.3470	
35	25.16			109760	VV	3.2928	
36	25.76	25.75		1431850	VV	1431850.0000	4 BROMOFLOUROBENZENE
37	26.20			270773	VV	8.1232	
38	26.47			1002471	VV	30.0741	
39	26.62			351530	VV	10.5459	
40	27.22			243585	VV	7.3075	
41	27.53			1074008	PV	32.2202	
42	27.89			122925	VV	3.6878	
43	28.10			60859	VV	1.8258	
44	28.49			237757	PV	7.1327	
45	28.81			273500	VV	8.2050	
46	28.95			469873	VV	14.0962	
47	29.26			74775	VV	2.2429	

Total Area DRO only : 32119196

71/50

100/1000



VSTD1000 sp1v6419 sp1v6501
G51023
TG-A51926
G5UF116098

PACE INCORPORATED

CARBON SIX-CARBON TEN — Page 1
Sample Name : vtd1000 5ulv6419 5ulv6501 — Report No :589.01

Instrument : GC05 — Subseq/Sample/Bottle: 1/ 10/ 10

Sequence File: /DATA/GC05/SEQUENCE/G51023.SEQ
Method File : /DATA/GC05/METHOD/TSAS0926.MTH
Result File : /DATA/GC05/RESULT/G5CF116079.RES

Run Time : 37.83 Minutes Injected on 1740 23C 01995
Report Time : 0837 24Oct1995
Run Status : RunStatusOK
EndOffBaseline

Time	Events	Time	Events	Logic	Value	EventUpdate
	1	.8:3	EndIntegrate@tC	NoLogic	-1	True
	2	6.7c5	SetBL-noIntegra t	Logic	-1	True
	3	29.3C5	EndIntegrate@tB	NoLogic	-1	True
	4	36.050	SetBLe dIntegra	NoLogic	-1	True

Dilution : 100.000 Sample Amt: 0.0000 Standard Amt: 1.0000

Pk#	RT	Theoretical Factor	Area	Code	Conc	Name
1	7.1c		2184b85	VV	68.7776	
	7.3C		1873859	VV	59.2167	
3	8.02		1345961	VV	42.2718	
4	8.48		434577	VV	13.8373	
	8.9C		557c47	VV	28.7114	
6	9.50		86799	VV	2.6670	
7	10.13		84984	PV	2.6471	
8	10.41		702169	VV	22.0651	
9	10.70		2217129	VV	69.5109	
10	11.02		1456.80	VV	44.6544	
11	11.21		5228?6	VV	15.6860	
12	11.90		759430	VV	23.6844	
13	12.09		532385	V	15.9715	
14	12.50		215739	VV	6.4122	
15	12.94		5a9032	VV	82.2147	C8 H-OCTANE
16	13.4*		472338	VV	14.1701	
17	13.99		459740	VV	13.5758	
18	14.66		721081	VV	21.4324	
19	15.09		1005542	VV	30.1570	
20	15.65		703181	VV	21.0954	
21	16.25		157811	VV	4.7343	
25	17.61		2492101	VV	74.7630	
24	18.50		198091	VV	5.9427	
25	19.03		75054	VV	2.2516	
26	19.90		57844	VV	1.7357	
27	20.23		184585	VV	5.5395	
28	20.62		208547	VV	6.2574	
29	21.05		171015	VV	5.1304	
30	22.36		204374	VV	6.1312	
31	22.70		653c28	VV	19.6068	

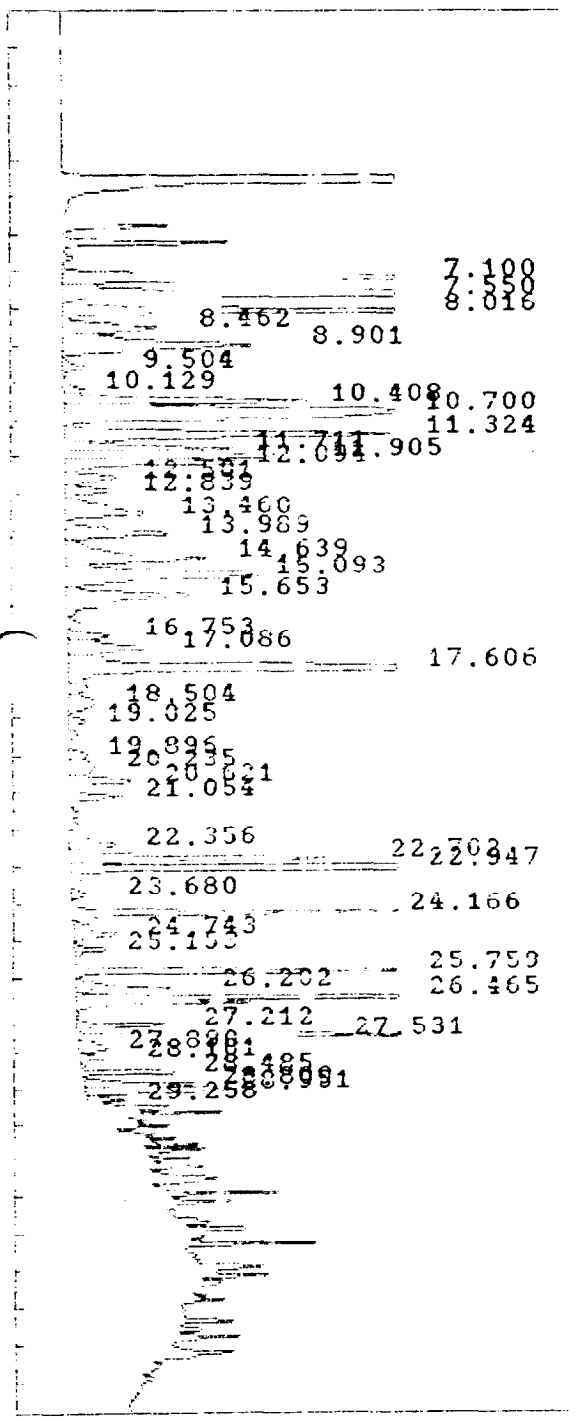
TRACE INCORPORATED

Pk#	RT	ID-tm	Factor	Area	Code	UG/L	Name
32	22.95			2232027	VV	66.9608	
33	23.68			59637	VV	1.7891	
34	24.17			836766	PV	25.1030	
35	24.74			211697	VV	6.3509	
36	25.15			108959	VB	3.2688	
37	25.76	@25.75		1404828	BV	1404828.0000	4 BROMOFLOUROBENZENE
38	26.20			246621	VV	7.3986	
39	26.46			1303769	VV	39.1131	
40	27.21			234407	VV	7.0322	
41	27.53			1041160	PV	31.2348	
42	27.67			122051	VV	3.6615	
43	28.10			62289	VV	1.8687	
44	28.49			235685	PV	7.0705	
45	28.81			284846	VV	8.5454	
46	28.95			474161	VV	14.2248	
47	29.26			94334	VV	2.8300	

Total Area DRO only : 30964456

72/50

1040/1000



VSTD1000 5pl V6419 5pl V6501
6-51023
T6-M5092G
6-5CH11C099

PACE INCORPORATED

CARBON SIX-CARBON TEN
Sample Name : VSTD1000 5ml

Report No :610.00

Instrument : GC05

Subseq/Sample/Bottle: 1/ 1/ 1

Sequence File: /DATA/GC05/SEQUENCE/G51025.SEQ
Method File : /DATA/GC05/METHOD/TGAS6926.MTF
Result File : /DATA/GC05/RESULT/G5CF116115.RES

Run Time : 37.00 Minutes Injected on 0915 25Oct1995
Report Time : 0954 25Oct1995
Run Status : RunStatus64
EndOffBaseline

Timed Events	Time	Events	Logic	Value	EventUpdate
1	.860	EndIntegrateA+B	NoLogic	-1	True
2	6.765	SetBLandInteg a	NoLogic	-1	True
3	29.336	EndIntegrateAtB	NoLogic	-1	True
4	35.650	SetBLandInteg a	NoLogic	-1	True

Bkn-Fact : 100.01% Sample Amt: 0.0000 Standard Amt: 1.0000

Pk#	RT	ID Cm	Factor	Area	Code	UG/L	Name
1	7.16			2475672	BV	74.2402	
2	7.69			1917774	VV	57.5330	
3	8.09			1419083	VV	42.4517	
4	8.53			439618	VV	13.1886	
5	9.06			1025948	VV	30.7784	
6	9.56			75148	VV	2.2544	
7	10.17			91428	PV	2.7428	
8	10.52			872184	VV	26.1655	
9	10.75			2719672	VV	81.5902	
10	11.43			1689275	VV	50.6782	
11	11.73			796235	VV	23.8870	
12	12.00			1358026	VV	40.7408	
13	12.56			214861	VV	6.4458	
14	12.87			546658	VV	81.9027	C8 N-OCTANE
15	13.33			547554	VV	16.4266	
16	14.00			496771	VV	14.9031	
17	14.71			827994	VV	24.8398	
18	15.15			1187292	VV	35.6188	
19	15.74			873681	VV	26.1958	
20	16.44			51964	VV	1.5589	
21	17.21			421107	VV	12.6332	
23	17.83			2528169	VV	75.8451	
25	18.50			136762	VV	4.1028	
2	18.68			101429	VV	3.0429	
27	19.16			71107	VV	2.1332	
28	19.39			62521	VV	1.8756	
29	20.22			255353	VV	7.6606	
30	20.48			232044	VV	6.9613	
31	21.09			301512	VV	9.0454	
32	21.31			46271	VV	1.3881	

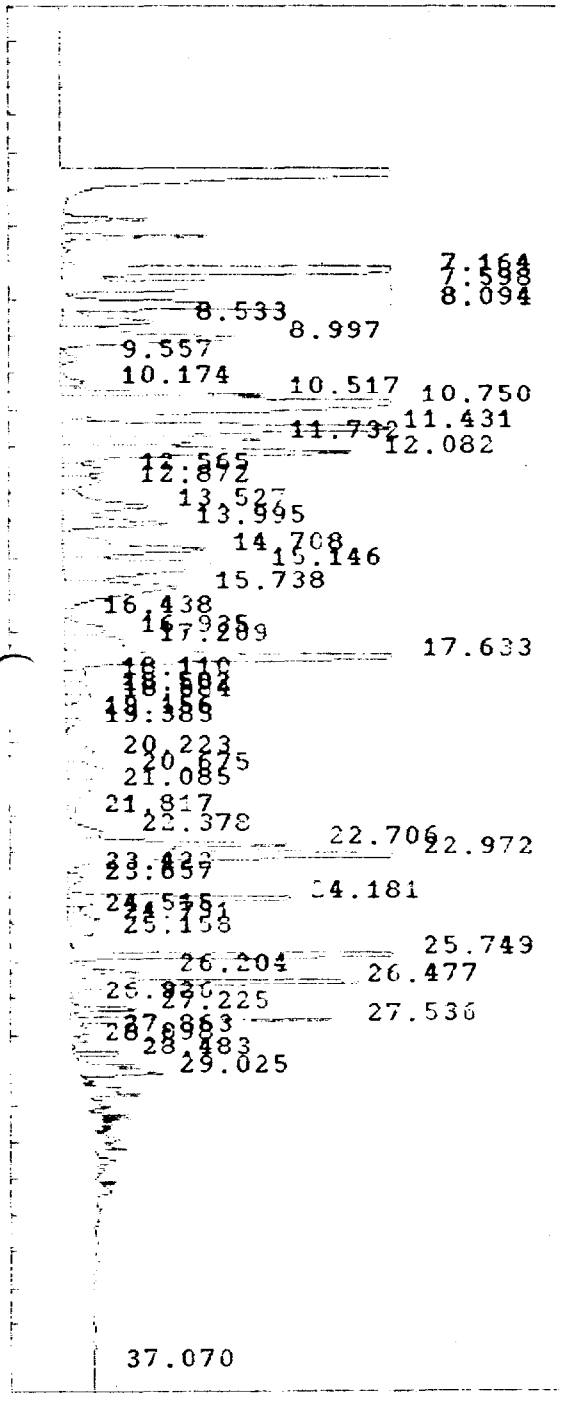
PACE INCORPORATED

Pk#	RT	ID-tm	Factor	Area	Code	UG/L	Name
33	22.38			189452	VV	5.6836	
34	22.71			689262	VV	20.6778	
35	22.97			2335258	VV	70.0577	
36	23.42			23022	VV	.6906	
37	23.69			67348	VV	2.0204	
38	24.18			846596	VV	25.3979	
39	24.51			31336	VV	.9401	
40	24.79			155225	VV	4.5967	
41	25.16			101913	VV	3.0574	
42	25.75	25.75		1514522	VV	1514522.0000	4 BROMOFLUOROBENZENE
43	26.20			240146	VV	7.2044	
44	26.48			1045891	VV	31.3767	
45	26.93			4435	VV	.1330	
46	27.22			192802	VV	5.7841	
47	27.54			548268	PV	16.4481	
48	27.86			80789	VV	2.4237	
49	28.10			48939	VV	1.4682	
50	28.48			118228	PV	3.5469	
51	29.03			428235	PV	12.8470	
52	37.07			9754	BV	.2926	

Total Area BRO only : 32247236

76/50

164/1000



VSTD1000 5ml
G51025
TGA5092G
G5CF116113

PACE INCORPORATED

CARBON SIX-CARBON TEN
Sample Name : vstd1000 SM

Report No :611.01

Instrument : GC05

Subseq/Sample/Bottle: 1/ 2/ 2

Sequence File: /DATA/GC05/SEQUENCE/951025.SEQ
Method File : /DATA/GC05/METHOD/TG-50926.MTH
Result File : /DATA/GC05/RESULT/95CF116114.RES

Run Time : 37.83 Minutes Injected on 0958 25Oct1995
Report Time : 0835 26Oct1995
Run Status : RunStatusOK
EndOffBaseline
Special Integ

Timed Events	Time	Events	Logic	Value	EventUpdate
1	.80	EndIntegrateAtB	NoLogic	-1	True
2	6.767	SetBaselineAtInterv	NoLogic	-1	True
3	29.350	EndIntegrateAtB	NoLogic	-1	True
4	36.650	SetBaselineAtInterv	NoLogic	-1	True

Dilution : 100.000% Sample Amt: 1.0000 Standard Amt: 1.0000

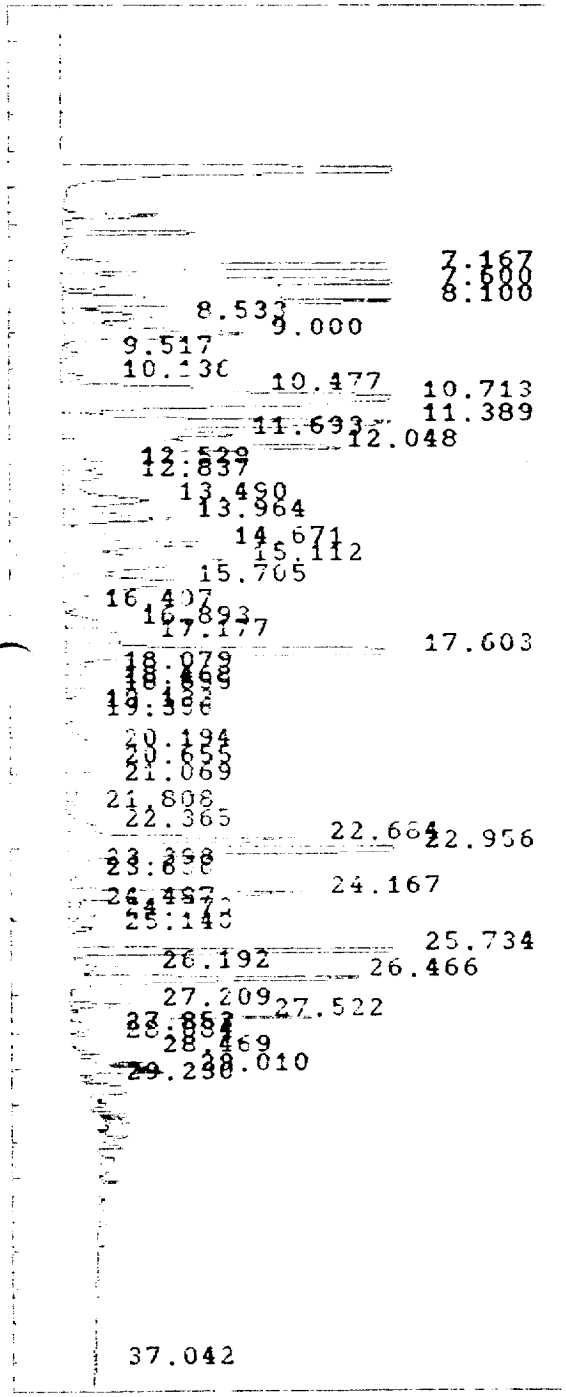
Pk #	RT	RT-tm	Factor	Area	Code	UG/L	Name
1	7.17			2268107	FF	68.0431	
2	7.60			1807013	FF	54.2104	
3	8.16			1410722	FF	42.3217	
4	8.63			453[illegible]	FF	13.6048	
5	9.09			977.09	FF	29.3130	
6	9.52			33[illegible]	FV	1.0097	
7	10.14			6[illegible]734	FV	2.0938	
8	10.46			65[illegible]6	VV	19.6503	
9	10.74			2ac3953	VV	77.9167	
10	11.38			1a[illegible]70	VV	49.1781	
11	11.69			673557	VV	20.2067	
12	12.05			1592[illegible]8	VV	49.5474	
13	12.57			217193	VV	6.5159	
14	12.84			31[illegible]23	VV	42.0539	08 N-OCTANE
15	13.45			529662	VV	15.9897	
16	13.96			49e083	VV	14.0825	
17	14.67			805290	VV	24.1587	
18	15.11			1127[illegible]	VV	33.8397	
19	15.70			841615	VV	25.2485	
20	16.41			51795	VV	1.5539	
21	16.99			234141	VV	7.0242	
22	17.18			408215	VV	12.2465	
23	17.69			2502663	VV	75.0799	
24	18.47			120761	VV	3.6273	
25	18.68			102903	VV	3.0871	
26	19.11			62547	VV	1.8764	
27	19.36			61575	VV	1.8472	
28	19.79			22e328	VV	7.6898	
29	20.06			228667	VV	6.8600	

PACE INCORPORATED

Pk#	RT	Io-tm	Factor	Area	Code	BS/L	Name
31	21.07			269249	VV	8.0775	
32	21.81			42372	VV	1.2712	
33	22.36			182757	VV	5.4827	
34	22.68			679703	VV	20.3911	
35	22.96			2324424	VV	69.7327	
36	23.40			17861	VV	.5358	
37	23.64			60575	VV	1.8173	
38	24.17			840321	VV	25.2096	
39	24.58			29954	VV	.8986	
40	24.77			127741	VV	3.8322	
41	25.14			89557	VV	2.6867	
42	25.73	B25.75		1446545	VV	1446545.0000	4 BROMOFLUOROBENZENE 73/70
43	26.19			227842	VV	6.8353	
44	26.47			1029605	VV	30.8882	
45	27.21			183127	PV	5.4938	
46	27.52			518879	VV	15.5664	
47	27.85			69953	VV	2.0986	
48	28.08			44877	VV	1.3463	
49	28.47			113657	PV	3.4097	
50	29.01			425987	VV	12.7796	
51	29.23			26153	VV	.7846	
52	37.04			8977	BV	.2693	

Total Area BRO only : 31155748

1085/1040



VSTD1000 5ml
G51025
TG-A5092G
G5CF116114

PACE New England
VOA Screening **Analyst/Date** CF 10/23/95

GC05		SCRNA			GC04		SCRNB		
FRN	tube	Sample#	Vol.	Comments	FRN	tube	Sample#	Vol.	Comments
65CF116090	1	Blank	5ml	✓	64CF114857	1	Blank	5ml	
91	2	624Std		✓	58	2	624Std	5ml	
98	3	VSTD1000 5µl VG419 5µl VG501		100%/1000 100% Rec	59	3	45678-5	20ml	100 ME
99	4	5µl VG419 5µl VG501 VSTD10000		104%/1000 104% Rec	60	4	45682-1	5ml	5ml LL
100	5	5µl VG501 BLANK295BA		BDL	61	5	45682-2	5ml	20ml LL?
1	6	5µl VG503, 5µl VG501 LCS295BA		533/500 107% Rec PH Needed	62	6	45689-1	20ml	100 ME
2	7	45748-2	5ml	✓	63	7	45709-1	20ml	
3	8	BG1046	1000ml	✓	64	8	45710-1	20ml	
4	9	45748-1		✓	65	9	-2		10ml ME
5	10	-3		✓	66	10	3		
6	11	-4		✓	67	11	4		
7	12	-5		✓	68	12	5		100ml
8	13	-6		✓	69	13	6		10ml
9	14	45750-2		✓	70	14	45733-1		100ml
10	15	-3		1.5ml	71	15	2		100ml
11	16	-1		✓	72	16	3		100ml
12	17	LS1046		✓	73	17	4		100ml
					74	18	5		100ml
					75	19	6		100ml
					76	20	7		100ml
					77	21	8		100ml
					78	22	45695-13	5ml	25ml
					79	23	45698-2	5ml	25ml
					80	24	45713-1	50µl	5ml? Acetone
				CF 10/25/95					

PACE New England
VOA Screening Analyst/Date CK 10/25/95

GC05		SCRNA			GC04		SCRNB		
FRN	tube	Sample#	Vol.	Comments	FRN	tube	Sample#	Vol.	Comments
G5CK116113	1	VSTD1000	5ml	104/1000 104% Rec	G4CK114881	1	Blank	500µl	
14	2	VSTD1000		100/1000 100% Rec	82	2	624std		
15	3	BFB02595TCN		BDL	83	3	45753-1		5ml
16	4	LWI02595TCN	"	57/500 115% Rec	84	4	" 2		5ml
19	5	45750-3	20ml	1036	85	5	" 3		5ml
20	6	45449-1 dilution	5ml	PH=2 Not Reported RE	86	6	45746-1		5ml 1/2
21	7	45717-3	20ml	100 ml	87	7	45754-1		350µl LL
22	8	45747-1	20ml	20ml	88	8	" 2		350µl LL
					89	9	" 3		500µl LL
					90	10	" 4		5ml
					91	11	" 5		250µl LL
					92	12	" 6		250µl LL
					93	13	" 7		5ml LL
					94	14	45758-2	"	5ml

CK 10/26/95

QUALITY CONTROL DATA
PETROLEUM HYDROCARBONS BY GCFID

BLANK DATA

Laboratory Number: B-H1431
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/23/95
Matrix: SOLID

HYDROCARBON TYPE	CONCENTRATION ug/g	DETECTION LIMIT ug/g
DIESEL	4.5	3

MATRIX SPIKE RECOVERY

Laboratory Number: LSH1431
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/23/95
Matrix: SOLID

COMPOUND	ug/g SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
DIESEL	0	33.6	28.6	85

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, 10/23/95

PHC SOLIDS PREP LOG

PROTOCOL: EPA SW846

LOG BOOK NO: 5

SOP #: QA5547

STEAMBATH TEMP: 87° (Range 80-90°C)

METHOD: SONC/3550

MATRIX: SOLIDS

REVIEWED BY/DATE: 10/23/95

TEST/LEVEL: PHC / LOW

COUNT	BLANK SPIKES SAMPLE #	INIT WT. (g)	NaSO4 (g) MIX WELL	SURR 0.5 ML E 1844 5035 PPM C1416 100ppm	SPIKE 0.2 ML E 1394 5033 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
1	BLANK	30.0	30.0		N/A					10.0	10.0	1.0	10/23/95
2	LSM1431	30.0	30.0		✓								
13	45748-3	30.09	30.09		N/A								
14	-4	30.81	30.81										
15	-5	30.66	30.66										
16	-6	30.77	30.77										
17	45750-1	30.26	30										
18	-2	30.54											
19	-3	30.50											
20	45748-7	30.16	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓

E3
10/23/95

COMMENTS: ASSOC QC

F:\APPS\WP51\NANCY\EXPHCS

ALT, Incorporated

INITIAL CALIBRATION SUMMARY

For /DATA/GC12/METHOD/DIESEL009.MTH
Method created: 10/09/95 09:09:54
Method updated: 10/13/95 09:35:49

Result files used for Calibration data:
Level 1 /DATA/GC12/RESULT/G12L01643.RES
Level 2 /DATA/GC12/RESULT/G12L01644.RES
Level 3 /DATA/GC12/RESULT/G12L01645.RES
Level 4 /DATA/GC12/RESULT/G12L01646.RES
Level 5 /DATA/GC12/RESULT/G12L01647.RES

#	Time	Analyte	Correlation	B0 Intercept	B1 Slope	B2 Quadratic
1	3.72	SOLVENT PEAK	.00000	0.00	**********	**********
2	21.89	DIESEL FUEL	.99982	-393364.00	4794.32	.03

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

PACE, Incorporated
Continuing Calibration Report

Tue Oct 31, 1995 1:53:31 pm

/DATA/GC12/RESULT/G12H01738.RES
/DATA/GC12/METHOD/DIESEL009.MTH

Sample: DRO 2013PPM P8872
Injected: Mon Oct 23, 1995 1:04:54 pm

RetTime	Analyte	Found	Nominal	%D	Recovery
18.60	DIESEL FUEL	2383.45	2013.000	18.4	118.4

PACE, Incorporated
Continuing Calibration Report

Tue Oct 31, 1995 1:53:49 pm

/DATA/GC12/RESULT/G12H01749.RES
/DATA/GC12/METHOD/DIESEL009A.MTH

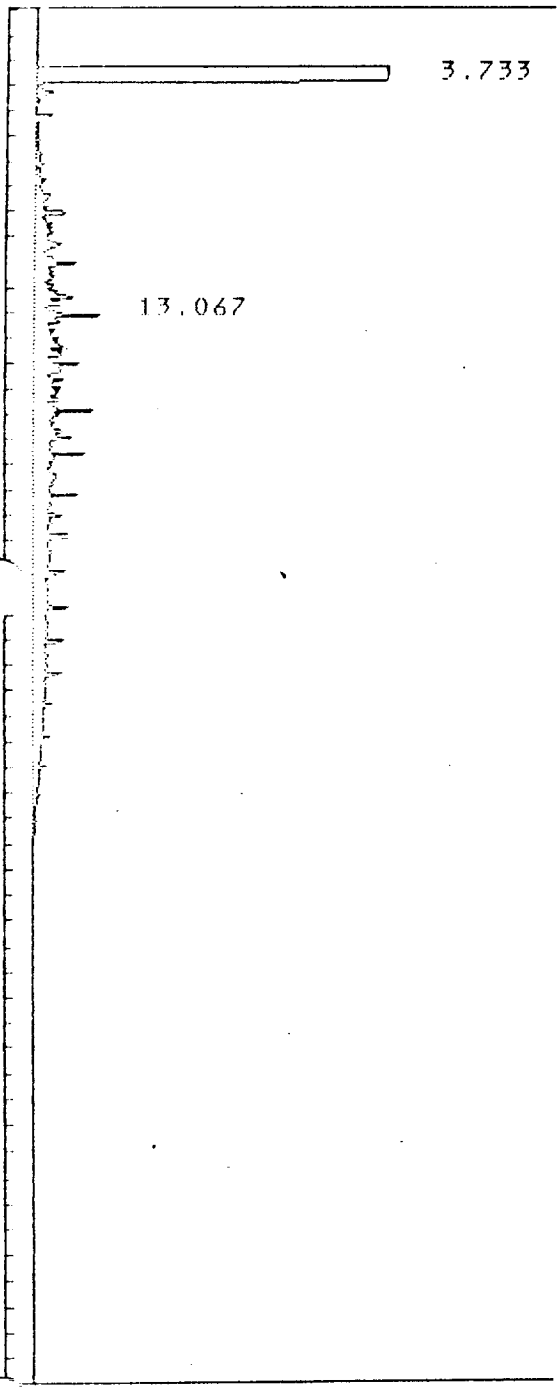
Sample: DRO 2013PPM P8872
Injected: Tue Oct 24, 1995 3:54:11 am

RetTime	Analyte	Found	Nominal	%D	Recovery
18.57	DIESEL FUEL	2296.85	2013.000	14.1	114.1

PACE INCORPORATED

PHC GC-FID : SPB-5 COLUMN # 130, RANGE 20000 - 250000 Page 1
Sample Name : DIESEL 2013PM P8870 Report No :175.01

Instrument : GC12 Subseq/Sample/Bottle: 1/ 4/ 4



Sequence File: /DATA/GC12/SEQUENCE/G121011.SEQ
Method File : /DATA/GC12/METHOD/DIESEL009.MTH
Result File : /DATA/GC12/RESULT/G12L01645.RES

Run Time : 55.03 Minutes Injected on 2005 11Oct1995
Report Time : 0933 13Oct1995
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		30492096	FF	0.0000	SOLVENT PEAK
2	13.07	#21.89		7840928	FF	1779.1230	DIESEL FUEL

$\frac{7840928}{2013} = 3895$

PACE, INCORPORATED
GC Instrument Run Log

0000055

Reviewed by _____ Date _____

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

Date	init	result file	Sample	MI	V	Method	column	Sequence
10/10/95	BS	G12H01622	B1H1414 DRO-S OHM1	Y	Y	Diesel008	131	G12107
		623	LS1H1414 ↓					
		624	B1H1413 DRO-LS OHM1					
		625	LS1H1413					
		626	45614-5					
		627	DRO 2013PPM P8870 65%	Y	Y			
		628	45614-6 DRO-LS OHM1					
10/10/95		629	-7					
↓	↓	630	-8 ↓					
10/10/95	AC	—	changed liner					
		G12L01631	CH_2Cl_2	N	Y	CALB010BC		S.S.
		632	"					
		633						
		634						
		635						
		636	↓					
10/11/95	AC	637	↓					
		638	COLUMN COMPENSATION					
		639	CH_2Cl_2					
		640	COLUMN COMPENSATION					
		641	CH_2Cl_2					
		642	CH_2Cl_2					G12109#11
		643	Diesel 50PPM P8845	Y	Y	Diesel009		
		644	503 P8844					
		645	2013 P8870					
		646	5034 P8842					
		647	↓ 20134 P8841					
		648	Gas / Lube 5044/5104/5150PPM P8722			CALIB012		
		649	Kerosene 521PPM P8610					
		650	MSP/HYD FLD 2546/5154PPM P8609					
		651	#6 Fuel Oil 10000PPM P8578					

PACE, INCORPORATED
GC Instrument Run Log

0000058

Reviewed by _____ Date _____

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

Date	init	result file	Sample	MI	√	Method	column	Sequence
10/19/95	HS	G12H04 714	45660-2 PHC S	Y	Y	Calib 012	131	G121018
		715	Gas/lube 5042/5104/51 ppm P8722 109 114 109	Y	Y			
		716	BH1423 PHCS last high level		*			
		717	LSH 1423		*			
		718	45673-1 Ransom					
		719	-2					
		720	-3					
		721	-4					
		722	-5					
		723	Diesel 2013 ppm P8872 16	Y	Y	Diesel 009		
10/19/95	KSD	G12H01 724	BH 1425 DRO-S				131	G121019
		725	LSH 1425 Bechtel Vlofo					
		726	45693-3					
		727	-3MS					
		728	-3MSD					
		729	DRO 2013 ppm P8872 23%D 86/10/13					
10/20/95	HS	730	Gas/lube 5042/5104/51 ppm P8722	Y	Y	Calib 012	1	
10/20/95	HS	G12H01 731	DRO 2013 ppm P8872 113			Diesel 009	131	G121020
		732	BH 1426 DRO S					
		733	LSH 1426 H 10/26					
		734	45710-13					
		735	-14					
		736	-15					
		737	DRO 2013 ppm P8872 122		N			
10/20/95		738	↓ 118		Y			
	HS	739	Gas/lube 5042/5104/51 ppm P8722	Y	Y	Calib 009	131	G121023
		740	BH 1431 DRO S			Diesel 009		
		741	LSH 1431 DRO S					
		742	45748-3 DRO S 10/24 0114 1:10		N			
		743	-4					
		744	-5					

PACE, INCORPORATED
GC Instrument Run Log

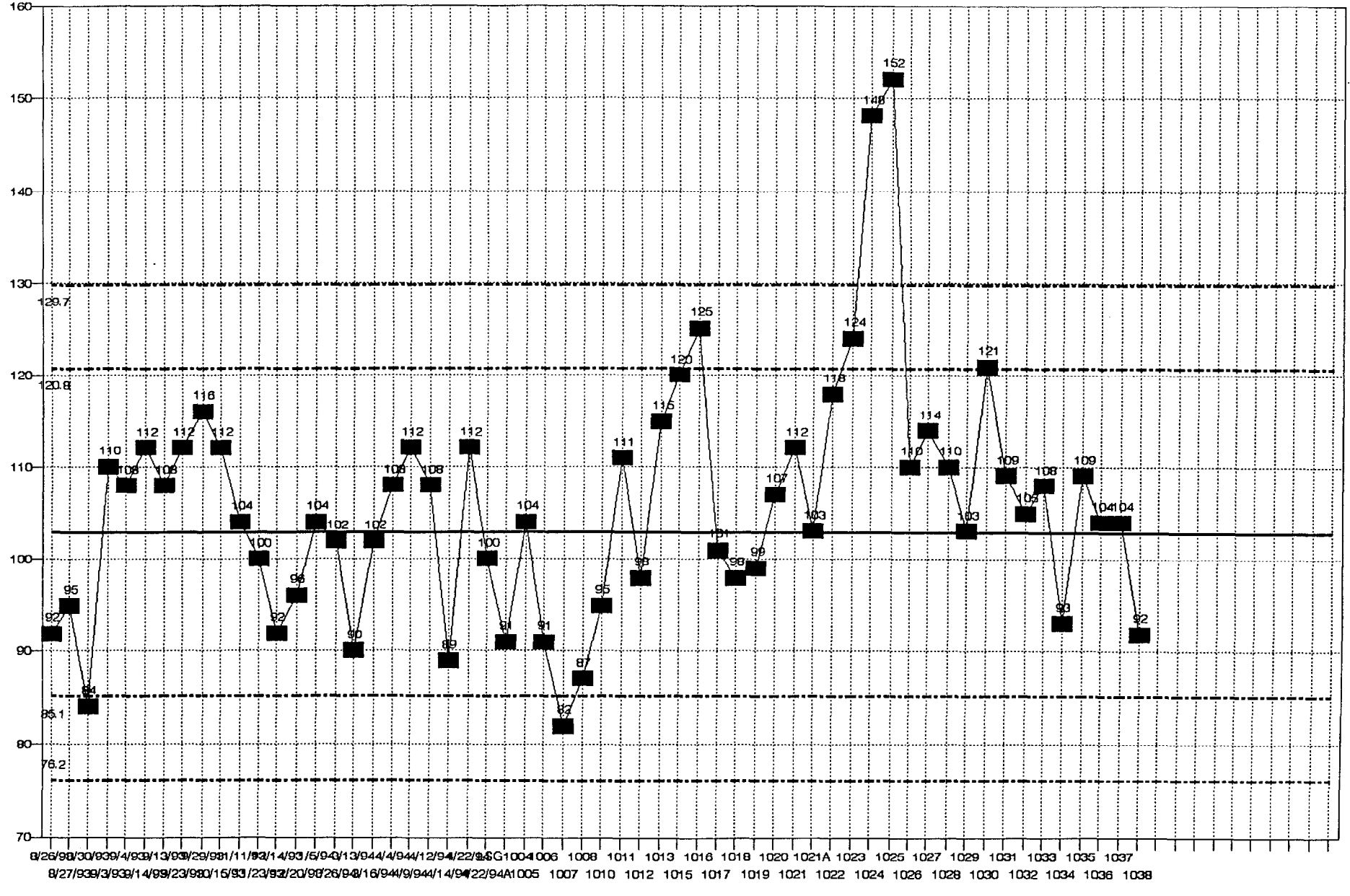
0000059

Reviewed by _____ Date _____

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

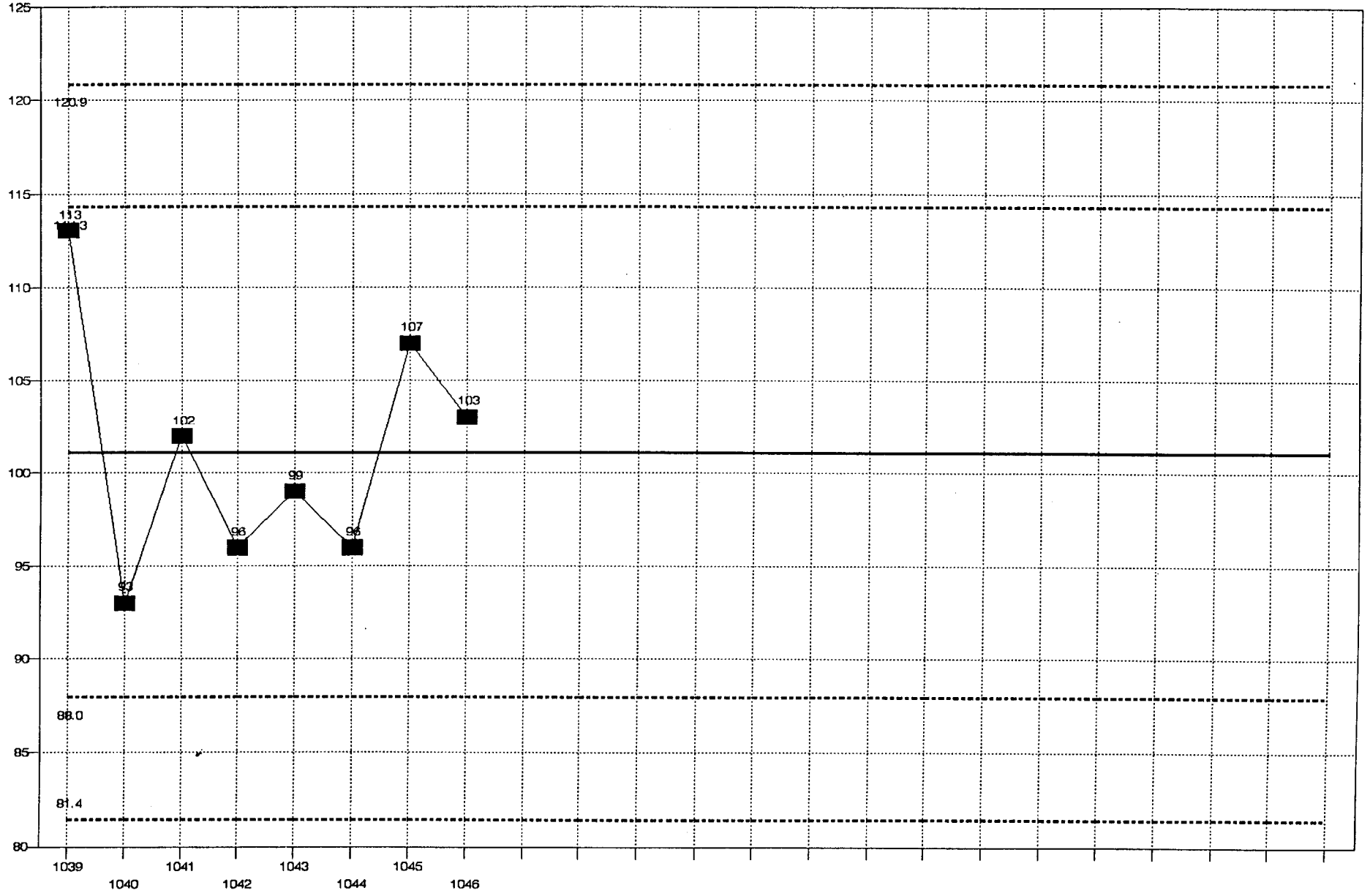
Date	init	result file	Sample	MI	√	Method	column	Sequence
10/23/95	BS	G121401745	45748-6	Y	N	Diesel009	131	G11 1022
		746	-7					
		747	BH1429 DRO-W					
		748	LSH1429 ↓					
		749	DRO 2013PPM P8872					
		750	45748-8 DRO-W 01HM					
		751	45750-1 DRO-S 01HM					
		752	-2					
		753	-3		N			
		754	45748-3		Y			
		755	-4					
		756	-5					
		757	-5					
		758	-6					
10/24/95		759	45750-3 DRO-S 1:50 OHM		Y			G121024
		760	Diesel 2013PPM P8872 11.0 (3)	Y	Y			
		761	Kerosene 5015PPM P8670	N	Y			
		762	#6 Fuel OIL 10000PPM P8578					
		763	#4 Fuel OIL 5000PPM P8869					
		764	JP4 100PPM P8673					
		765	BH 1432 DRO-S					
		766	LSH 1432					
		767	45733-7					
		768	-7MSI					
		769	-7MSOI					
10/25/95	PC	770	Diesel 2013PPM P8872	N	Y			NC
		771	Diesel 2013PPM P8872 20%	Y	Y			
		772	Test Diesel Spike 500 mg/mL		Y			
		773	Test Diesel Spike 5033 mg/mL		N			
10/27/95	BS	G121418@774	Grease/Lube 5042/5104/5119PP 66/98/98 mg/P8722	Y	Y	Calib12		G121027
↓	↓	775	BH1436 PHC-W		I			↓

GRO SOLID LCS RECOVERIES GC07
LIMITS SET 4/13/94



STD DEV = 8.93 MEAN = 103

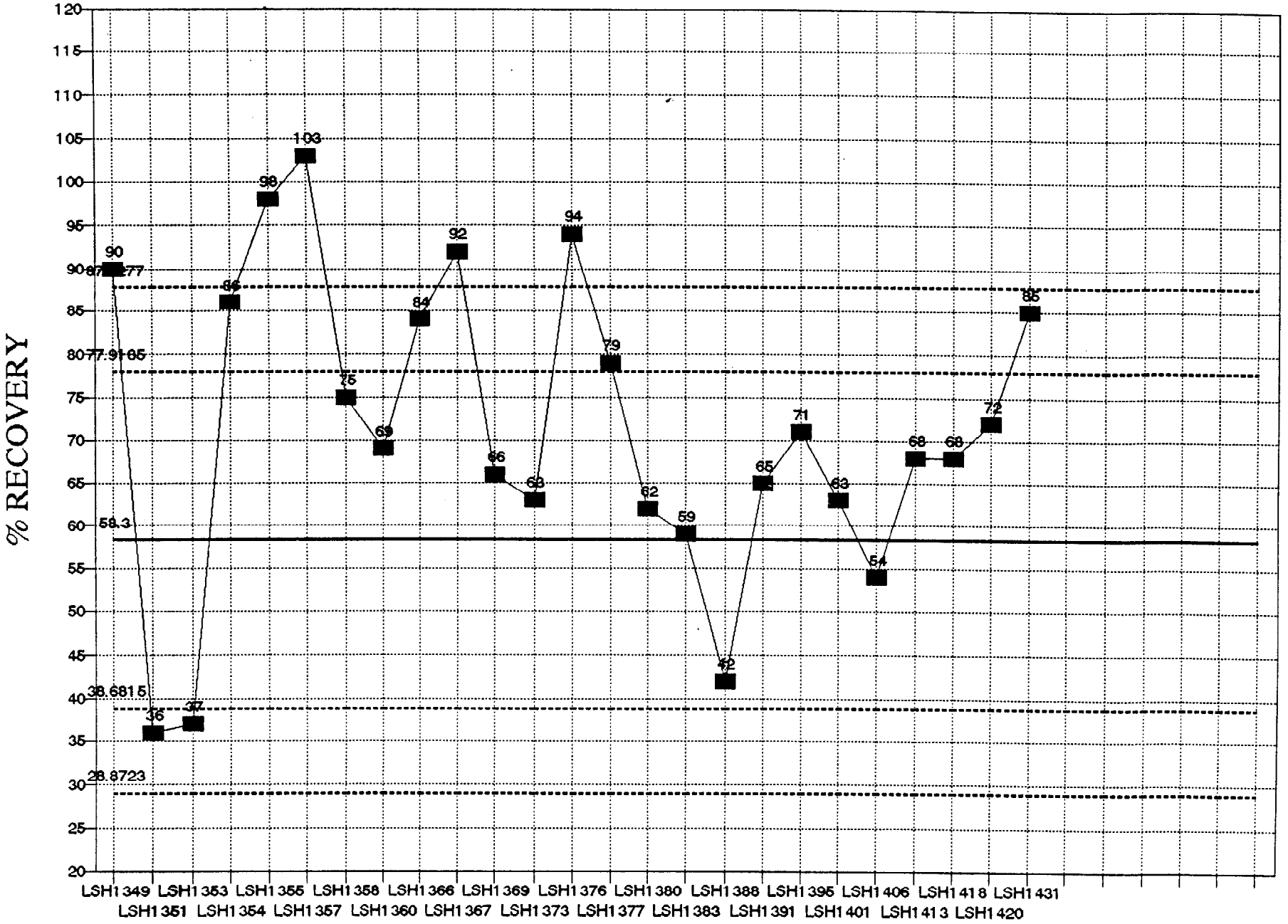
GRO SOLID LCS RECOVERIES GC05
LIMITS SET 10/27/95



STD DEV = 6.58 MEAN = 101

PHC LOW SOLIDS - DIESEL

SPK REC LIMS SET6/6/95-PPCBCHT\PHCS1294



MEAN = 58.30 STD DEV =9.81

00000030

OHM Remediation Services Corp.

CHAIN-OF-CUSTODY RECORD

LAB COPY

Form 001
Field Technical Service
Rev. 08/8

166423

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

PROJECT NAME	PROJECT LOCATION
Camp Lejeune DO 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	REMARKS
1	CLJ44-CS-023	10/20	0900		X	See Map - 010	1 - X	X		45750
2	CLJ44-CS-024	10/20	0905		X	See Map - 011	2 - X	X		
3	CLJ44-CS-025	10/20	0910		X	See Map - 012	3 - X	X		
4										
5										
6										
7										
8										
9										
10										

Final Page

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-3	[signature]	FEDEX Air Bill #		
2		FedEx	[signature] Pace NH	10/21/95	1200
3					
4					

REMARKS Send samples to Pace Lab
7 days TAT

SAMPLER'S SIGNATURE [signature]

00000031

SDG Narrative
Case: OHMRC SDG: LJN38

November 9, 1995

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

SAMPLE DELIVERY GROUP NARRATIVE

Case: OHMRC
SDG: LJN38
Laboratory: PACE New England - New Hampshire of Hampton, NH
Lab Numbers: 45748
Protocol: SW846 Methods. NEESA E deliverables. No diskette.

Sample Receipt: These samples were received at PACE, Inc. on October 21, 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 10/21/95 (45748): Samples were received in one cooler and were assigned PACE# 45748, 45749, and 45750. 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# 45750 were logged in for a 7-day turnaround per the request on COC# 166423. Samples assigned PACE Lab# 45749 were logged in for a 3-day turnaround per the request on COC# 166422 and samples assigned PACE Lab# 45748 were logged in for 24-hour turnaround.

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 numbers 45748-3, -4, -5, -6 and -8 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.

Volatiles Analysis: The method 8240 blank "BD102395A1" contained low levels of methylene chloride. The sample results for this analyte should be used with due consideration.

Semivolatiles Analysis: Recoveries for 2-fluorophenol and phenol-d5 have been low; out of control recently. However, this is an artifact due to the fact that these recent blanks have been extracted by separatory funnel instead of continuous extractor in order to meet rapid turn around times. It is known that these two surrogates do not extract as well by separatory funnel. We do not have separate control charts for separatory funnel extractions, as we do not consistently perform these extractions.

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

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

Conventional Wet Chemistry Parameters: 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 T. Williamson — 11/9/95

PACE Incorporated, New England-New Hampshire — November 9, 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# 45748
PAGE 1 of 1
COOLER ____ of ____
COC# ____
SDG# LJN38
CASE# OtmRC

CLIENT CHM
DATE/TIME RECEIVED 10/21/05 1207
DELIVERED BY Fed-Ex
RECEIVED BY [signature]
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	☐	☐	☑	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:

3-26 samples comm. VOA FIRST = TCLP + DRO
-8 = ACIDS BN, DRO
-9 = 8240
-10 = METALS & HAZ WASTE -11

24 hr TAT

CLIENT AUTHORIZATION SIGNATURE ____ DATE ____

00000003

SAMPLE TABLE

CLIENT ID.	MATRIX	PACE #	PARAMETERS
CLJ44-CC-105	SOLID	45748-001	TOTAL GASOLINE
		45748-007	OIL & GREASE BY GRAVIMETRY
			TOTAL DIESEL
CLJ44-CC-106-RB	WATER	45748-002	TOTAL GASOLINE
		45748-008	ACID EXTRACTABLES
			BASE/NEUTRAL EXTRACTABLES
			TOTAL DIESEL
		45748-009	GC/MS VOA
		45748-010	Ba, Cd, Cr, Pb, Hg, Ag, As, Se
		45748-011	CORROSIVITY
			FLASH POINT
			RELEASABLE CYANIDE
			RELEASABLE SULFIDE
CLJ44-SB03-4'	SOLID	45748-003	TOTAL GASOLINE
			TOTAL DIESEL
CLJ44-SB01-4'	SOLID	45748-004	TOTAL GASOLINE
			TOTAL DIESEL
CLJ44-SB02-4'	SOLID	45748-005	TOTAL GASOLINE
			TOTAL DIESEL
CLJ44-SB04-4'	SOLID	45748-006	TOTAL GASOLINE
			TOTAL DIESEL

pace INCORPORATED
THE ASSURANCE OF QUALITY

Field Identification: CLJ44-CC-105 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	140	13	45748-001	10/23/95	BG1046A	8015(mod)/2
Total Diesel (ug/g)	1300	37	45748-007	10/24/95		8015(mod),3350/2
Oil and Grease by Gravimetry (ug/g)	2000	280	45748-007	10/24/95	BG1393	9071,503D/2,3

Field Identification: CLJ44-CC-106-RB Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/L)	BDL	100	45748-002	10/23/95		8015(mod)/2
Total Diesel (ug/L)	130	100	45748-008	10/24/95		8015(mod),3350/2
Arsenic, total (mg/L)	BDL	0.01	45748-010	10/24/95	51211	7060/2
Barium, total (mg/L)	BDL	0.1	45748-010	10/23/95	12474	3010,6010/2
Cadmium, total (mg/L)	BDL	0.005	45748-010	10/23/95	12474	3010,6010/2
Chromium, total (mg/L)	0.02	0.01	45748-010	10/23/95	12474	3010,6010/2
Lead, total (mg/L)	BDL	0.005	45748-010	10/23/95	31337	3020,7421/2
Mercury, total (mg/L)	BDL	0.0003	45748-010	10/24/95	61674	7470/2
Selenium, total (mg/L)	BDL	0.01	45748-010	10/23/95	51211	7740/2
Silver, total (mg/L)	BDL	0.02	45748-010	10/23/95	12474	3010,6010/2
Corrosivity (pH, units)	6.0		45748-011	10/23/95	375	2.1.2/2
Releasable Sulfide (mg/Kg)	BDL	50	45748-011	10/23/95	317	7.3.4.2/2
Releasable Cyanide (mg/Kg)	BDL	1	45748-011	10/24/95	317	7.3.3.2/2
Flash Point (degrees F)	>150	50	45748-011	10/23/95	349	1010/2

Field Identification: CLJ44-SB03-4' Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	14	45748-003	10/23/95	BG1046A	8015(mod)/2
Total Diesel (ug/g)	9.1	3.8	45748-003	10/24/95		8015(mod),3350/2

Field Identification: CLJ44-SB01-4' Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	15	45748-004	10/23/95	BG1046A	8015(mod)/2
Total Diesel (ug/g)	27	4.1	45748-004	10/24/95		8015(mod),3350/2

Results for solid samples expressed on a dry weight basis.

pace INCORPORATED THE ASSURANCE OF QUALITY

Field Identification: CLJ44-SB02-4' Matrix:

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	15	45748-005	10/23/95	BG1046A	8015(mod)/2
Total Diesel (ug/g)	8.7	4.0	45748-005	10/24/95		8015(mod),3350/2

Field Identification: CLJ44-SB04-4' Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	14	45748-006	10/24/95	BG1046A	8015(mod)/2
Total Diesel (ug/g)	59	3.7	45748-006	10/24/95		8015(mod),3350/2

Results for solid samples expressed on a dry weight basis.

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

pace INCORPORATED THE ASSURANCE OF QUALITY

Laboratory number: 45748-008
Sample Designation: CLJ44-CC-106-RB
Date Extracted: 10/23/95
Date Analyzed: 10/23/95
Matrix: WATER

Instrument File Name: >F2847

ACID/BASE/NEUTRAL EXTRACTABLES	CONCENTRATION (ug/L)	REPORTING 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
Dimethylphthalate	BDL	10
Acenaphthylene	BDL	10
2,6-Dinitrotoluene	BDL	10

ACID/BASE/NEUTRAL EXTRACTABLES	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
3-Nitroaniline	BDL	50
Acenaphthene	BDL	10
2,4-Dinitrophenol	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
Butylbenzylphthalate	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
Indeno(1,2,3,-CD)pyrene	BDL	10
Dibenz(A,H)anthracene	BDL	10
Benzo(G,H,I)perylene	BDL	10

METHOD REFERENCE: 40 CFR PART 136, FRIDAY , OCTOBER 26, 1984
METHOD 625(MODIFIED)

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

pace INCORPORATED THE ASSURANCE OF QUALITY

Laboratory number: 45748-009
Sample Designation: CLJ44-CC-106-RB
Date Analyzed: 10/23/95
Matrix: WATER

Instrument File Name: >D3877

VOLATILE ORGANICS	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Vinyl chloride	BDL	10
1,1-Dichloroethene	BDL	5
1,2-Dichloroethane	BDL	5
2-Butanone	BDL	25
Carbon Tetrachloride	BDL	5
Trichloroethene	BDL	5
Benzene	BDL	5
Tetrachloroethene	BDL	5
Chlorobenzene	BDL	5

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

BDL = Below reporting limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

QUALITY CONTROL DATA
TOTAL GASOLINE

BLANK DATA

Laboratory Number: BG1046A
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/23/95
Matrix: SOLID

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

MATRIX SPIKE RECOVERY

Laboratory Number: LS-G1046
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/23/95
Matrix: SOLID

COMPOUND	ug/g IN SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
GASOLINE	0	50	52	104

METHOD REFERENCE: METHOD 8015 (MODIFIED)

pace INCORPORATED
THE ASSURANCE OF QUALITY

QUALITY CONTROL DATA
TOTAL GASOLINE

BLANK DATA

Laboratory Number: BG102395TGA
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/23/95
Matrix: WATER

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

MATRIX SPIKE DUPLICATE RECOVERY

Laboratory Number: LW102395TGA
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/23/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
GASOLINE	0	500	533	107

METHOD REFERENCE: METHOD 8015 (MODIFIED)

pace INCORPORATED
THE ASSURANCE OF QUALITY

QUALITY CONTROL
OIL & GREASE

BLANK DATA

Laboratory Number: B-G1393
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/24/95
Matrix: SOLID

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

MATRIX SPIKE RECOVERY

Laboratory Number: LS-G1393
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/24/95
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

pace INCORPORATED
THE ASSURANCE OF QUALITY

QUALITY CONTROL DATA
PETROLEUM HYDROCARBONS BY GCFID

BLANK DATA

Laboratory Number: B-H1431
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/23/95
Matrix: SOLID

HYDROCARBON TYPE	CONCENTRATION ug/g	DETECTION LIMIT ug/g
DIESEL	4.5	3

MATRIX SPIKE RECOVERY

Laboratory Number: LSH1431
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/23/95
Matrix: SOLID

COMPOUND	ug/g SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
DIESEL	0	33.6	28.6	85

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-H1429
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/24/95
Matrix: WATER

HYDROCARBON TYPE	CONCENTRATION ug/L	DETECTION LIMIT ug/L
DIESEL	110	100

MATRIX SPIKE RECOVERY

Laboratory Number: LSH1429
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/24/95
Matrix: SOLID

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
DIESEL	0	1007	1086	108

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

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: B-A2507
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/23/95
Matrix: WATER

ACID/BASE/NEUTRAL EXTRACTABLES	CONCENTRATION (ug/L)	REPORTING 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)	REPORTING 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	50
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: 40 CFR PART 136, FRIDAY, OCTOBER 26, 1984
METHOD 625

BDL = Below detection limit

pace INCORPORATED
THE ASSURANCE OF QUALITY

MATRIX SPIKE RECOVERY
ACID/BASE/NEUTRAL EXTRACTABLE ORGANIC COMPOUNDS

Laboratory Number: LS-A2507
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/23/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
PHENOL	0	200	76	38
2-CHLOROPHENOL	0	200	118	59
1,4-DICHLOROBENZENE	0	100	72	72
N-NITROSO-DI-N-PROPYLAMINE	0	100	92	92
1,2,4-TRICHLOROBENZENE	0	100	74	74
4-CHLORO-3-METHYLPHENOL	0	200	140	70
ACENAPHTHENE	0	100	71	71
4-NITROPHENOL	0	200	50	25
2,4-DINITROTOLUENE	0	100	78	78
PENTACHLOROPHENOL	0	200	119	60
PYRENE	0	100	56	56

METHOD REFERENCE: 40 CFR PART 136, FRIDAY, OCTOBER 26, 1984
METHOD 625

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: BD102395A1
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/23/95
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	7.5 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

VOLATILE ORGANIC COMPOUNDS
BLANK SPIKE RECOVERY REPORT

Matrix: WATER

Lab Id	Date Analyzed	File name
BD102395A1	10/23/95 11:30	>D3863
LCD102395A1	10/23/95 12:09	>D3864

Analyte	Original Amount UG/L	Amount Spiked UG/L	Replicate 1 Found UG/L	%Rec %
1,1-Dichloroethene	.00	50.0	49.3	99
Trichloroethene	.00	50.0	50.6	101
Benzene	.00	50.0	45.6	91
Toluene	.00	50.0	46.8	94
Chlorobenzene	.00	50.0	51.2	102

pace INCORPORATED
THE ASSURANCE OF QUALITY

PACE New England, Inc.

Metals QC Results for : 45748

QC BATCH: 12474
MATRIX: WATER
CONCENTRATION UNITS: UG/L

ELEMENT	LCS TRUE VALUE	LCS RESULT	LCS % RECOVERY		METHOD BLANK
Aluminum	2000.00	1940.00	97.0	U	15.4
Antimony	500.00	497.00	99.4	U	11.9
Arsenic	2000.00	1890.00	94.5	U	22.4
Arsenic -	2000.00	1870.00	93.5	U	1.8
Barium	2000.00	1930.00	96.5	U	0.8
Beryllium	50.00	47.80	95.6	U	0.2
Boron	1000.00	1050.00	105.0	U	34.6
Cadmium	50.00	54.50	109.0	U	1.4
Calcium	10000.00	10200.00	102.0	U	7.3
Chromium	200.00	209.00	104.5	U	2.0
Cobalt	500.00	500.00	100.0	U	2.4
Copper	250.00	240.00	96.0	U	5.6
Iron	1000.00	1030.00	103.0	U	11.0
Lead	500.00	465.00	93.0	U	15.4
Lead -	500.00	469.00	93.8	B	1.5
Magnesium	10000.00	10000.00	100.0	U	22.8
Manganese	500.00	498.00	99.6	U	0.5
Molybdenum	1000.00	962.00	96.2	U	1.6
Nickel	500.00	489.00	97.8	U	5.5
Potassium	10000.00	10000.00	100.0	U	500.0
Selenium	2000.00	1850.00	92.5	U	25.3
Selenium -	2000.00	1810.00	90.5	U	2.3
Silicon	1000.00	958.00	95.8	U	200.0
Silver	50.00	50.90	101.8	U	1.9
Sodium	10000.00	9930.00	99.3	U	15.0
Thallium	2000.00	1800.00	90.0	U	21.7
Thallium -	2000.00	1780.00	89.0	U	2.5
Tin	1000.00	1000.00	100.0	U	5.3
Titanium	1000.00	1000.00	100.0	B	0.5
Vanadium	500.00	485.00	97.0	U	2.5
Zinc	500.00	484.00	96.8	B	6.0

B = Result between instrument detection limit and reporting limit.
U = Result below instrument detection limit.
N = LCS recovery not within advisory QC limits (80% - 120%)
with the exception of Silver QC limits (52% - 136%).

PACE New England, Inc.

Metals QC Results for : 45748

QC BATCH: 31337
MATRIX: WATER
CONCENTRATION UNITS: UG/L

ELEMENT	LCS TRUE VALUE	LCS RESULT	LCS % RECOVERY	METHOD BLANK
Lead	50.00	56.60	113.2	U 0.9

B = Result between instrument detection limit and reporting limit.
U = Result below instrument detection limit.
N = LCS recovery not within advisory QC limits (80% - 120%)
with the exception of Silver QC limits (52% - 136%).

PACE New England, Inc.

Metals QC Results for : 45748

QC BATCH: 51211
MATRIX: WATER
CONCENTRATION UNITS: UG/L

ELEMENT	LCS TRUE VALUE	LCS RESULT	LCS % RECOVERY	METHOD BLANK	
Arsenic	50.00	55.80	111.6	U	1.5
Selenium	50.00	45.00	90.0	U	1.0

B = Result between instrument detection limit and reporting limit.
U = Result below instrument detection limit.
N = LCS recovery not within advisory QC limits (80% - 120%)
with the exception of Silver QC limits (52% - 136%).

PACE New England, Inc.

Metals QC Results for : 45748

QC BATCH: 61674
MATRIX: WATER
CONCENTRATION UNITS: UG/L

ELEMENT	LCS TRUE VALUE	LCS RESULT	LCS % RECOVERY	METHOD BLANK
Mercury	8.00	8.10	101.3	U 0.10

B = Result between instrument detection limit and reporting limit.
U = Result below instrument detection limit.
N = LCS recovery not within advisory QC limits (80% - 120%)
with the exception of Silver QC limits (52% - 136%).

METALS SAMPLE QC RESULTS

SAMPLE NUMBER: 45748-010
MATRIX: WATER
CONCENTRATION UNITS: ug/L

ELEMENT	QC REPLICATE ANALYSIS					SPIKE RESULT	SPIKE VALUE	PERCENT RECOVERY
	SAMPLE RESULT		DUPLICATE RESULT		RPD			
Arsenic	U	1.5	U	1.5	N/C	54.0	50.0	108.0
Lead	B	2.3	U	0.9	87.5	58.2	50.0	111.8
Selenium	U	1.0	U	1.0	N/C	46.4	50.0	92.8

B = Result between instrument detection limit and reporting limit.
U = Result below instrument detection limit.
N = Spike recovery not within advisory limits
(75-125%, if sample < 4x spike value).
* = Relative Percent Difference not within advisory limits
(20%, if sample > 5x reporting limit).
N/C = Not Calculable. Sample and duplicate below instrument detection limit.

QUALITY CONTROL
Corrosivity
Method: 7.2 SW846 3rd Edition

QC Batch: 375 For: 45748
Matrix: WATER

LABORATORY CONTROL SAMPLES:

	True Value Units	Observed Value Units
LCS1	7.0	7.01

pace INCORPORATED
THE ASSURANCE OF QUALITY

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

QC Batch: 317 For: 45748
Matrix: SOLID

METHOD BLANK:

	Result ug/g
	< 50.00

LABORATORY CONTROL SAMPLES:

	True Value ug/g	Observed Value ug/g	Accuracy Recovery %
LCS1	1465.0	1489.9	101.7

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: 317 For: 45748
Matrix: SOLID

METHOD BLANK:

	Result ug/g
	< 1.00

LABORATORY CONTROL SAMPLES:

	True Value ug/g	Observed Value ug/g	Accuracy Recovery %
LCS1	40.0	9.050	22.6

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
THE ASSURANCE OF QUALITY

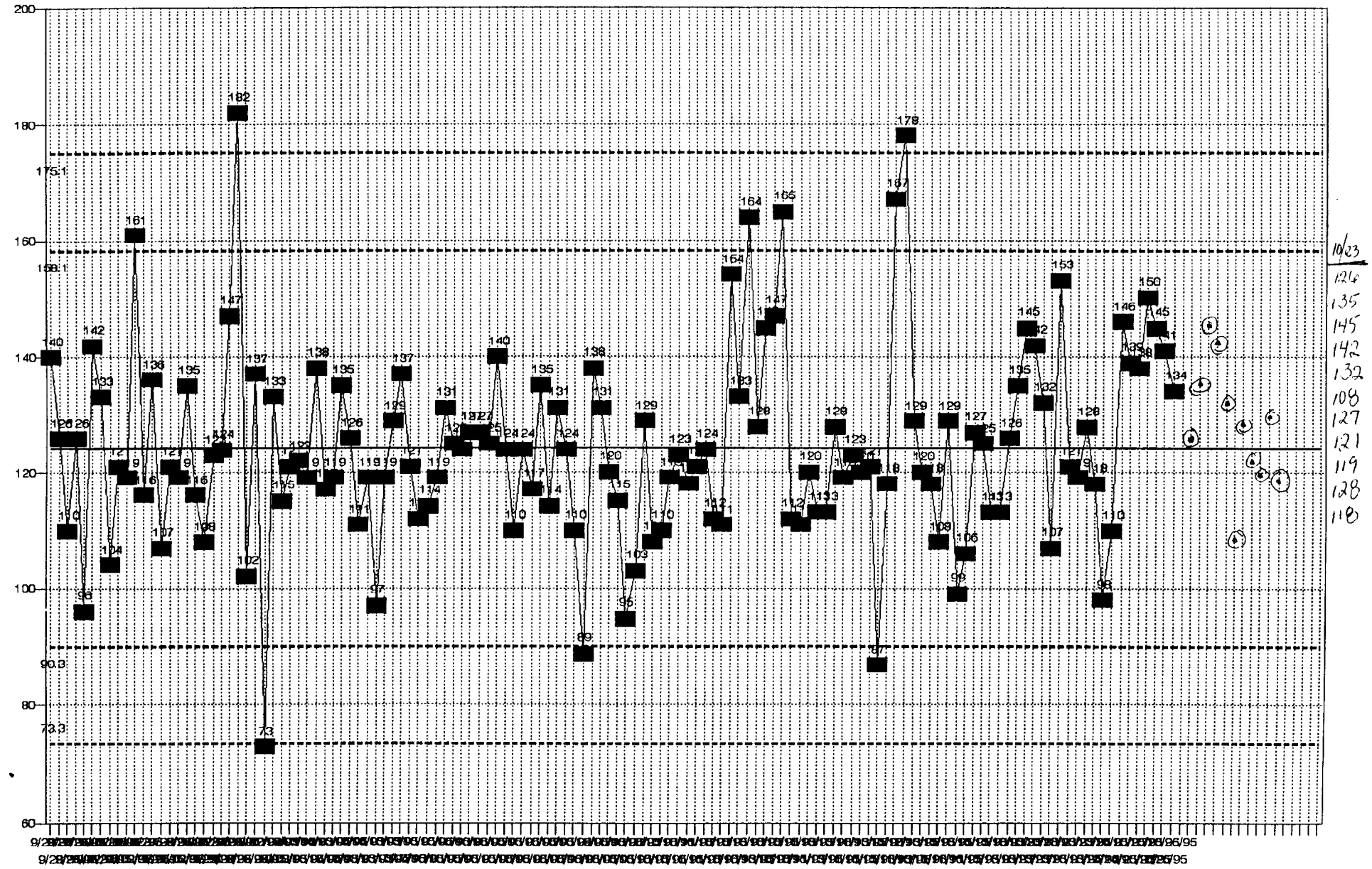
QUALITY CONTROL
Flashpoint
Method: D93-80, ASTM

QC Batch: 349 For: 45748
Matrix: SOLID

LABORATORY CONTROL SAMPLES:

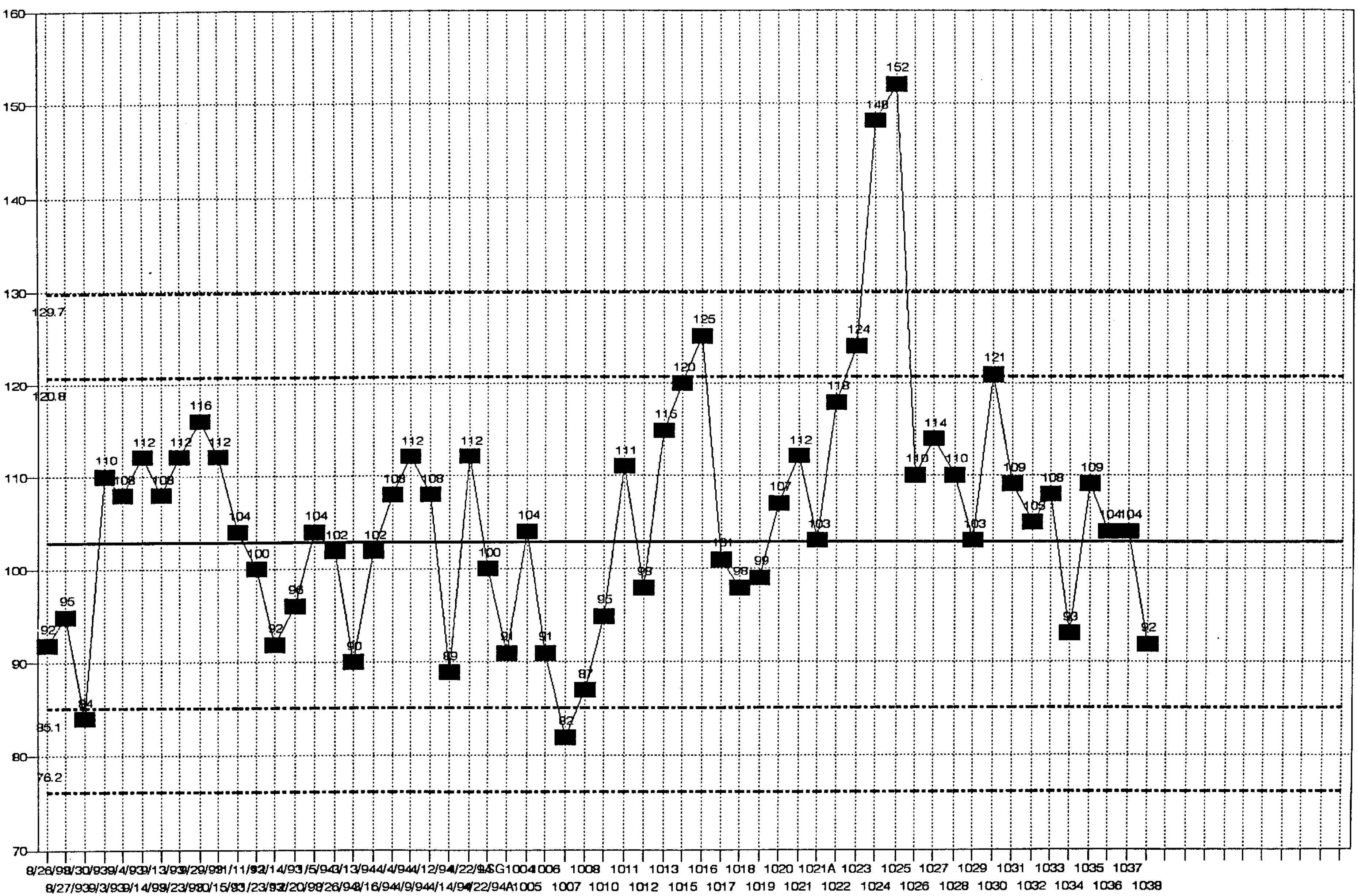
	True Value Deg F	Observed Value Deg F
LCS1	81.0	81.00

GRO SURROGATE RECOVERIES
LIMITS SET 10/27/95



STD DEV = 16.96 MEAN = 124

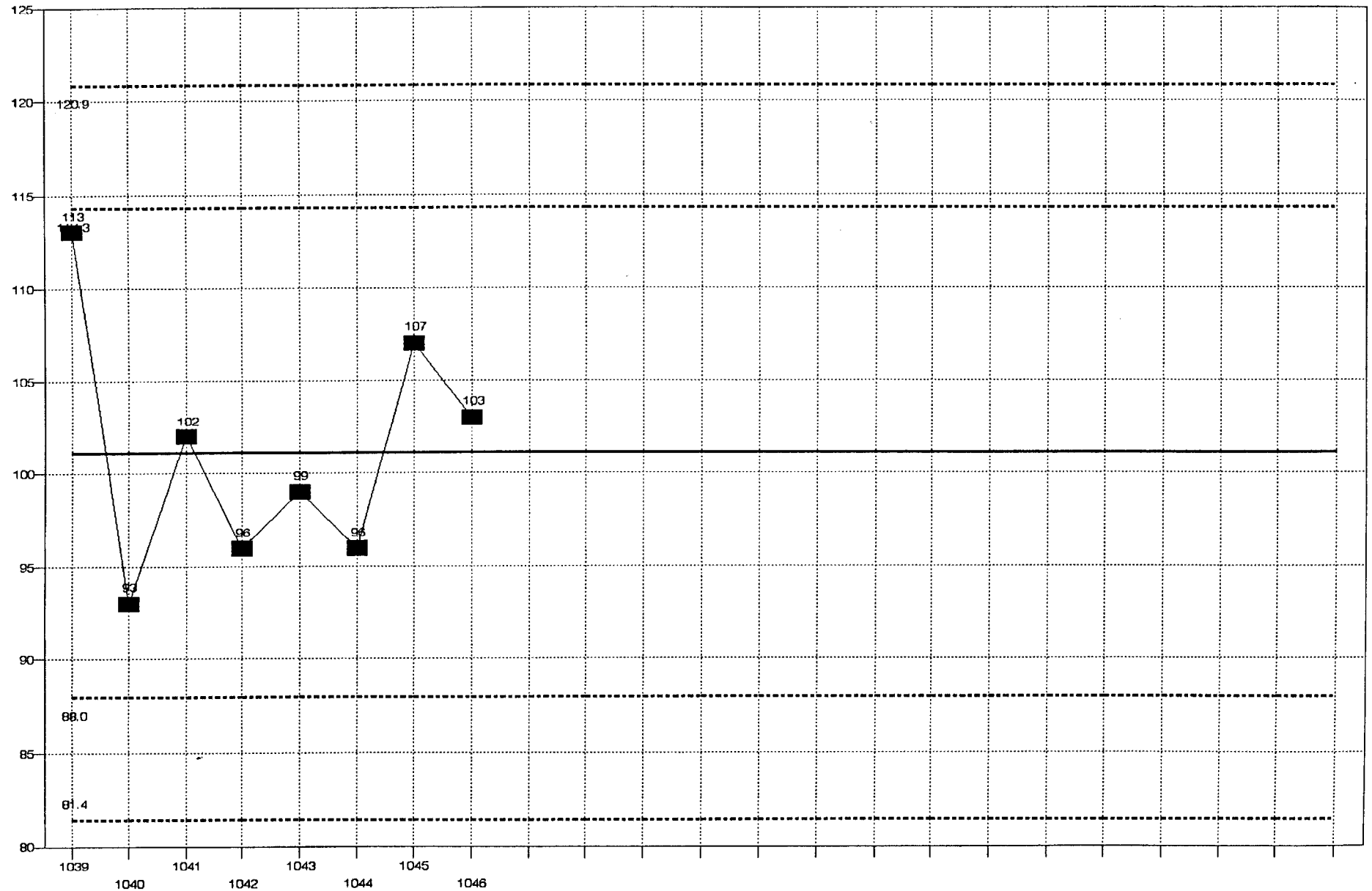
GRO SOLID LCS RECOVERIES GC07
LIMITS SET 4/13/94



STD DEV = 8.93   MEAN = 103

0000028

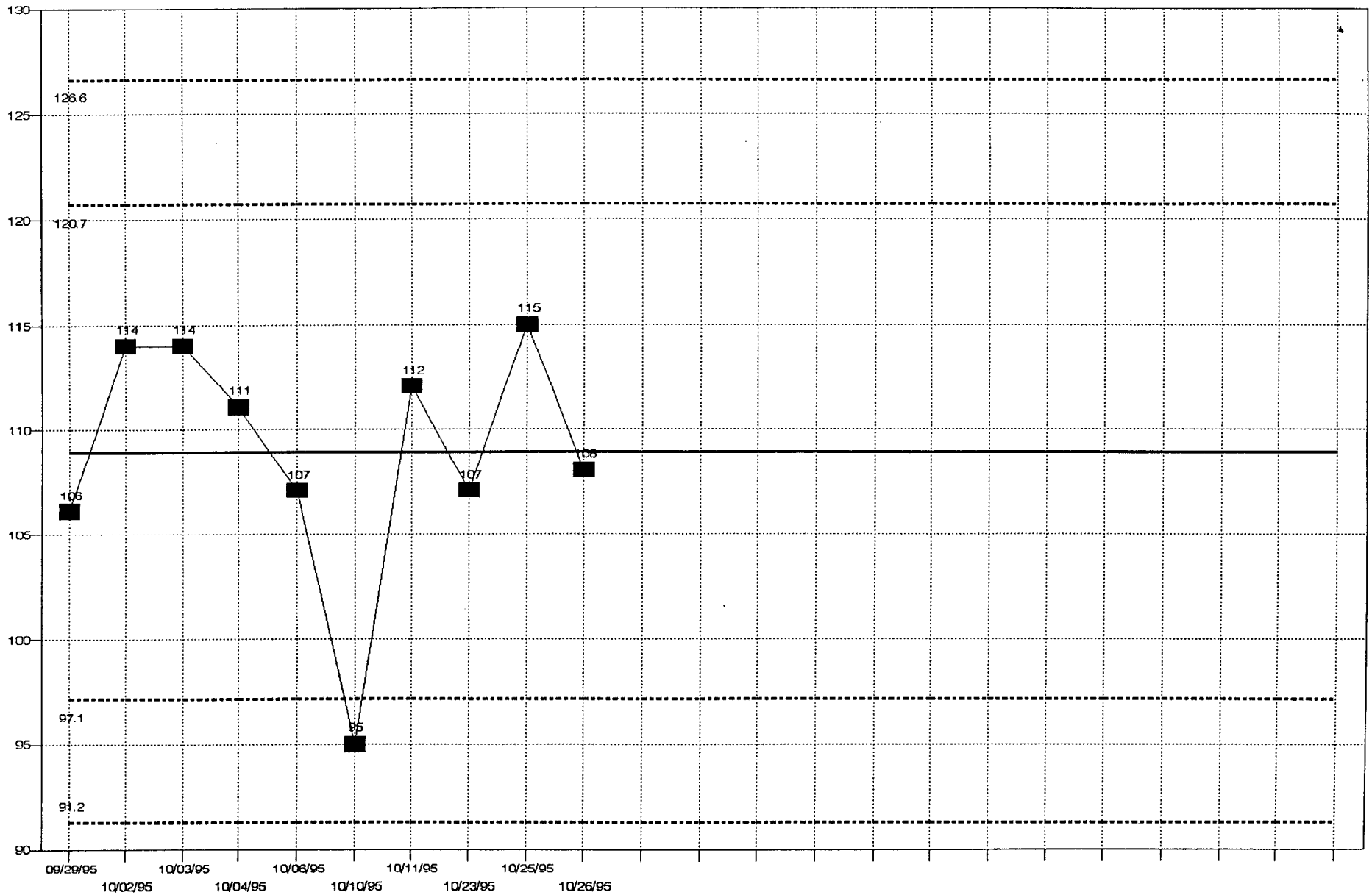
GRO SOLID LCS RECOVERIES GC05
LIMITS SET 10/27/95



STD DEV = 6.58 MEAN = 101

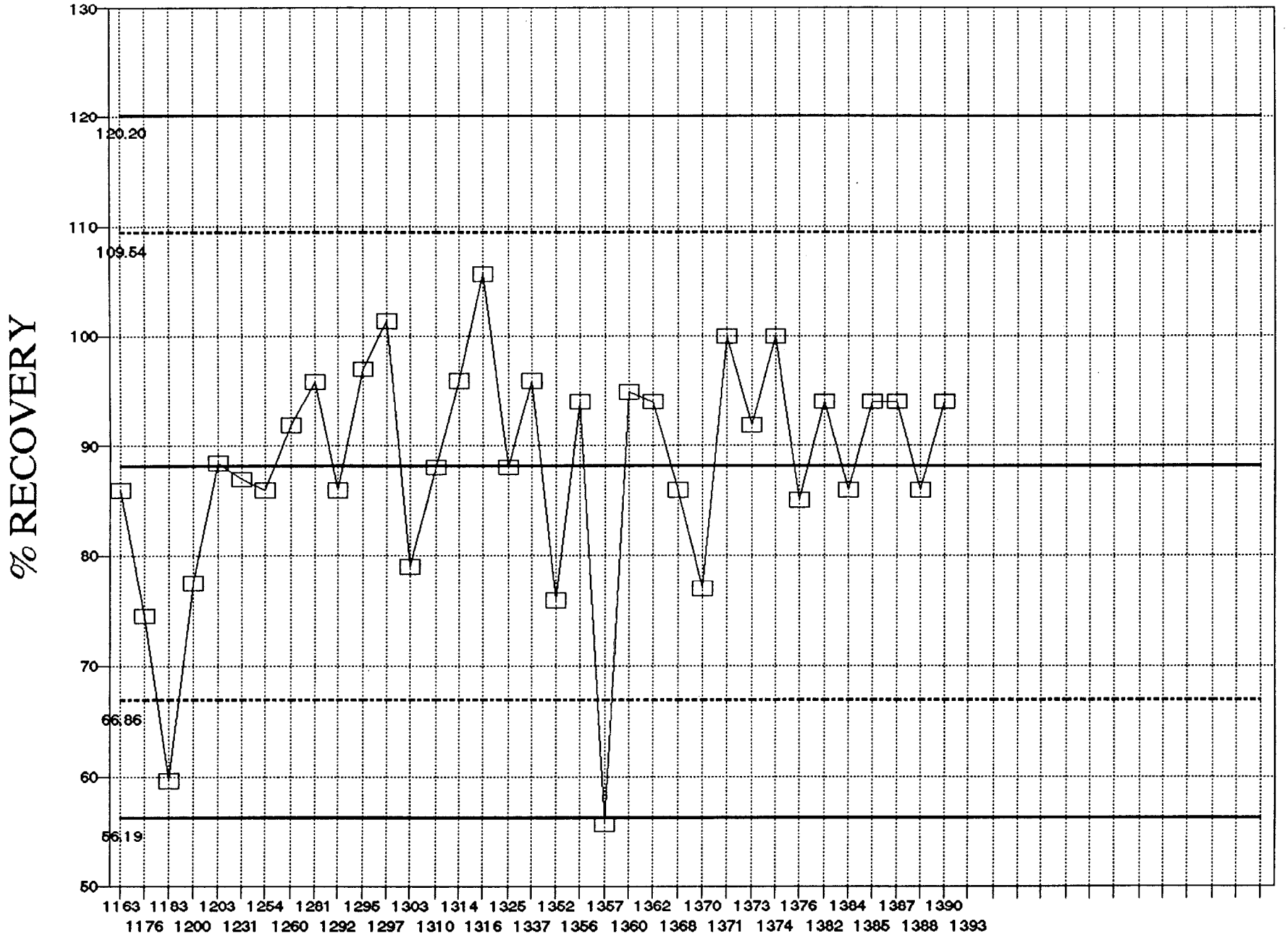
6200029

GRO LCS WATER RECOVERIES
LIMITS SET 10/27/95



STD DEV = 5.89 MEAN = 108.9

O&G GRAV-S LCS RECOVERIES

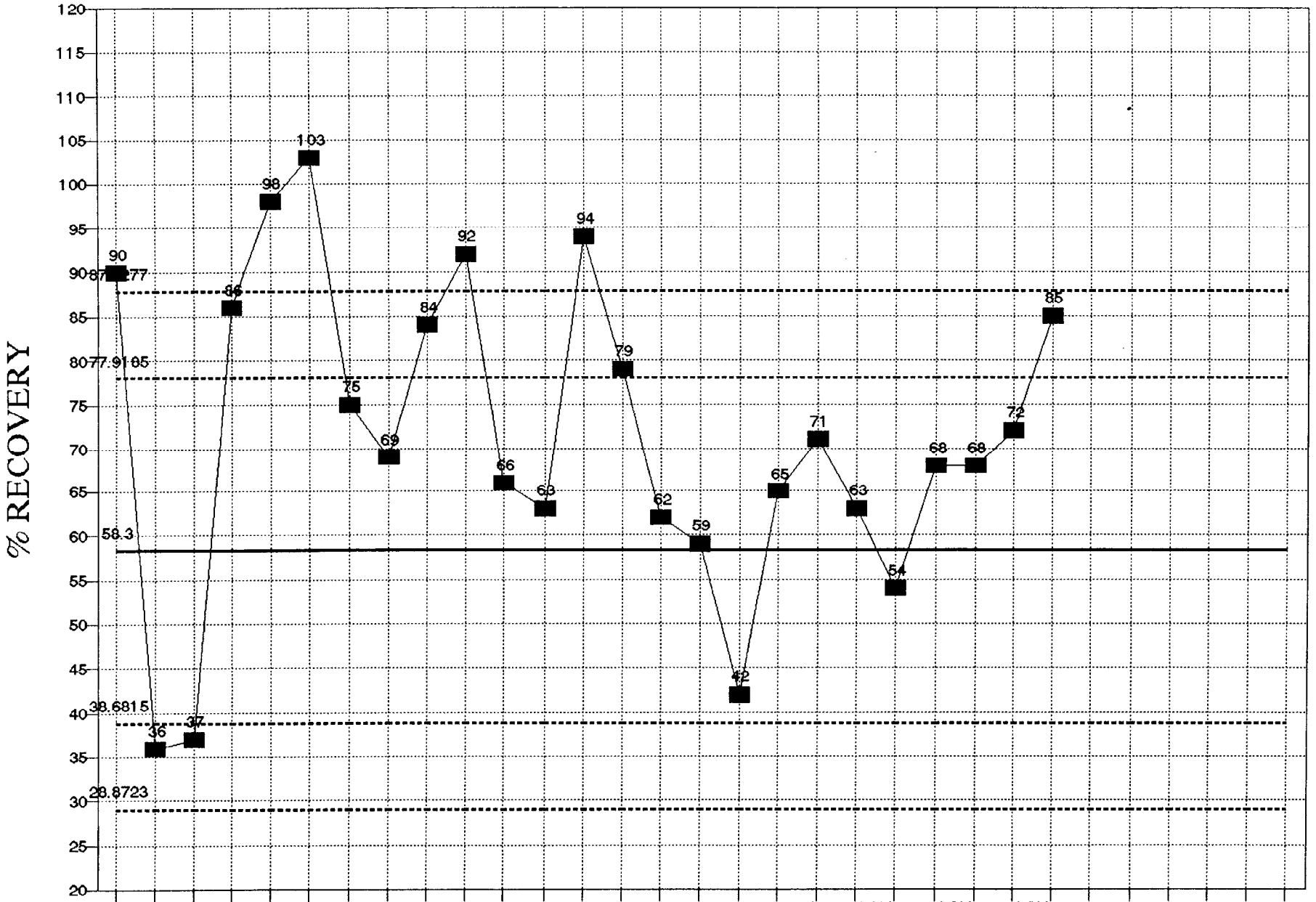


MEAN = 87.5 STD DEV = 11.3

0000031

PHC LOW SOLIDS - DIESEL

SPK REC LIMS SET6/6/95-PPCBCHT\PHCS1294

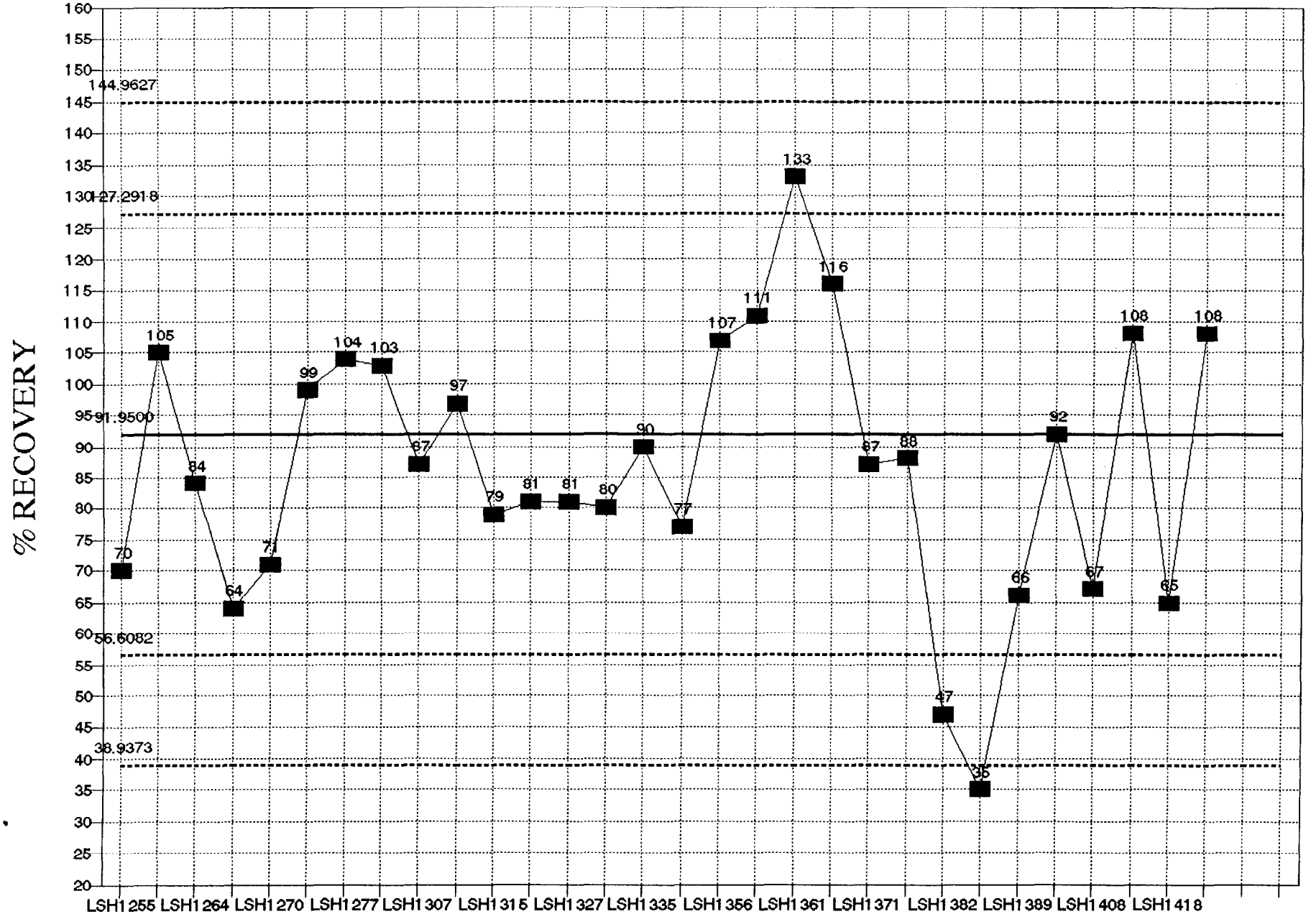


MEAN = 58.30 STD DEV =9.81

00000032

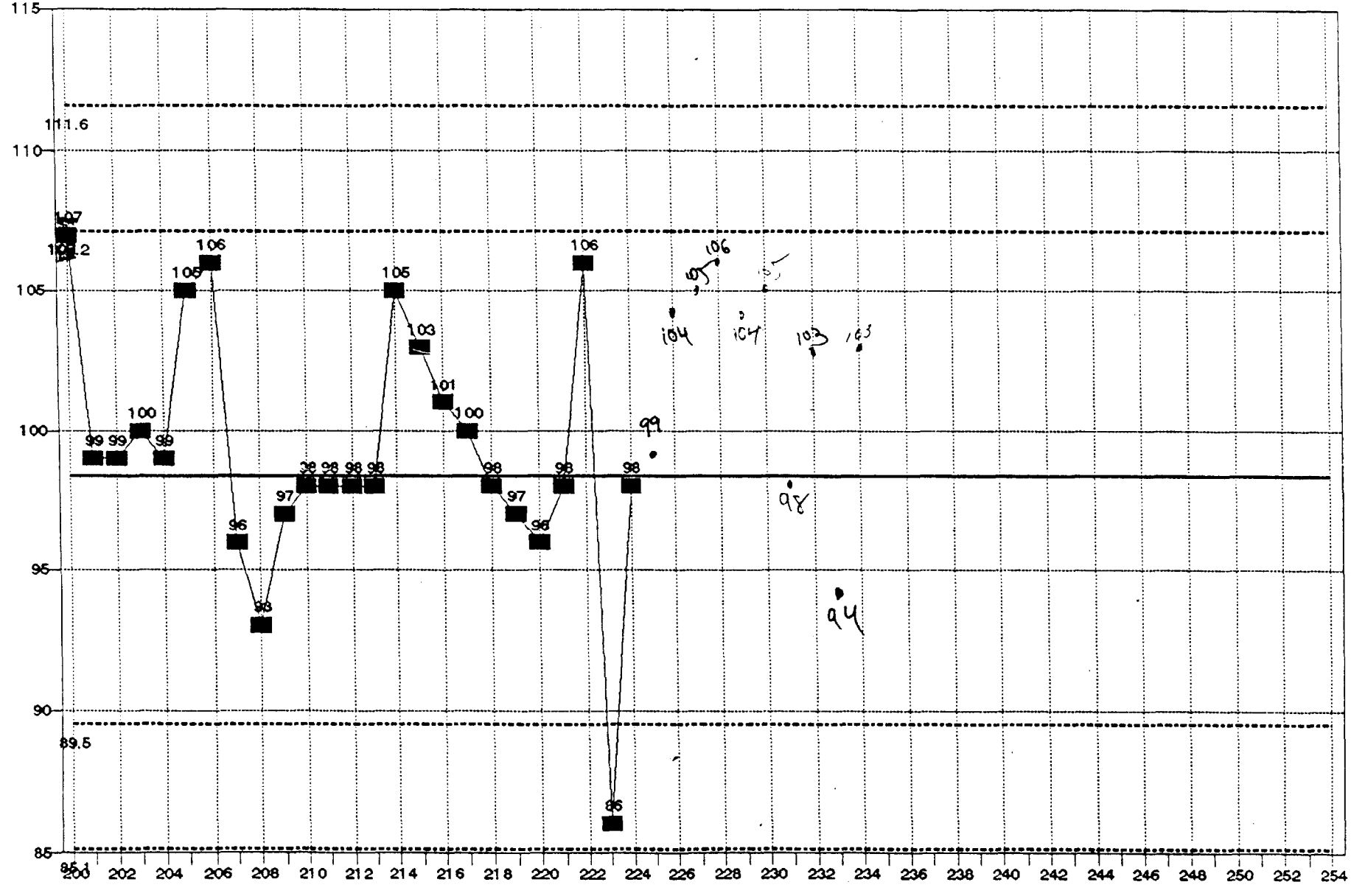
PHC WATERS BY SEPF - DIESEL

SPK REC LIMS SET0795-PPCBCHT\PHCWSF94



MEAN = 91.95 STD DEV = 17.67

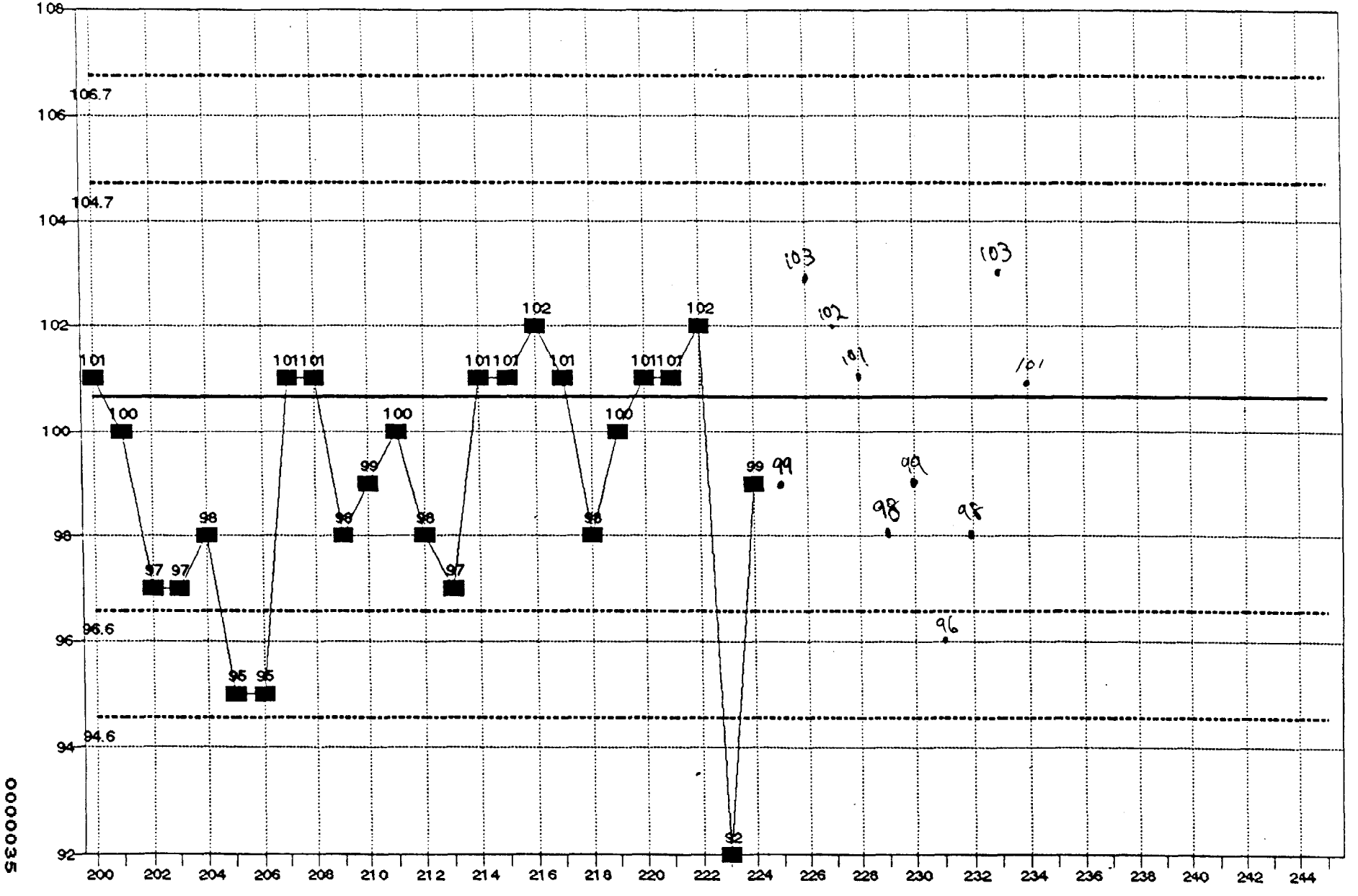
VOA WATERS - SURR DCE
LIMITS SET 4/95



STD DEV = 4.40 MEAN = 98.4

00000034

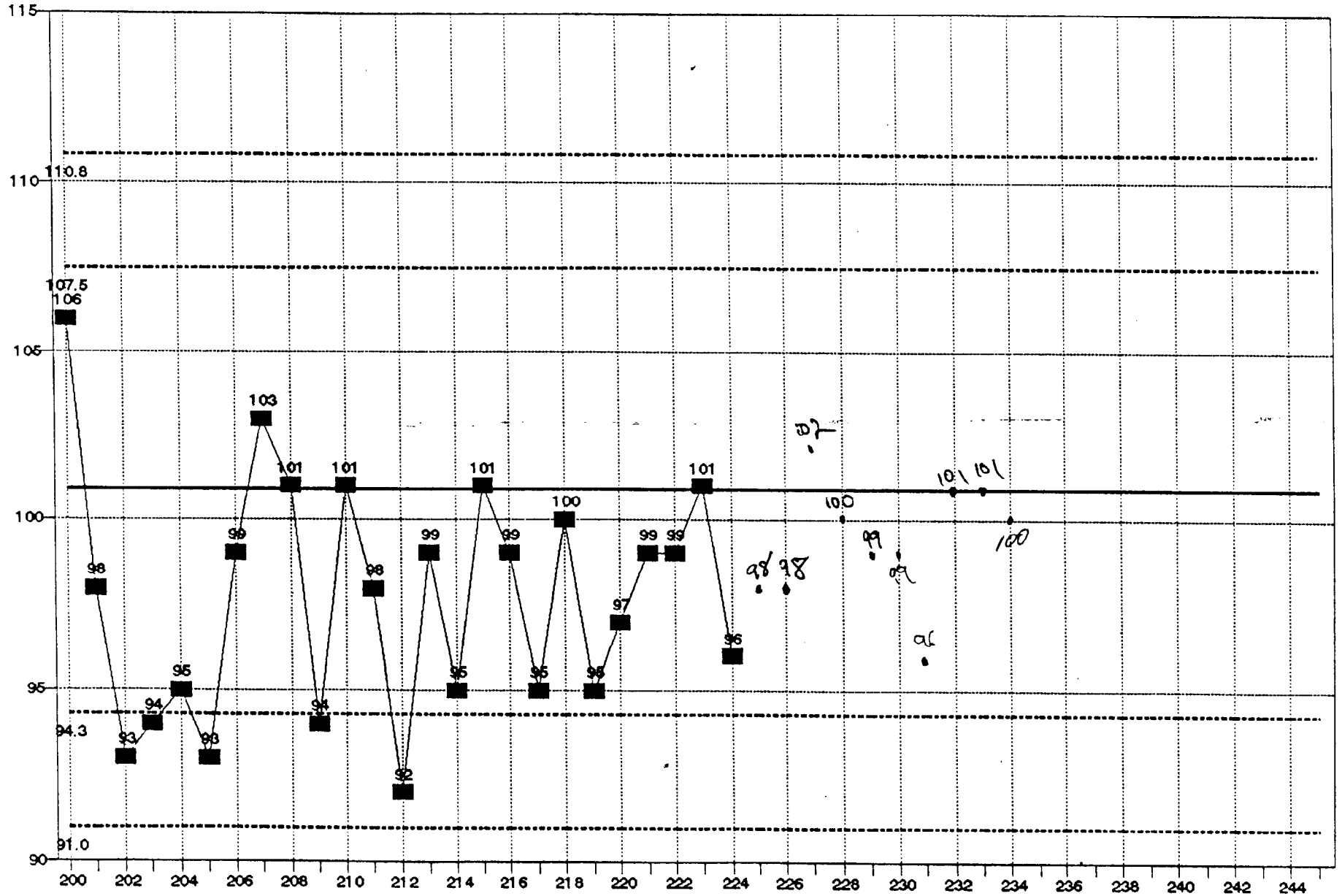
VOA WATERS - SURR TOL
LIMIT SET 4/95



STD DEV = 2.03 MEAN = 100.6

0000035

VOA WATERS - SURR BFB
LIMIT SET 4/95



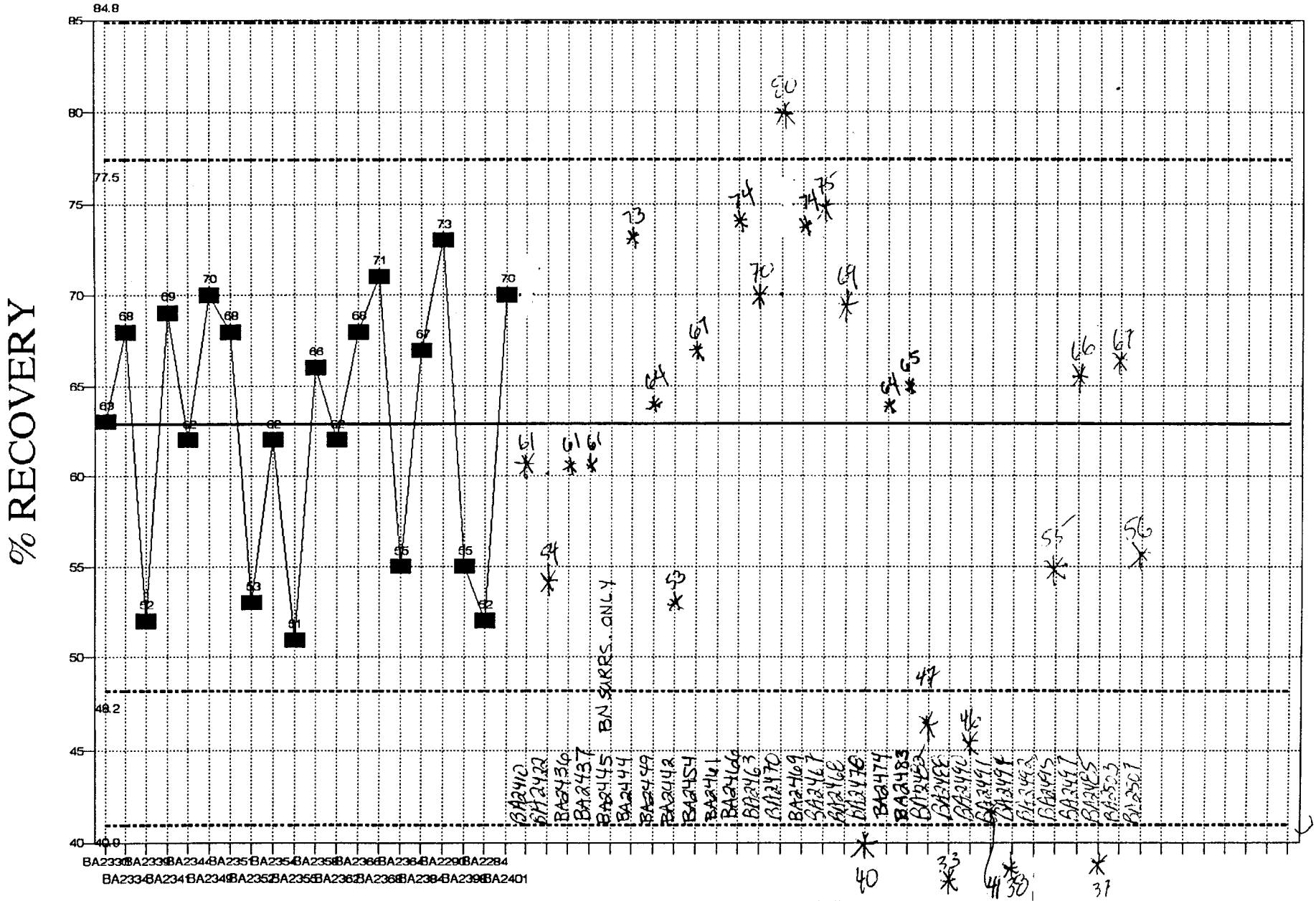
STD DEV =3.31 MEAN = 100.9

00000036

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	BD101695A1
84	BD072793A	132	BC110894B	180	BI080895A1	228	BD101795A1
85	BD073093A	133	BC110994A	181	BI080995A1	229	BD101895A1
86	BC080493A	134	BC111594B	182	BC080295A1	230	BD101995A1
87	BC080593A	135	BC111794B	183	BC080495A1	231	BG101995A1
88	BE091793A	136	BC111894B	184	BC080795A1	232	BD102495A1
89	BC092093B	137	BG111094A	185	BC080895A1	233	BG100995A2
90	BC093093B	138	BC120194B	186	BI081095A1	234	BD102395A1
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	

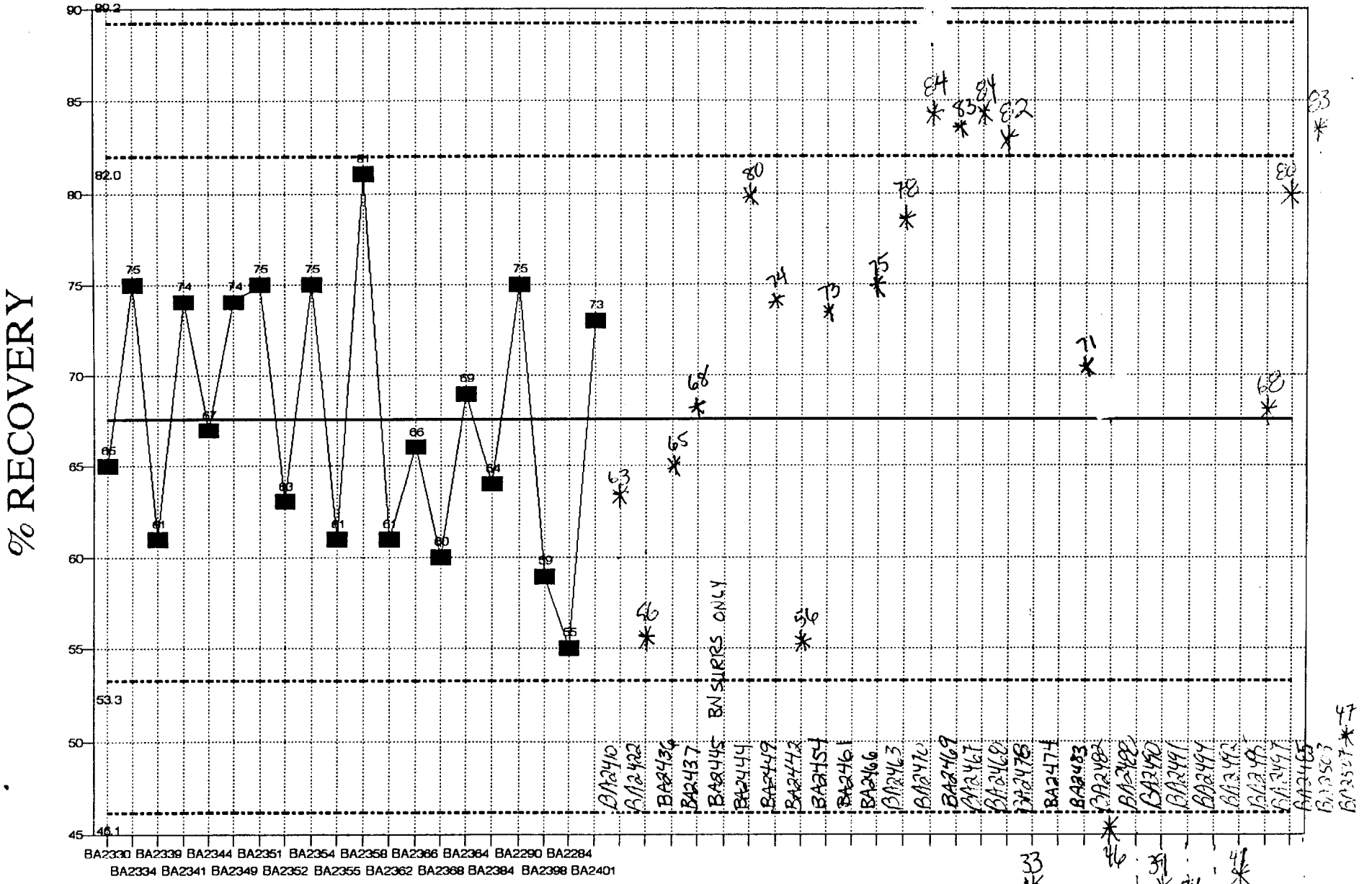
ABN WATER 3520/8270B, 2-FLUOROPHENOL SURR, LIMITS SET 8/95



STD DEV = 7.31 MEAN = 62.8

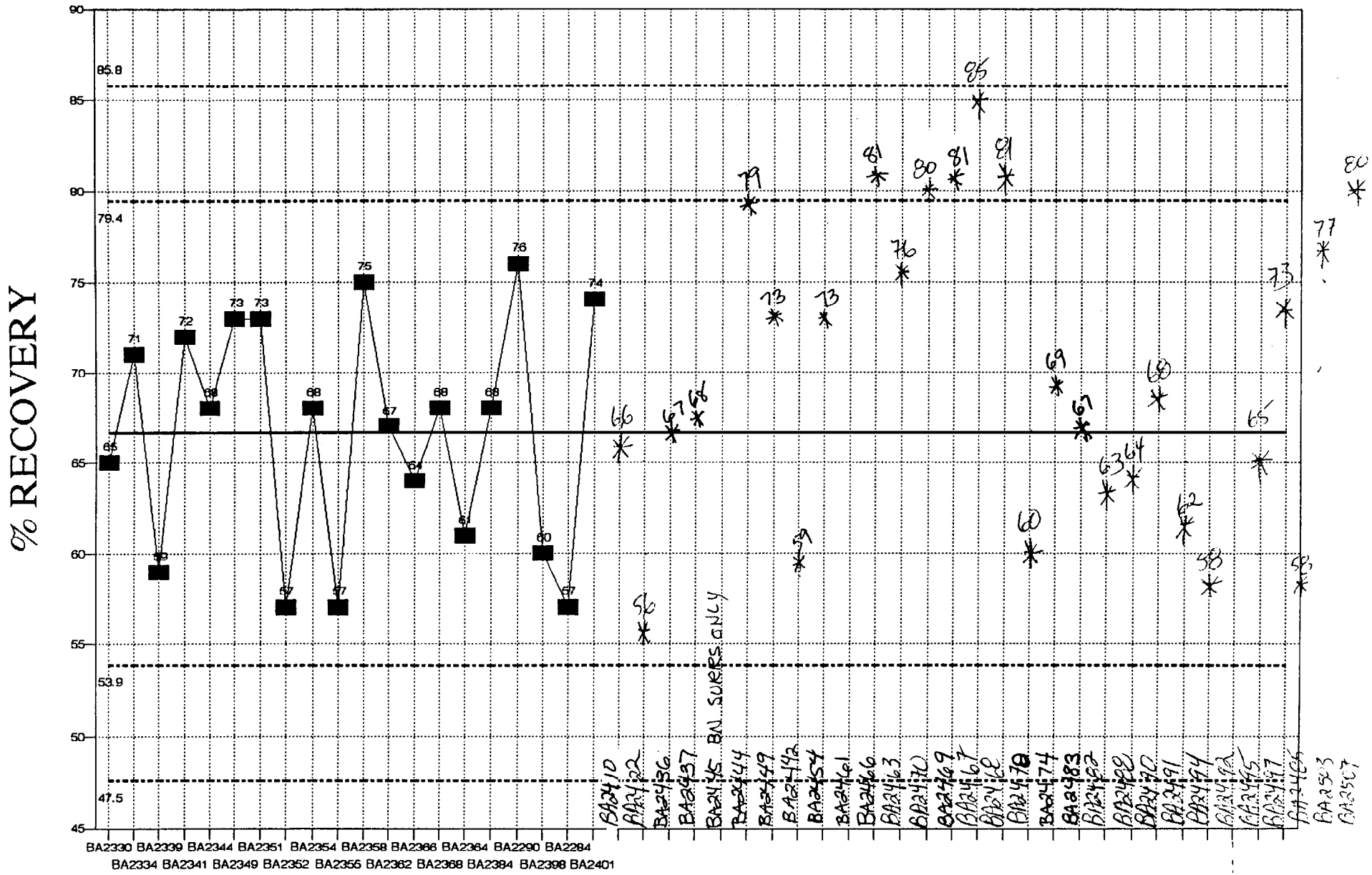
8300038

ABN WATER 3520/8270B, PHENOL-D5
SURR, LIMITS SET 8/95



STD DEV = 7.17 MEAN = 67.6

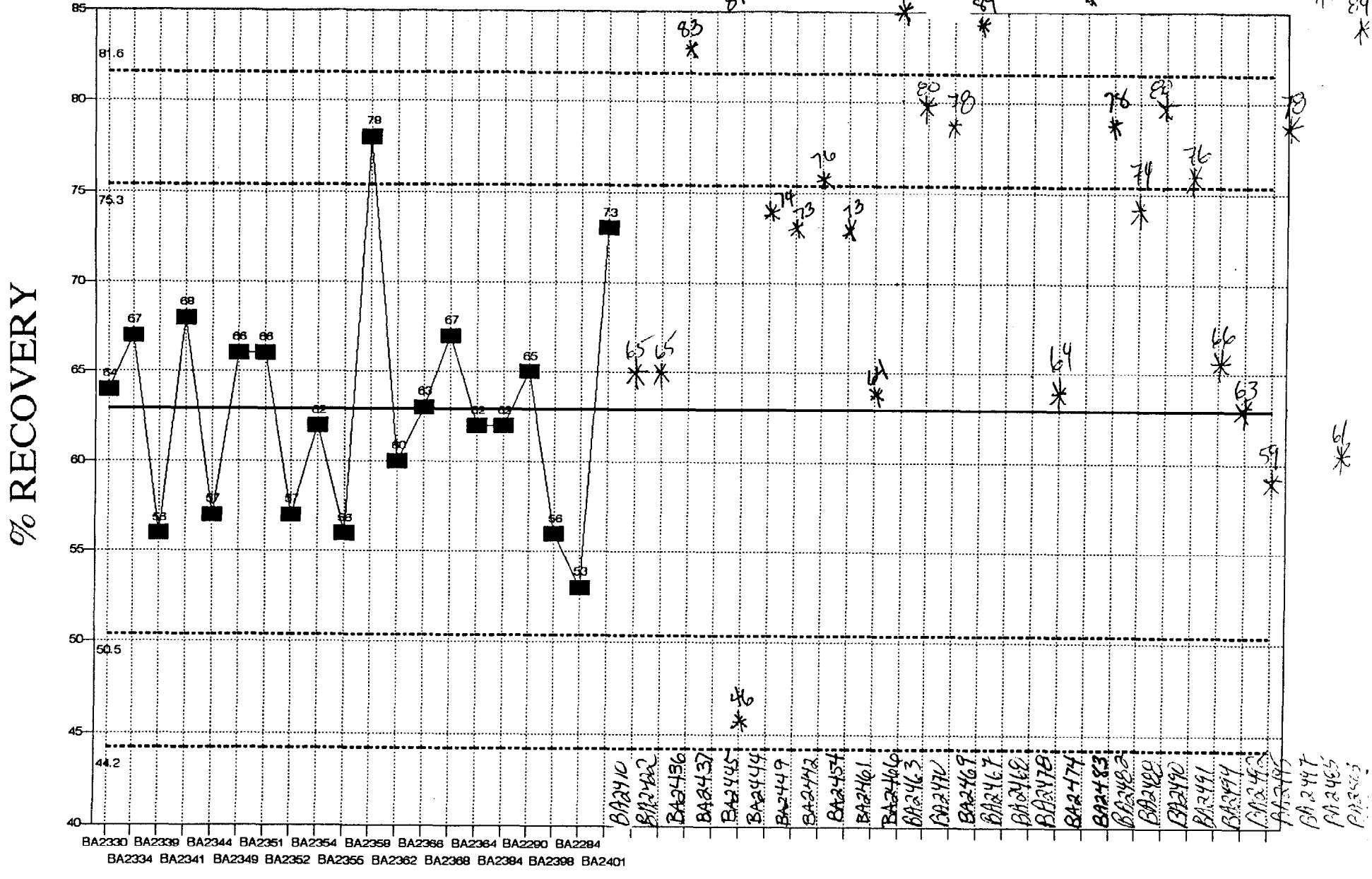
ABN WATER 3520/8270B, 2-CHLOROPHENOL-D4
SURR, LIMITS SET 8/95



STD DEV = 6.37 MEAN = 66.6

00000040

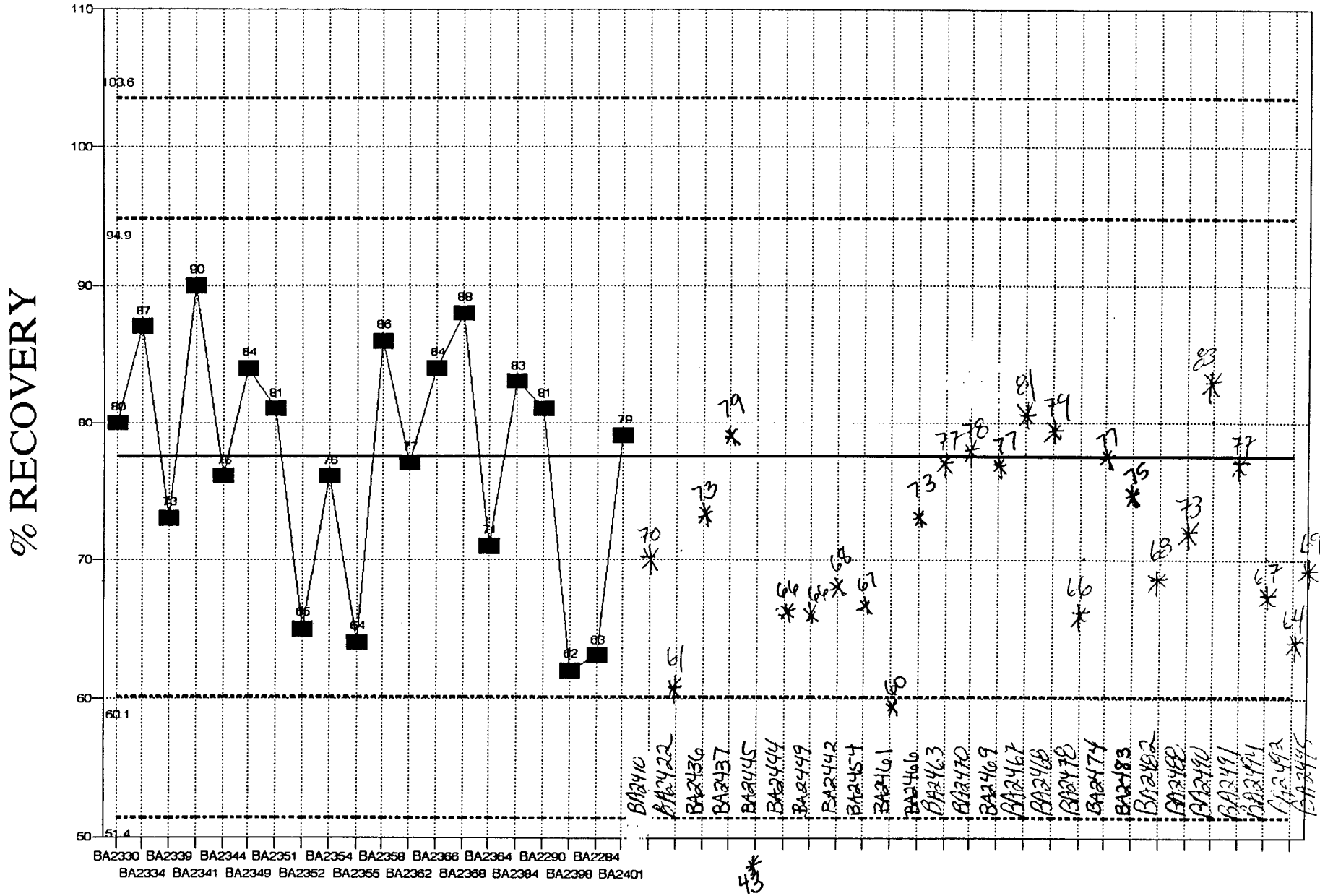
ABN H2O 3520/8270B,1,2-DICHLOROBENZENE-SURR, LIMITS SET 8/95



STD DEV = 6.22 MEAN = 62.9

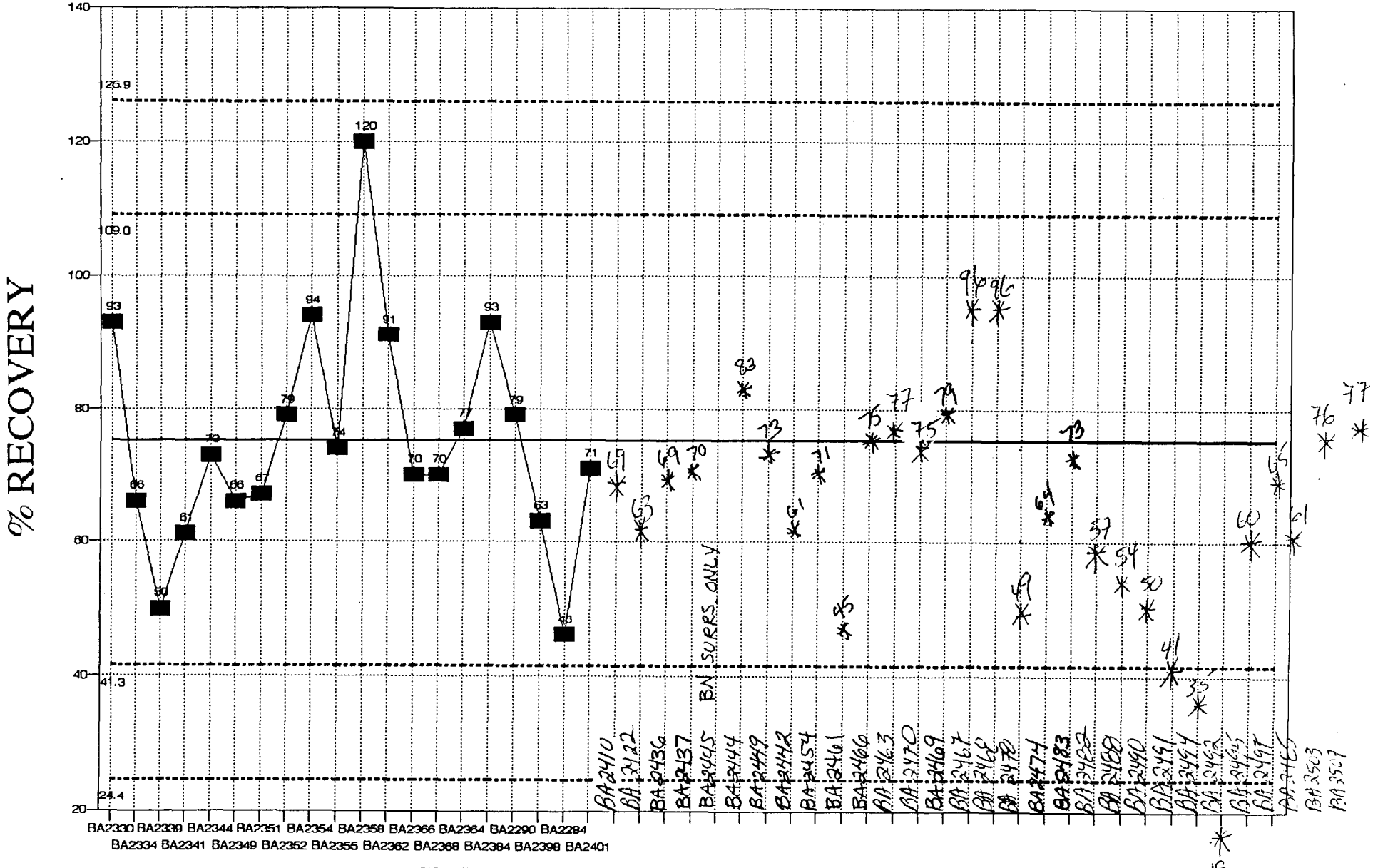
00000041

ABN H2O 3520/8270B, NITROBENZENE-D5
SURR, LIMITS SET 8/95



STD DEV = 8.68 MEAN = 77.5

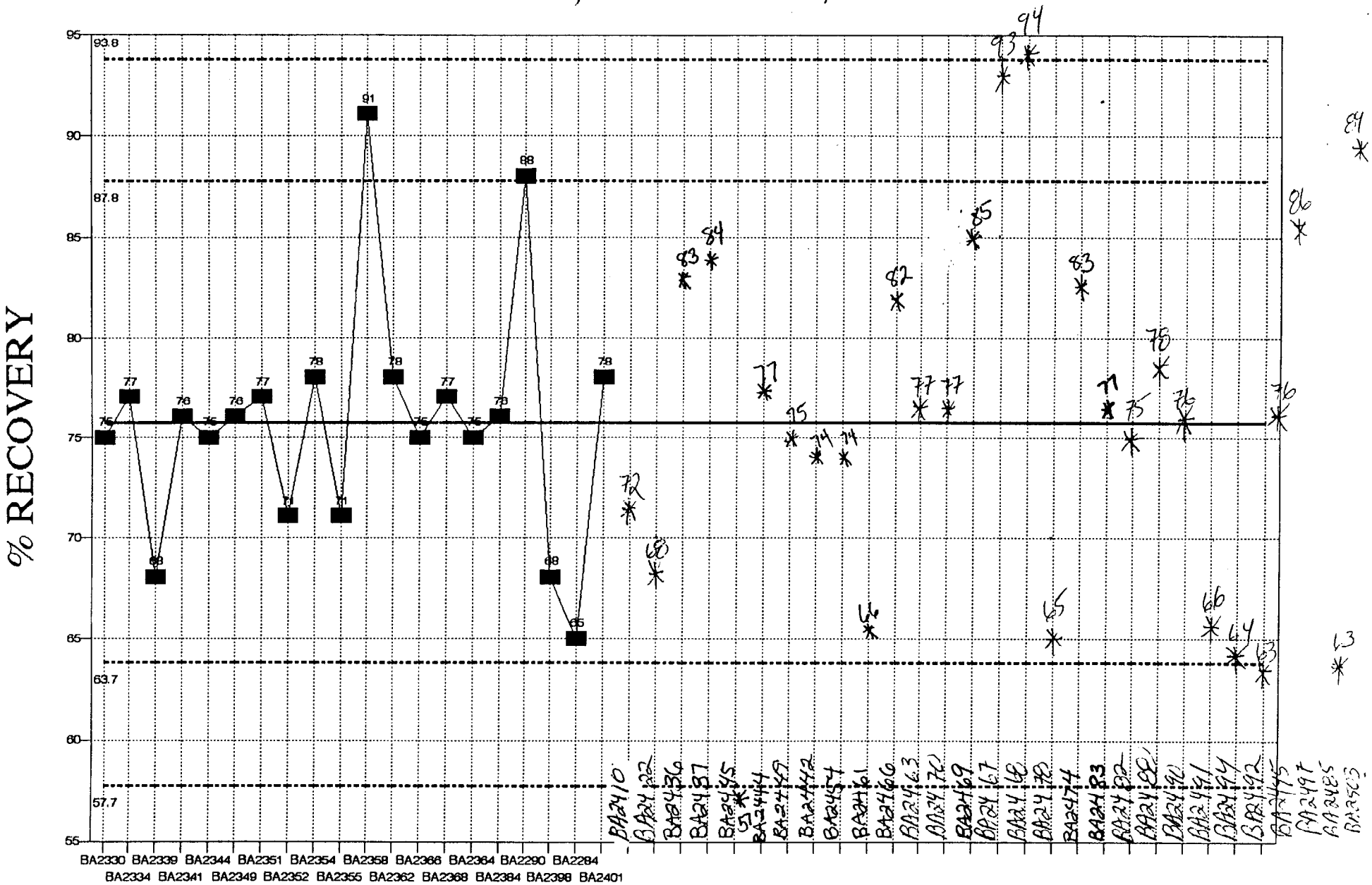
ABN H2O 3520/8270B,2,4,6-TRIBROMOPHENOL SURR, LIMITS SET 8/95



STD DEV = 16.9 MEAN = 75.2

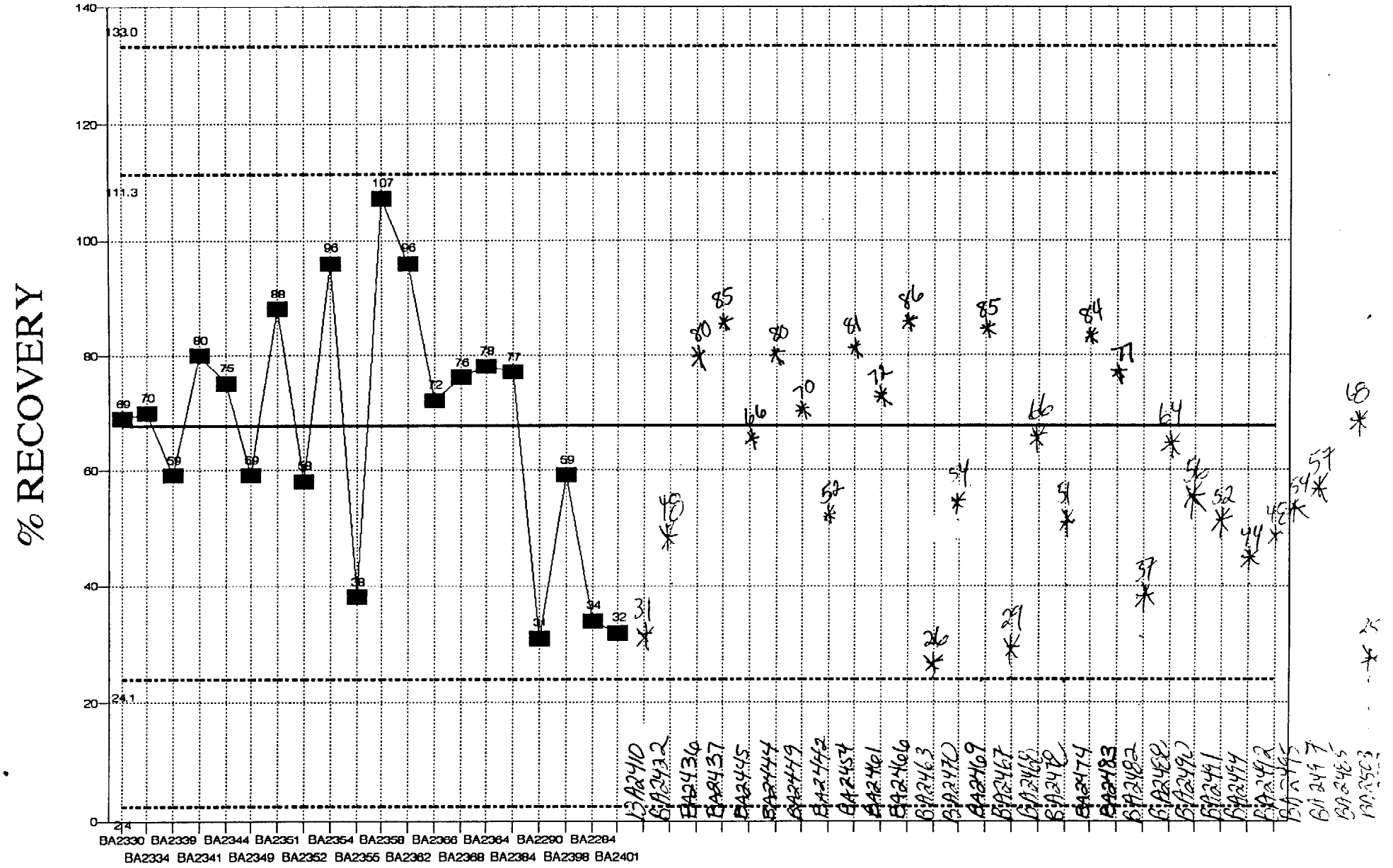
0000043

ABN H2O 3520/8270B, 2-FLUOROBIPHENYL SURR, LIMITS SET 8/95



STD DEV = 6.01 MEAN = 75.8

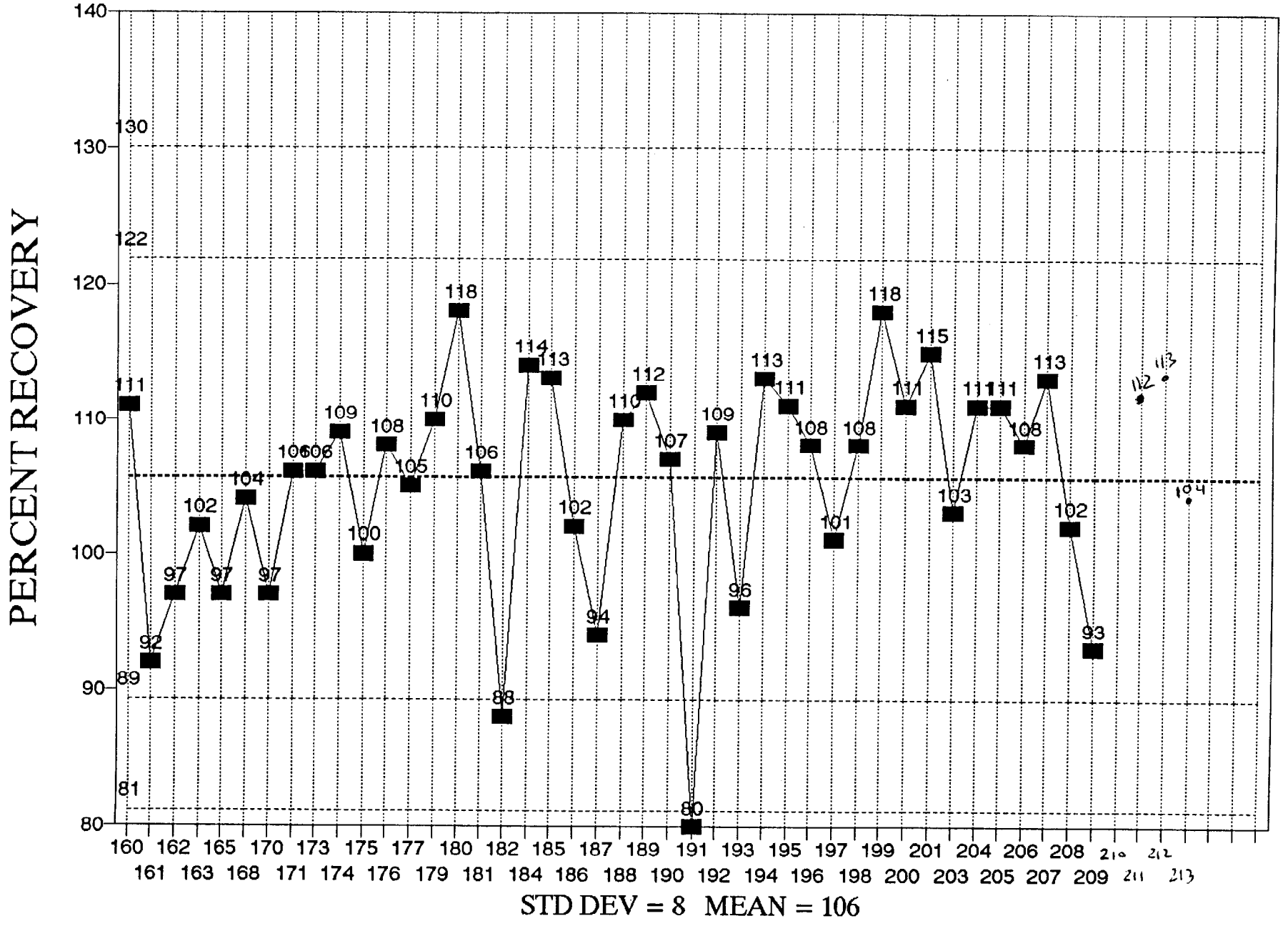
ABN H2O 3520/8270B, TERPHENYL-D14
SURR, LIMITS SET 8/95



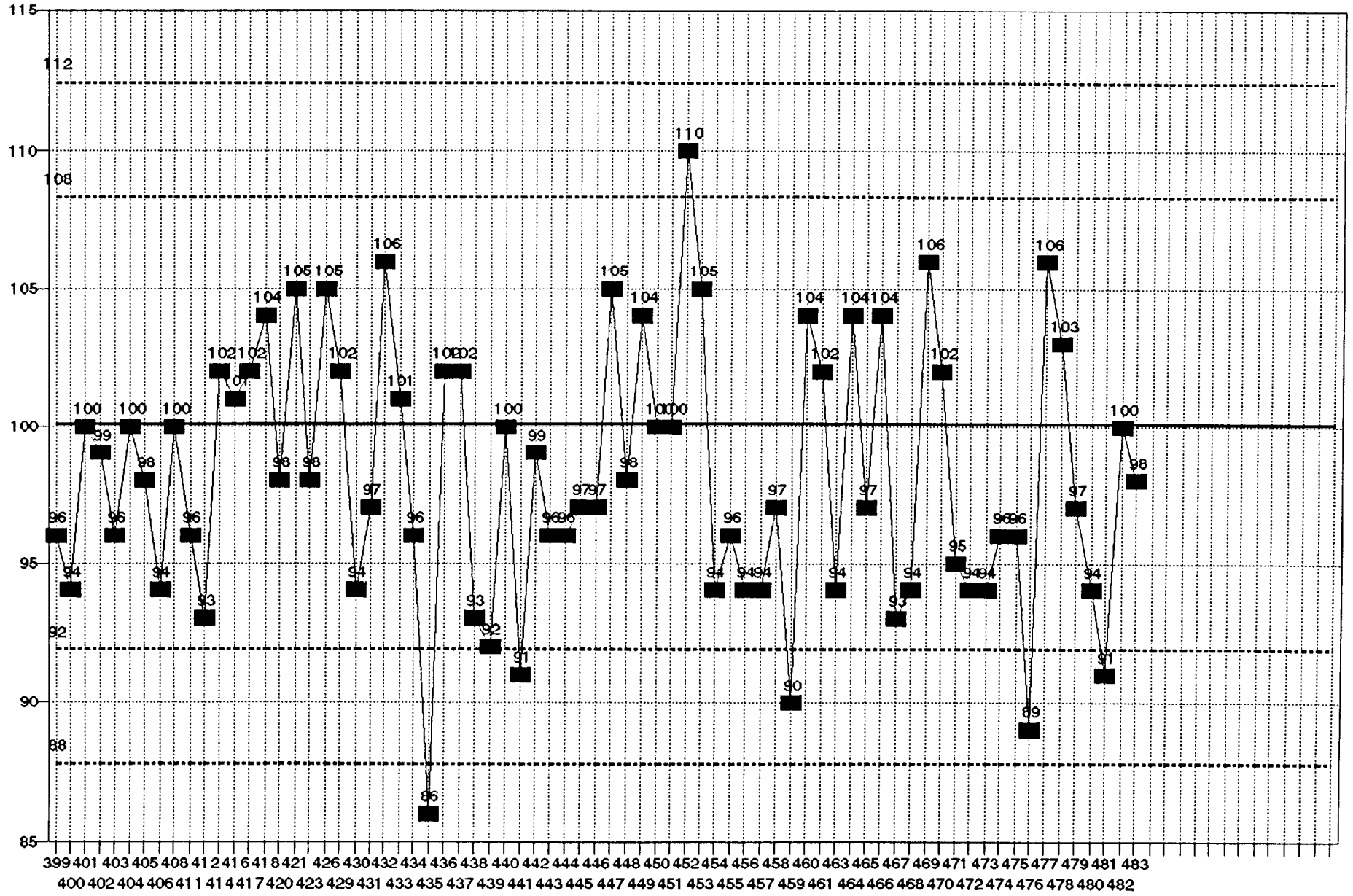
STD DEV = 21.8 MEAN = 67.7

0000045

FURNACE ARSENIC WATER LCS RECOVERIES
LIMITS SET 10/95

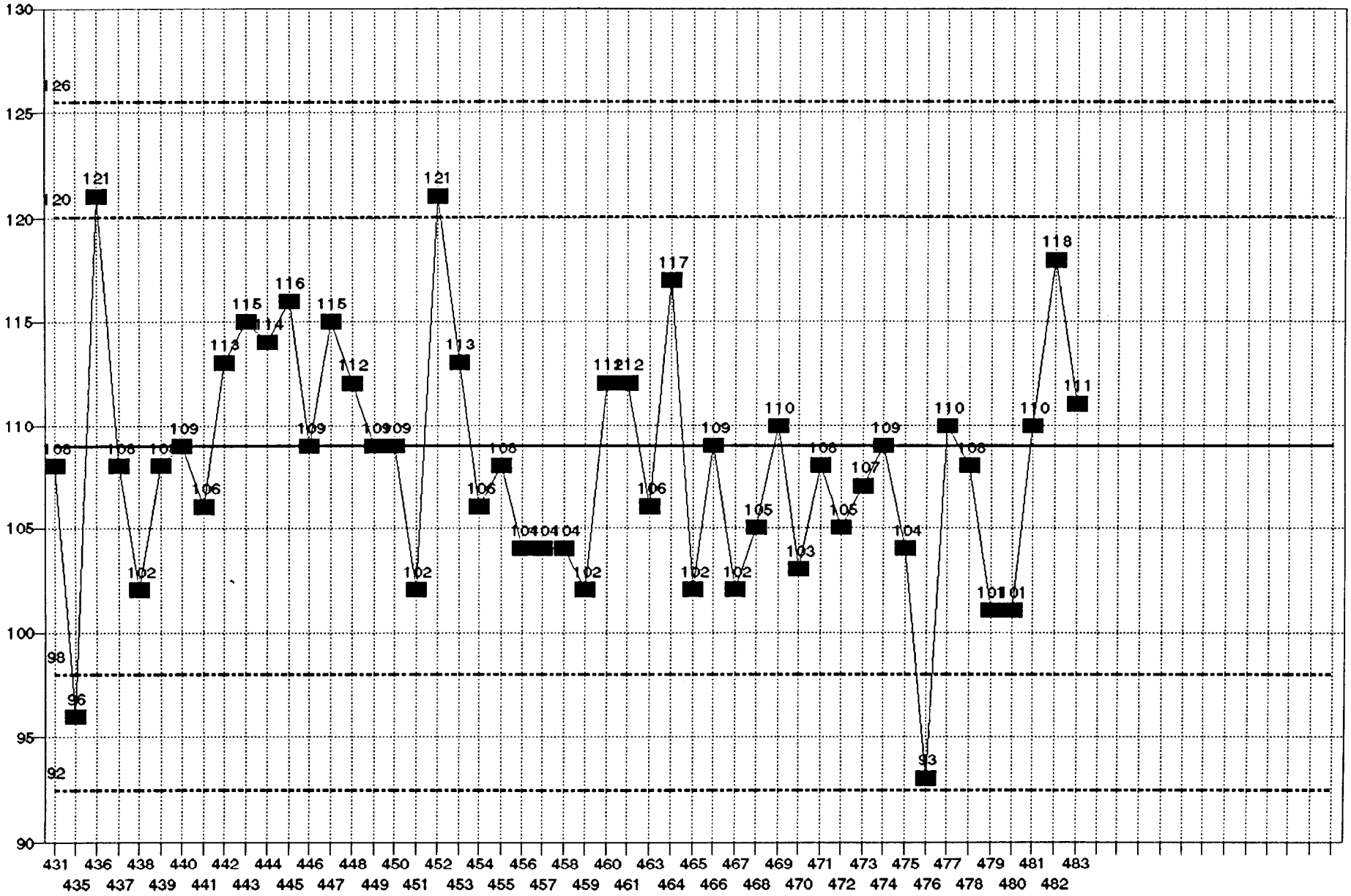


Ba COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 9/95



STD DEV = 4 MEAN = 100

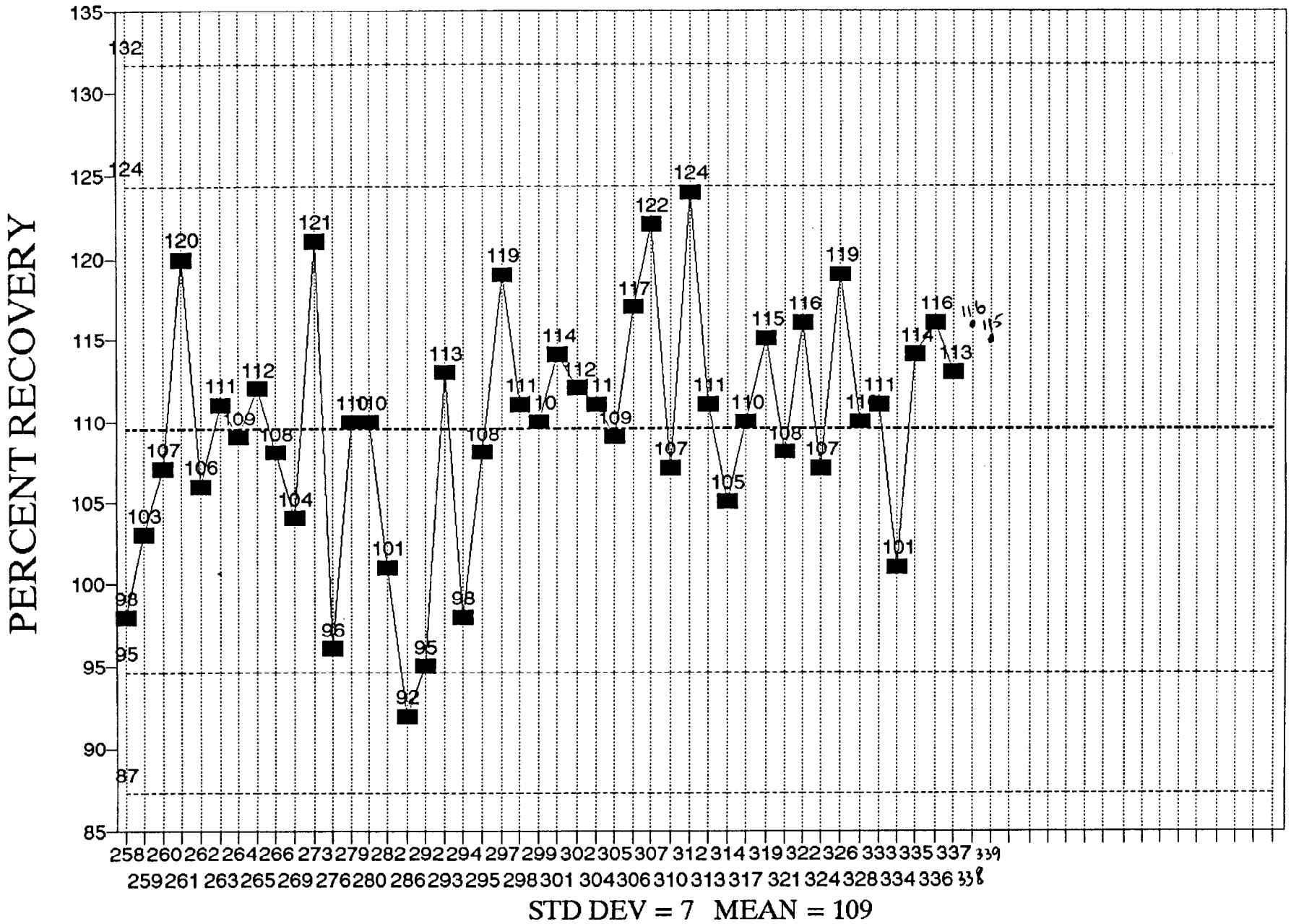
Cd COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 7/95



STD DEV = 5.51 MEAN = 109

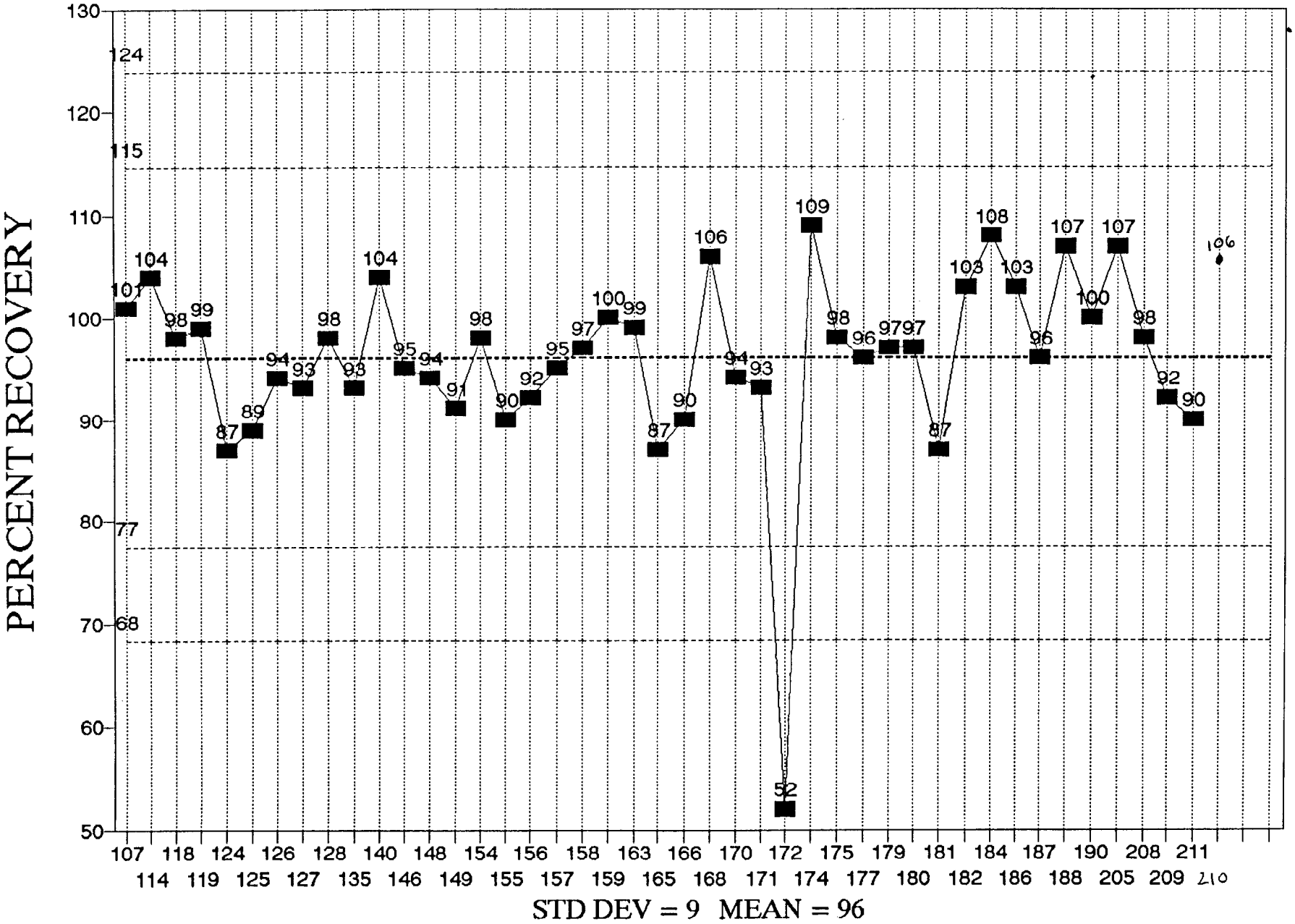
0000048

FURNACE LEAD WATER LCS RECOVERIES
LIMITS SET 10/95



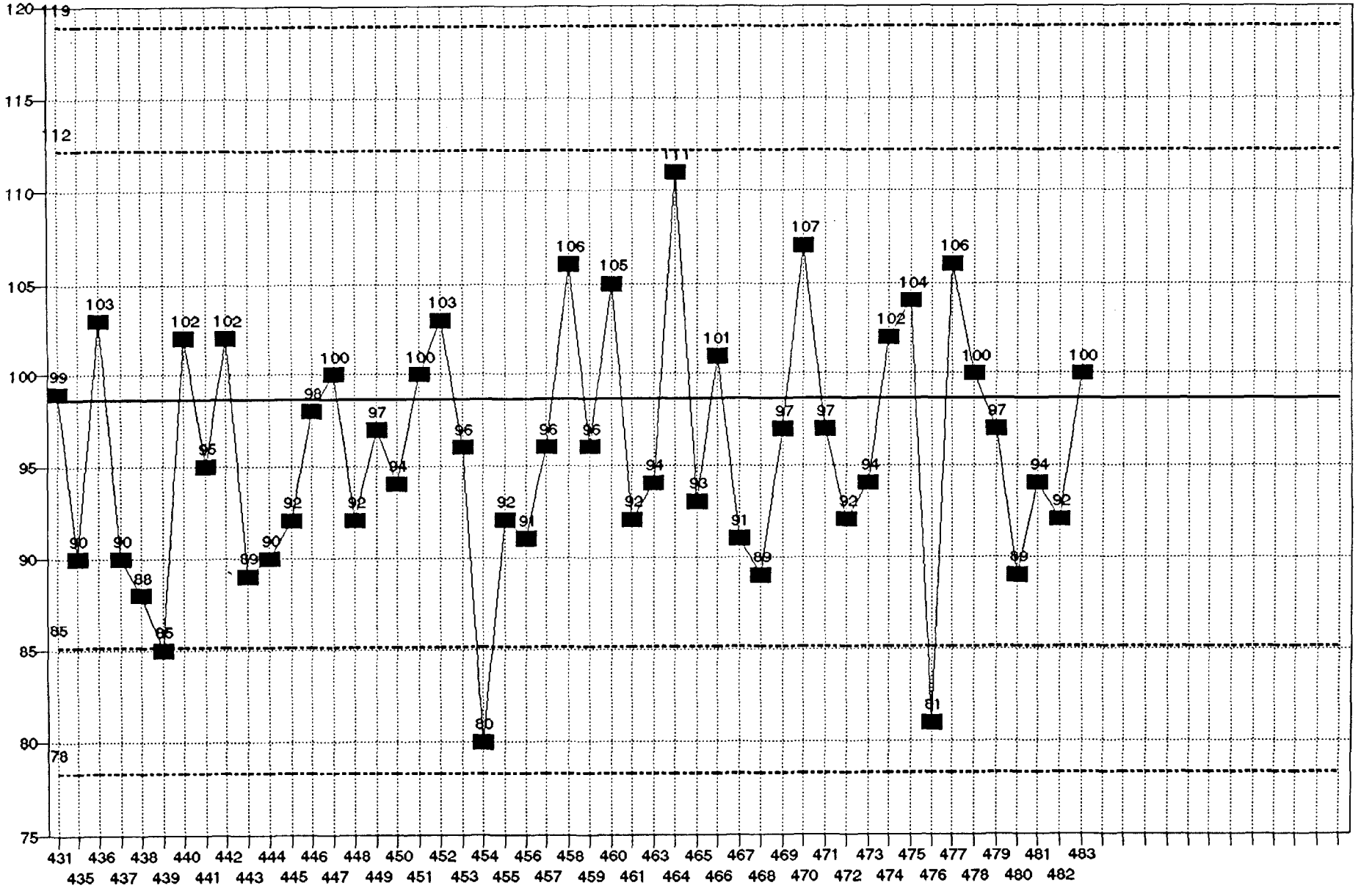
0000049

FURNACE SELENIUM WATER LCS RECOVERIES
LIMITS SET 10/95



0500050

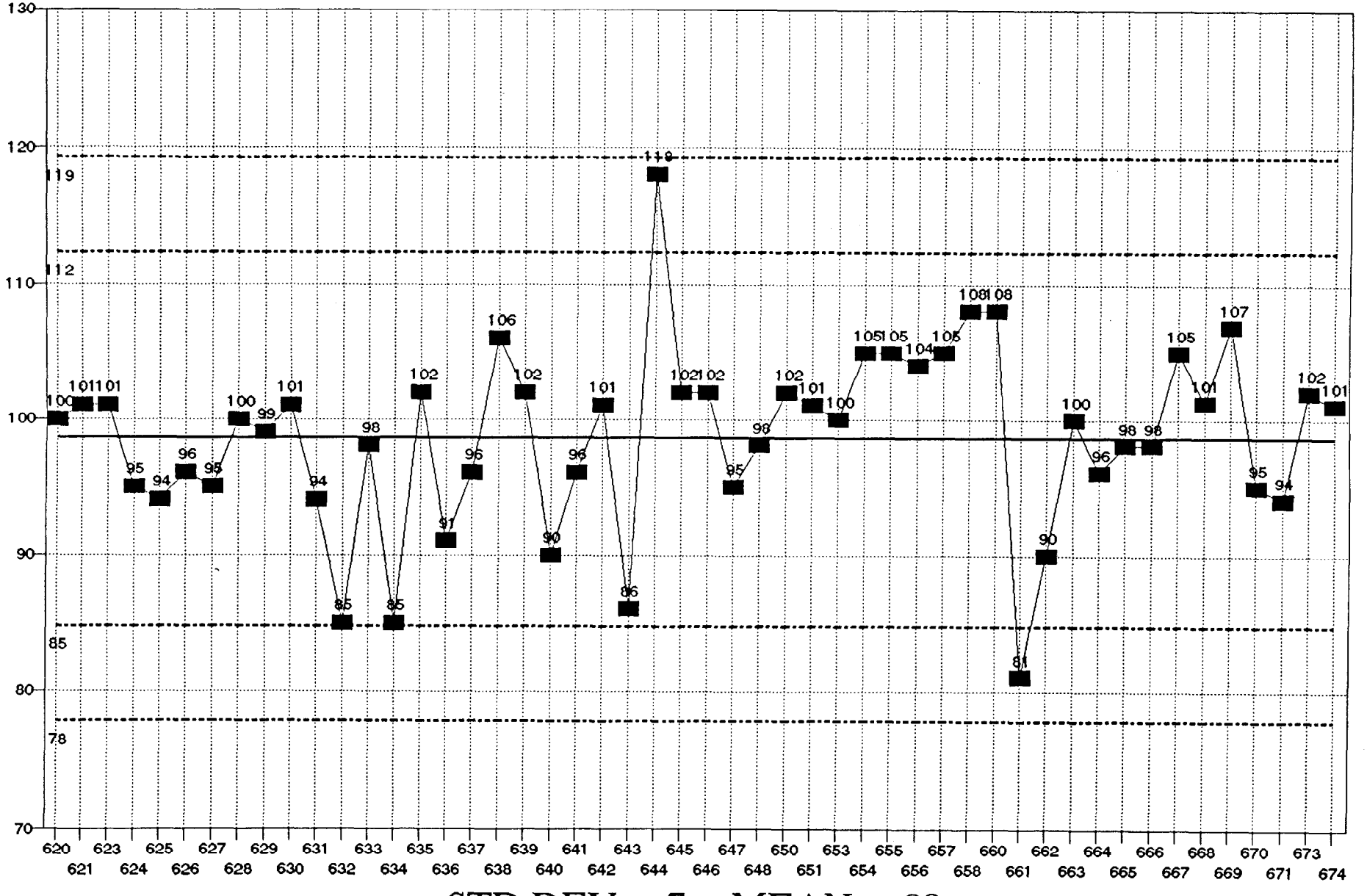
Ag COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 8/95



STD DEV = 7 MEAN = 99

0000051

Hg COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



STD DEV = 7 MEAN = 99

0000052

OHM Remediation Services Corp.

CHAIN-OF-CUSTODY RECORD

LAB COP

Form 001
Field Technical Service
Rev. 08/8

166422

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	PCB	Total Lead	Volatile + BTEX (8240)	REMARKS
1	CLJ44-CC-105	10/19	1035		X	Contaminated Soil from Pile 58 of Area A.	1	X	X-7				X	-7		
2	CLJ44-CC-106-RB	10/19	1045	X		Rinsate Blank	2	X	X-8	X	X-9	X-11				-10 metals
3	CLJ44-CC-107-TB					Trip Blank		X			X				X	
4	CLJ44-SB03-4'	10/20	0815		X	Soil Sample at 4' from Area D	3	X	X							
5	CLJ44-SB01-4'	10/20	0825		X	Soil Sample at 4' from Area D	4	X	X							
6	CLJ44-SB02-4'	10/20	0835		X	Soil Sample at 4' from Area D	5	X	X							
7	CLJ44-SB04-4'	10/20	0845		X	Soil Sample at 4' from Area D	6	X	X							
8																
9																
10																

45748

Final Page

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-7		FED EX Air Bill #	10/20	1300
2			[illegible] Lawson / Pace NH	10/21/95	1200
3					
4					

REMARKS Send Samples to Pace Lab
Items 1, 2 & 4-7 24hr. TAT = 45748
Item #3 3 days TAT

SAMPLER'S SIGNATURE

0000053

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

November 20, 1995

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

SAMPLE DELIVERY GROUP NARRATIVE

Case: OHMRC
SDG: LJN41
Laboratory: PACE New England - New Hampshire of Hampton, NH
Lab Numbers: 45802
Protocol: SW846 Methods. NEESA E deliverables. No diskette.

Sample Receipt: These samples were received at PACE, Inc. on October 27, 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 10/27/95 (45802): Samples were received in one cooler and were assigned PACE# 45802 and 45803. 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# 45803 were logged in for a 7-day turnaround per the request on the COC. Samples assigned PACE Lab# 45802 were logged in for 24-hour turnaround.

GRO Analysis: Sample 45802-001 for method GRO (8015) analysis had no recovery for the surrogate. This was a probable matrix effect.

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

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

Volatile Analysis: The method 8240 blank "BC102795A1" 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 D. Wellman — 11/20/95

PACE Incorporated, New England-New Hampshire — November 20, 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# 45802
PAGE 1 of 1
COOLER ____ of ____
COC# ____
SDG# LJN41
CASE# CHmRC

CLIENT CHM
DATE/TIME RECEIVED 10/27/95 1300
DELIVERED BY Fed-Ex
RECEIVED BY
LIMS ENTRY BY GMC
TRANSCRIPTION REVIEW BY LP
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	☐	☐	☑	Ri 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) AFCEE Other ____
12. NUMBER OF PACE FILTRATIONS: ____
13. CORRECTIVE ACTIONS REPORT # ____

Log-in Notes: 24 hr. TAT

CLIENT AUTHORIZATION SIGNATURE ____ DATE ____

00000002

SAMPLE TABLE

CLIENT ID.	MATRIX	PACE #	PARAMETERS
CLJ44-CC-108	SOLID	45802-001	TOTAL GASOLINE
		45802-003	OIL & GREASE BY GRAVIMETRY
			TOTAL DIESEL
CLJ44-CC-110-TB	WATER	45802-002	TOTAL GASOLINE
		45802-004	GC/MS VOA

Field Identification: CLJ44-CC-108 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	180	14	45802-001	10/28/95	BG1047	8015(mod)/2
Total Diesel (ug/g)	5300	110	45802-003	10/30/95		8015(mod),3350/2
Oil and Grease by Gravimetry (ug/g)	4000	280	45802-003	10/30/95	BG1395	9071,503D/2,3

Field Identification: CLJ44-CC-110-TB Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/L)	BDL	100	45802-002	10/27/95	BG1047	8015(mod)/2

Solid results expressed on a dry weight basis.

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

Laboratory number: 45802-004
Sample Designation: CLJ44-CC-110-TB
Date Analyzed: 10/27/95
Matrix: WATER

Instrument File Name: >C1404

VOLATILE ORGANICS	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Chloromethane	BDL	10
Bromomethane	BDL	10
Vinyl chloride	BDL	10
Chloroethane	BDL	5
Methylene chloride	7 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

QUALITY CONTROL DATA
TOTAL GASOLINE

BLANK DATA

Laboratory Number: BG1047
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/27/95
Matrix: SOLID

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

MATRIX SPIKE RECOVERY

Laboratory Number: LSG1047
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/27/95
Matrix: SOLID

COMPOUND	ug/g IN SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
GASOLINE	0	50	53	106

METHOD REFERENCE: METHOD 8015 (MODIFIED)

QUALITY CONTROL DATA
TOTAL GASOLINE

BLANK DATA

Laboratory Number: BG102795TGA
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/27/95
Matrix: WATER

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

MATRIX SPIKE RECOVERY

Laboratory Number: LW102795TGA
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/27/95
Matrix: WATER

COMPOUND	ug/L IN SAMPLE	ug/L SPIKE	ug/L FOUND	%REC-OVERY
GASOLINE	0	500	593	119

METHOD REFERENCE: METHOD 8015 (MODIFIED)

pace INCORPORATED THE ASSURANCE OF QUALITY

QUALITY CONTROL
OIL & GREASE

BLANK DATA

Laboratory Number: B-G1395
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/30/95
Matrix: SOLID

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

MATRIX SPIKE RECOVERY

Laboratory Number: LS-G1395
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 10/30/95
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

QUALITY CONTROL DATA
PETROLEUM HYDROCARBONS BY GCFID

BLANK DATA

Laboratory Number: B-H1437
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/30/95
Matrix: SOLID

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

MATRIX SPIKE RECOVERY

Laboratory Number: LSH1437
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/30/95
Matrix: SOLID

COMPOUND	ug/g SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
DIESEL	0	101	72.7	72

METHOD REFERENCE: EPA SW 846, 3RD EDITION METHOD 8100 (MODIFIED) AND ASTM D 3328-78

pace INCORPORATED THE ASSURANCE OF QUALITY

Laboratory number: BC102795A1
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/27/95
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	4.3 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.

VOLATILE ORGANIC COMPOUNDS
BLANK SPIKE RECOVERY REPORT

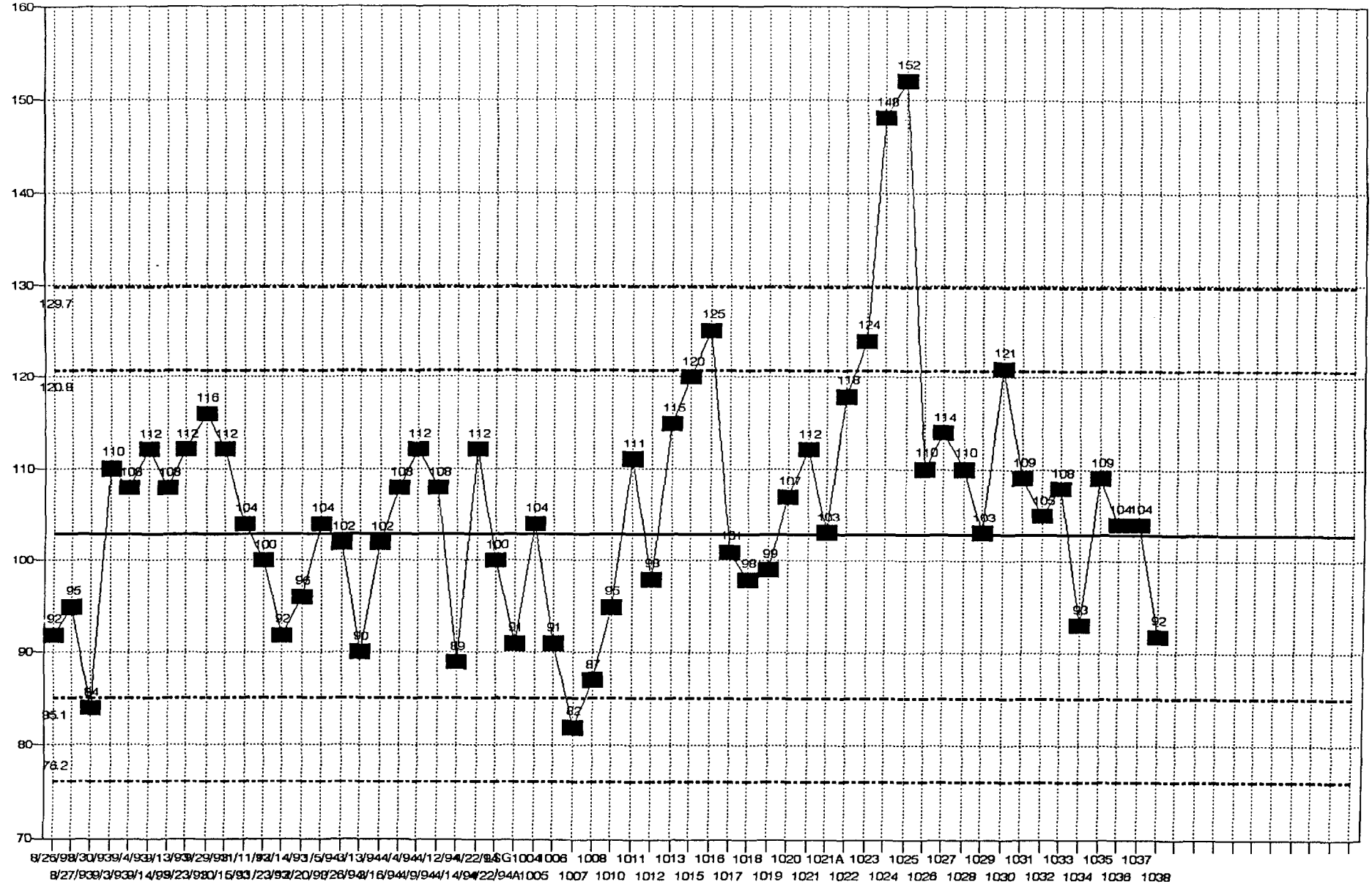
Matrix: WATER

Lab Id	Date Analyzed	File name
BC102795A1	10/27/95 10:54	>C1394
LCC102795A1	10/27/95 11:29	>C1395

Analyte	Original Amount ug/L	Amount Spiked ug/L	Replicate 1 Found ug/L	%Rec %
1,1-Dichloroethene	.00	50.0	60.6	121
Trichloroethene	.00	50.0	54.8	110
Benzene	.00	50.0	55.9	112
Toluene	.00	50.0	53.5	107
Chlorobenzene	.00	50.0	54.6	109

METHOD REFERENCE: 40 CFR PART 136, FRIDAY, OCTOBER 26, 1984
METHOD 624 (MODIFIED)

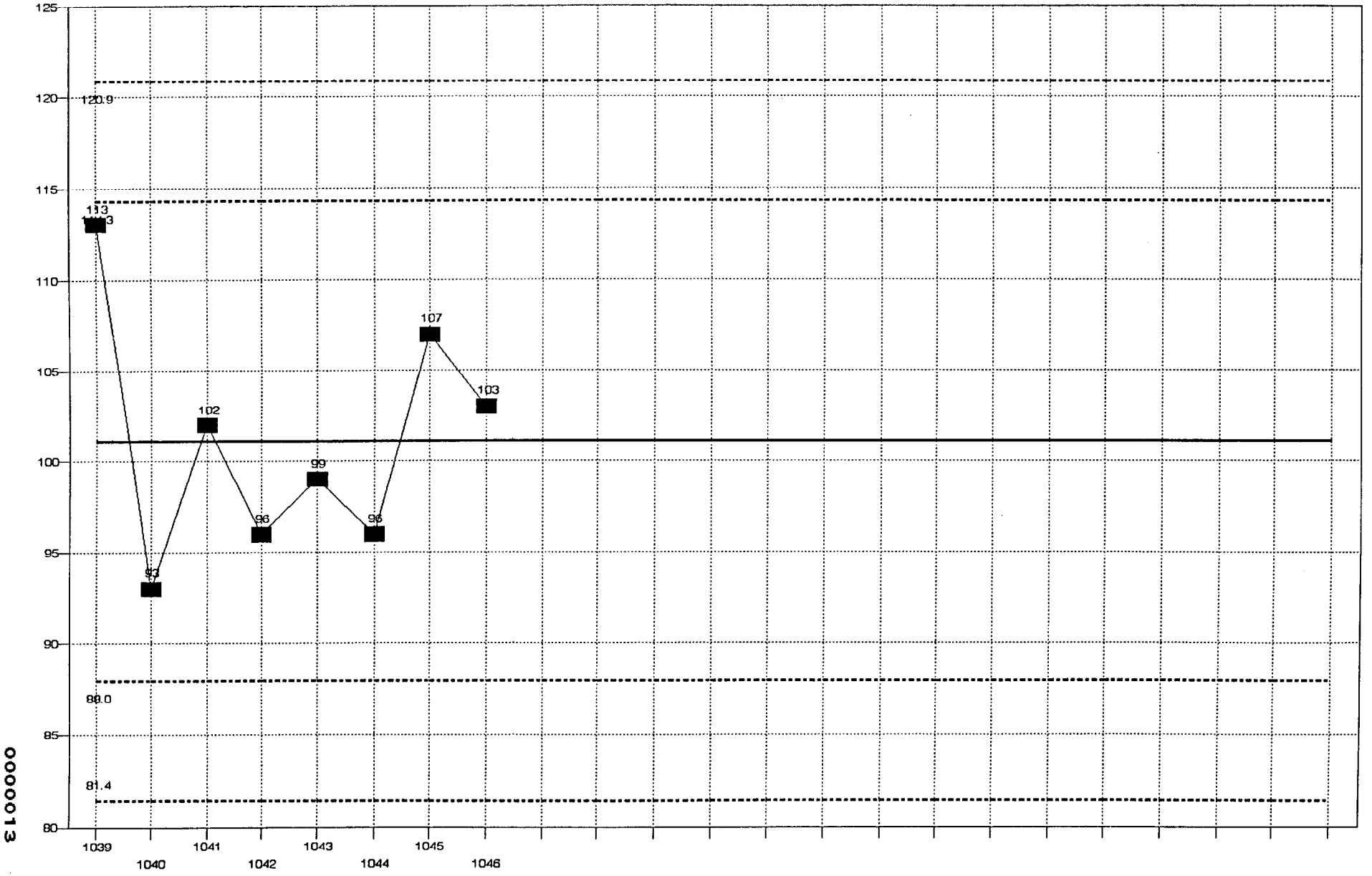
GRO SOLID LCS RECOVERIES GC07
LIMITS SET 4/13/94



STD DEV = 8.93 MEAN = 103

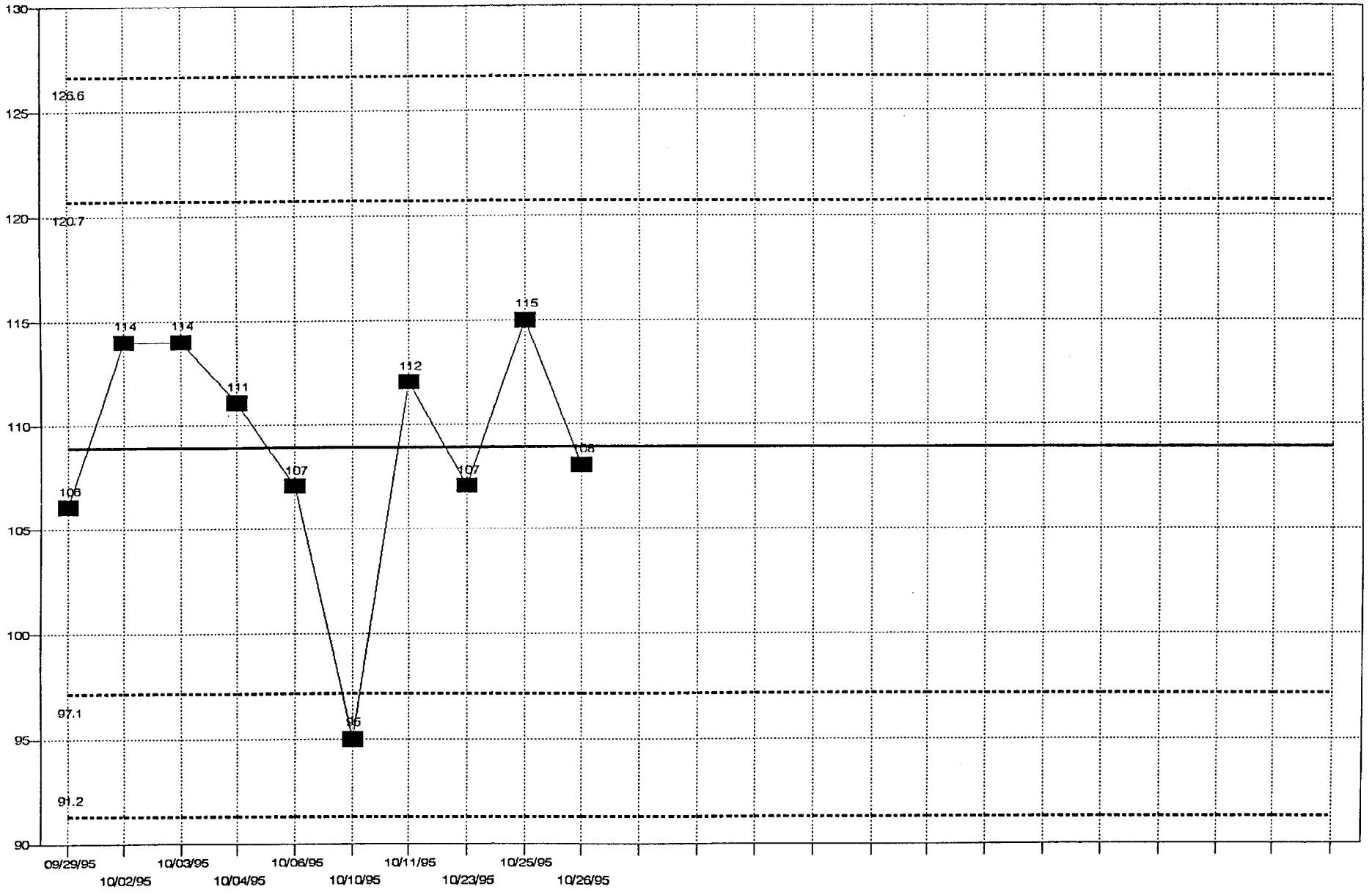
0000012

GRO SOLID LCS RECOVERIES GC05
LIMITS SET 10/27/95



STD DEV = 6.58 MEAN = 101

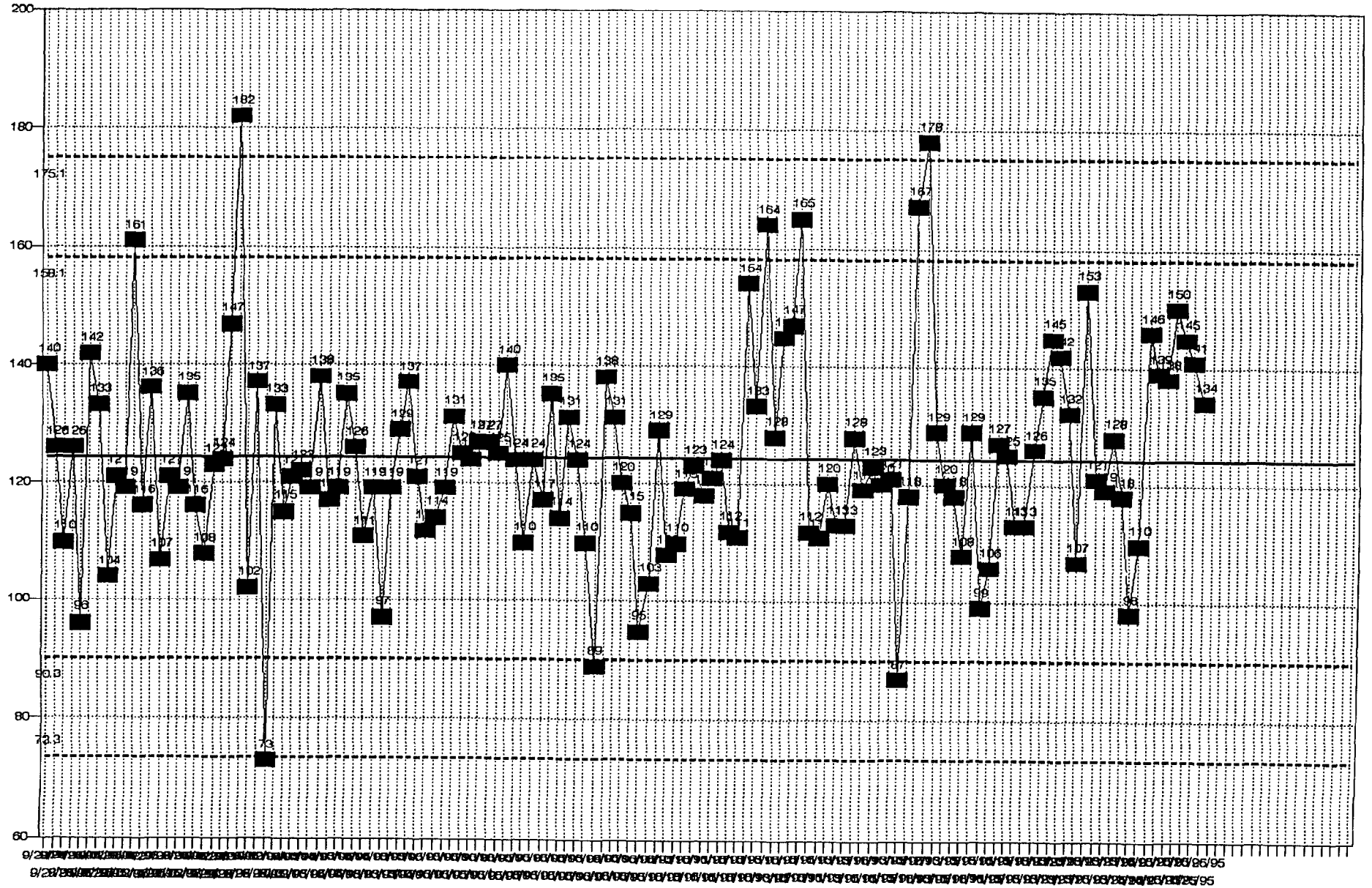
GRO LCS WATER RECOVERIES
LIMITS SET 10/27/95



STD DEV = 5.89 MEAN = 108.9

00000014

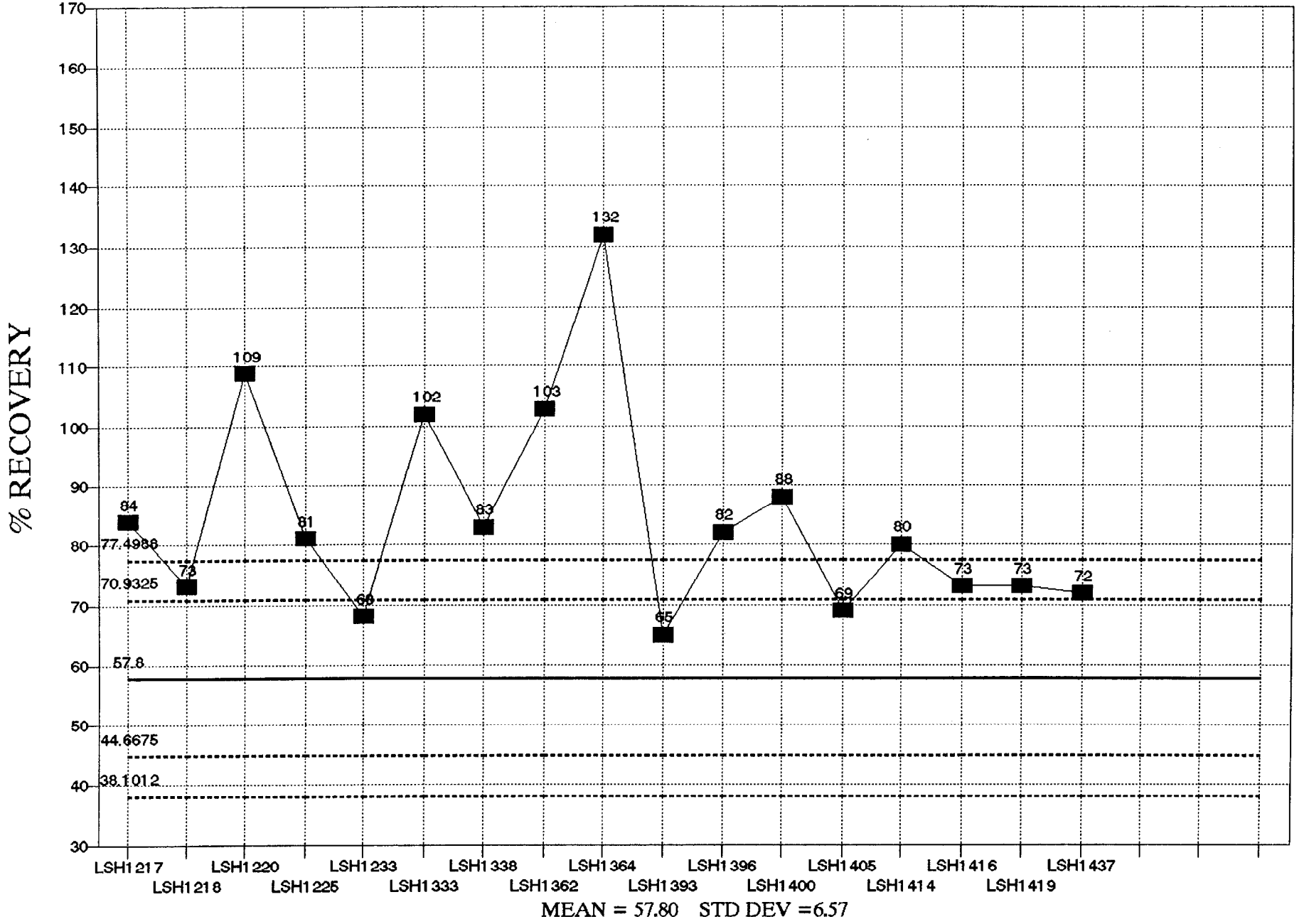
GRO SURROGATE RECOVERIES
LIMITS SET 10/27/95



STD DEV = 16.96 MEAN = 124

PHC MEDIUM SOLIDS - DIESEL

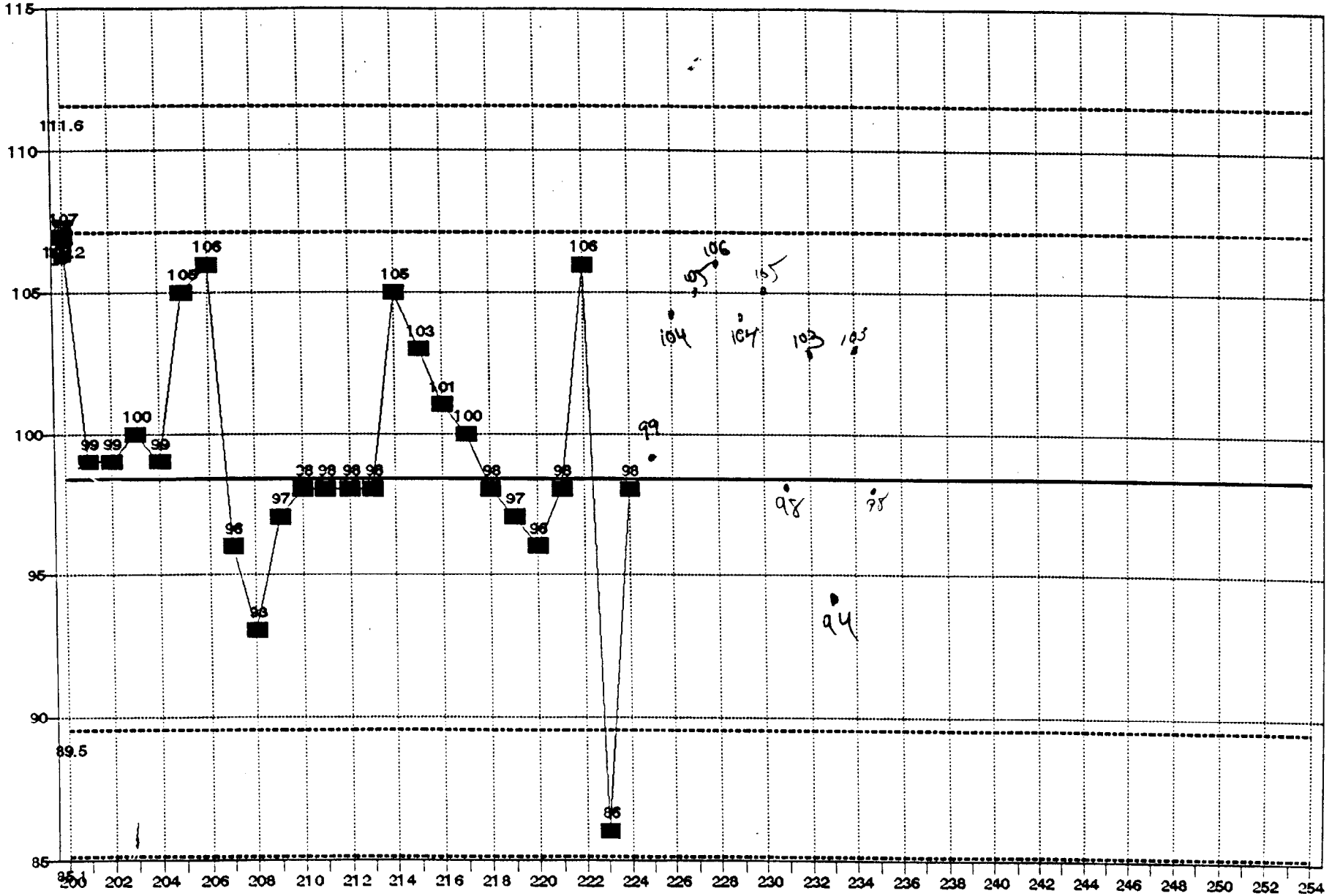
SPK REC LIMS SET195-PPCBCHT\PHCMS195



MEAN = 57.80 STD DEV =6.57

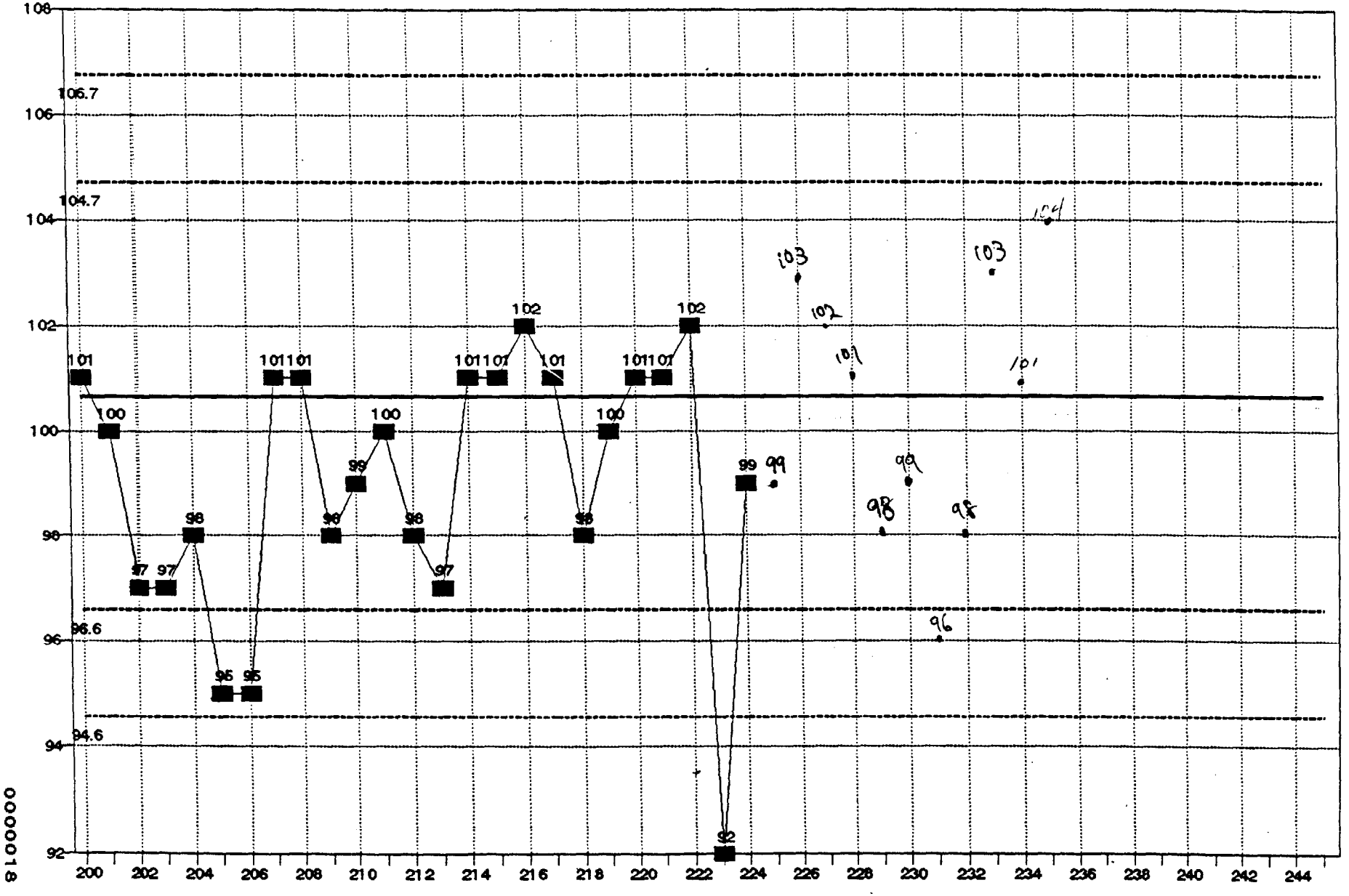
00000016

VOA WATERS - SURR DCE
LIMITS SET 4/95



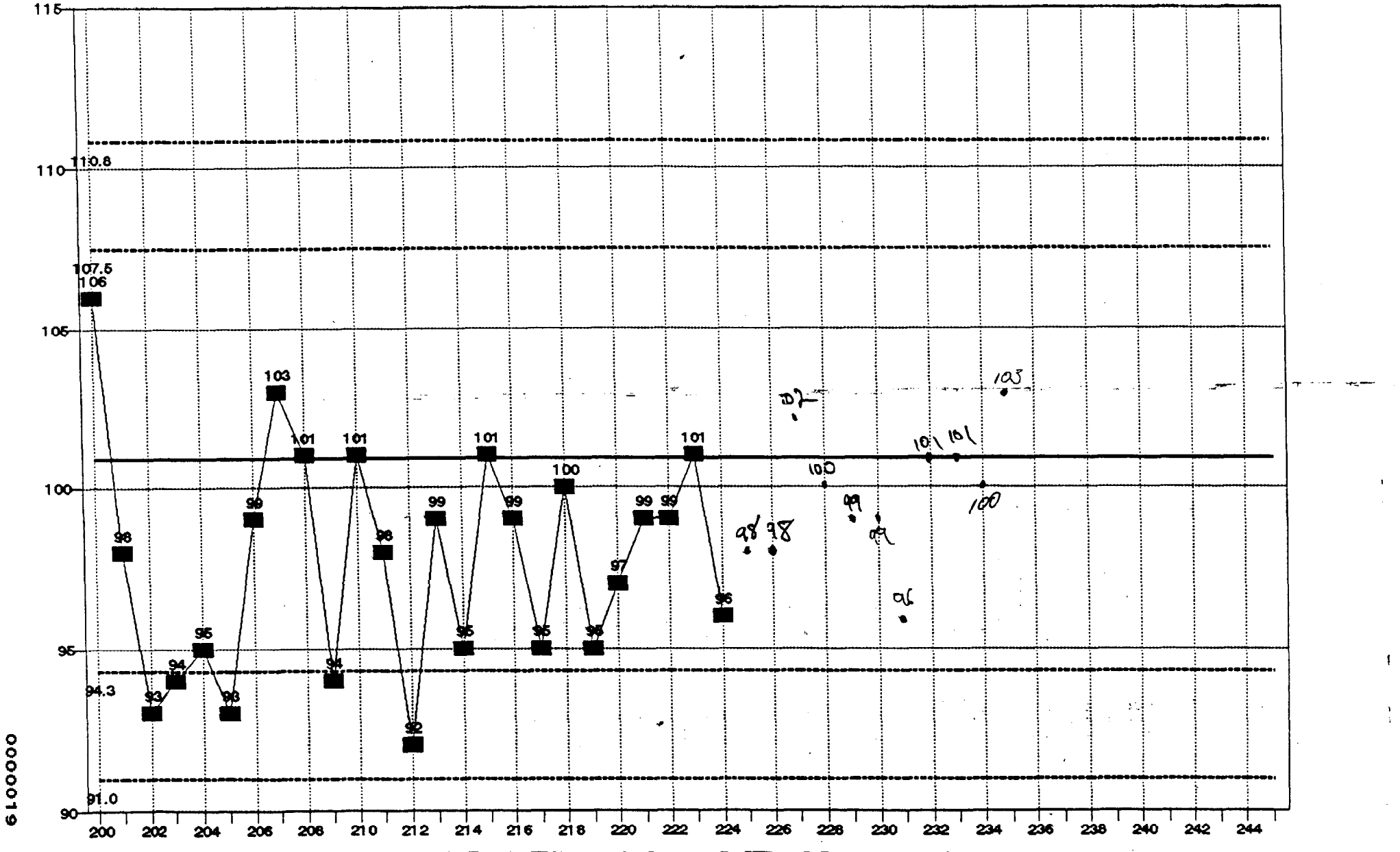
STD DEV = 4.40 MEAN = 98.4

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

00000019

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	BD101995A1
87	BC080593A	135	BC111794B	183	BC080495A1	231	BG101995A1
88	BE091793A	136	BC111894B	184	BC080795A1	232	BD102495A1
89	BC092093B	137	BG111094A	185	BC080895A1	233	BG100995A2
90	BC093093B	138	BC120194B	186	BI081095A1	234	BD102395A1
91	BG093093A	139	BC120294B	187	BI081195A1	235	BC102795A1
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

166458

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	910-451-2549

CLIENT'S REPRESENTATIVE	PROJECT MANAGER/SUPERVISOR
VANN Marshburn	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 Volatile	RCRA HAZ Waste	D+G	PCB	Total lead Volatile + BTEX (8240)	REMARKS
1	CLJ44-CC-108	10/26	0818		X	Contaminated Soil from Pile 59 of AREA A	2-4oz. 2-8oz.	X[1]	X[3]			X[3]				45802
2	CLJ44-CC-109-RB	10/26	0839	X		Rinsate Blank	3-1L 2-40mL	X	X	X	X	X				Please Do NOT
3	CLJ44-CC-110-TB	10/26				Trip BLANK	2-40mL	X[2]			X[4]				X[5]	Analyze Rinsate
4	CLJ44-CC-111	10/26	0802	X		Clean Soil from Pile 25 of AREA A	2-4oz. 2-8oz.	X	X	X	X	X				Blank
5																GWF 10/27/95 * Not req'd. (EI)
6																
7																
8																
9																
10																

Final Page

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1.	1-4	Aaron R. Acree	FED-EX# 6921490925	10/26	1700
2			Kelly Lawson/Pace NH	10/27/95	1300
3					
4					

REMARKS

Samples sent to PACE LAB

Item # 1-3, ~~3 day~~ 24 hour TAT

Item # 4, 7 day TAT

SAMPLER'S SIGNATURE: Aaron R. Acree

0000021

pace
INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

November 20, 1995

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

SAMPLE DELIVERY GROUP NARRATIVE

Case: OHMRC
SDG: LJN42
Laboratory: PACE New England - New Hampshire of Hampton, NH
Lab Numbers: 45803
Protocol: SW846 Methods. NEESA C deliverables. No diskette.

Sample Receipt: These samples were received at PACE, Inc. on October 27, 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 10/27/95 (45803): Samples were received in one cooler and were assigned PACE# 45802 and 45803. 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# 45803 were logged in for a 7-day turnaround per the request on the COC. Samples assigned PACE Lab# 45802 were logged in for 24-hour turnaround.

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

DRO Analysis: The method 8015 blank "BH1438" contained low levels of non-target interference. The sample results should be used with due consideration. The following sample 45803-4 and -5 for Diesel Range Organics contained petroleum hydrocarbon products which did not match diesel.

TCLP Volatiles: The method 8240 blank "BC110195A1" contained low levels of methylene chloride. The sample results for this analyte should be used with due consideration.

TCLP Acid Base Neutrals: Analyses proceeded without difficulty. Matrix spikes and duplicates met all acceptance criteria.

TCLP Metals: Analyses proceeded without difficulty. Matrix spikes and duplicates met all acceptance criteria.

Inorganics 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

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 D Wellman — 11/20/95

PACE Incorporated, New England-New Hampshire — November 20, 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# 45803
PAGE 1 of 1
COOLER ____ of ____
COC# ____
SDG# LJN42
CASE# OHMRC

CLIENT OHM
DATE/TIME RECEIVED 11/23/95 1300
DELIVERED BY Fed-Ex
RECEIVED BY SLZ
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	☐	☐	☑	Receive Blank rec'd	
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	☑	☐	☐	Solids	

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: Fdex TAT
45503 - 4.5° - Sam Cont. = VOA FIRST

CLIENT AUTHORIZATION SIGNATURE ____ DATE ____

SAMPLE TABLE

CLIENT ID.	MATRIX	PACE #	PARAMETERS
CLJ44-CU-111	SOLID	45803-001	TOTAL GASOLINE
		45803-002	TOTAL DIESEL
		45803-003	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
CLJ44-CS-026	SOLID	45803-004	TOTAL GASOLINE
			TOTAL DIESEL
CLJ44-CS-027	SOLID	45803-005	TOTAL GASOLINE
			TOTAL DIESEL

pace INCORPORATED
THE ASSURANCE OF QUALITY

Case: _____

SDG: _____

TABLE 1: MANUAL INTEGRATIONS PERFORMED

EPA ID	LAB ID	FILE NUMBER	COMPOUNDS MANUALLY INTEGRATED
	ABNSTD020	H9529	2,4-Dinitrophenol, Benzo(k)fluoranthene
	ABNSTD050	H9530	Benzo(k)fluoranthene
	ABNSTD080	H9531	↓
	ABNSTD120	H9532	
	ABNSTD160	H9533	

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

11/20/95
Date

Field Identification: CLJ44-CU-111 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	14	45803-001	10/27/95	BG1047	8015(mod)/2
Total Diesel (ug/g)	68	4.0	45803-002	10/30/95		8015(mod),3350/2
Corrosivity (pH, units)	7.4		45803-003	10/30/95	376	2.1.2/2
Releasable Sulfide (mg/Kg)	BDL	50	45803-003	10/30/95	318	7.3.4.2/2
Releasable Cyanide (mg/Kg)	BDL	1	45803-003	11/03/95	318	7.3.3.2/2
Flash Point (degrees F)	>150	50	45803-003	10/30/95	352	1010/2

Field Identification: CLJ44-CS-026 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	15	45803-004	10/27/95	BG1047	8015(mod)/2
Total Diesel (ug/g)	7.3	4.0	45803-004	10/30/95		8015(mod),3350/2

Field Identification: CLJ44-CS-027 Matrix: SOLID

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Gasoline (ug/g)	BDL	14	45803-005	10/27/95	BG1047	8015(mod)/2
Total Diesel (ug/g)	7.5	3.9	45803-005	10/30/95		8015(mod),3350/2

Results expressed on a dry weight basis.

References: 2) EPA SW 846, 3rd Edition

pace INCORPORATED THE ASSURANCE OF QUALITY

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (1)
EXTRACTION FOR VOLATILE CONSTITUENTS

Laboratory Number : 45803-003
Field Identification : CLJ44-CU-111
Extraction Date : 10/30/95
TCLP Blank : 90,002-407

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 : 20.00 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: 45803-003
Sample Designation: CLJ44-CU-111
Date Analyzed: 11/01/95 18:04
QC Batch: BC110195A1
TCLP Batch: 407
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 NON-VOLATILE CONSTITUENTS

Laboratory Number : 45803-003
Field Identification : CLJ44-CU-111
Extraction Date : 10/30/95
TCLP Blank : 90,001-283

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 8.86. 3.5 mL 1.0N HCl was added and the mixture was then heated to 50C for ten minutes. Upon cooling the pH was 2.02, 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 : 20.00 hrs

Final pH : 6.53

% 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: 45803-003
Sample Designation: CLJ44-CU-111
Date Extracted: 11/01/95
Date Analyzed: 11/02/95 19:46
QC Batch: BA2514
TCLP Batch: 283
Matrix: TCLP EXTRACT

Instrument File Name: >H9564

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
ANALYSIS FOR METALS CONSTITUENTS

Laboratory number: 45803 -003
Sample Designation: CLJ44-CU-111
Matrix: TCLP EXTRACT

Parameter		Result (mg/L)	Regulatory Limit (mg/L)	Reporting Limit (mg/L)
METALS	Date Analyzed			
Arsenic	10/31/95 17:33	BDL	5.0	.2
Barium	10/31/95 17:33	.1	100	.1
Cadmium	10/31/95 17:33	BDL	1.0	.005
Chromium	10/31/95 17:33	BDL	5.0	.01
Lead	10/31/95 17:33	BDL	5.0	.05
Mercury	10/31/95 12:58	BDL	0.2	.0003
Selenium	10/31/95 17:33	BDL	1.0	.2
Silver	10/31/95 17:33	BDL	5.0	.02

Results uncorrected for matrix spike recovery.

pace INCORPORATED THE ASSURANCE OF QUALITY

WATER VOLATILES SURROGATE RECOVERY

Client: OHM REMEDIATION SERVICES CORPORATION Lab No.: 45803
Project: CAMP GEIGER/LJN42

CLIENT SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
CLJ44-CU-111	99	99	101		0
BC110195A1	100	98	104		0
TCLP BLANK #407	98	98	100		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

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
ANALYSIS FOR VOLATILE CONSTITUENTS

Laboratory number: BC110195A1
Sample Designation: METHOD BLANK
Date Analyzed: 11/01/95
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: TCLP BLANK #407
Client ID: TCLP BLANK
Date Analyzed: 11/01/95
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

VOLATILE ORGANIC COMPOUNDS
BLANK SPIKE RECOVERY REPORT

Matrix: WATER

Lab Id	Date Analyzed	File name
BC110195A1	11/01/95 11:29	>C1421
LCC110195A1	11/01/95 12:04	>C1422

Analyte	Original Amount ug/L	Amount Spiked ug/L	Replicate 1 Found ug/L	%Rec %
1,1-Dichloroethene	.00	50.0	45.7	91
Trichloroethene	.00	50.0	44.7	89
Benzene	.00	50.0	44.1	88
Toluene	.00	50.0	45.3	91
Chlorobenzene	.00	50.0	47.9	96

METHOD REFERENCE: 40 CFR PART 136, FRIDAY, OCTOBER 26, 1984
METHOD 624 (MODIFIED)

pace INCORPORATED
THE ASSURANCE OF QUALITY

PACE, INC. NEW ENGLAND - NEW HAMPSHIRE LAB
Organics Extraction

PHC SOLIDS PREP LOG

INITIALS/DATE: JEK, 10/30/15

PROTOCOL: EPA SW846

LOG BOOK NO: 5

SOP #: QA5547

STEAMBATH TEMP: 90 (Range 80-90°C)

METHOD: SONC/3550

MATRIX: SOLIDS

REVIEWED BY/DATE: JK, 10/30/15

TEST/LEVEL: PHC /

COUNT	BLANK SPIKES SAMPLE #	INIT WT. (g)	NaSO4 (g) MIX WELL	SURR 0.5 ML E1429 101 PPM	SPIKE 0.2 ML E1399 502 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
—	BH1438	30.0	60.0	✓	✓	✓	✓	✓	✓	10.0	10.0	1.0	JEK 10/30/15
—	LS111438	30.0		✓	✓	✓	✓	✓	✓				
5	45803-2	30.2		✓	✓	✓	✓	✓	✓				
6	-4	30.60		✓	✓	✓	✓	✓	✓				
7	-5	30.24	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

JEK 10/30/15

10/30/15

JEK

COMMENTS: _____

F:\APPS\WP51\NANCY\EXPHCS

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.: LJN42

Lab File ID: >C1318 BFB Injection Date: 10/20/95

Instrument ID: CMS BFB Injection Time: 10:09

ION ABUNDANCE CRITERIA for C1318 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	C1320	10/20/95	11:15
VSTD100	VSTD100	C1321	10/20/95	11:50
VSTD050	VSTD050	C1322	10/20/95	12:25
VSTD020	VSTD020	C1323	10/20/95	13:00
VSTD010	VSTD010	C1324	10/20/95	13:34

:RU,TUNER,=BFB

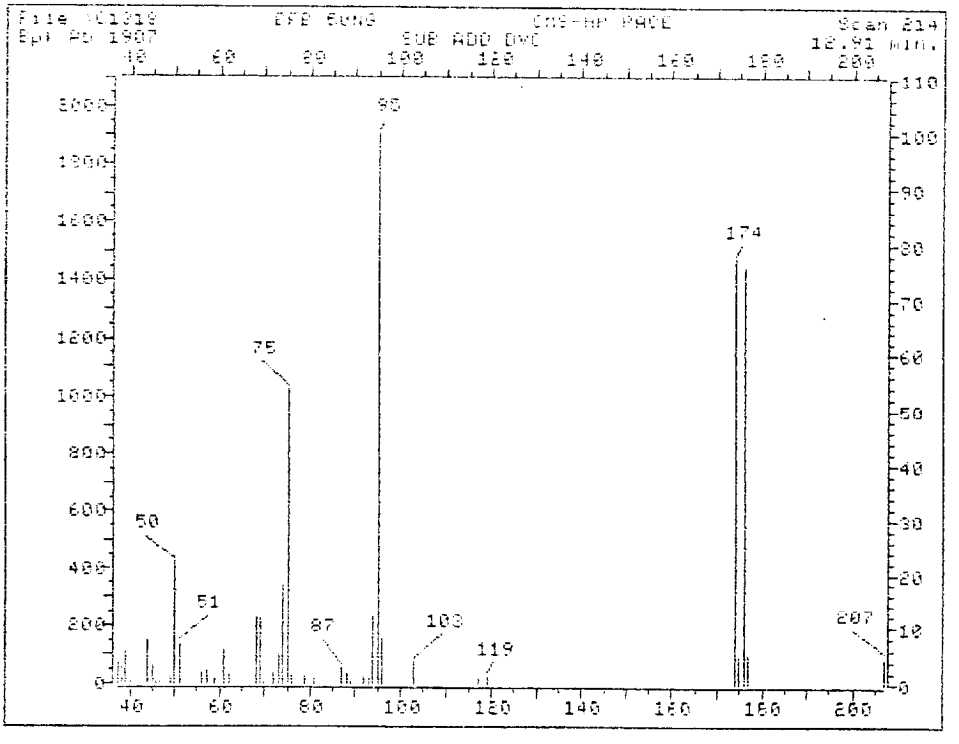
GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB) '88

M/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	22.04	22.04	Ok
75	30-60% of mass 95	53.64	53.64	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	8.02	8.02	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	77.57	77.57	Ok
175	5-9% of mass 174	5.10	6.56	Ok
176	95-101% of mass 174	75.77	97.68	Ok
177	5-9% of mass 176	5.49	7.24	Ok

Injection Date: 10/20/95
Injection Time: 10:09
Data File: >01316
Scan: 214

:PU,AL,,1,0



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.: LJN42

Lab File ID: >C1418 BFB Injection Date: 11/01/95

Instrument ID: CMS BFB Injection Time: 09:51

ION ABUNDANCE CRITERIA for C1418 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+603	VSTD050+603	C1420	11/01/95	10:54
BC110195A1	90182-109	C1421	11/01/95	11:29
LCC110195A1	90182-109MS	C1422	11/01/95	12:04
TCLP BLANK 407	90182-111	C1428	11/01/95	17:29
CLJ44-CU-111	45803-003	C1429	11/01/95	18:04

:RU,TUNER,=BFB

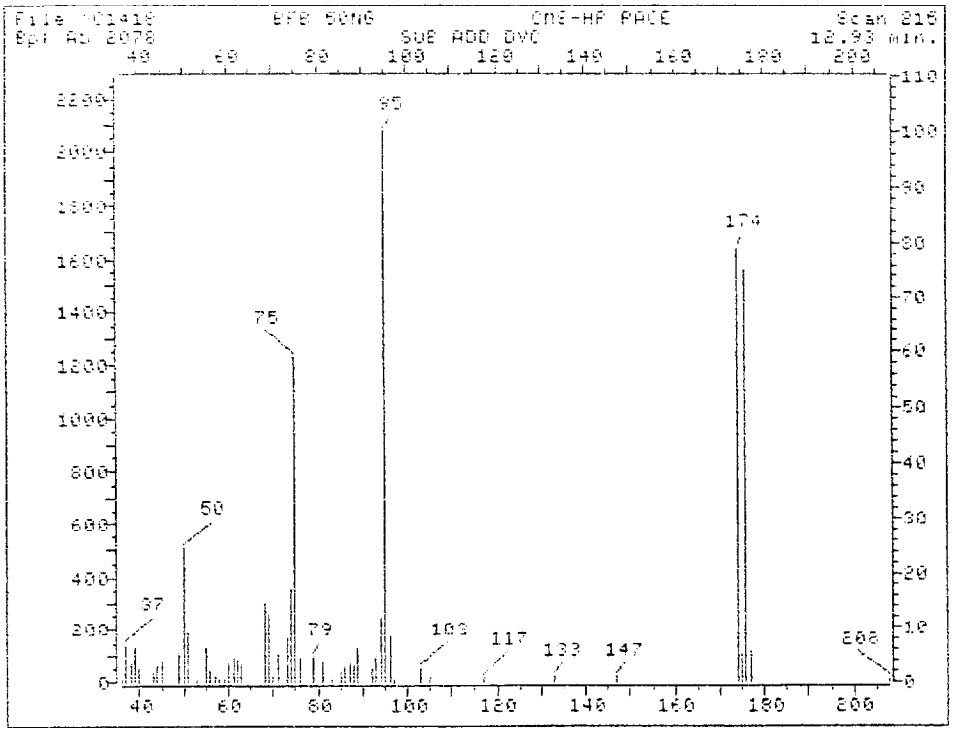
GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB) '88

M/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	24.38	24.38	Ok
75	30-60% of mass 95	59.12	59.12	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	8.48	8.48	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	78.83	78.83	Ok
175	5-9% of mass 174	5.34	6.78	Ok
176	95-101% of mass 174	74.93	95.06	Ok
177	5-9% of mass 176	5.85	7.81	Ok

Injection Date: 11/01/85
Injection Time: 09:51
Data File: >C1418
Scan: 215

:RU,AL,,1,0



8A
VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN42

Lab File ID (Standard): >C1420 Date Analyzed: 11/01/95

Instrument ID: CMS Time Analyzed: 10:54

	IS1(BCM)		IS2(DFB)		IS3(CBZ)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	53929	7.85	206995	18.49	183703	23.33
UPPER LIMIT	107858	8.35	413990	18.99	367406	23.83
LOWER LIMIT	26965	7.35	103498	17.99	91852	22.83
CLIENT I.D.						
BC110195A1	50780	7.89	224233	18.54	188674	23.39
LCC110195A1	51189	7.90	206878	18.52	180042	23.36
TCLP BLANK 407	48363	7.90	203153	18.53	176872	23.36
CLJ44-CU-111	46636	7.83	203509	18.55	179614	23.38

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

VOL
11-3-95

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 11/01/95

Contractor: RESAN Time: 10:54

Contract No: 68D20026 Laboratory ID: >C1420

Instrument ID: CMS-HP Initial Calibration Date: 10/20/95

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

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
C010 CHLOROMETHANE	.66195	.83428	26.03		**	
C015 BROMOMETHANE	1.51436	1.56428	3.26			
C020 VINYL CHLORIDE	1.14828	1.25756	9.52	*		
C025 CHLOROETHANE	.69669	.75503	8.37			
C030 METHYLENE CHLORIDE	1.62273	1.54429	4.83			
C035 ACETONE	.35931	.47844	33.16			
C040 CARBON DISULFIDE	2.33389	2.44199	4.63			
C045 TRICHLOROFLUOROMETHANE	3.45865	3.48938	.89			
C045 1,1-DICHLOROETHENE	1.26814	1.29023	1.74	*		
C058 TETRAHYDROFURAN	.08943	.10648	16.07			
C050 1,1-DICHLOROETHANE	2.73055	2.85075	4.40		**	
C053 1,2-DICHLOROETHENE(total)	1.56030	1.58080	1.32			(Conc=100.00)
C060 CHLOROFORM	3.54346	3.50967	.95	*		
C110 2-BUTANONE	.67093	.79351	18.27			
C055 1,2-DICHLOROETHANE	2.48445	2.44392	1.63			
MTBE	3.14387	2.93050	6.79			(Conc=50.00)
C515 1,2-DICHLOROETHANE-d4	2.34767	2.31119	1.55			
C115 1,1,1-TRICHLOROETHANE	.76576	.81952	7.02			
C120 CARBON TETRACHLORIDE	.69753	.77135	10.58			
C125 VINYL ACETATE	.72547	.78963	8.85			
C130 BROMODICHLOROMETHANE	.88575	.98306	10.99			
C140 1,2-DICHLOROPROPANE	.42724	.45499	6.50	*		
C142 CIS-1,3-DICHLOROPROPENE	.63833	.67268	5.41			(Conc=50.00)
C150 TRICHLOROETHENE	.45881	.49140	7.10			
C155 DIBROMOCHLOROMETHANE	.75411	.80671	6.97			
C160 1,1,2-TRICHLOROETHANE	.36600	.37408	2.21			
C165 BENZENE	.94454	.96592	2.26			
C172 TRANS-1,3-DICHLOROPROPENE	.57356	.62391	8.78			(Conc=50.00)
C176 2-CHLOROETHYLVINYLETHER	.19374	.22311	15.16			
C180 BROMOFORM	.52232	.53697	2.81		**	
CS05 TOLUENE-d8	1.24234	1.24725	.40			
C205 4-METHYL-2-PENTANONE	.46648	.52620	12.80			

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: 11/01/95

Contractor: RESAN Time: 10:54

Contract No: 68D20026 Laboratory ID: >C1420

Instrument ID: CMS-HP Initial Calibration Date: 10/20/95

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

	Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
C210	2-HEXANONE	.29050	.35650	22.72			
C220	TETRACHLOROETHENE	.50254	.51845	3.16			
C225	1,1,2,2-TETRACHLOROETHANE	.73973	.75551	2.13		**	
C230	TOLUENE	1.38113	1.42263	3.00	*		
C235	CHLOROBENZENE	1.03023	1.08309	5.13		**	
C240	ETHYLBENZENE	.46881	.50863	1.96	*		
C245	STYRENE	1.00937	1.06250	5.26			
C250	XYLENE	.61227	.64243	4.92			
C260	XYLENE (total)	.59319	.61513	3.70			(Conc=100.00)
C910	4BROMOFLUOROBENZENE	1.01665	1.03832	2.13			

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 (**)

11-3-95

Initial Calibration Data
HSL Compounds

Case No: _____ Instrument ID: CMS-HP

Contractor: RESAN Calibration Date: 10/20/95

Contract No: 68D20026

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

Laboratory ID: >C1324 >C1323 >C1322 >C1321 >C1320

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	.80664	.75132	.63619	.58259	.53303	.208	.66195	17.307		**
C015 BROMOMETHANE	1.46949	1.57782	1.42082	1.55185	1.55484	.293	1.51496	4.407		
C020 VINYL CHLORIDE	1.11762	1.17480	1.08392	1.17818	1.18689	.364	1.14828	3.936	*	
C025 CHLOROETHANE	.66722	.70653	.66878	.72657	.71436	.453	.69669	3.898		
C030 METHYLENE CHLORIDE	1.89332	1.82003	1.51793	1.49888	1.37751	.633	1.62273	13.844		
C035 ACETONE	.31336	.54054	.38494	.30244	.30527	.781	.35931	28.416		
C040 CARBON DISULFIDE	2.19276	2.37317	2.23876	2.44167	2.42290	.864	2.33389	4.795		
C042 TRICHLOROFLUOROMETHANE	3.31019	3.58158	3.23978	3.61899	3.54269	.914	3.45865	4.962		
C045 1,1-DICHLOROETHENE	1.21285	1.28877	1.20855	1.33869	1.29164	1.000	1.26814	4.421	*	
C058 TETRAHYDROFURAN	.04031	.10164	.09423	.10733	.10365	1.158	.08943	31.167		
C050 1,1-DICHLOROETHANE	2.69021	2.83730	2.60125	2.74405	2.77931	1.135	2.73055	3.294		**
C053 1,2-DICHLOROETHENE(total)	1.47518	1.56511	1.48710	1.58741	1.68669	1.234	1.56030	5.489		(Conc=20.0,40.0,100.0,200
C060 CHLOROFORM	3.29530	3.62223	3.42545	3.63832	3.73601	1.262	3.54346	5.044	*	
C110 2-BUTANONE	.70335	.80562	.60945	.59780	.63840	1.432	.67093	12.774		
C065 1,2-DICHLOROETHANE	2.22349	2.65296	2.38925	2.61848	2.53805	1.382	2.48445	7.155		
MIBE	3.07261	3.43823	2.88977	3.19036	3.12839	1.538	3.14387	6.336		
C515 1,2-DICHLOROETHANE-d4	2.48324	2.48233	2.23674	2.31973	2.26034	1.368	2.34767	4.662		
C115 1,1,1-TRICHLOROETHANE	.69539	.77292	.74085	.82696	.79268	.646	.76576	6.560		
C120 CARBON TETRACHLORIDE	.62362	.71065	.65965	.76695	.72720	.666	.69753	8.091		
C125 VINYL ACETATE	.67907	.76921	.66431	.77258	.72220	.693	.72547	7.698		
C130 BROMODICHLOROMETHANE	.76135	.90754	.87798	.97991	.98288	.695	.88575	8.958		
C140 1,2-DICHLOROPROPANE	.38246	.44440	.43237	.45529	.42167	.775	.42724	6.561	*	
C145 CIS-1,3-DICHLOROPROPENE	.55300	.63014	.64466	.69571	.66014	.787	.63833	8.248		
C150 TRICHLOROETHENE	.40001	.46009	.46386	.48369	.46637	.819	.45981	7.402		
C155 DIBROMOCHLOROMETHANE	.63006	.76091	.76193	.83923	.77842	.833	.75411	10.128		
C160 1,1,2-TRICHLOROETHANE	.32956	.39674	.35817	.38713	.35842	.848	.36600	7.277		
C165 BENZENE	.87944	.96856	.94105	1.00562	.92801	.861	.94454	4.975		
C172 TRANS-1,3-DICHLOROPROPENE	.50758	.58293	.58764	.61238	.57726	.856	.57356	6.842		
C176 2-CHLOROETHYLVINYLETHER	.13723	.21009	.19141	.22636	.20360	.921	.19374	17.555		
C180 BROMOFORM	.40172	.51866	.53264	.58779	.57078	.981	.52232	13.971		**

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: CMS-HP

Contractor: RESAN Calibration Date: 10/20/95

Contract No: 68D20026

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

Laboratory ID:	>C1324	>C1323	>C1322	>C1321	>C1320					
	RF	RF	RF	RF	RF					
Compound	10.00	20.00	50.00	100.00	200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C505 TOLUENE-d8	1.36367	1.20856	1.22263	1.23700	1.17986	.953	1.24234	5.718		
C205 4-METHYL-2-PENTANONE	.44137	.51691	.44506	.47432	.45472	.823	.46648	6.636		
C210 2-HEXANONE	.23454	.31177	.31033	.31468	.28098	.893	.29050	11.752		
C220 TETRACHLOROETHENE	.46329	.49596	.45741	.53899	.51706	.892	.50254	5.564		
C225 1,1,2,2-TETRACHLOROETHANE	.63695	.78071	.72775	.79239	.76085	.881	.73973	8.444		**
C230 TOLUENE	1.32431	1.39396	1.36350	1.46935	1.35414	.961	1.38113	3.939	*	
C235 CHLOROBENZENE	.95103	1.02524	1.02091	1.09389	1.07007	1.005	1.03023	5.055		**
C240 ETHYLBENZENE	.49682	.58660	.47959	.53535	.50571	1.086	.49681	5.339	*	
C245 STYRENE	.96151	1.04077	.96735	1.05466	1.02258	1.213	1.00937	4.223		
C251 XYLENE	.56405	.63009	.61028	.63529	.62164	1.219	.61227	4.666		
C250 XYLENE (total)	.56002	.62293	.56492	.61371	.58438	1.248	.59319	4.091		(Conc=20.0,40.0,100.0,200
C310 BROMOFLUOROBENZENE	1.12849	1.01764	.99338	.98391	.95994	1.161	1.01665	6.477		

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 (**)

PACE New England

GCMS/VOA Instr C **MS-HP** Analyst/Date P&L 11-1-95 STD Lot #SSA 10-159

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
XC1418				BFB - DI 50ng/µL	1µL			Y	
				9:51					
19		IC1020	1	VSTD050+603	5mL	B Not used		Y	
20			2	VSTD50+603		B		Y	
21		IC1101	3	BC110195A1		VBLKC1		Y	
22			4	LCC110195A1				Y	
23			5	45791-6	600µL			Y	
				-7	600µL	RG03			
24			6	45791-[illegible]	1mL	B RE 2mL		Y	
[illegible]			[illegible]	-7	[illegible]	[illegible]		Y	
26			8	45791-14	5mL			Y	
27			9	-15	5mL	RG03		Y	
28			10	TCLP BLANK 407	5mL			Y	
29			1	45803-3	5mL	RG# TCLP		Y	
30			2	45811-1	200mL	RE 70mL		Y	
31			3	-2	5mL	RE 5mL Possible carry over		Y	

11-7-95

PACE New England

GCMS/VOA Instr. CMS-HP Analyst/Date MLL 10-20-95 STD Lot # [illegible]

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
>C1316	480			BFB-DE JONG/ML	5µL			N	
17				BFB-DE JONG/ML	5µL	Poor Injection		N	
18				BFB-DE JONG/ML	5µL			Y	✓
19		IC1018	1	VSTD050				N	
20	5FL 10-20-95	~~IC1019~~ IC1020	2	VSTD200		M3 C13 M3 IC1020/CC1020 via M1		Y	✓
21			3	VSTD100		C13 M3		Y	✓
22			4	VSTD050		C13 M3		Y	✓
23			5	VSTD020		C13 M3/C11 M3		Y	✓
24			6	VSTD010		C13 M3/C11 M3/C7 M2		Y	✓
25		ICCC20	7	BC10209SA1	5mL			Y	
26			8	LCC10209SA1	5mL			Y	
27			9	BV1127A	100ME			Y	
28			10	LSV1127A	100ME			Y	
29			11 5FL 10-20-95	45665-2	100ME	(R8240MS)		Y	
						10-20-95			
					10L				

2C

WATER SEMIVOLATILES SURROGATE RECOVERY

Client: OHM REMEDIATION SERVICES CORPORATION Lab No.: 45803
Project: CAMP GEIGER/LJN42

CLIENT SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	OTHER	TOT OUT
B-A2514	79	79	50	78	71	84		0
CLJ44-CU-111	82	86	78	74	69	83		0
TCLP BLANK #283	82	85	58	87	76	83		0
BA2514	79	79	50	78	71	84		0
LSA2514MS	79	79	67	72	68	82		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: BA2514
Sample Designation: LAB BLANK
Date Extracted: 11/01/95
Date Analyzed: 11/02/95 17:53
QC Batch: BA2514
TCLP Batch:
Matrix: TCLP EXTRACT

Instrument File Name: >H9561

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: TCLP BLANK #283
Sample Designation: TCLP BLANK
Date Analyzed: 11/02/95
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

SEMIVOLATILE COMPOUNDS
BLANK SPIKE RECOVERY REPORT

Matrix: TCLPEX

Lab Id	Date Extracted	Date Analyzed	File name
BA2514	11/01/95	11/02/95 17:53	>H9561
LSA2514	11/01/95	11/02/95 18:30	>H9562

Analyte	Original Amount mg/L	Amount Spiked mg/L	Replicate 1 Found mg/L	%Rec %	Limits %
1,4-Dichlorobenzene	.00	.100	.0563	56	36- 97
2,4-Dinitrotoluene	.00	.100	.0782	78	24- 96
Pentachlorophenol	.00	.200	.127	64	9-103

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

QC limits change periodically as the lab gathers more data points.

pace INCORPORATED
THE ASSURANCE OF QUALITY

This page left blank until prep log page is available

LWJ 11/20/95

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.: LJN42

Lab File ID: >H9523 DFTPP Injection Date: 10/26/95

Instrument ID: HMS DFTPP Injection Time: 15:54

ION ABUNDANCE CRITERIA for H9523 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
ABNSTD020	ABNSTD020	H9529	10/26/95	19:21
ABNSTD050	ABNSTD050	H9530	10/26/95	19:58
ABNSTD080	ABNSTD080	H9531	10/26/95	20:36
ABNSTD120	ABNSTD120	H9532	10/26/95	21:13
ABNSTD160	ABNSTD160	H9533	10/26/95	21:51

GC/MS PERFORMANCE STANDARD

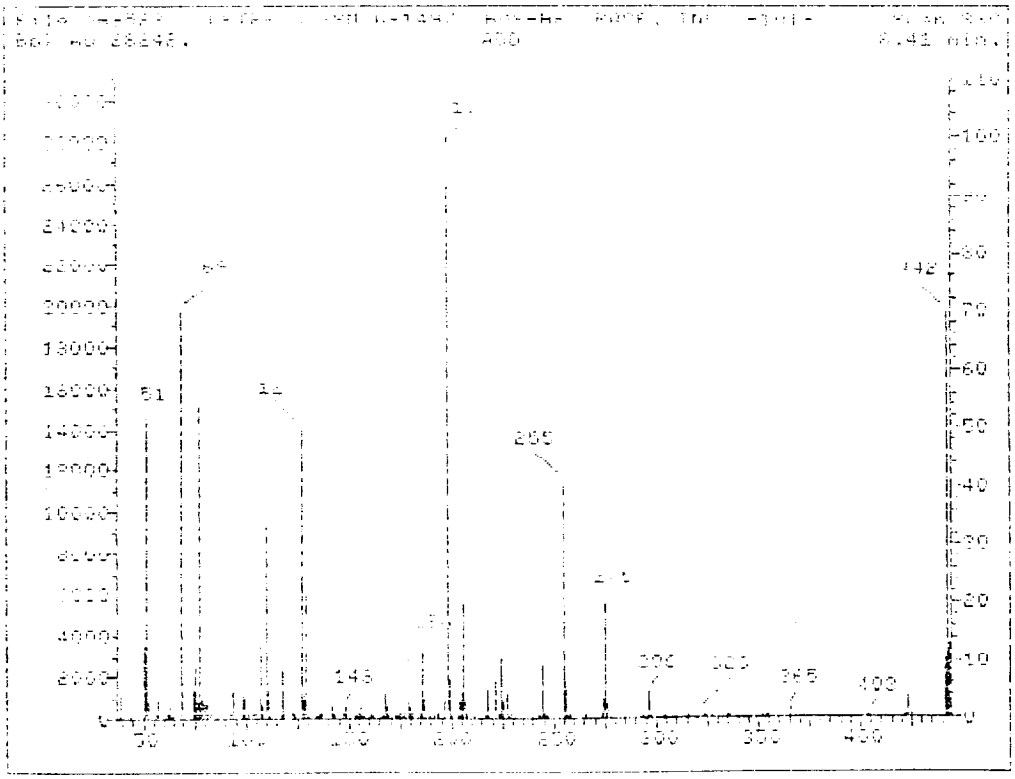
LGM 10/31/95

Decafluorotriphenylphospine (DFTPP)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	50.74	50.74	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	69.91	69.91	Ok
70	Less than 2% of mass 69	.18	.25	Ok
127	40-60% of mass 198	49.27	49.27	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	6.62	6.62	Ok
275	10-30% of mass 198	19.41	19.41	Ok
365	Greater than 1% of mass 198	1.79	1.79	Ok
441	0-100% of mass 443	10.16	78.02	Ok
442	Greater than 40% of mass 198	69.64	69.64	Ok
443	17-23% of mass 442	13.02	18.69	Ok

Injection Date: 10/26/95
Injection Time: 15:54
Data File: >H9523
Scan: 330

THIS IS THE RESULT OF AVERAGING 329.00 330.00 331.00



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.: LJN42

Lab File ID: >H9553 DFTPP Injection Date: 11/02/95

Instrument ID: HMS DFTPP Injection Time: 13:06

ION ABUNDANCE CRITERIA for H9553 are reported on a separate sheet.

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

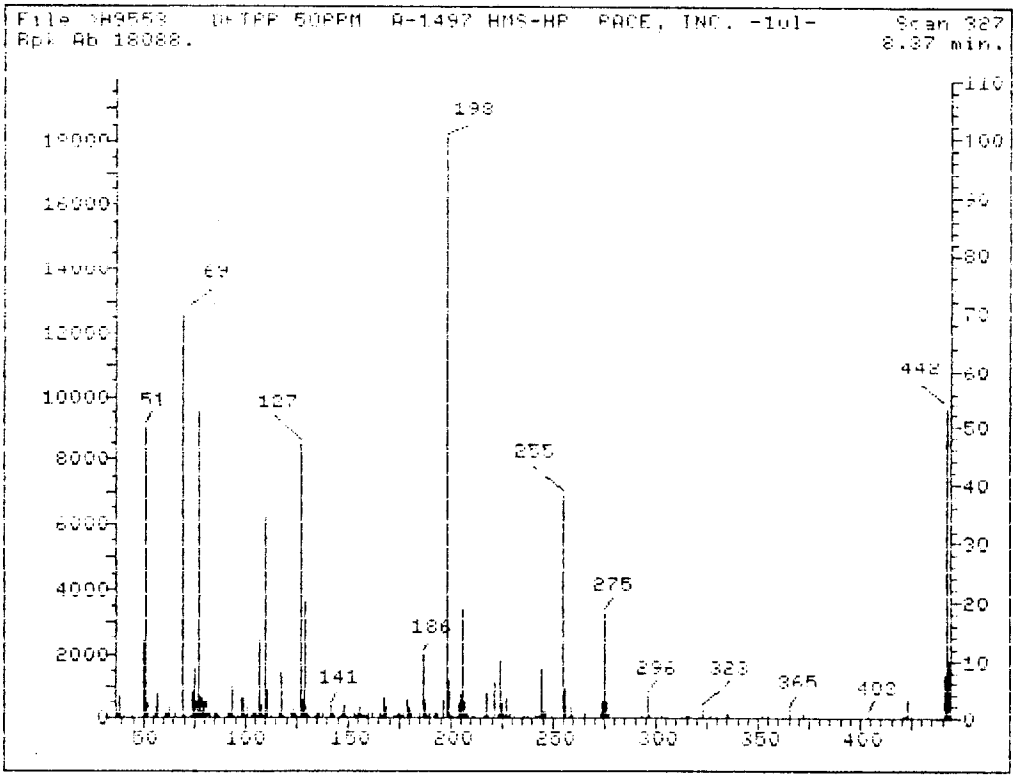
CLIENT I.D.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	DATE ANALYZED
ABNSTD050	ABNSTD050	H9555	11/02/95	13:24
B-A2514	90176-187	H9561	11/02/95	17:53
LS-A2514	90176-187MS	H9562	11/02/95	18:30
90001-283	90001-283	H9563	11/02/95	19:08
CLJ44-CU-111	45803-003	H9564	11/02/95	19:46

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	49.81	49.81	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	69.52	69.52	Ok
70	Less than 2% of mass 69	.32	.45	Ok
127	40-60% of mass 198	46.84	46.84	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	6.53	6.53	Ok
275	10-30% of mass 198	18.14	18.14	Ok
365	Greater than 1% of mass 198	1.38	1.38	Ok
441	0-100% of mass 443	7.68	77.14	Ok
442	Greater than 40% of mass 198	53.27	53.27	Ok
443	17-23% of mass 442	9.96	18.70	Ok

Injection Date: 11/07/95
Injection Time: 13:06
Data File: >H9553
Scan: 327



SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PACE New England Contract:

Lab Code: RESAN Case No.: OHMRC SAS No.: SDG No.: LJN42

Lab File ID (Standard): >H9555 Date Analyzed: 11/02/95

Instrument ID: HMS Time Analyzed: 13:24

	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	46419	7.79	174630	9.80	89932	12.70	140081	15.13	125123	19.59	150620	23.35
UPPER LIMIT	92838	8.29	349260	10.30	179864	13.20	280162	15.63	250246	20.09	301240	23.85
LOWER LIMIT	23210	7.29	87315	9.30	44966	12.20	70041	14.63	62562	19.09	75310	22.85
CLIENT I.D.												
B-A2514	46372	7.79	169390	9.79	86114	12.69	136486	15.11	130186	19.57	136560	23.31
LS-A2514	47308	7.79	177668	9.80	91636	12.69	141016	15.13	132627	19.57	144378	23.31
90001-283	33708	7.78	119798	9.80	60241	12.68	93099	15.11	84565	19.56	86816	23.28
CLJ44-CU-111	41724	7.79	150212	9.79	74916	12.69	116869	15.11	104786	19.56	108648	23.30

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

Initial Calibration Data
HSL Compounds

Case No: ---------- Instrument ID: HMS-HP ----------

Contractor: PRCC, INC. ---------- Calibration Date: ~~10/31/95~~ 10/26/95 LEH 10/31/95 ----------

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

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

Laboratory ID:	>H9529	>H9530	>H9531	>H9532	>H9533					
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	.84141	.88924	.90563	.88973	.87592	.532	.88039	2.747		
C550 2-FLUOROPHENOL	1.35894	1.39546	1.41322	1.37984	1.35529	.762	1.38055	1.772		
C545 PHENOL-d5	1.70098	1.70912	1.71077	1.65695	1.61133	.930	1.67783	2.574		
C570 2-CHLOROPHENOL-d4	1.46948	1.44612	1.42208	1.35566	1.33749	.962	1.40616	4.074		
C575 1,2-DICHLOROBENZENE-d4	.83593	.85436	.81331	.76006	.73635	1.038	.81012	7.737		
C610 PHENOL	1.79260	1.77917	1.76857	1.70558	1.65501	.932	1.74019	3.341	*	
C320 ANILINE	1.62668	1.69181	1.61170	1.43526	1.28938	.941	1.53157	10.791		
C330 BIS(2-CHLOROETHYL)ETHER	1.58524	1.52415	1.61586	1.55511	1.40787	.950	1.53387	5.069		
C630 2-CHLOROPHENOL	1.44526	1.48324	1.40142	1.32285	1.29794	.966	1.37714	4.598		
C635 1,3-DICHLOROBENZENE	1.59066	1.55540	1.53429	1.45319	1.43121	.994	1.51299	4.505		
C640 1,4-DICHLOROBENZENE	1.56776	1.50866	1.46986	1.38569	1.35686	1.003	1.46021	6.084	*	
C645 BENZYL ALCOHOL	.84505	.85540	.86363	.84349	.81393	1.026	.84710	2.452		
C650 1,2-DICHLOROBENZENE	1.46546	1.44739	1.35356	1.24133	1.20829	1.041	1.35122	9.266		
C655 2-METHYLPHENOL	1.19632	1.20427	1.19746	1.15244	1.12018	1.048	1.17414	3.108		
C660 BIS(2-CHLOROISOPROPYL)ETH	1.42552	1.45464	1.46950	1.45060	1.38931	1.057	1.43370	2.135		
C665 4-METHYLPHENOL	1.32000	1.31894	1.33958	1.33390	1.28233	1.077	1.31895	1.692		
C670 N-NITROSO-DI-N-PROPYLAMIN	.87462	.88810	.90424	.88818	.85784	1.088	.88220	1.953		**
C675 HEXACHLOROETHANE	.65331	.65195	.64986	.62621	.60283	1.104	.63684	3.458		
C410 NITROBENZENE	.37498	.39403	.37583	.36075	.35246	.888	.36960	3.441		
C415 ISOPHORONE	.82577	.81760	.81399	.80254	.78577	.926	.80940	1.674		
C500 NITROBENZENE-d5	.36136	.37515	.37548	.36644	.35962	.885	.36761	2.031		
C420 2-NITROPHENOL	.18973	.19587	.19550	.18848	.18322	.939	.19056	2.771	*	
C425 2,4-DIMETHYLPHENOL	.37271	.35721	.34721	.33575	.32548	.941	.34768	5.293		
C430 BENZOIC ACID	.19665	.23462	.24797	.26319	.25854	.965	.24020	11.120		
C435 BIS(2-CHLOROETHOXY)METHAN	.55359	.54209	.52641	.50362	.49278	.958	.52370	4.867		
C440 2,4-DICHLOROPHENOL	.30722	.30767	.29982	.28172	.27135	.977	.29356	5.541	*	
C445 1,2,4-TRICHLOROBENZENE	.33299	.31830	.30164	.28289	.27269	.992	.30170	8.203		
C450 NAPHTHALENE	1.06642	1.01083	.95217	.87940	.85565	1.004	.95290	9.254		
C455 4-CHLOROANILINE	.42971	.42387	.41099	.39410	.38257	1.011	.40825	4.856		
C460 HEXACHLOROBUTADIENE	.18944	.17547	.16511	.14895	.14593	1.031	.16498	11.047	*	

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: HMS-HP

Contractor: PACE, INC. Calibration Date: ~~10/31/95~~ 10/26/95 10/31/95

Contract No: _____

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

Laboratory ID:	>H9529	>H9530	>H9531	>H9532	>H9533					
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	.33512	.33343	.32184	.30514	.29897	1.087	.31890	5.128	*	
C470 2-METHYLNAPHTHALENE	.66236	.61637	.57705	.52657	.51324	1.116	.57912	10.722		
C485 2,4,6-TRIBROMOPHENOL	.24166	.23973	.22973	.21506	.20777	1.102	.22679	6.601		
C495 2-FLUOROBIPHENYL	1.34796	1.26458	1.14410	1.03786	.99433	.911	1.15776	12.874		
C510 HEXACHLOROCYCLOPENTADIENE	.18054	.18892	.20753	.21149	.20291	.891	.19828	17.729		**
C515 2,4,6-TRICHLOROPHENOL	.43231	.42231	.39622	.37877	.36090	.960	.39610	7.448	*	
C520 2,4,5-TRICHLOROPHENOL	.46280	.44156	.41594	.38104	.36975	.906	.41422	9.495		
C525 2-CHLORONAPHTHALENE	1.28050	1.19260	1.09589	.99788	.97611	.926	1.10500	11.033		
C530 2-NITROANILINE	.43276	.43307	.43648	.42292	.41476	.949	.42200	3.258		
C535 DIMETHYLPHTHALATE	1.59003	1.53171	1.45078	1.36247	1.33156	.966	1.45330	7.531		
C540 ACENAPHTHYLENE	2.10034	1.96565	1.82279	1.66826	1.61731	.981	1.83487	11.004		
C545 3-NITROANILINE	.33111	.40174	.40632	.38852	.38278	.994	.39209	2.896		
C550 ACENAPHTHENE	1.27387	1.15139	1.06475	.95817	.93197	1.005	1.07603	13.109	*	
C555 2,4-DINITROPHENOL	.09700	.11312	.12969	.14092	.14013	1.006	.12021	22.152		**
C560 4-NITROPHENOL	.17215	.17655	.18212	.17713	.17293	1.012	.17659	2.323		**
C565 DIBENZOFURAN	1.73238	1.52354	1.33037	1.25810	1.23036	1.025	1.42695	14.495		
C570 2,6-DINITROTOLUENE	.32847	.35218	.35105	.33369	.32405	.975	.33789	3.846		
C575 2,4-DINITROTOLUENE	.41772	.42648	.40959	.39509	.38636	1.026	.40705	4.017		
C580 DIETHYLPHTHALATE	1.69368	1.59114	1.46957	1.32136	1.30422	1.057	1.47519	11.592		
C585 4-CHLOROPHENYL-PHENYLETHE	.63348	.57476	.50317	.43270	.41927	1.057	.51486	18.173		
C590 FLUORENE	1.35727	1.23666	1.11398	.98131	.95857	1.070	1.12956	14.997		
C595 4-NITROANILINE	.39176	.38432	.39981	.40179	.37031	1.075	.38954	3.299		
C610 4,6-DINITRO-2-METHYLPHENO	.09422	.12746	.13259	.12619	.11806	.908	.11970	12.671		
C615 N-NITROSODIPHENYLAMINE	.63498	.56055	.52112	.47412	.45520	.910	.52319	11.752	*	
C620 AZOBENZENE	.21826	.20467	.19413	.18266	.17073	.914	.19370	9.722		
C625 4-BROMOPHENYL-PHENYLETHER	.23140	.21320	.19656	.18203	.17393	.949	.19944	11.686		
C630 HEXACHLOROBENZENE	.31842	.29553	.27338	.25549	.24359	.967	.27736	10.852		
C635 PENTACHLOROPHENOL	.17914	.19135	.19012	.18240	.17420	.985	.18344	3.971	*	
C640 PHENANTHRENE	1.26744	1.14289	1.04481	.96272	.91913	1.003	1.06748	13.180		
C645 ANTHRACENE	1.24415	1.13168	1.03762	.92834	.89588	1.008	1.04757	13.757		

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: HMS-HP ----------

Contractor: FACE, INC. ----------

Calibration Date: ~~10/31/95~~ 10/26/95 10/27/95 ----------

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

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

Laboratory ID:	>H9529	>H9530	>H9531	>H9532	>H9533					
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	1.86048	1.73851	1.59454	1.45425	1.41644	1.063	1.61284	11.648		
C655 FLUORANTHENE	1.30454	1.21736	1.10972	1.01355	.98641	1.133	1.12632	11.963	*	
C660 BENZIDINE	.05136	.06346	.07373	.06968	.06953	1.142	.06555	13.335		
C530 TERPHENYL-d14	.95657	.84687	.76879	.70729	.68335	.905	.79257	14.052		
C715 PYRENE	1.53682	1.37306	1.27772	1.18022	1.15055	.894	1.30367	12.039		
C720 BUTYLBENZYLPHTHALATE	1.00355	.92668	.86795	.81291	.79920	.946	.88146	9.470		
C725 3,3'-DICHLOROBENZIDINE	.49149	.48876	.47935	.47631	.47951	.995	.46308	6.018		
C730 BENZO(A)ANTHRACENE	1.26710	1.13946	.99909	.86429	.83949	.907	1.02589	18.412		
C745 BIS(2-ETHYLHEXYL)PHTHALAT	1.25015	1.09152	.93327	.80187	.78828	.938	.97368	20.230		
C740 CHRYSENE	1.30106	1.20485	1.12625	1.04377	1.02057	1.003	1.13590	10.272		
C750 DI-N-OCTYLPHTHALATE	2.48583	2.33859	2.16462	2.02304	1.99333	.895	2.18448	8.404	*	
C755 BENZO(B)FLUORANTHENE	1.20714	1.24054	1.37051	1.46683	1.45483	.950	1.34838	8.924		
C760 BENZO(K)FLUORANTHENE	1.16278	1.09876	.86708	.61402	.59378	.953	.66729	30.498		
C765 BENZO(A)PYRENE	1.03419	1.04219	1.02972	.97782	.96578	.993	1.00994	3.501	*	
C780 INDENO(1,2,3-CD)PYRENE	1.05922	1.06078	1.09627	1.03895	1.05056	1.195	1.05514	1.411		
C785 DIBENZ(A,H)ANTHRACENE	.86556	.86943	.89025	.84353	.87477	1.196	.86677	1.612		
C790 BENZO(G,H,I)PERYLENE	.81874	.85968	.86532	.84094	.82061	1.253	.85305	1.783		

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: 11/02/95

Contractor: PACE, INC. Time: 13:24

Contract No: Laboratory ID: >H9555

Instrument ID: HMS-HP Initial Calibration Date: 10/31/95

Minimum $\overline{RF}$ for SPCC is .05 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C310 N-NITROSODIMETHYLAMINE	.88039	.99263	12.75		
CS50 2-FLUOROPHENOL	1.38055	1.47691	6.98		
CS45 PHENOL-d5	1.67783	1.85427	10.52		
CS70 2-CHLOROPHENOL-d4	1.40616	1.44306	2.63		
CS75 1,2-DICHLOROBENZENE-d4	.81012	.83395	2.94		
C315 PHENOL	1.74019	1.91142	9.84	*	
C320 ANILINE	1.53157	1.70223	11.14		
C325 BIS(2-CHLOROETHYL)ETHER	1.53387	1.72047	12.17		
C330 2-CHLOROPHENOL	1.37714	1.44553	4.97		
C335 1,3-DICHLOROBENZENE	1.51299	1.52855	1.03		
C340 1,4-DICHLOROBENZENE	1.46021	1.47409	.95	*	
C345 BENZYL ALCOHOL	.84710	.95707	12.98		
C350 1,2-DICHLOROBENZENE	1.35122	1.39862	3.51		
C355 2-METHYLPHENOL	1.17414	1.27789	8.84		
C360 BIS(2-CHLOROISOPROPYL)ETH	1.43370	1.70184	18.70		
C365 4-METHYLPHENOL	1.51695	1.39969	6.12		
C370 N-NITROSO-DI-N-PROPYLAMIN	.88220	.95580	8.12		**
C375 HEXACHLOROETHANE	.63684	.66416	4.29		
C410 NITROBENZENE	.36960	.39056	5.67		
C415 ISOPHORONE	.80940	.84940	4.94		
CS20 NITROBENZENE-d5	.36761	.38307	4.20		
C420 2-NITROPHENOL	.19056	.20890	9.63	*	
C425 2,4-DIMETHYLPHENOL	.34768	.36935	6.23		
C430 BENZOIC ACID	.24020	.15840	34.06		
C435 BIS(2-CHLOROETHOXY)METHAN	.52370	.55728	6.41		
C440 2,4-DICHLOROPHENOL	.29356	.30349	3.39	*	
C445 1,2,4-TRICHLOROBENZENE	.30170	.30819	2.15		
C450 NAPHTHALENE	.95290	1.00105	5.05		
C455 4-CHLOROANILINE	.40825	.42140	3.22		
C460 HEXACHLOROBUTADIENE	.16498	.16350	.90	*	
C465 4-CHLORO-3-METHYLPHENOL	.31890	.34504	8.20	*	
C470 2-METHYLNAPHTHALENE	.57912	.60544	4.54		

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: 11/02/95

Contractor: PACE, INC. Time: 13:24

Contract No: Laboratory ID: >H9555

Instrument ID: HMS-HP Initial Calibration Date: 10/31/95

Minimum $\overline{RF}$ for SPCC is .05 Maximum % Diff for CCC is 25%

Compound	RF	RF	%Diff	CCC	SPCC
CS55 2.4.6-TRIBROMOPHENOL	.22679	.24858	9.61		
CS25 2-FLUOROBIPHENYL	1.15776	1.18750	2.57		
C510 HEXACHLOROCYCLOPENTADIENE	.18828	.27324	45.12		**
C515 2.4.6-TRICHLOROPHENOL	.39810	.39728	.21	*	
C520 2.4.5-TRICHLOROPHENOL	.41422	.44657	7.81		
C525 2-CHLORONAPHTHALENE	1.10500	1.13369	2.60		
C530 2-NITROANILINE	.42200	.45314	7.38		
C535 DIMETHYLPHTHALATE	1.45330	1.46877	1.06		
C540 ACENAPHTHYLENE	1.83497	1.90392	3.76		
C545 3-NITROANILINE	.39209	.41919	6.91		
C550 ACENAPHTHENE	1.07603	1.11356	3.49	*	
C555 2.4-DINITROPHENOL	.12021	.16944	40.95		**
C560 4-NITROPHENOL	.17659	.17478	1.02		**
C565 DIBENZOFURAN	1.42695	1.53952	7.89		
C543 2.6-DINITROTOLUENE	.33789	.35335	4.58		
C570 2.4-DINITROTOLUENE	.40705	.43135	5.97		
C580 DIETHYLPHTHALATE	1.47519	1.55997	5.75		
C585 4-CHLOROPHENYL-PHENYLETHE	.51486	.57293	11.29		
C590 FLUORENE	1.12956	1.22773	8.69		
C595 4-NITROANILINE	.38954	.42336	8.68		
C610 4.6-DINITRO-2-METHYLPHENO	.11970	.16457	37.48		
C615 N-NITROSODIPHENYLAMINE	.52319	.56293	7.60	*	
C620 AZOBENZENE	.19370	.21757	12.32		
C625 4-BROMOPHENYL-PHENYLETHER	.19944	.21213	6.36		
C630 HEXACHLOROBENZENE	.27736	.29105	4.93		
C635 PENTACHLOROPHENOL	.18344	.20172	9.96	*	
C640 PHENANTHRENE	1.06740	1.11411	4.38		
C645 ANTHRACENE	1.04757	1.11209	6.16		
C650 DI-N-BUTYLPHTHALATE	1.61284	1.70582	5.77		
C655 FLUORANTHENE	1.12632	1.18006	4.77	*	
C660 BENZIDINE	.06555	.07889	20.34		
CS30 TERPHENYL-d14	.79257	.84698	6.86		

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: 11/02/95

Contractor: PACE, INC. Time: 13:24

Contract No: _____ Laboratory ID: >H9555

Instrument ID: HM5-HP Initial Calibration Date: 10/31/95

Minimum $\overline{RF}$ for SPCC is .05 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C715 PYRENE	1.30367	1.33697	2.55		
C720 BUTYLBENZYLPHTHALATE	.88146	.92463	4.90		
C725 3,3'-DICHLOROBENZIDINE	.46308	.52513	13.40		
C730 BENZO(A)ANTHRACENE	1.02589	1.08512	5.77		
C745 BIS(2-ETHYLHEXYL)PHTHALAT	.97368	.99900	2.60		
C740 CHRYSENE	1.13990	1.18447	3.91		
C760 DI-N-OCTYLPHTHALATE	2.18448	2.09312	4.18	*	
C765 BENZO(B)FLUORANTHENE	1.34838	1.22500	9.15		
C770 BENZO(K)FLUORANTHENE	.86729	.94558	9.03		
C775 BENZO(A)PYRENE	1.00994	.99571	1.41	*	
C780 INDENO(1,2,3-CD)PYRENE	1.05514	1.29996	23.20		
C785 DIBENZ(A,H)ANTHRACENE	.86677	1.05684	21.93		
C790 BENZO(G,H,I)PERYLENE	.85906	1.09984	28.03		

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 (**)

PACE New England – NEW HAMPSHIRE **GCMS Semi Volatiles**
RUN LOG

Voltage 1900 Tune Meth MSHDFT Initial Cal 10/26/95 Date 10/26/95 PM
Threshold 20 Sample Meth MSHTST Batch File MSHCC Analyst LGM
OASOP 5200 Volume Inj 1µl Int Std A-1494 Instr H **MS-HP**

Maintenance: Septum no Liner no Inlet Disk no Column Clip no Other no

Bct #	File #	Sample	Matrix	ID File	Dil	SDG	Comments	MI	A	R	Arcv	P
1	>H9522	DFTPP 50ppm	A-1498	—	1/1	—	↓ENV to 1900		N	N	A2-346	
1	23	DFTPP 50ppm	A-1498		1/1		M 2/98 SCANS WJ 19K 329+330+331 15:54		✓	✓		
6	24	ABNSTD020	A-1508	IHOC26	1/1	—			N	N		
7	25	ABNSTD050	A-1507									
8	26	ABNSTD080	A-1506									
9	27	ABNSTD120	A-1505									
10	28	ABNSTD160	A-1504						↓	↓		
6	29	ABNSTD020	A-1508				COMPLIANT 8270	2 LGM	✓	✓		
7	30	ABNSTD050	A-1507					1 LGM	✓	✓		
8	31	ABNSTD080	A-1506					1 LGM	✓	✓		
9	32	ABNSTD120	A-1505					1 LGM	✓	✓		
10	33	ABNSTD160	A-1504	↓	↓	↓	↓	1 LGM	✓	✓	↓	
	IHOC26, CHOC26, #H9529 → #H9533 archived to A2-346											

LGM 10/31/95

PACE New England - NEW HAMPSHIRE GCMS Semi Volatiles
RUN LOG

Voltage 1900 | Tune Meth MSHDFT | Initial Cal 10/26/95 | Date ③ 10/ 4/2/95
Threshold 20 | Sample Meth MSH TST | Batch File H1102A | Analyst KGM
QASOP 5200 | Volume Inj 1 µl | Int Std A-1509 | Instr H MS-HP

Maintenance: Septum no | Liner no | Inlet Disk no | Column Clip no | Other no

Bd #	File #	Sample	Meth	ID File	Dil	SDG	Comments	MI	A	R	Arcv	P
1	H9553	DFTPP 50ppm	A-1497		1/1	—	11/3/95 SCAN 327 13:06 21K		✓	✓	A2-387	
2	55	ABASTD050	A-1510	IH0026	1/1	—		N	✓	✓		
6	56	45791-3	ABNL	IH1102	1/5	—		2 16H	✓	✓		
7	57	SURCHK	E-1497		1/1	—	0.2ml → 10ml w/methyl	N	✓	✓		
8	58	45791-11	ABNL		1/1		DID NOT RUN	N	N	N		
9	59	B-A2513							✓	✓		
10	60	B-A2513							✓	✓		
11	61	B-A2514							✓	✓		
12	62	LG-A2514							✓	✓		
13	63	90001-283							✓	✓		
14	64	45803-3		IHTCLP					✓	✓		
15	65											

11/3/95

QUALITY CONTROL DATA
TOTAL GASOLINE

BLANK DATA

Laboratory Number: BG1047
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/27/95
Matrix: SOLID

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

MATRIX SPIKE RECOVERY

Laboratory Number: LSG1047
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/27/95
Matrix: SOLID

COMPOUND	ug/g IN SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
GASOLINE	0	50	53	106

METHOD REFERENCE: METHOD 8015 (MODIFIED)

pace INCORPORATED
THE ASSURANCE OF QUALITY

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 10/27/15		Gasoline Surrogate BG1046	4.0						MeOH Lot#
		LS1046	4.0						
		45748-1	4.4						
		-3	4.0						
		4	4.1						
		5	4.2						
		6	4.1						
		45750-1	4.4						
		2	4.5						
		3	4.0						
CF 10/27/15		BG1047	4.0						
		LS1047	4.0						
		45802-1	4.1	C1	1.3	14.9	13.3	0.88	
		-2	Water						
		45803-1	4.3	C2	1.3	8.3	7.3	0.86	
		4	4.0	C3	1.3	8.4	7.1	0.82	
		5	4.1	C4	1.3	9.0	7.8	0.84	
CF 11/1/15		BG1048	4.0						
		LS1048	4.0						
		45815-4	4.0						
		-4ms	4.2						
		-4msD	4.2						
		-5	4.2						
		-6	4.2						
CF 11/6/15		BG1049	4.0						V6532, V6533
		LS1049	4.0						
		45851-1	4.5	C1	1.3	8.0			
		2	4.0	C2	1.3	8.1			
		3	4.1	C3	1.3	7.1			
CF 11/8/15		BG1048B	4.0						
		45815-4	4.3						
		-4ms	4.0						
		-4msD	4.5						

Surrogate: V6502
Spike V6504

Callbration 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 | Page 1
Sample Name : VSTD1000 5ML | Report No :630.01

Instrument : GC05 | Subseq/Sample/Bottle: 1/ 1/ 1

Sequence File: /DATA/GC05/SEQUENCE/G51027.SEQ
Method File : /DATA/GC05/METHOD/TIA50?26.MTH
Result File : /DATA/GC05/RESULT/G50?1a107.RES

Run Time : 37.60 Minutes Injected on 1507 27Oct1995
Report Time : 0519 30Oct1995
Run Status : RunStatusOK
[illegible]
[illegible]

Timed Event	Time	[illegible]	[illegible]	Value	[illegible]
1	[illegible]	[illegible]	[illegible]	[illegible]	True
2	[illegible]	[illegible]	[illegible]	[illegible]	True
3	[illegible]	[illegible]	[illegible]	[illegible]	True
4	[illegible]	[illegible]	[illegible]	[illegible]	True

[illegible] Sample Amt : [illegible] Standard Amt : [illegible]

Pk#	RT	[illegible]	Area	Code	ug/L	Name
1	[illegible]		170	SS	.0045	
2	[illegible]		2660?7	FF	79.6603	
3	[illegible]		[illegible]	FF	[illegible]	
4	[illegible]		[illegible]	FF	43.0040	
5	[illegible]		425301	FF	12.8490	
6	[illegible]		[illegible]	FF	30.1255	
7	[illegible]		[illegible]	VV	4.1915	
8	[illegible]		[illegible]	V	[illegible]	
9	10.55		[illegible]	V	20.3227	
10	10.[illegible]		[illegible]	VV	[illegible]	
11	11.[illegible]		[illegible]	VV	[illegible]	
12	11.64		[illegible]	V	17.5045	
13	11.84		726?18	VV	27.[illegible]	
14	12.02		5?7?12	VV	16.7703	
15	12.47		240174	V	7.2?72	
16	12.77		192064	VV	5.7601	
17	13.59		595274	VV	17.8582	
18	13.91		[illegible]	VV	15.2021	
19	14.57		867167	VV	26.0745	
20	15.02		12?1?71	VV	38.4411	
21	15.56		6?9064	VV	2?.6525	
22	16.33		47243	VV	1.4172	
23	16.07		155251	VV	5.5565	
24	17.02		460769	VV	77.7474	[illegible]
25	17.52		2653013	VV	79.6?33	
26	18.03		12?344	VV	3.7397	
27	18.41		14?378	VV	4.3915	
28	18.55		89261	VV	2.6775	
29	18.97		101857	VV	3.0556	

PACE New England
VOA Screening Analyst/Date CK 10/27/95, 10/30/95

GC05		SCRNA			GC04		SCRNB		
FRN	tube	Sample#	Vol.	Comments	FRN	tube	Sample#	Vol.	Comments
G5CF116127	1	VSTD1000	5ml	113% 1136ec	G4CF114914	1	Blank	5ml	
128	2	BG10279STDA	5ml	BDL	15	2	624Std		Ref only
129	3	BG1047	100ml	BDL	16	3	45760-57		25ml
130	4	45802-2	5ml	BDL	17	4	45766-48		1.6ml?
131	5	45803-1	100ml	BDL		5			
132	6	4		BDL		6			
133	7	5		BDL		7			
134	8	LW10279STDA	5ml	593/500 119% Rec		8			
135	9	LCS1047	100ml	427/400 107% Rec		9			
136	10	45802-1	20ml	empty tube 9/30/95 pm		10			
G5CF116137	1	VSTD1000	5ml	—	G4CF114918	1	Blank	500µl	✓
38	2	BG10279STDA	5ml	—	19	2	624Std		blank ✓
39	3	45802-1	20ml	—	20	3	45791-6		330µl Acetone
G5CF116140	4	VSTD1000	5ml	947/1000 95% Rec	21	4	7		600µl Acetone
141	5	BG10279STDA	5ml	BDL	22	5	14		5ml
142	6	45802-1	100ml	1313	23	6	15		5ml
					24	7	45794-1		5ml
					25	8	2		5ml
					26	9	3		5ml
					27	10	4		5ml
					28	11	5		Not Run
					29	12	6		
				CK 10/31/95	30	13	7		

QUALITY CONTROL DATA
PETROLEUM HYDROCARBONS BY GCFID

BLANK DATA

Laboratory Number: B-H1438
Sample Designation: LABORATORY BLANK
Date Analyzed: 10/30/95
Matrix: SOLID

HYDROCARBON TYPE	CONCENTRATION ug/g	DETECTION LIMIT ug/g
DIESEL	4	3

MATRIX SPIKE RECOVERY

Laboratory Number: LSH1438
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed 10/30/95
Matrix: SOLID

COMPOUND	ug/g SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
DIESEL	0	33.55	22.18	66

METHOD REFERENCE: EPA SW 846, 3RD EDITION METHOD 8100 (MODIFIED) AND ASTM D 3328-78

pace INCORPORATED THE ASSURANCE OF QUALITY

PACE, Incorporated

INITIAL CALIBRATION SUMMARY

for /DATA/GC06/METHOD/DIESEL017.MTH
Method created: 10/23/95 11:21:52
Method updated: 10/23/95 11:34:20

Result files used for Calibration data:
Level 1 /DATA/GC06/RESULT/G6H18290.RES
Level 2 /DATA/GC06/RESULT/G6H18289.RES
Level 3 /DATA/GC06/RESULT/G6H18288.RES
Level 4 /DATA/GC06/RESULT/G6H18287.RES
Level 5 /DATA/GC06/RESULT/G6H18286.RES

#	Time	Analyte	Correlation	B_0 Intercept	B1 Slope	B2 Quadratic
1	3.73	SOLVENT PEAK	.00000	0.00	**********	**********
2	20.45	DIESEL FUEL	1.0000	-15772.00	3982.44	.03

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

PACE, Incorporated
Continuing Calibration Report Wed Nov 1, 1995 1:51:32 pm

/DATA/GC06/RESULT/G6H18329.RES
/DATA/GC06/METHOD/DIESEL017A.MTH

Sample: DRO 2013PPM P8872
Injected: Mon Oct 30, 1995 10:41:50 am

RetTime	Analyte	Found	Nominal	%D	Recovery
13.70	DIESEL FUEL	1905.32	2013.000	5.3	94.7

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
10/17/95	HS	G6 H18276	Mech	Y	N	Diesel016	157	G6
10/18/95		G9 277	Column Compensation				154	
		G6 277	↓				157	
		G9 278	Mech				154	
		G6 278	↓				157	
		G9 279	Column Compensation				154	
		G6 279	↓				157	
		G9/6H18 280	Mech				154/157	
		281	Column Compensation					
↓		282	Mech					
10/20/95		283	Mech					
		284	Column Compensation	Y	Y			
↓		285	Mech				↓	
10/20/95	HS	G9H18 286	DRO 20134ppm p8841	Y	Y	Diesel017	154	G9 1020
		G6 280	DRO 20134 ppm p8841				157	G6
		G9 287	DRO 5034 ppm p8842				154	G9
		G6 287	DRO 5034 ppm p8842				157	G6
		G9 288	DRO 2013 ppm p8843				154	G9
		G6 288	DRO 2013 ppm p8843				157	G6
		G9 289	DRO 503 ppm p8844				154	G9
		G6 289	DRO 503 ppm p8844				157	G6
		G9 290	DRO 50 ppm p8845				154	G9
		G6 290	DRO 50 ppm p8845				157	G6
		G9/6H18291	BH1410 DRO-5				154/157	G9/G6 1020
		292	REP1 DEP4.1.2 MDL					
		293	2					
		294	3					
		295	4					
10/21/95		296	5					
		297	6					
↓	↓	298	7 ↓	↓	↓	↓	↓	↓

PACE, INCORPORATED
GC Instrument Run Log

0000094

Reviewed by _____ Date _____

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

Date	init	result file	Sample	MI	√	Method	column	Sequence
10/24/95	BS	G6 1118 314	45731-4 DRO-Oil Pou ME 1:20	Y	Y	Diesel 017	157	G1 10 3
		G9 315	BH 1430 DRO-S Bechtel				154	G9
		G6 315	45734-1MS				157	G6
		G9 316	LSH 1430				154	G9
		G6 316 317	45734-1MSD				157	G6
10/24/95	AC	G9 317	Diesel 2013ppm P8872 13%D	Y	Y		154	G91024
		G6 317	" " " 6%D				157	G6
		G9 318	Kerosene 5019ppm P8610				154	G9
		G6 318	" " "				157	G6
		G9 319	#6 Fuel oil 10,000ppm P8578				154	G9
		G6 319	" " "				157	G6
		G9 320	JP4 100ppm P8673				154	G9
		G6 320	" "				157	G6
10/25/95	AC	G9 321	#4 Fuel oil 5700ppm P8865				154	G9
		G6 321	" " " "				157	G6
10/24/95	BS	G9 322	Diesel 2013ppm P8872 98%	Y	Y		154	G9
		G6 322	↓ 104				157	G6
		G9 323	Sox check				154	G9 10N1
		G6 323	BS 10/26/95 ~~Thimble check~~ ③ BH1435 DRO-S				157	G6
		G9 324	~~Gas/tube P8895~~ ③ Thimblecheck				154	G9
		G6 324	~~PHC Surr check~~ ③ LSH1435 DRO-S				157	G6
		G9 325	Gas/tube P8895				154	G9
		G6 325	45563-7RE DRO-S OHM 1:10				157	G6
		G9 326	PHC Surr check				154	G9
		G6 326	45563-8RE DRO-S OHM 1:20				157	G6
		G9 327	DRO 2013ppm P8872				154	G9
		G6 327	45594-4RE DRO-S OHM				157	G6
		G9 328	no injection				154	G9
		G6 328	DRO 2013 ppm P8872				157	G6
10/25/95	BS	G6 1118 329	↓ 95%	Y	Y			G1 10 6
↓	↓	330	45802-3 DRO-S OHM 1:10				↓	↓

PACE, INCORPORATED
GC Instrument Run Log

Reviewed by _____ Date _____

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

Date	init	result file	Sample	MI	√	Method	column	Sequence
1/13 PM	HB	GB1478 331	BH1437 DRO-5 ③ MS	Y	Y	Diesel 017	157	GB1036
		332	LCS 1437 ↓					↓
		GB1478 333	BH1438 DRO-5					GB1036
		334	LCS 1438					
		335	45803-42 ③ MS/MSD					
		336	-4					
		337	-5					
		338	DRO 2013PPM P8872					

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

QC Batch: 318 For: 45803
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	13.950	34.9

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
Corrosivity
Method: 7.2 SW846 3rd Edition

QC Batch: 376
Matrix: Solid

LABORATORY CONTROL SAMPLES:

	True Value Units	Observed Value Units
LCS1	7.0	7.01

FIELD SAMPLE:

Precision

Lab No.	Replicate 1 Units	Replicate 2 Units
45803-3	7.42	7.21

pace INCORPORATED
THE ASSURANCE OF QUALITY

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

QC Batch: 318 For: 45803
Matrix: SOLID

METHOD BLANK:

	Result ug/g
	< 50.00

LABORATORY CONTROL SAMPLES:

	True Value ug/g	Observed Value ug/g	Accuracy Recovery %
LCS1	1604.0	1597.0	99.6

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
THE ASSURANCE OF QUALITY

QUALITY CONTROL
Flashpoint
Method: D93-80, ASTM

QC Batch: 352
Matrix: Solid

LABORATORY CONTROL SAMPLES:

	True Value DEG F	Observed Value DEG F
LCS1	81.0	79.00

FIELD SAMPLE:

Precision

Lab No.	Replicate 1 ug/g	Replicate 2 ug/g
45803-3	150.00	150.00

pace INCORPORATED THE ASSURANCE OF QUALITY

PACE New England, Inc.

Metals QC Results for : 45803

QC BATCH: 12483
MATRIX: WATER
CONCENTRATION UNITS: UG/L

ELEMENT	LCS TRUE VALUE	LCS RESULT	LCS % RECOVERY	METHOD BLANK	
Aluminum	2000.00	1950.00	97.5	B	18.6
Antimony	500.00	487.00	97.4	U	11.9
Arsenic	2000.00	1870.00	93.5	U	22.4
Arsenic -	2000.00	1930.00	96.5	U	1.8
Barium	2000.00	1950.00	97.5	U	0.8
Beryllium	50.00	48.10	96.2	U	0.2
Boron	1000.00	1030.00	103.0	U	34.6
Cadmium	50.00	55.50	111.0	U	1.4
Calcium	10000.00	10400.00	104.0	B	74.4
Chromium	200.00	205.00	102.5	U	2.0
Cobalt	500.00	507.00	101.4	U	2.4
Copper	250.00	251.00	100.4	U	5.6
Iron	1000.00	999.00	99.9	B	12.2
Lead	500.00	470.00	94.0	U	15.4
Lead -	500.00	507.00	101.4	B	2.5
Magnesium	10000.00	10000.00	100.0	B	29.6
Manganese	500.00	504.00	100.8	U	0.5
Molybdenum	1000.00	1070.00	107.0	U	1.6
Nickel	500.00	484.00	96.8	U	5.5
Potassium	10000.00	9850.00	98.5	U	500.0
Selenium	2000.00	1840.00	92.0	U	25.3
Selenium -	2000.00	1800.00	90.0	U	2.3
Silver	50.00	50.10	100.2	U	1.9
Sodium	10000.00	10100.00	101.0	B	40.0
Thallium	2000.00	1810.00	90.5	U	21.7
Thallium -	2000.00	1950.00	97.5	U	2.5
Tin	1000.00	999.00	99.9	U	5.3
Titanium	1000.00	1020.00	102.0	U	0.4
Vanadium	500.00	482.00	96.4	U	2.5
Zinc	500.00	515.00	103.0	B	6.5

B = Result between instrument detection limit and reporting limit.
U = Result below instrument detection limit.
N = LCS recovery not within advisory QC limits (80% - 120%)
with the exception of Silver QC limits (52% - 136%).

PACE New England, Inc.

Metals QC Results for : 45803

QC BATCH: 61678
MATRIX: WATER
CONCENTRATION UNITS: UG/L

ELEMENT	LCS TRUE VALUE	LCS RESULT	LCS % RECOVERY	METHOD BLANK
Mercury	8.00	7.80	97.5	U 0.10

B = Result between instrument detection limit and reporting limit.
U = Result below instrument detection limit.
N = LCS recovery not within advisory QC limits (80% - 120%)
with the exception of Silver QC limits (52% - 136%).

PACE New England, Inc.

Metals Results for TCLP Blank 283

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).

TJA1031.DAT
TJA01
RUN QC

QC	DATE	TIME	METAL	RESULT UG/L	TRUE	RECOVERY
CCB	10/31/95	14:10	AL	16.36		
CCB	10/31/95	14:10	SB	12.44		
CCB	10/31/95	14:10	AS	30.14		
CCB	10/31/95	14:10	BA	3.49		
CCB	10/31/95	14:10	BE	0.5		
CCB	10/31/95	14:10	CD	1.5		
CCB	10/31/95	14:10	CA	0.37		
CCB	10/31/95	14:10	CR	0.72		
CCB	10/31/95	14:10	CO	2.59		
CCB	10/31/95	14:10	CU	3.87		
CCB	10/31/95	14:10	FE	17.57		
CCB	10/31/95	14:10	PB	13.11		
CCB	10/31/95	14:10	MG	19.85		
CCB	10/31/95	14:10	MN	1.73		
CCB	10/31/95	14:10	NI	7.47		
CCB	10/31/95	14:10	K	123.81		
CCB	10/31/95	14:10	SE	-13.28		
CCB	10/31/95	14:10	AG	0.27		
CCB	10/31/95	14:10	NA	-15.64		
CCB	10/31/95	14:10	TL	10.82		
CCB	10/31/95	14:10	V	1.93		
CCB	10/31/95	14:10	ZN	2.07		
CCB	10/31/95	14:10	B	15.71		
CCB	10/31/95	14:10	SN	3.08		
CCB	10/31/95	14:10	TIME	8000000		
CCB	10/31/95	15:13	AL	2.82		
CCB	10/31/95	15:13	SB	-0.78		
CCB	10/31/95	15:13	AS	28.26		
CCB	10/31/95	15:13	BA	5.34		
CCB	10/31/95	15:13	BE	0.39		
CCB	10/31/95	15:13	CD	0.53		
CCB	10/31/95	15:13	CA	-0.14		
CCB	10/31/95	15:13	CR	-0.97		
CCB	10/31/95	15:13	CO	2.72		
CCB	10/31/95	15:13	CU	1.87		
CCB	10/31/95	15:13	FE	4.1		
CCB	10/31/95	15:13	PB	6.78		
CCB	10/31/95	15:13	MG	-2.23		
CCB	10/31/95	15:13	MN	1.73		
CCB	10/31/95	15:13	NI	2.68		
CCB	10/31/95	15:13	K	-188.41		
CCB	10/31/95	15:13	SE	5.7		
CCB	10/31/95	15:13	AG	-2.98		

CCB	10/31/95	15:13	NA	-7.11		
CCB	10/31/95	15:13	TL	-4.16		
CCB	10/31/95	15:13	V	2.31		
CCB	10/31/95	15:13	ZN	2.43		
CCB	10/31/95	15:13	B	18.84		
CCB	10/31/95	15:13	SN	8.53		
CCB	10/31/95	15:13	TIME	8000000		
CCB	10/31/95	15:57	AL	34.31		
CCB	10/31/95	15:57	SB	11.29		
CCB	10/31/95	15:57	AS	19.49		
CCB	10/31/95	15:57	BA	8.51		
CCB	10/31/95	15:57	BE	0.5		
CCB	10/31/95	15:57	CD	1.36		
CCB	10/31/95	15:57	CA	25.54		
CCB	10/31/95	15:57	CR	-0.01		
CCB	10/31/95	15:57	CO	2.82		
CCB	10/31/95	15:57	CU	0.74		
CCB	10/31/95	15:57	FE	24.87		
CCB	10/31/95	15:57	PB	6.75		
CCB	10/31/95	15:57	MG	36.17		
CCB	10/31/95	15:57	MN	2.66		
CCB	10/31/95	15:57	NI	5.25		
CCB	10/31/95	15:57	K	-188.41		
CCB	10/31/95	15:57	SE	-3.3		
CCB	10/31/95	15:57	AG	-1.63		
CCB	10/31/95	15:57	NA	-6.16		
CCB	10/31/95	15:57	TL	8.72		
CCB	10/31/95	15:57	V	1.52		
CCB	10/31/95	15:57	ZN	3.03		
CCB	10/31/95	15:57	B	18.85		
CCB	10/31/95	15:57	SN	6.95		
CCB	10/31/95	15:57	TIME	8000000		
CCB	10/31/95	16:42	AL	22.55		
CCB	10/31/95	16:42	SB	14.23		
CCB	10/31/95	16:42	AS	23.74		
CCB	10/31/95	16:42	BA	36.64		
CCB	10/31/95	16:42	BE	0.87		
CCB	10/31/95	16:42	CD	0.92		
CCB	10/31/95	16:42	CA	26.71		
CCB	10/31/95	16:42	CR	5.19		
CCB	10/31/95	16:42	CO	10.63		
CCB	10/31/95	16:42	CU	10.53		
CCB	10/31/95	16:42	FE	13.61		
CCB	10/31/95	16:42	PB	19.95		
CCB	10/31/95	16:42	MG	37.81		
CCB	10/31/95	16:42	MN	9.52		
CCB	10/31/95	16:42	NI	6.86		
CCB	10/31/95	16:42	K	-22.13		
CCB	10/31/95	16:42	SE	12.7		

CCB	10/31/95	16:42	AG	1.7		
CCB	10/31/95	16:42	NA	47.65		
CCB	10/31/95	16:42	TL	13.26		
CCB	10/31/95	16:42	V	9.09		
CCB	10/31/95	16:42	ZN	10.48		
CCB	10/31/95	16:42	B	32.86		
CCB	10/31/95	16:42	SN	13.4		
CCB	10/31/95	16:42	TIME	8000000		
CCB	10/31/95	17:14	AL	112.06		
CCB	10/31/95	17:14	SB	15.08		
CCB	10/31/95	17:14	AS	28.76		
CCB	10/31/95	17:14	BA	46.05		
CCB	10/31/95	17:14	BE	0.97		
CCB	10/31/95	17:14	CD	1.04		
CCB	10/31/95	17:14	CA	122.1		
CCB	10/31/95	17:14	CR	4.49		
CCB	10/31/95	17:14	CO	13.56		
CCB	10/31/95	17:14	CU	14.11		
CCB	10/31/95	17:14	FE	58.28		
CCB	10/31/95	17:14	PB	16.15		
CCB	10/31/95	17:14	MG	140.19		
CCB	10/31/95	17:14	MN	12.1		
CCB	10/31/95	17:14	NI	10.43		
CCB	10/31/95	17:14	K	-171.5		
CCB	10/31/95	17:14	SE	-10.71		
CCB	10/31/95	17:14	AG	2.5		
CCB	10/31/95	17:14	NA	64.6		
CCB	10/31/95	17:14	TL	13.63		
CCB	10/31/95	17:14	V	11.04		
CCB	10/31/95	17:14	ZN	13.99		
CCB	10/31/95	17:14	B	41.19		
CCB	10/31/95	17:14	SN	14.9		
CCB	10/31/95	17:14	TIME	8000000		
CCB	10/31/95	18:19	AL	-3.57		
CCB	10/31/95	18:19	SB	13.71		
CCB	10/31/95	18:19	AS	28.14		
CCB	10/31/95	18:19	BA	7.73		
CCB	10/31/95	18:19	BE	0.29		
CCB	10/31/95	18:19	CD	-0.05		
CCB	10/31/95	18:19	CA	3.39		
CCB	10/31/95	18:19	CR	1.34		
CCB	10/31/95	18:19	CO	4.08		
CCB	10/31/95	18:19	CU	8.99		
CCB	10/31/95	18:19	FE	-1.17		
CCB	10/31/95	18:19	PB	12.08		
CCB	10/31/95	18:19	MG	13.31		
CCB	10/31/95	18:19	MN	1.74		
CCB	10/31/95	18:19	NI	5.78		
CCB	10/31/95	18:19	K	343.01		

CCB	10/31/95	18:19	SE	-4.39		
CCB	10/31/95	18:19	AG	1.14		
CCB	10/31/95	18:19	NA	13.26		
CCB	10/31/95	18:19	TL	3.72		
CCB	10/31/95	18:19	V	3.16		
CCB	10/31/95	18:19	ZN	3.32		
CCB	10/31/95	18:19	B	21.74		
CCB	10/31/95	18:19	SN	2.37		
CCB	10/31/95	18:19	TIME	8000000		
CCB	10/31/95	19:00	AL	33.8		
CCB	10/31/95	19:00	SB	4.59		
CCB	10/31/95	19:00	AS	25.39		
CCB	10/31/95	19:00	BA	24.76		
CCB	10/31/95	19:00	BE	0.68		
CCB	10/31/95	19:00	CD	0.89		
CCB	10/31/95	19:00	CA	35.14		
CCB	10/31/95	19:00	CR	4.16		
CCB	10/31/95	19:00	CO	8.84		
CCB	10/31/95	19:00	CU	10.28		
CCB	10/31/95	19:00	FE	23.04		
CCB	10/31/95	19:00	PB	11.58		
CCB	10/31/95	19:00	MG	42.81		
CCB	10/31/95	19:00	MN	5.97		
CCB	10/31/95	19:00	NI	4.21		
CCB	10/31/95	19:00	K	94.05		
CCB	10/31/95	19:00	SE	0.98		
CCB	10/31/95	19:00	AG	2.51		
CCB	10/31/95	19:00	NA	29.47		
CCB	10/31/95	19:00	TL	12.18		
CCB	10/31/95	19:00	V	6.33		
CCB	10/31/95	19:00	ZN	7.39		
CCB	10/31/95	19:00	B	27.31		
CCB	10/31/95	19:00	SN	7.07		
CCB	10/31/95	19:00	TIME	8000000		
CCV	10/31/95	14:05	AL	40474.87	40000	101.19%
CCV	10/31/95	14:05	SB	10059.51	10000	100.60%
CCV	10/31/95	14:05	AS	9584.96	10000	95.85%
CCV	10/31/95	14:05	BA	40486.88	40000	101.22%
CCV	10/31/95	14:05	BE	1035.6	1000	103.56%
CCV	10/31/95	14:05	CD	977.24	1000	97.72%
CCV	10/31/95	14:05	CA	52347.14	50000	104.69%
CCV	10/31/95	14:05	CR	4187.96	4000	104.70%
CCV	10/31/95	14:05	CO	10497.96	10000	104.98%
CCV	10/31/95	14:05	CU	5153.91	5000	103.08%
CCV	10/31/95	14:05	FE	20756.72	20000	103.78%
CCV	10/31/95	14:05	PB	9579.39	10000	95.79%
CCV	10/31/95	14:05	MG	50539.32	50000	101.08%
CCV	10/31/95	14:05	MN	10312.67	10000	103.13%
CCV	10/31/95	14:05	NI	9916.18	10000	99.16%

CCV	10/31/95	14:05	K	49962.32	50000	99.92%
CCV	10/31/95	14:05	SE	9640.54	10000	96.41%
CCV	10/31/95	14:05	AG	997.18	1000	99.72%
CCV	10/31/95	14:05	NA	49507.39	50000	99.01%
CCV	10/31/95	14:05	TL	9652.11	10000	96.52%
CCV	10/31/95	14:05	V	10369.81	10000	103.70%
CCV	10/31/95	14:05	ZN	10288.06	10000	102.88%
CCV	10/31/95	14:05	B	20109.57	20000	100.55%
CCV	10/31/95	14:05	SN	10225.31	10000	102.25%
CCV	10/31/95	14:05	TIME	8000000		
CCV	10/31/95	15:08	AL	38770.76	40000	96.93%
CCV	10/31/95	15:08	SB	9647.1	10000	96.47%
CCV	10/31/95	15:08	AS	9231.58	10000	92.32%
CCV	10/31/95	15:08	BA	38373.97	40000	95.93%
CCV	10/31/95	15:08	BE	984.86	1000	98.49%
CCV	10/31/95	15:08	CD	942.61	1000	94.26%
CCV	10/31/95	15:08	CA	50327	50000	100.65%
CCV	10/31/95	15:08	CR	4008.05	4000	100.20%
CCV	10/31/95	15:08	CO	10085.63	10000	100.86%
CCV	10/31/95	15:08	CU	4902.75	5000	98.06%
CCV	10/31/95	15:08	FE	19721.83	20000	98.61%
CCV	10/31/95	15:08	PB	9227.03	10000	92.27%
CCV	10/31/95	15:08	MG	48451.62	50000	96.90%
CCV	10/31/95	15:08	MN	9892.34	10000	98.92%
CCV	10/31/95	15:08	NI	9514.32	10000	95.14%
CCV	10/31/95	15:08	K	47959.73	50000	95.92%
CCV	10/31/95	15:08	SE	9143.6	10000	91.44%
CCV	10/31/95	15:08	AG	957.61	1000	95.76%
CCV	10/31/95	15:08	NA	47556.18	50000	95.11%
CCV	10/31/95	15:08	TL	9191.63	10000	91.92%
CCV	10/31/95	15:08	V	9881.95	10000	98.82%
CCV	10/31/95	15:08	ZN	9918.38	10000	99.18%
CCV	10/31/95	15:08	B	19309.47	20000	96.55%
CCV	10/31/95	15:08	SN	9852.11	10000	98.52%
CCV	10/31/95	15:08	TIME	8000000		
CCV	10/31/95	15:49	AL	39028.57	40000	97.57%
CCV	10/31/95	15:49	SB	9595.54	10000	95.96%
CCV	10/31/95	15:49	AS	9088.61	10000	90.89%
CCV	10/31/95	15:49	BA	38278.77	40000	95.70%
CCV	10/31/95	15:49	BE	976.84	1000	97.68%
CCV	10/31/95	15:49	CD	939.86	1000	93.99%
CCV	10/31/95	15:49	CA	50279.36	50000	100.56%
CCV	10/31/95	15:49	CR	3991.87	4000	99.80%
CCV	10/31/95	15:49	CO	10035.93	10000	100.36%
CCV	10/31/95	15:49	CU	4890.76	5000	97.82%
CCV	10/31/95	15:49	FE	19788.93	20000	98.94%
CCV	10/31/95	15:49	PB	9195.9	10000	91.96%
CCV	10/31/95	15:49	MG	48630.83	50000	97.26%
CCV	10/31/95	15:49	MN	9850.26	10000	98.50%

CCV	10/31/95	15:49	NI	9469.07	10000	94.69%
CCV	10/31/95	15:49	K	48078.17	50000	96.16%
CCV	10/31/95	15:49	SE	9142.2	10000	91.42%
CCV	10/31/95	15:49	AG	959.16	1000	95.92%
CCV	10/31/95	15:49	NA	47711.92	50000	95.42%
CCV	10/31/95	15:49	TL	9162.01	10000	91.62%
CCV	10/31/95	15:49	V	9841.71	10000	98.42%
CCV	10/31/95	15:49	ZN	9854.31	10000	98.54%
CCV	10/31/95	15:49	B	19252.86	20000	96.26%
CCV	10/31/95	15:49	SN	9758.04	10000	97.58%
CCV	10/31/95	15:49	TIME	8000000		
CCV	10/31/95	16:37	AL	41052.07	40000	102.63%
CCV	10/31/95	16:37	SB	10328.69	10000	103.29%
CCV	10/31/95	16:37	AS	9799.75	10000	98.00%
CCV	10/31/95	16:37	BA	40871.87	40000	102.18%
CCV	10/31/95	16:37	BE	1022.89	1000	102.29%
CCV	10/31/95	16:37	CD	1005.64	1000	100.56%
CCV	10/31/95	16:37	CA	51941.86	50000	103.88%
CCV	10/31/95	16:37	CR	4229.23	4000	105.73%
CCV	10/31/95	16:37	CO	10447.81	10000	104.48%
CCV	10/31/95	16:37	CU	5212.1	5000	104.24%
CCV	10/31/95	16:37	FE	20421.79	20000	102.11%
CCV	10/31/95	16:37	PB	9820.52	10000	98.21%
CCV	10/31/95	16:37	MG	51216.25	50000	102.43%
CCV	10/31/95	16:37	MN	10458.55	10000	104.59%
CCV	10/31/95	16:37	NI	10141.78	10000	101.42%
CCV	10/31/95	16:37	K	50744.12	50000	101.49%
CCV	10/31/95	16:37	SE	9769.91	10000	97.70%
CCV	10/31/95	16:37	AG	1022.28	1000	102.23%
CCV	10/31/95	16:37	NA	50793.57	50000	101.59%
CCV	10/31/95	16:37	TL	9746.9	10000	97.47%
CCV	10/31/95	16:37	V	10347.32	10000	103.47%
CCV	10/31/95	16:37	ZN	10417.66	10000	104.18%
CCV	10/31/95	16:37	B	20574.75	20000	102.87%
CCV	10/31/95	16:37	SN	10279.52	10000	102.80%
CCV	10/31/95	16:37	TIME	8000000		
CCV	10/31/95	17:09	AL	40640.9	40000	101.60%
CCV	10/31/95	17:09	SB	10105.17	10000	101.05%
CCV	10/31/95	17:09	AS	9549.58	10000	95.50%
CCV	10/31/95	17:09	BA	39882.86	40000	99.71%
CCV	10/31/95	17:09	BE	1004.56	1000	100.46%
CCV	10/31/95	17:09	CD	987.7	1000	98.77%
CCV	10/31/95	17:09	CA	51452.76	50000	102.91%
CCV	10/31/95	17:09	CR	4155.33	4000	103.88%
CCV	10/31/95	17:09	CO	10238.16	10000	102.38%
CCV	10/31/95	17:09	CU	5101.82	5000	102.04%
CCV	10/31/95	17:09	FE	20307.72	20000	101.54%
CCV	10/31/95	17:09	PB	9630.22	10000	96.30%
CCV	10/31/95	17:09	MG	50499.28	50000	101.00%

CCV	10/31/95	17:09	MN	10274.7	10000	102.75%
CCV	10/31/95	17:09	NI	9979.23	10000	99.79%
CCV	10/31/95	17:09	K	49775.93	50000	99.55%
CCV	10/31/95	17:09	SE	9644.32	10000	96.44%
CCV	10/31/95	17:09	AG	999.13	1000	99.91%
CCV	10/31/95	17:09	NA	49536.09	50000	99.07%
CCV	10/31/95	17:09	TL	9606.83	10000	96.07%
CCV	10/31/95	17:09	V	10146.42	10000	101.46%
CCV	10/31/95	17:09	ZN	10254.89	10000	102.55%
CCV	10/31/95	17:09	B	20126.14	20000	100.63%
CCV	10/31/95	17:09	SN	10127.48	10000	101.27%
CCV	10/31/95	17:09	TIME	8000000		
CCV	10/31/95	18:14	AL	42375.23	40000	105.94%
CCV	10/31/95	18:14	SB	10717.16	10000	107.17%
CCV	10/31/95	18:14	AS	10224.38	10000	102.24%
CCV	10/31/95	18:14	BA	42538.25	40000	106.35%
CCV	10/31/95	18:14	BE	1074.96	1000	107.50%
CCV	10/31/95	18:14	CD	1040.45	1000	104.05%
CCV	10/31/95	18:14	CA	53782.18	50000	107.56%
CCV	10/31/95	18:14	CR	4411.61	4000	110.29%
CCV	10/31/95	18:14	CO	10864.96	10000	108.65%
CCV	10/31/95	18:14	CU	5402.79	5000	108.06%
CCV	10/31/95	18:14	FE	21391.14	20000	106.96%
CCV	10/31/95	18:14	PB	10156.55	10000	101.57%
CCV	10/31/95	18:14	MG	52656.15	50000	105.31%
CCV	10/31/95	18:14	MN	10891.64	10000	108.92%
CCV	10/31/95	18:14	NI	10593.58	10000	105.94%
CCV	10/31/95	18:14	K	52359.61	50000	104.72%
CCV	10/31/95	18:14	SE	10299.37	10000	102.99%
CCV	10/31/95	18:14	AG	1049.15	1000	104.92%
CCV	10/31/95	18:14	NA	51452.88	50000	102.91%
CCV	10/31/95	18:14	TL	10363.2	10000	103.63%
CCV	10/31/95	18:14	V	10794.96	10000	107.95%
CCV	10/31/95	18:14	ZN	10820.34	10000	108.20%
CCV	10/31/95	18:14	B	21255.58	20000	106.28%
CCV	10/31/95	18:14	SN	10721.16	10000	107.21%
CCV	10/31/95	18:14	TIME	8000000		
CCV	10/31/95	18:55	AL	42552.31	40000	106.38%
CCV	10/31/95	18:55	SB	10607.72	10000	106.08%
CCV	10/31/95	18:55	AS	10076.96	10000	100.77%
CCV	10/31/95	18:55	BA	42754.67	40000	106.89%
CCV	10/31/95	18:55	BE	1066.68	1000	106.67%
CCV	10/31/95	18:55	CD	1022.39	1000	102.24%
CCV	10/31/95	18:55	CA	53363.56	50000	106.73%
CCV	10/31/95	18:55	CR	4376.75	4000	109.42%
CCV	10/31/95	18:55	CO	10783.85	10000	107.84%
CCV	10/31/95	18:55	CU	5421.65	5000	108.43%
CCV	10/31/95	18:55	FE	21264.47	20000	106.32%
CCV	10/31/95	18:55	PB	10053.65	10000	100.54%

CCV	10/31/95	18:55	MG	52887.55	50000	105.78%
CCV	10/31/95	18:55	MN	10817.5	10000	108.18%
CCV	10/31/95	18:55	NI	10484.12	10000	104.84%
CCV	10/31/95	18:55	K	53001.38	50000	106.00%
CCV	10/31/95	18:55	SE	10178.67	10000	101.79%
CCV	10/31/95	18:55	AG	1048.21	1000	104.82%
CCV	10/31/95	18:55	NA	52773.01	50000	105.55%
CCV	10/31/95	18:55	TL	10157.95	10000	101.58%
CCV	10/31/95	18:55	V	10723.12	10000	107.23%
CCV	10/31/95	18:55	ZN	10639.65	10000	106.40%
CCV	10/31/95	18:55	B	21285.98	20000	106.43%
CCV	10/31/95	18:55	SN	10639.02	10000	106.39%
CCV	10/31/95	18:55	TIME	8000000		
ICB	10/31/95	13:44	AL	-16.93		
ICB	10/31/95	13:44	SB	2.92		
ICB	10/31/95	13:44	AS	22.5		
ICB	10/31/95	13:44	BA	-7.71		
ICB	10/31/95	13:44	BE	0.21		
ICB	10/31/95	13:44	CD	0.68		
ICB	10/31/95	13:44	CA	-19.99		
ICB	10/31/95	13:44	CR	-0.14		
ICB	10/31/95	13:44	CO	-0.05		
ICB	10/31/95	13:44	CU	-2.23		
ICB	10/31/95	13:44	FE	-6.86		
ICB	10/31/95	13:44	PB	9.06		
ICB	10/31/95	13:44	MG	-20.06		
ICB	10/31/95	13:44	MN	-1.09		
ICB	10/31/95	13:44	NI	-0.29		
ICB	10/31/95	13:44	K	43.06		
ICB	10/31/95	13:44	SE	0.47		
ICB	10/31/95	13:44	AG	0.3		
ICB	10/31/95	13:44	NA	-5.68		
ICB	10/31/95	13:44	TL	8.33		
ICB	10/31/95	13:44	V	-1.93		
ICB	10/31/95	13:44	ZN	-1.91		
ICB	10/31/95	13:44	B	-0.89		
ICB	10/31/95	13:44	SN	3.11		
ICB	10/31/95	13:44	TIME	8000000		
ICSA	10/31/95	13:55	AL	494412.8	500000	98.88%
ICSA	10/31/95	13:55	SB	-10.63		
ICSA	10/31/95	13:55	AS	-278.78		
ICSA	10/31/95	13:55	BA	-13.01		
ICSA	10/31/95	13:55	BE	-0.81		
ICSA	10/31/95	13:55	CD	3.03		
ICSA	10/31/95	13:55	CA	492201.4	500000	98.44%
ICSA	10/31/95	13:55	CR	-3.16		
ICSA	10/31/95	13:55	CO	-5.22		
ICSA	10/31/95	13:55	CU	-5.37		
ICSA	10/31/95	13:55	FE	185069.3	200000	92.53%

ICSA	10/31/95	13:55	PB	-71.65		
ICSA	10/31/95	13:55	MG	492810.7	500000	98.56%
ICSA	10/31/95	13:55	MN	-1.18		
ICSA	10/31/95	13:55	NI	-7.01		
ICSA	10/31/95	13:55	K	-672.91		
ICSA	10/31/95	13:55	SE	-79.02		
ICSA	10/31/95	13:55	AG	0.4		
ICSA	10/31/95	13:55	NA	-32.71		
ICSA	10/31/95	13:55	TL	-257.9		
ICSA	10/31/95	13:55	V	-1.58		
ICSA	10/31/95	13:55	ZN	-7.12		
ICSA	10/31/95	13:55	B	-12.63		
ICSA	10/31/95	13:55	SN	-157.56		
ICSA	10/31/95	13:55	TIME	8000000		
ICSA	10/31/95	15:39	AL	477307.6	500000	95.46%
ICSA	10/31/95	15:39	SB	-14.38		
ICSA	10/31/95	15:39	AS	-274.36		
ICSA	10/31/95	15:39	BA	-12.82		
ICSA	10/31/95	15:39	BE	-1.03		
ICSA	10/31/95	15:39	CD	4.63		
ICSA	10/31/95	15:39	CA	484002	500000	96.80%
ICSA	10/31/95	15:39	CR	-4.37		
ICSA	10/31/95	15:39	CO	-6.38		
ICSA	10/31/95	15:39	CU	-6.63		
ICSA	10/31/95	15:39	FE	181970	200000	90.99%
ICSA	10/31/95	15:39	PB	-54.98		
ICSA	10/31/95	15:39	MG	477564.9	500000	95.51%
ICSA	10/31/95	15:39	MN	0.15		
ICSA	10/31/95	15:39	NI	-10.41		
ICSA	10/31/95	15:39	K	-576.01		
ICSA	10/31/95	15:39	SE	-54.67		
ICSA	10/31/95	15:39	AG	0.38		
ICSA	10/31/95	15:39	NA	-6.63		
ICSA	10/31/95	15:39	TL	-261.58		
ICSA	10/31/95	15:39	V	0.33		
ICSA	10/31/95	15:39	ZN	-6.8		
ICSA	10/31/95	15:39	B	-11.49		
ICSA	10/31/95	15:39	SN	-151.87		
ICSA	10/31/95	15:39	TIME	8000000		
ICSA	10/31/95	16:58	AL	493884	500000	98.78%
ICSA	10/31/95	16:58	SB	-12.95		
ICSA	10/31/95	16:58	AS	0.61		
ICSA	10/31/95	16:58	BA	-1.61		
ICSA	10/31/95	16:58	BE	-0.93		
ICSA	10/31/95	16:58	CD	2.17		
ICSA	10/31/95	16:58	CA	482709.6	500000	96.54%
ICSA	10/31/95	16:58	CR	-2.57		
ICSA	10/31/95	16:58	CO	-2.28		
ICSA	10/31/95	16:58	CU	4.66		

ICSA	10/31/95	16:58	FE	181513.5	200000	90.76%
ICSA	10/31/95	16:58	PB	-2.05		
ICSA	10/31/95	16:58	MG	491741.2	500000	98.35%
ICSA	10/31/95	16:58	MN	0.68		
ICSA	10/31/95	16:58	NI	-5.38		
ICSA	10/31/95	16:58	K	-232.36		
ICSA	10/31/95	16:58	SE	-64.53		
ICSA	10/31/95	16:58	AG	0.55		
ICSA	10/31/95	16:58	NA	383.21		
ICSA	10/31/95	16:58	TL	-175.68		
ICSA	10/31/95	16:58	V	1.99		
ICSA	10/31/95	16:58	ZN	-2.62		
ICSA	10/31/95	16:58	B	1.41		
ICSA	10/31/95	16:58	SN	-160.41		
ICSA	10/31/95	16:58	TIME	8000000		
ICSA	10/31/95	18:44	AL	522326.5	500000	104.47%
ICSA	10/31/95	18:44	SB	-2.72		
ICSA	10/31/95	18:44	AS	45.18		
ICSA	10/31/95	18:44	BA	1.97		
ICSA	10/31/95	18:44	BE	-1.14		
ICSA	10/31/95	18:44	CD	5.36		
ICSA	10/31/95	18:44	CA	516547.4	500000	103.31%
ICSA	10/31/95	18:44	CR	0.77		
ICSA	10/31/95	18:44	CO	0.74		
ICSA	10/31/95	18:44	CU	2.44		
ICSA	10/31/95	18:44	FE	195909.8	200000	97.95%
ICSA	10/31/95	18:44	PB	2.05		
ICSA	10/31/95	18:44	MG	520250.8	500000	104.05%
ICSA	10/31/95	18:44	MN	2.49		
ICSA	10/31/95	18:44	NI	-9.5		
ICSA	10/31/95	18:44	K	-691.56		
ICSA	10/31/95	18:44	SE	-88.73		
ICSA	10/31/95	18:44	AG	1.31		
ICSA	10/31/95	18:44	NA	8.1		
ICSA	10/31/95	18:44	TL	-262.28		
ICSA	10/31/95	18:44	V	2.68		
ICSA	10/31/95	18:44	ZN	-1.82		
ICSA	10/31/95	18:44	B	-5.84		
ICSA	10/31/95	18:44	SN	-153.56		
ICSA	10/31/95	18:44	TIME	8000000		
ICSAB	10/31/95	14:00	AL	512581.8	500000	102.52%
ICSAB	10/31/95	14:00	SB	-23.82		
ICSAB	10/31/95	14:00	AS	-292.61		
ICSAB	10/31/95	14:00	BA	486.56	500	97.31%
ICSAB	10/31/95	14:00	BE	481.06	500	96.21%
ICSAB	10/31/95	14:00	CD	910.49	1000	91.05%
ICSAB	10/31/95	14:00	CA	513015	500000	102.60%
ICSAB	10/31/95	14:00	CR	481.59	500	96.32%
ICSAB	10/31/95	14:00	CO	485.06	500	97.01%

ICSAB	10/31/95	14:00	CU	501.2	500	100.24%
ICSAB	10/31/95	14:00	FE	191817	200000	95.91%
ICSAB	10/31/95	14:00	PB	827.66	1000	82.77%
ICSAB	10/31/95	14:00	MG	504506.3	500000	100.90%
ICSAB	10/31/95	14:00	MN	487.91	500	97.58%
ICSAB	10/31/95	14:00	NI	900.6	1000	90.06%
ICSAB	10/31/95	14:00	K	-721.36		
ICSAB	10/31/95	14:00	SE	-95.27		
ICSAB	10/31/95	14:00	AG	942.43	1000	94.24%
ICSAB	10/31/95	14:00	NA	-30.58		
ICSAB	10/31/95	14:00	TL	-250.89		
ICSAB	10/31/95	14:00	V	500.28	500	100.06%
ICSAB	10/31/95	14:00	ZN	959.17	1000	95.92%
ICSAB	10/31/95	14:00	B	-13.25		
ICSAB	10/31/95	14:00	SN	-148.01		
ICSAB	10/31/95	14:00	TIME	8000000		
ICSAB	10/31/95	15:44	AL	478936.8	500000	95.79%
ICSAB	10/31/95	15:44	SB	-14.59		
ICSAB	10/31/95	15:44	AS	-247.4		
ICSAB	10/31/95	15:44	BA	452.87	500	90.57%
ICSAB	10/31/95	15:44	BE	449.41	500	89.88%
ICSAB	10/31/95	15:44	CD	859.68	1000	85.97%
ICSAB	10/31/95	15:44	CA	481868.5	500000	96.37%
ICSAB	10/31/95	15:44	CR	455.42	500	91.08%
ICSAB	10/31/95	15:44	CO	459.34	500	91.87%
ICSAB	10/31/95	15:44	CU	465.26	500	93.05%
ICSAB	10/31/95	15:44	FE	180801	200000	90.40%
ICSAB	10/31/95	15:44	PB	800.75	1000	80.08%
ICSAB	10/31/95	15:44	MG	475386.8	500000	95.08%
ICSAB	10/31/95	15:44	MN	460.24	500	92.05%
ICSAB	10/31/95	15:44	NI	849.81	1000	84.98%
ICSAB	10/31/95	15:44	K	-473.72		
ICSAB	10/31/95	15:44	SE	-70.91		
ICSAB	10/31/95	15:44	AG	889.48	1000	88.95%
ICSAB	10/31/95	15:44	NA	-27.49		
ICSAB	10/31/95	15:44	TL	-255.73		
ICSAB	10/31/95	15:44	V	470.43	500	94.09%
ICSAB	10/31/95	15:44	ZN	908.91	1000	90.89%
ICSAB	10/31/95	15:44	B	-8.88		
ICSAB	10/31/95	15:44	SN	-149.24		
ICSAB	10/31/95	15:44	TIME	8000000		
ICSAB	10/31/95	17:03	AL	499356.2	500000	99.87%
ICSAB	10/31/95	17:03	SB	-19.74		
ICSAB	10/31/95	17:03	AS	45.01		
ICSAB	10/31/95	17:03	BA	481.9	500	96.38%
ICSAB	10/31/95	17:03	BE	460.49	500	92.10%
ICSAB	10/31/95	17:03	CD	901.21	1000	90.12%
ICSAB	10/31/95	17:03	CA	491376.6	500000	98.28%
ICSAB	10/31/95	17:03	CR	475.39	500	95.08%

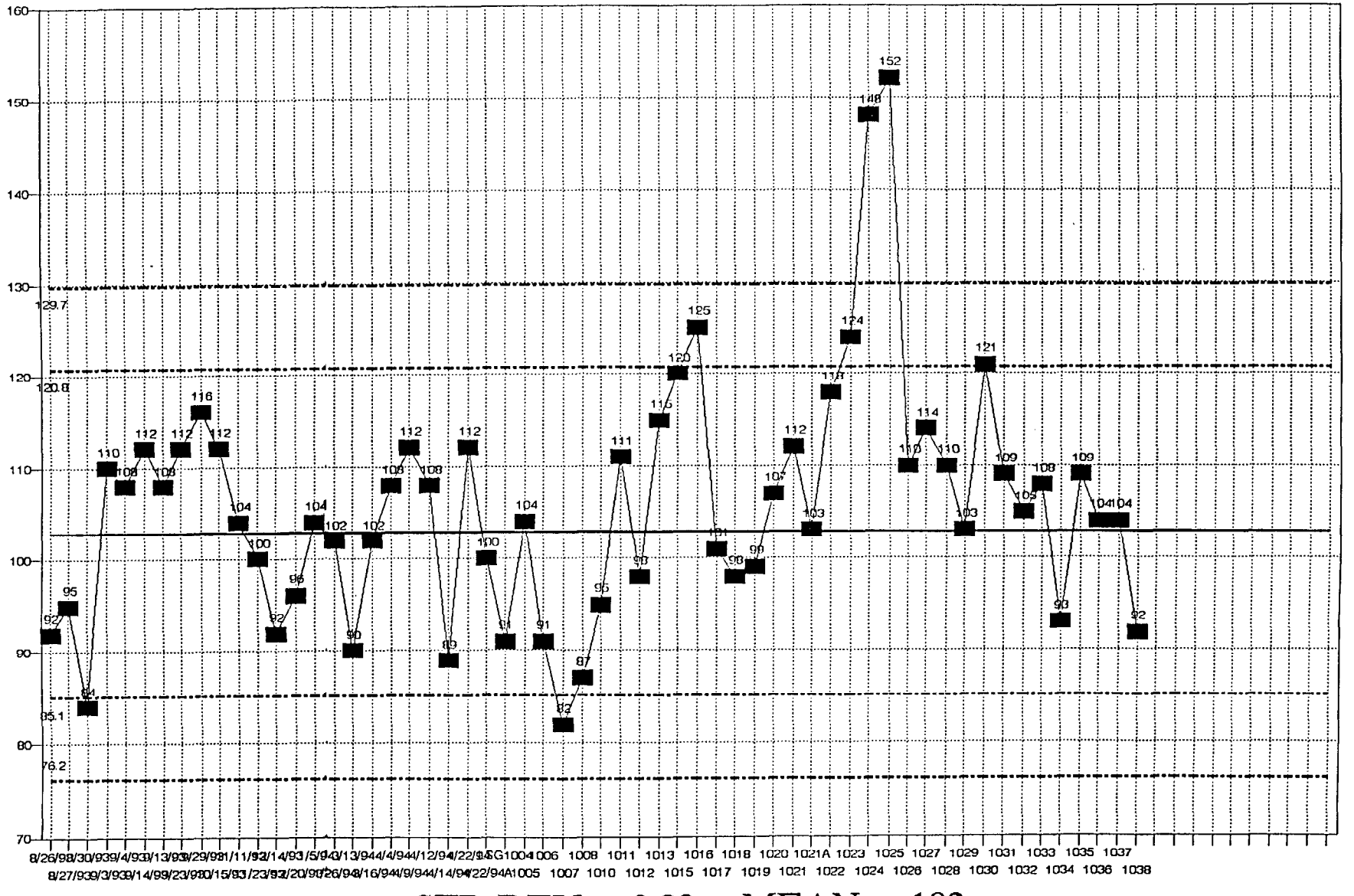
ICSAB	10/31/95	17:03	CO	472.58	500	94.52%
ICSAB	10/31/95	17:03	CU	493.2	500	98.64%
ICSAB	10/31/95	17:03	FE	184257.2	200000	92.13%
ICSAB	10/31/95	17:03	PB	913.06	1000	91.31%
ICSAB	10/31/95	17:03	MG	494448	500000	98.89%
ICSAB	10/31/95	17:03	MN	481.57	500	96.31%
ICSAB	10/31/95	17:03	NI	891	1000	89.10%
ICSAB	10/31/95	17:03	K	-492.39		
ICSAB	10/31/95	17:03	SE	-111.02		
ICSAB	10/31/95	17:03	AG	933.87	1000	93.39%
ICSAB	10/31/95	17:03	NA	15.47		
ICSAB	10/31/95	17:03	TL	-211.09		
ICSAB	10/31/95	17:03	V	485.3	500	97.06%
ICSAB	10/31/95	17:03	ZN	943.79	1000	94.38%
ICSAB	10/31/95	17:03	B	-3.59		
ICSAB	10/31/95	17:03	SN	-157.94		
ICSAB	10/31/95	17:03	TIME	8000000		
ICSAB	10/31/95	18:49	AL	526292.4	500000	105.26%
ICSAB	10/31/95	18:49	SB	-21.6		
ICSAB	10/31/95	18:49	AS	26.87		
ICSAB	10/31/95	18:49	BA	515.83	500	103.17%
ICSAB	10/31/95	18:49	BE	496.2	500	99.24%
ICSAB	10/31/95	18:49	CD	942.61	1000	94.26%
ICSAB	10/31/95	18:49	CA	519894.4	500000	103.98%
ICSAB	10/31/95	18:49	CR	504.09	500	100.82%
ICSAB	10/31/95	18:49	CO	501.38	500	100.28%
ICSAB	10/31/95	18:49	CU	522.86	500	104.57%
ICSAB	10/31/95	18:49	FE	196474.1	200000	98.24%
ICSAB	10/31/95	18:49	PB	945.24	1000	94.52%
ICSAB	10/31/95	18:49	MG	520579.5	500000	104.12%
ICSAB	10/31/95	18:49	MN	511.7	500	102.34%
ICSAB	10/31/95	18:49	NI	952.14	1000	95.21%
ICSAB	10/31/95	18:49	K	-708.16		
ICSAB	10/31/95	18:49	SE	-112.4		
ICSAB	10/31/95	18:49	AG	981.4	1000	98.14%
ICSAB	10/31/95	18:49	NA	-12.03		
ICSAB	10/31/95	18:49	TL	-234.1		
ICSAB	10/31/95	18:49	V	519.09	500	103.82%
ICSAB	10/31/95	18:49	ZN	995.15	1000	99.52%
ICSAB	10/31/95	18:49	B	-9.44		
ICSAB	10/31/95	18:49	SN	-160.21		
ICSAB	10/31/95	18:49	TIME	8000000		
ICV	10/31/95	13:39	AL	994.84	1000	99.48%
ICV	10/31/95	13:39	SB	1012.66	1000	101.27%
ICV	10/31/95	13:39	AS	997.47	1000	99.75%
ICV	10/31/95	13:39	BA	989.59	1000	98.96%
ICV	10/31/95	13:39	BE	401.28	400	100.32%
ICV	10/31/95	13:39	CD	482.29	500	96.46%
ICV	10/31/95	13:39	CA	10369.03	10000	103.69%

ICV	10/31/95	13:39	CR	1046.13	1000	104.61%
ICV	10/31/95	13:39	CO	1066.82	1000	106.68%
ICV	10/31/95	13:39	CU	1016.12	1000	101.61%
ICV	10/31/95	13:39	FE	1043.97	1000	104.40%
ICV	10/31/95	13:39	PB	981.64	1000	98.16%
ICV	10/31/95	13:39	MG	10105.55	10000	101.06%
ICV	10/31/95	13:39	MN	1031.2	1000	103.12%
ICV	10/31/95	13:39	NI	1007.9	1000	100.79%
ICV	10/31/95	13:39	K	10045.22	10000	100.45%
ICV	10/31/95	13:39	SE	982.64	1000	98.26%
ICV	10/31/95	13:39	AG	199.1	200	99.55%
ICV	10/31/95	13:39	NA	9801.82	10000	98.02%
ICV	10/31/95	13:39	TL	961.76	1000	96.18%
ICV	10/31/95	13:39	V	1021.89	1000	102.19%
ICV	10/31/95	13:39	ZN	1030.78	1000	103.08%
ICV	10/31/95	13:39	B	0.77		
ICV	10/31/95	13:39	SN	1.18		
ICV	10/31/95	13:39	TIME	8000000		

HG1031A.TXT
PE02
RUN QC

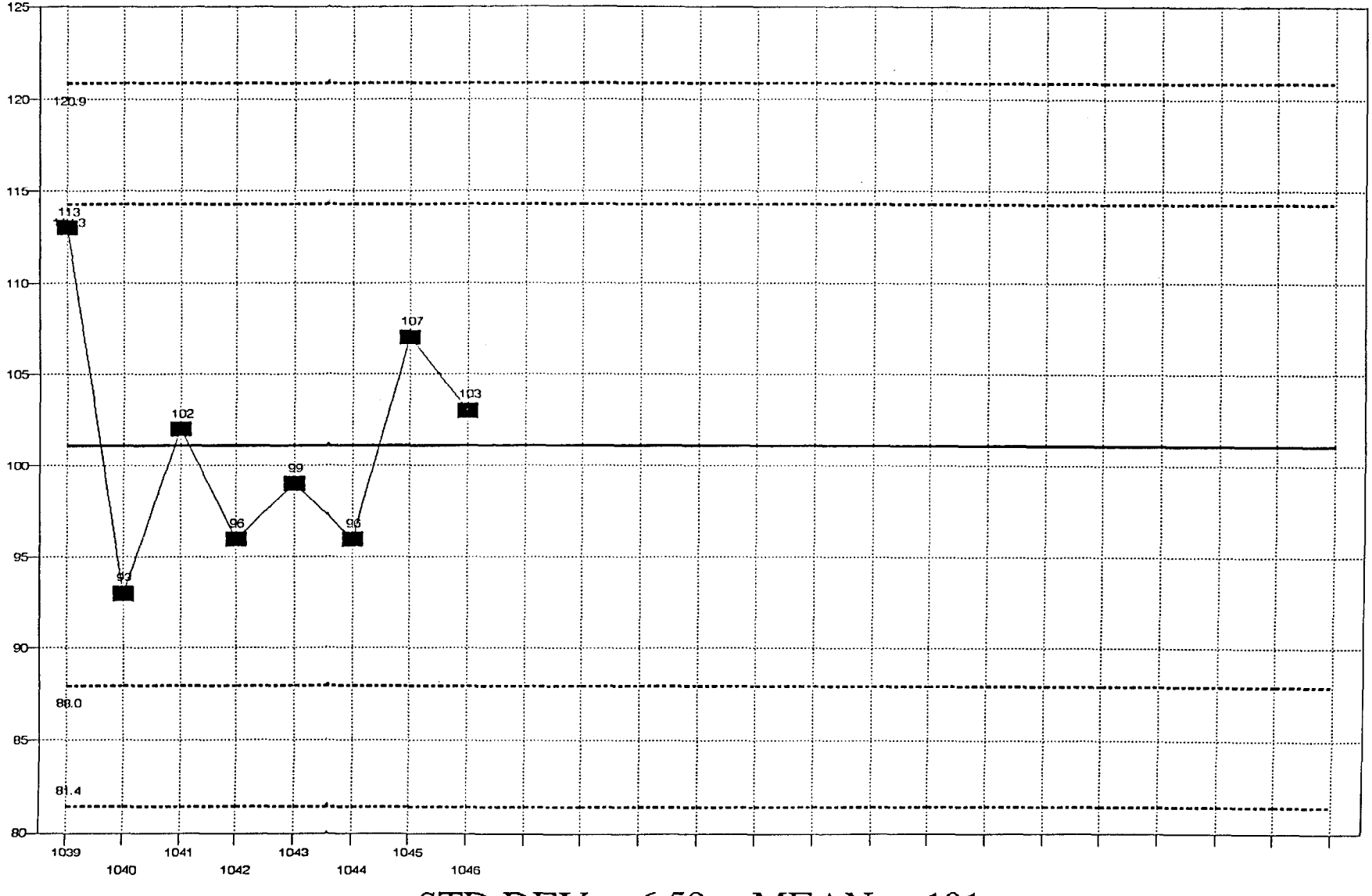
QC	DATE	TIME	METAL	RESULT UG/L	TRUE	RECOVERY
CCB	10/31/95	12:23	Hg	0.17		
CCB	10/31/95	13:10	Hg	-0.03		
CCB	10/31/95	13:22	Hg	0.01		
CCB	10/31/95	13:42	Hg	-0.08		
CCV	10/31/95	12:20	Hg	4.84	5.00	96.80%
CCV	10/31/95	13:07	Hg	5.1	5.00	102.00%
CCV	10/31/95	13:19	Hg	5.06	5.00	101.20%
CCV	10/31/95	13:40	Hg	5	5.00	100.00%
ICB	10/31/95	11:48	Hg	0.14		
ICB	10/31/95	12:35	Hg	-0.06		
ICV	10/31/95	11:45	Hg	4.02	4.00	100.50%
ICV	10/31/95	12:32	Hg	4	4.00	100.00%

GRO SOLID LCS RECOVERIES GC07
LIMITS SET 4/13/94



STD DEV = 8.93 MEAN = 103

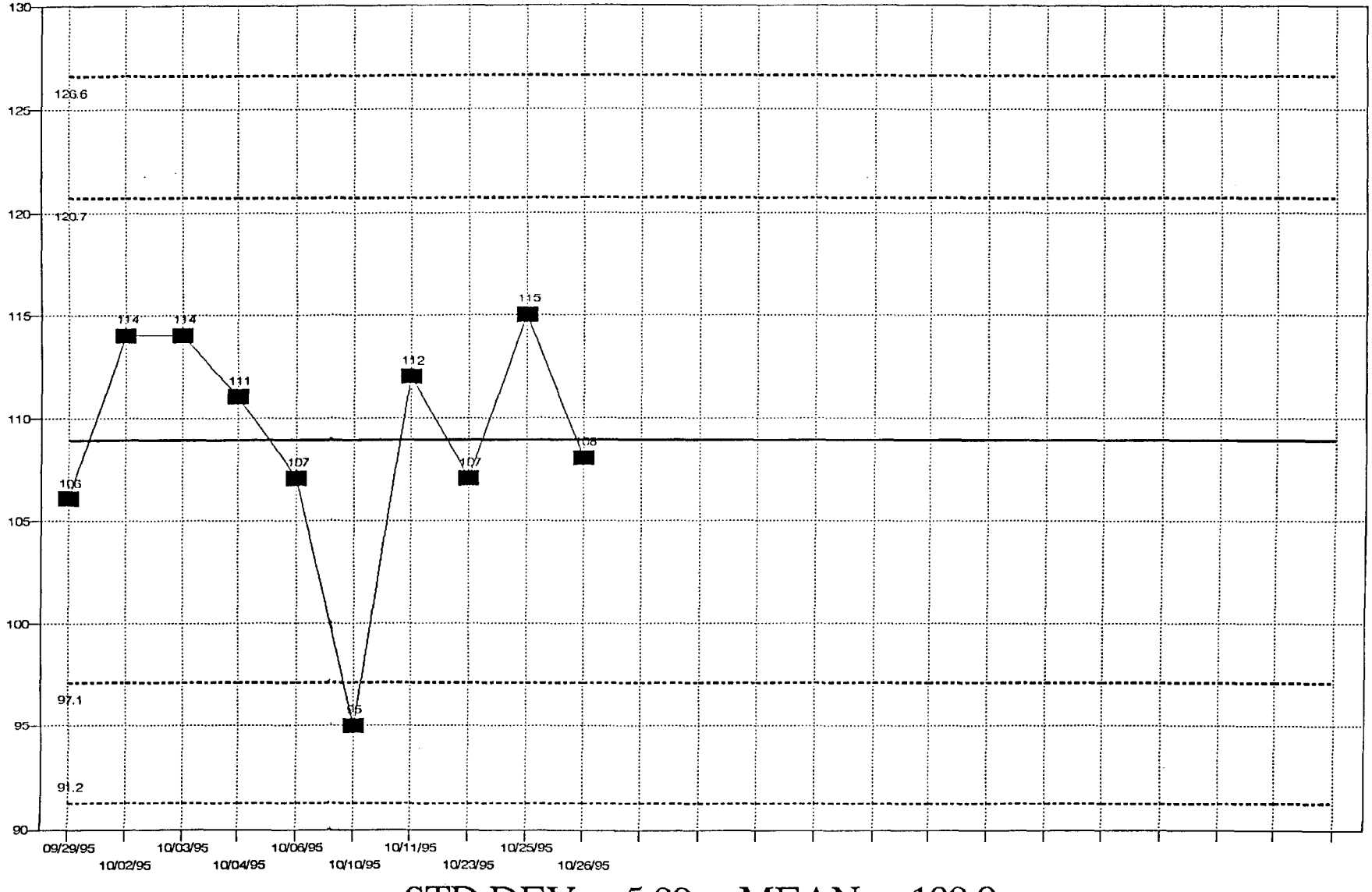
GRO SOLID LCS RECOVERIES GC05
LIMITS SET 10/27/95



STD DEV = 6.58 MEAN = 101

00000079

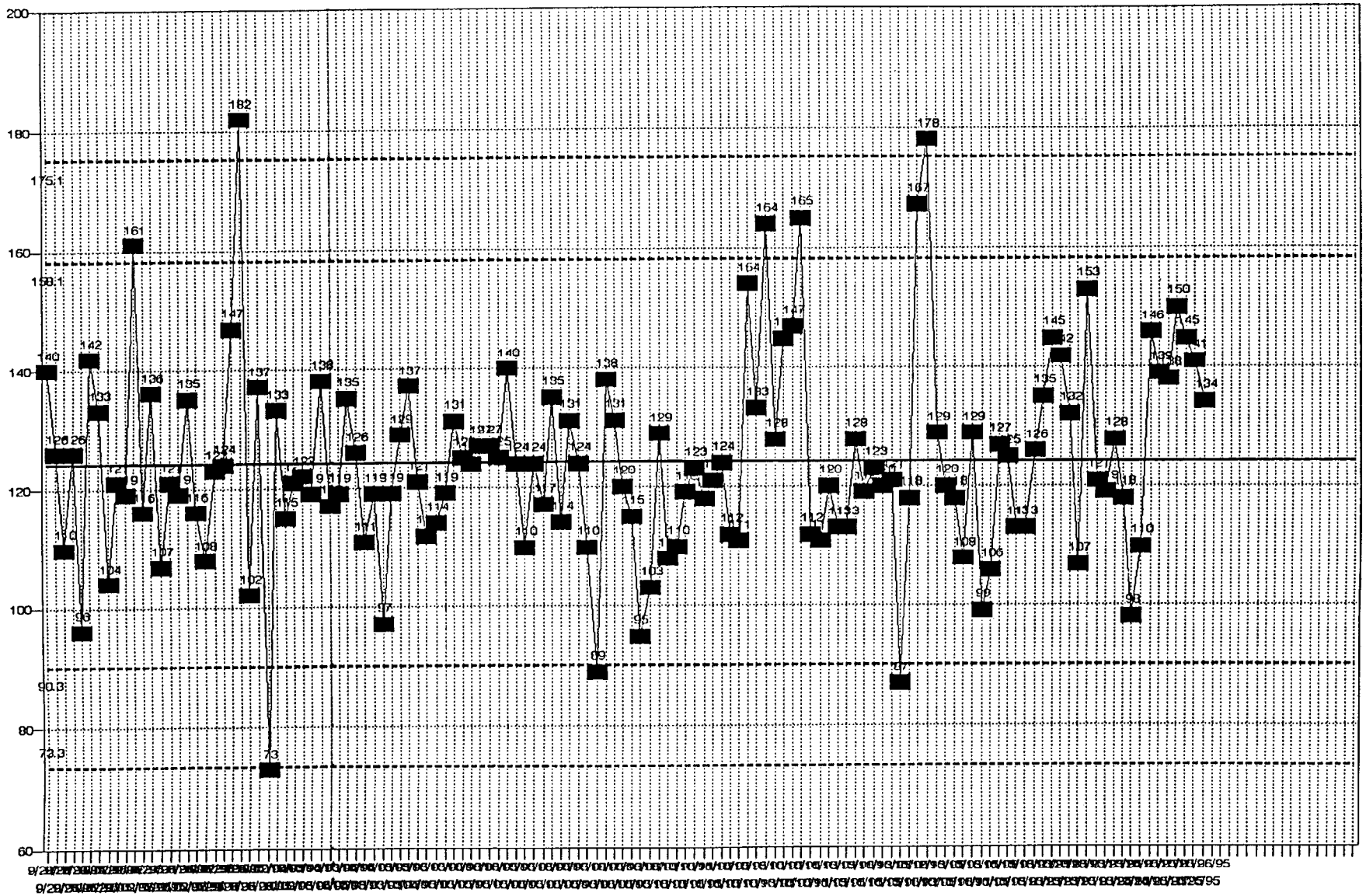
GRO LCS WATER RECOVERIES
LIMITS SET 10/27/95



STD DEV = 5.89 MEAN = 108.9

0800080

GRO SURROGATE RECOVERIES
LIMITS SET 10/27/95

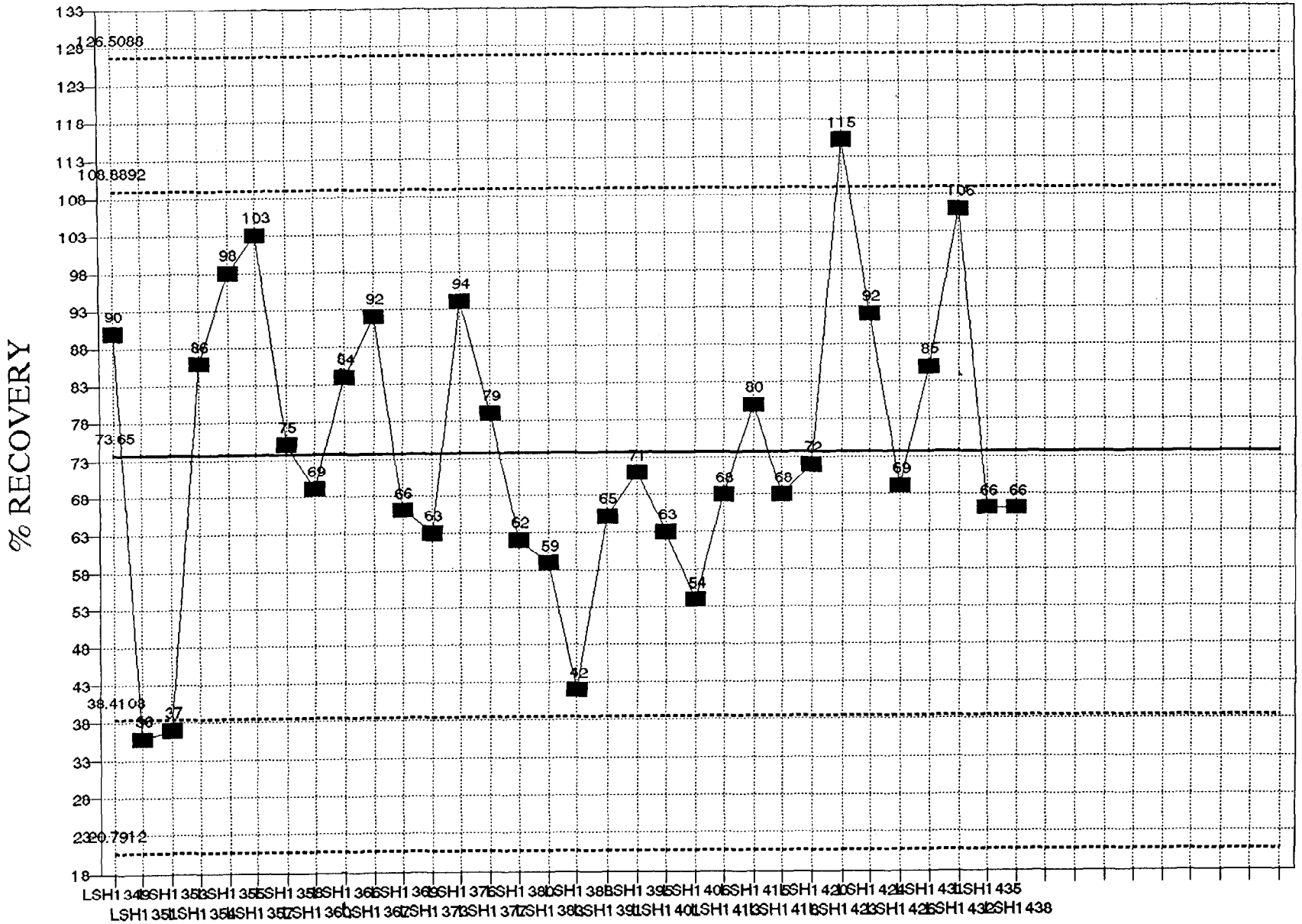


STD DEV = 16.96 MEAN = 124

00000081

PHC LOW SOLIDS - DIESEL

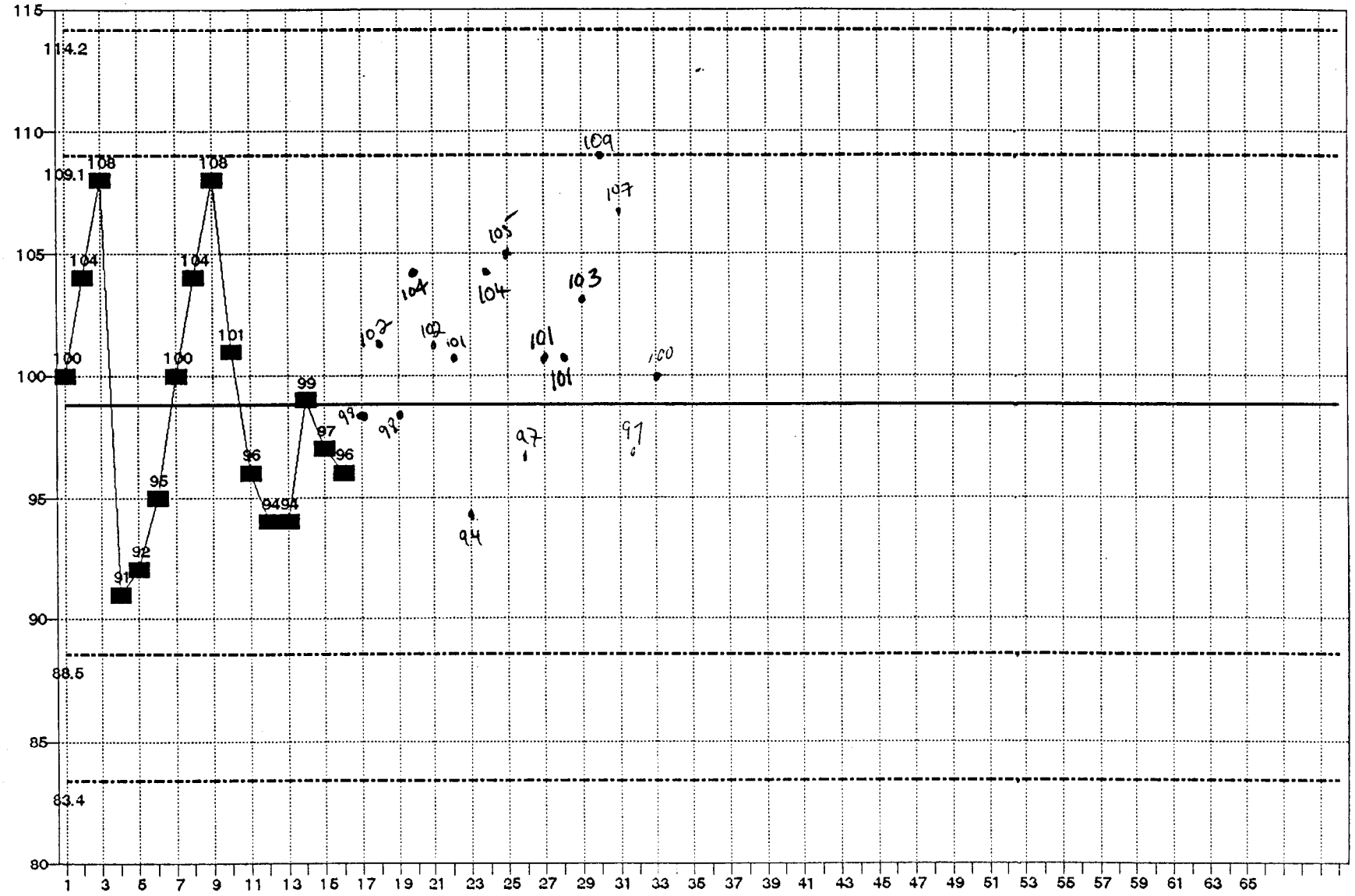
SPK REC LIMS SET6/6/95-PPCBCHT\PHCS1294



MEAN = 73.65 STD DEV = 17.62

00000082

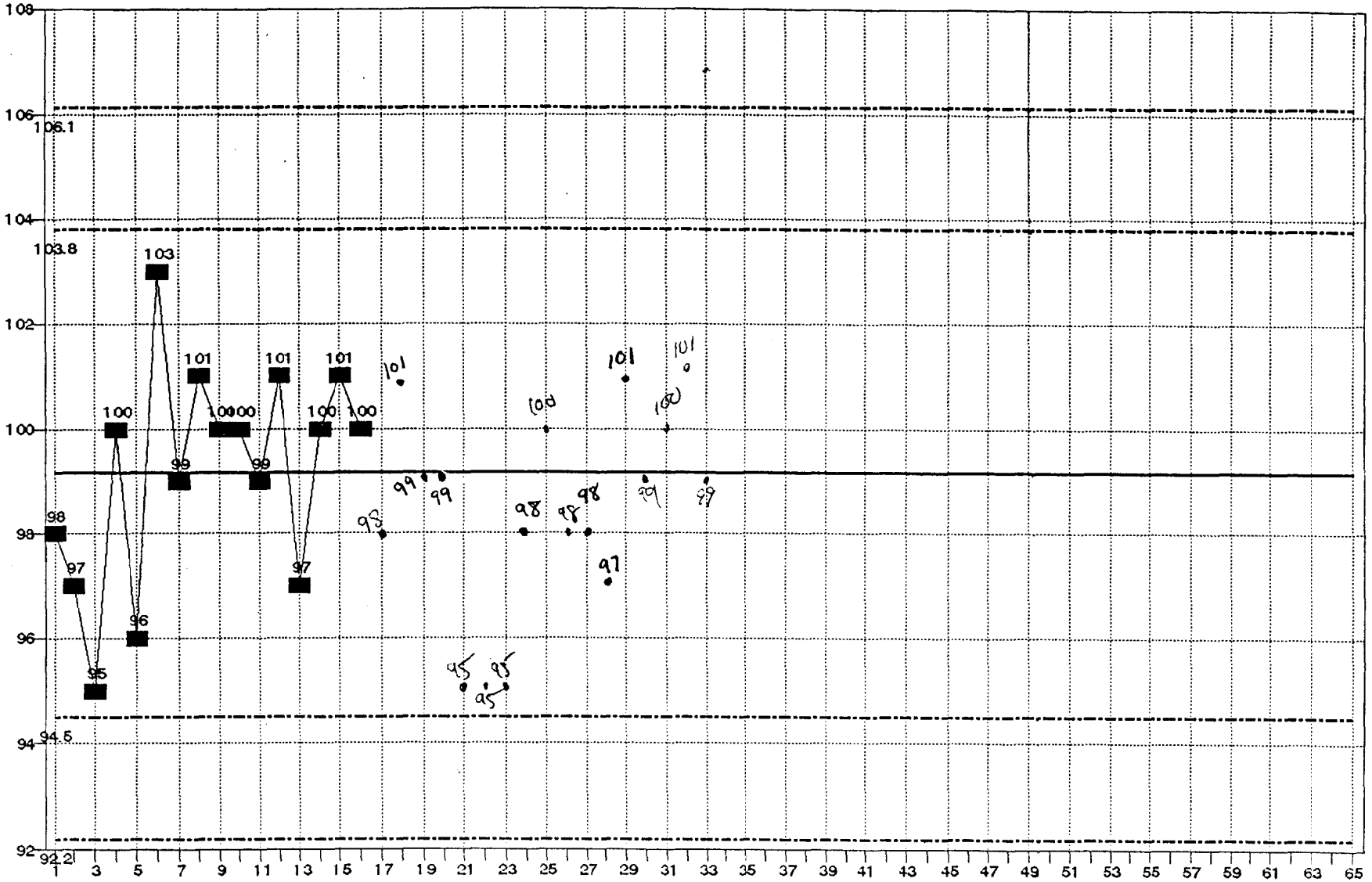
VOA TCLP - SURR DCE
LIMIT SET 7/93



STD DEV = 5.13 MEAN = 98.8

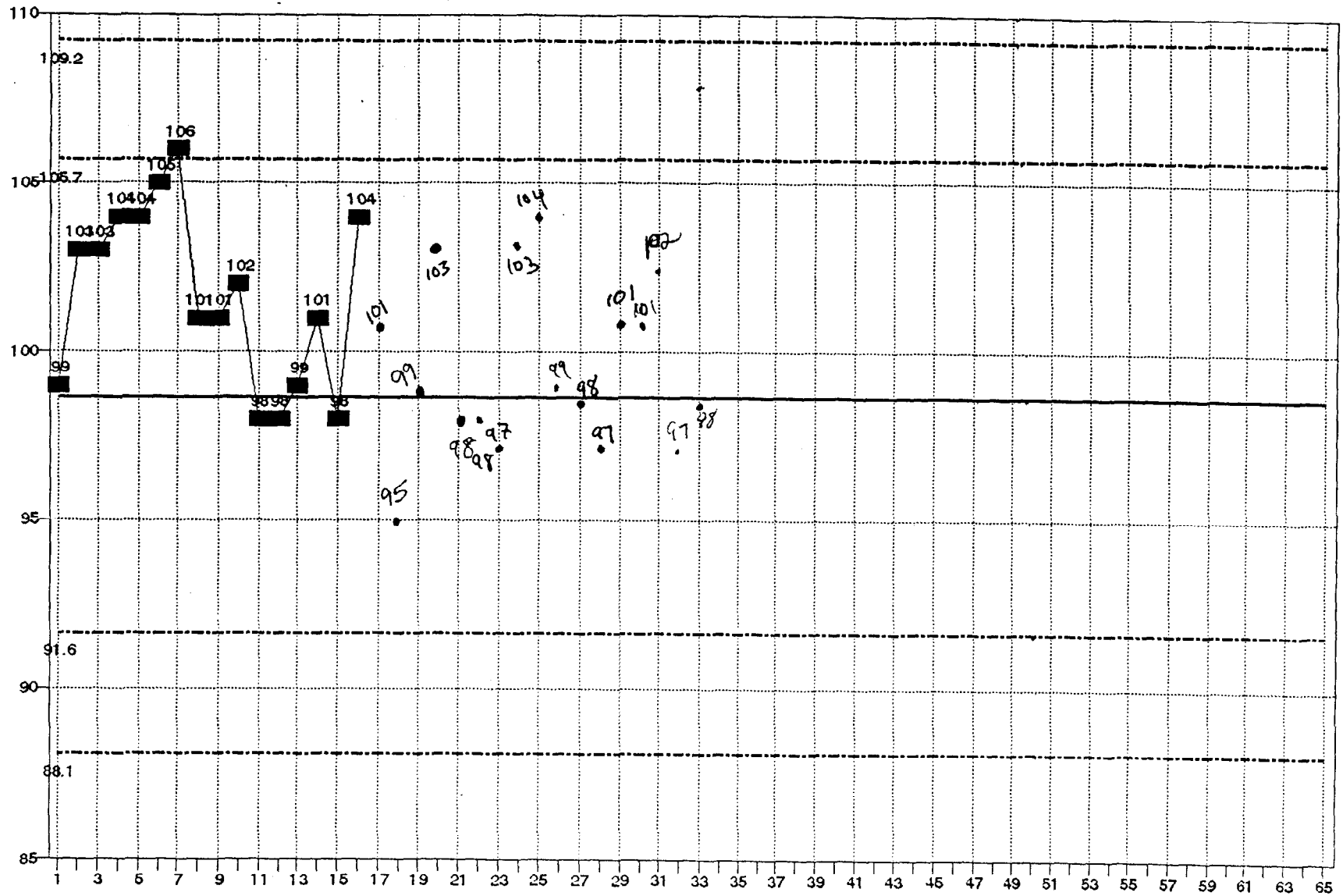
0000083

VOA TCLP - SURR TOL
LIMIT SET 7/93



STD DEV = 2.32 MEAN = 99.1

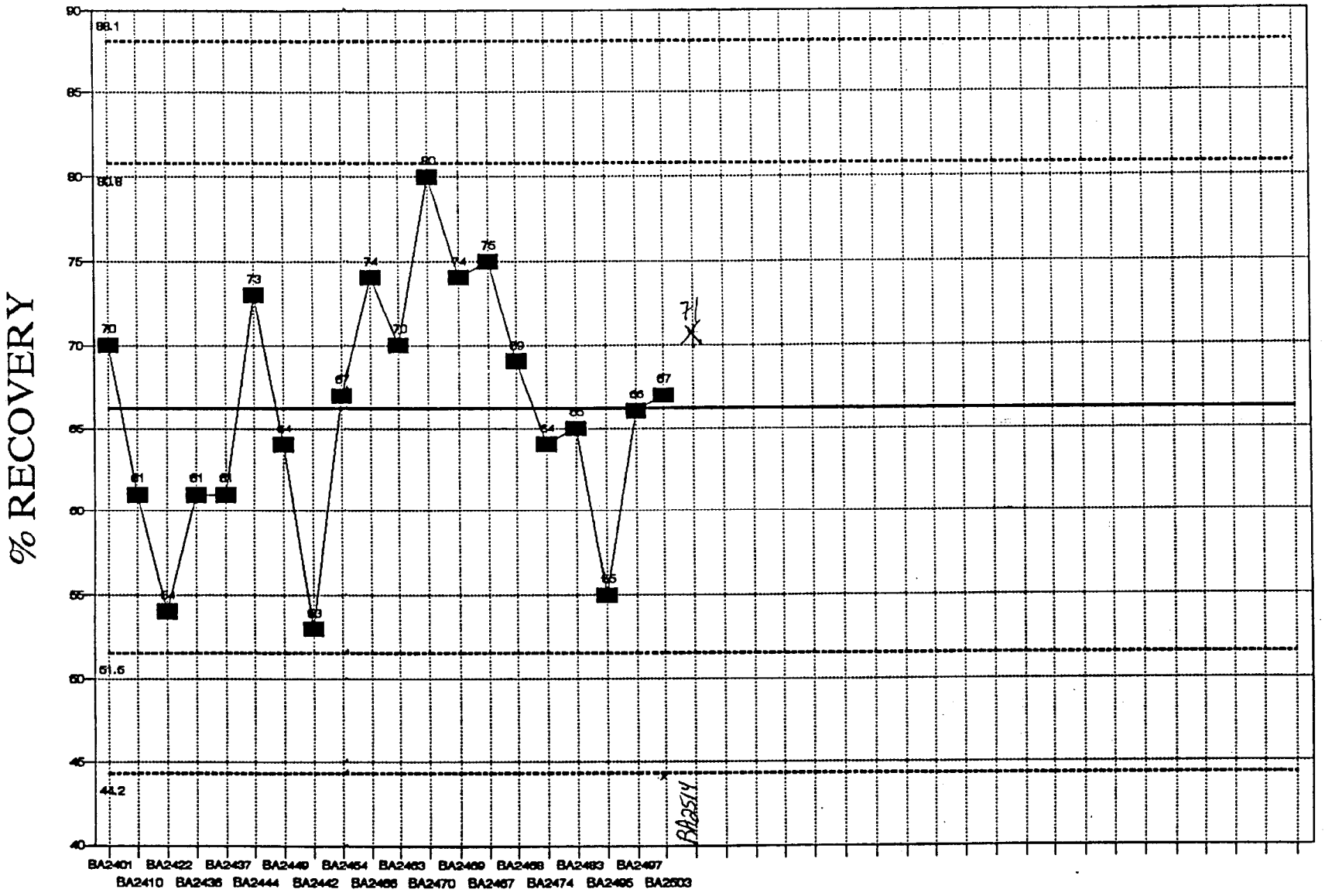
VOA TCLP - SURR BFB
LIMIT SET 7/93



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
30	TCLP BLK 405		10/17/95
31	TCLP BLK403		10/11/95 (107, 100, 102)
32	TCLP BLK404		(97, 101, 97)
33	TCLP BLANK407		(100, 99, 98)

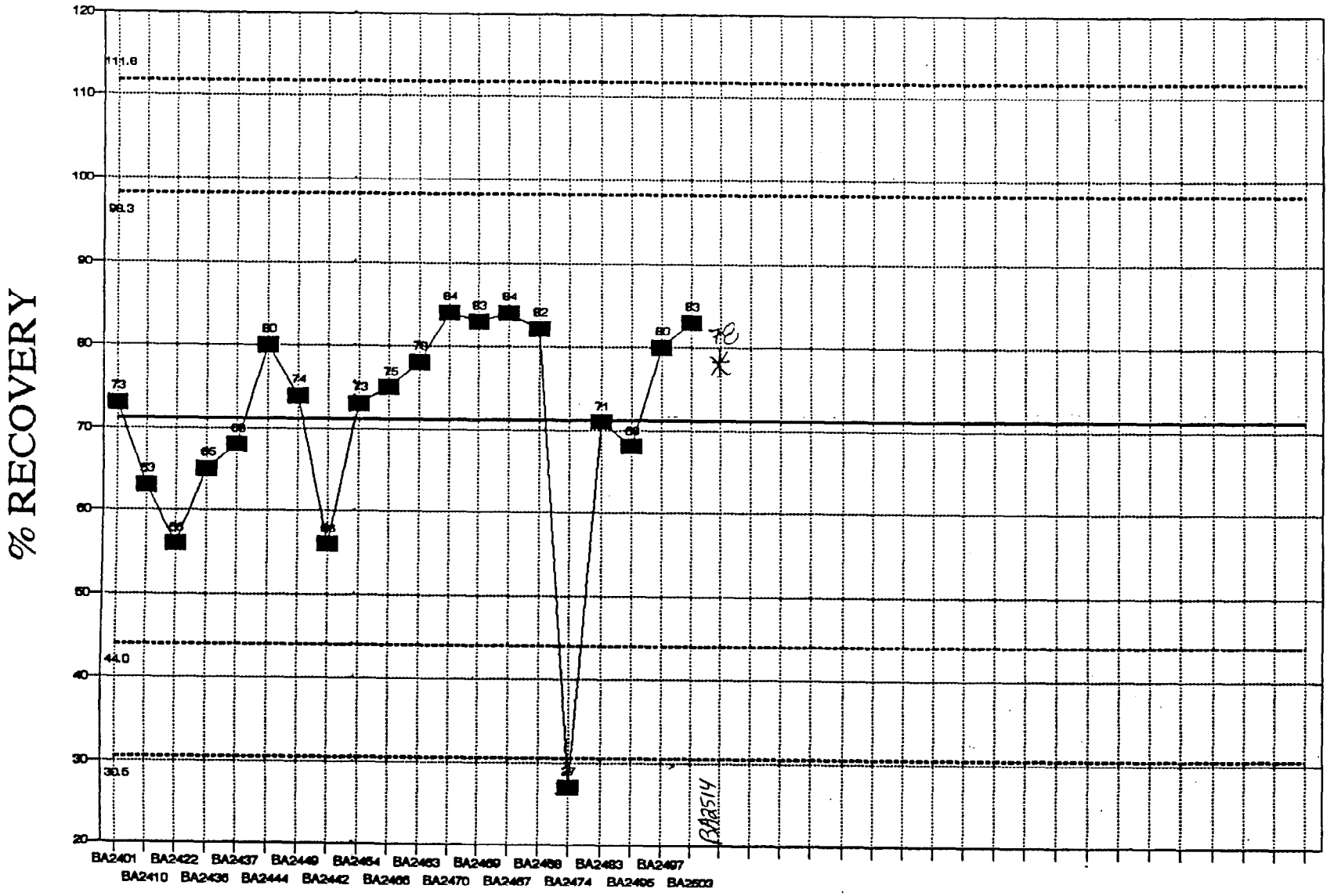
ABN WATER 3520/8270B, 2-FLUOROPHENOL SURR, LIMITS SET 10/95



STD DEV = 7.31 MEAN = 66.2

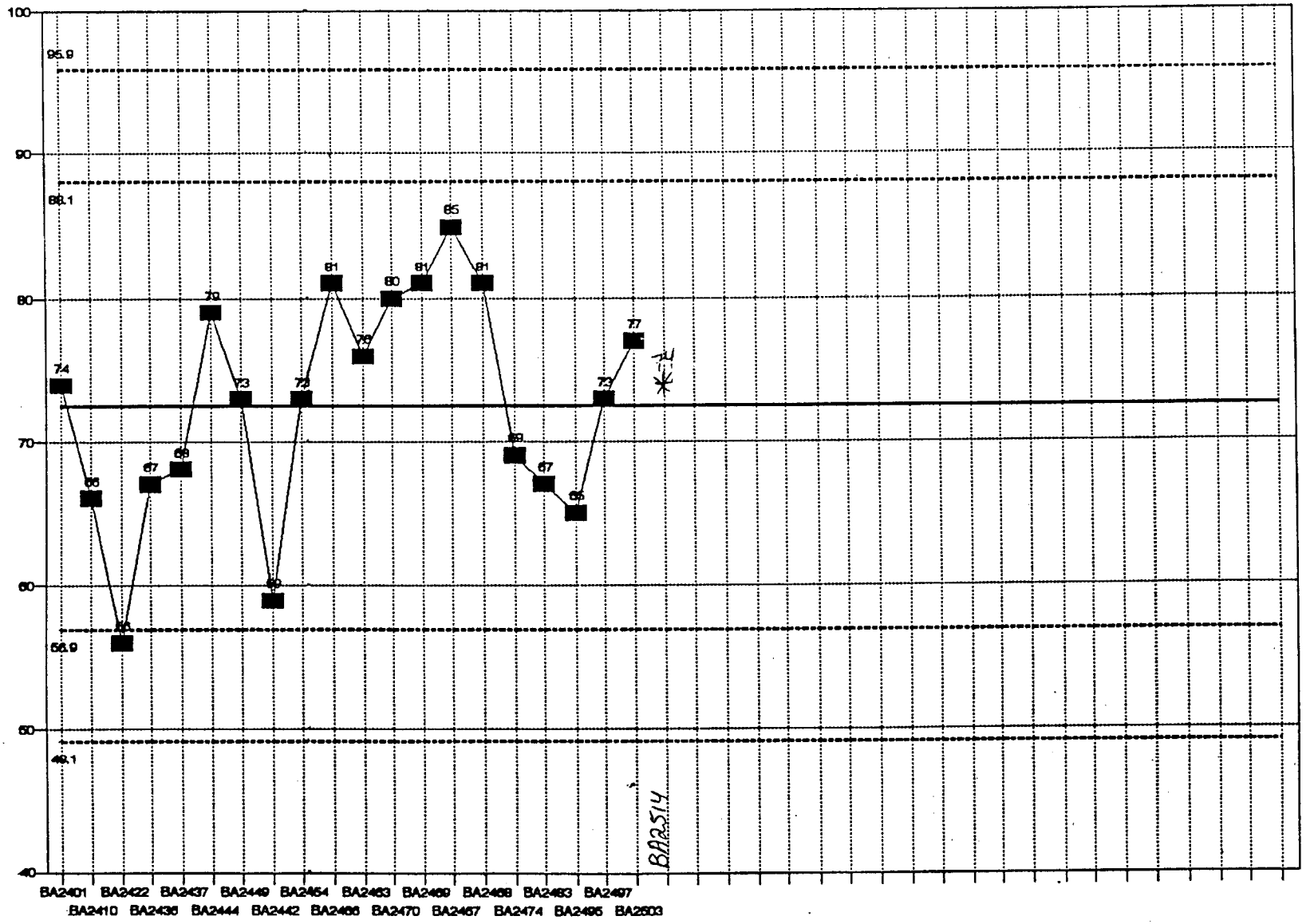
00000087

ABN WATER 3520/8270B, PHENOL-D5
SURR, LIMITS SET 10/95



STD DEV = 13.6 MEAN = 71.2

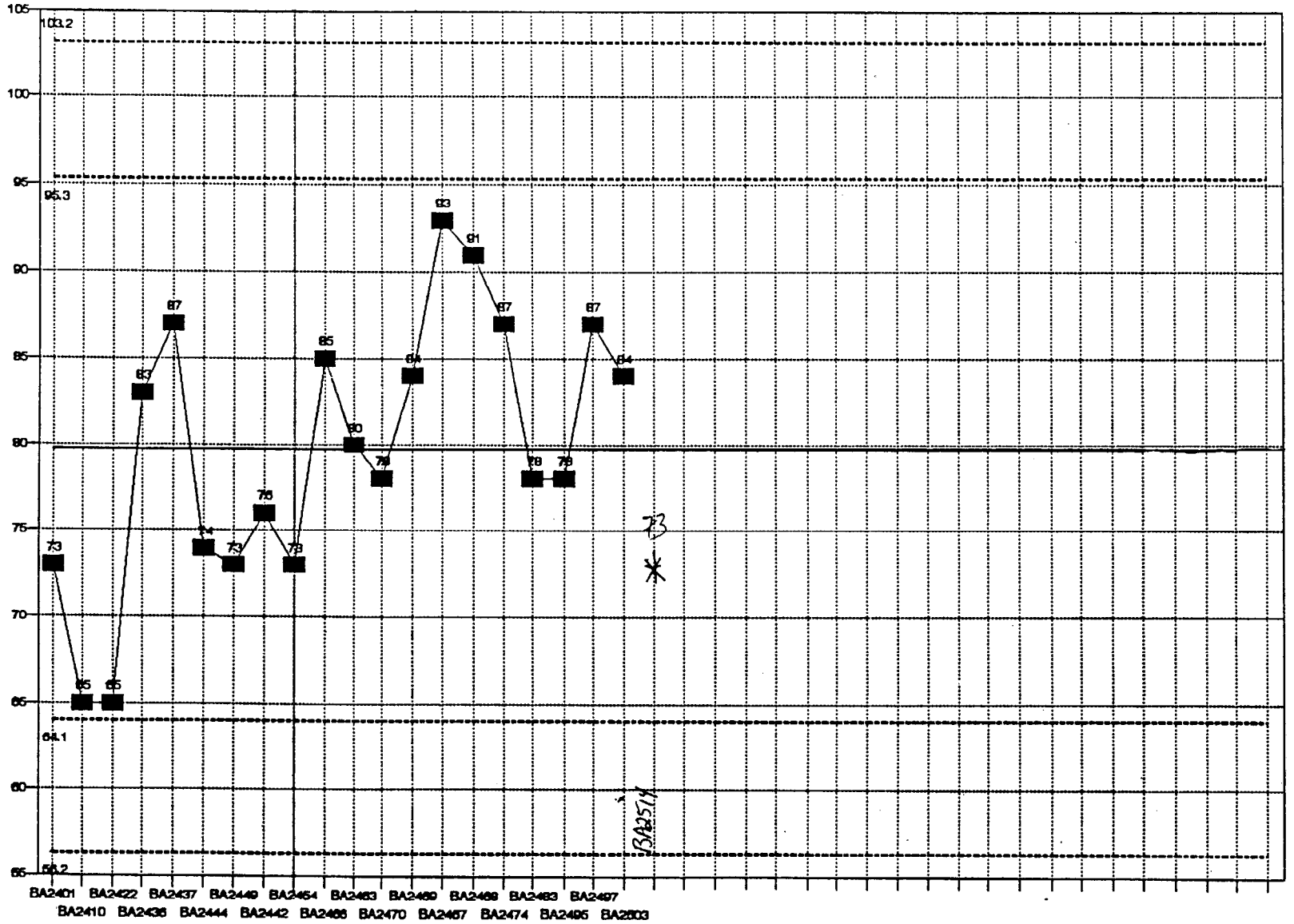
ABN WATER 3520/8270B, 2-CHLOROPHENOL-D4
SURR, LIMITS SET 10/95



STD DEV = 7.79 MEAN = 72.5

6800000

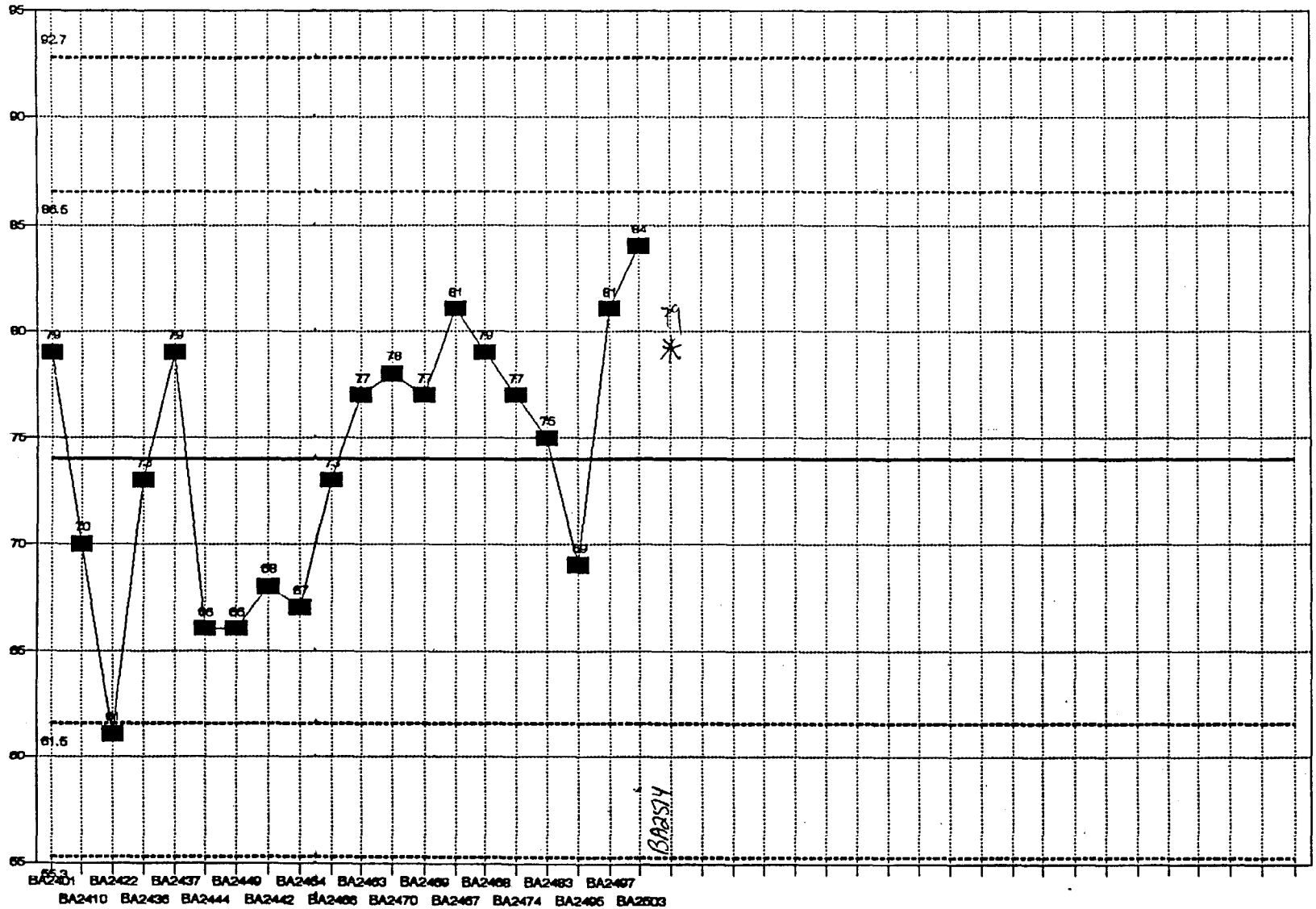
ABN H2O 3520/8270B,1,2-DICHLOROBENZENE-SURR, LIMITS SET 10/95



STD DEV = 7.82 MEAN = 79.7

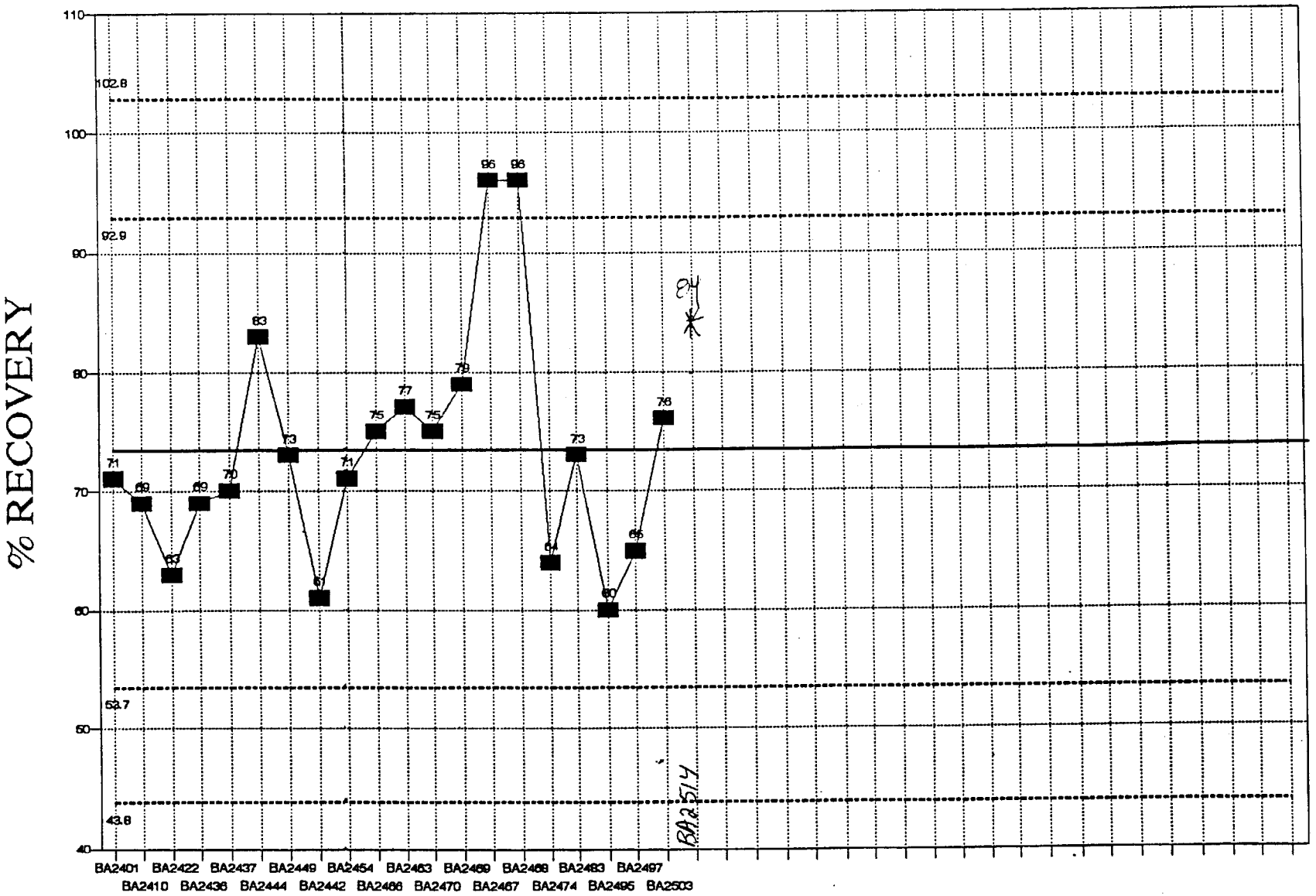
0600000

ABN H2O 3520/8270B, NITROBENZENE-D5
SURR, LIMITS SET 10/95



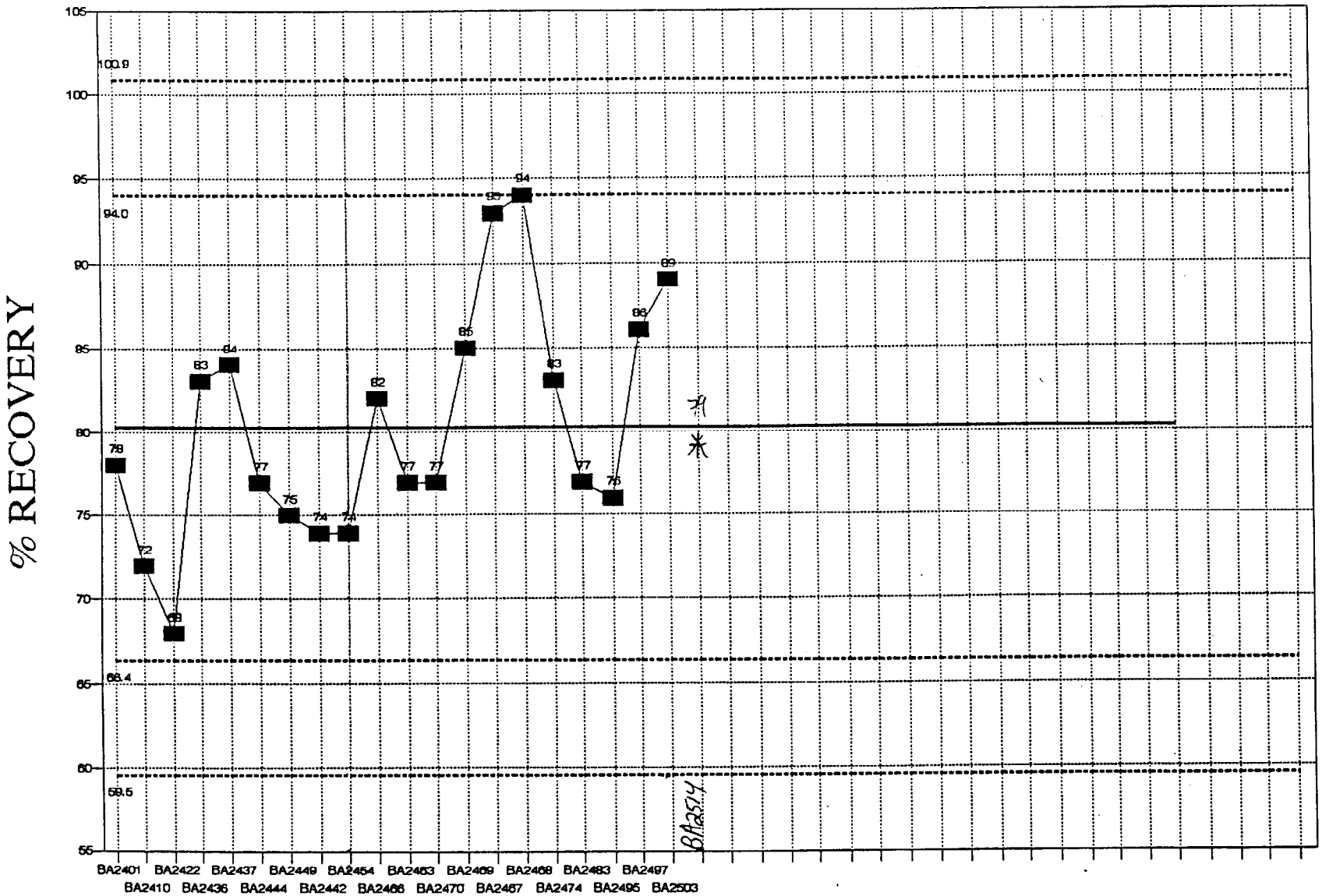
STD DEV = 6.25 MEAN = 74

ABN H2O 3520/8270B,2,4,6-TRIBROMOPHENOL
SURR, LIMITS SET 10/95



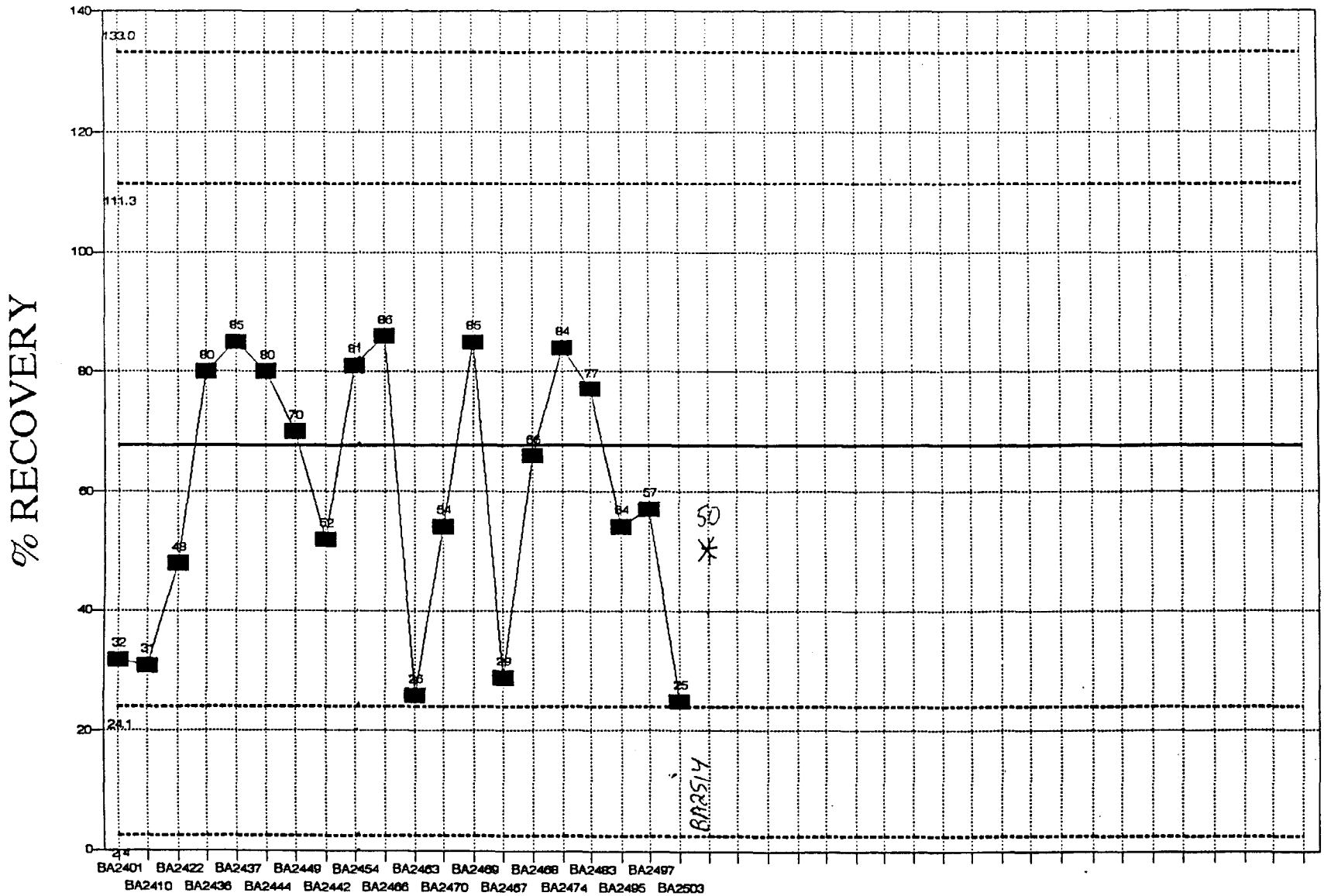
STD DEV = 9.82 MEAN = 73.3

ABN H2O 3520/8270B, 2-FLUOROBIPHENYL SURR, LIMITS SET 10/95



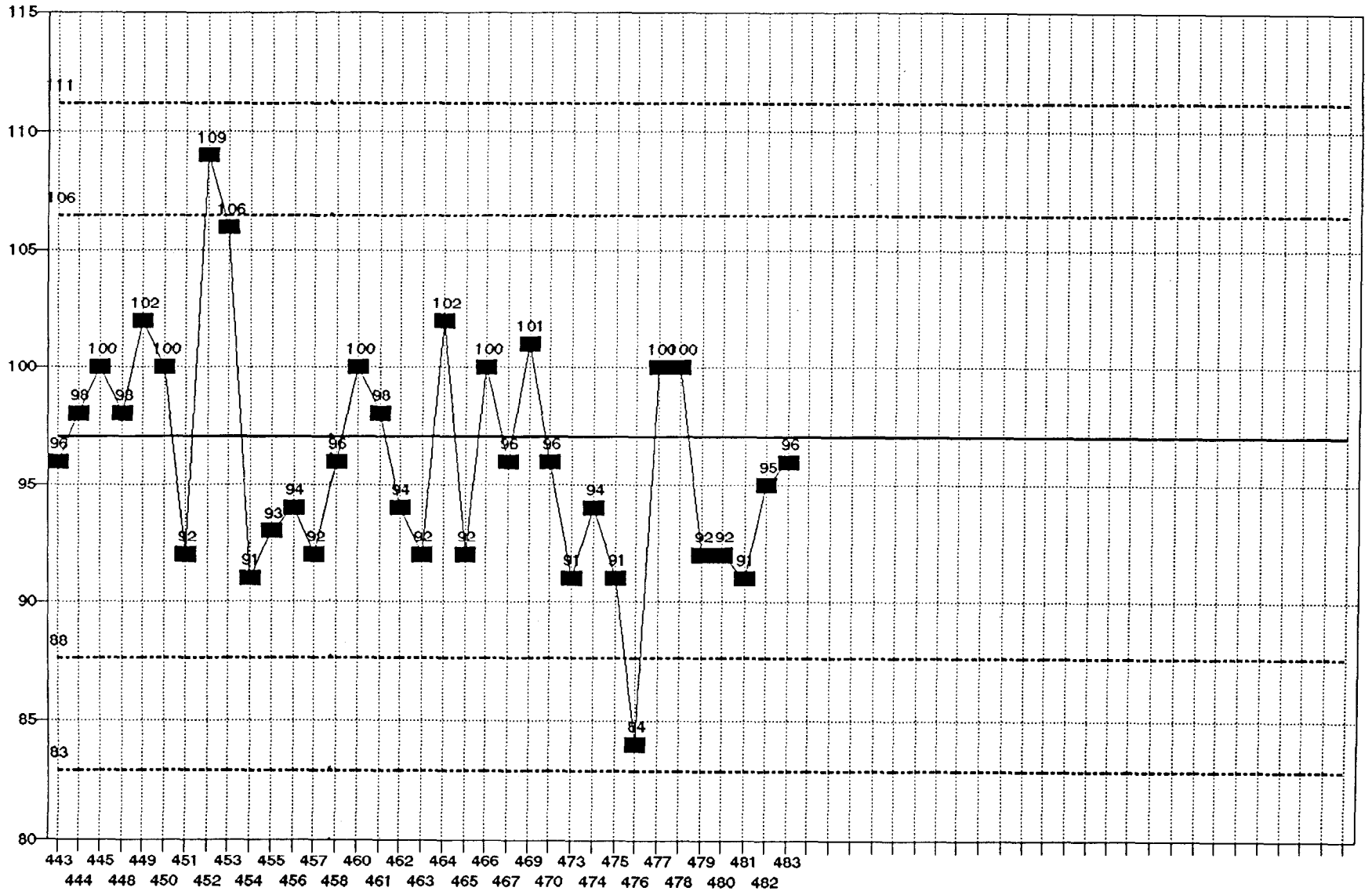
STD DEV = 6.90 MEAN = 80.2

ABN H2O 3520/8270B, TERPHENYL-D14
SURR, LIMITS SET 10/95



STD DEV = 22.3 MEAN = 60.1

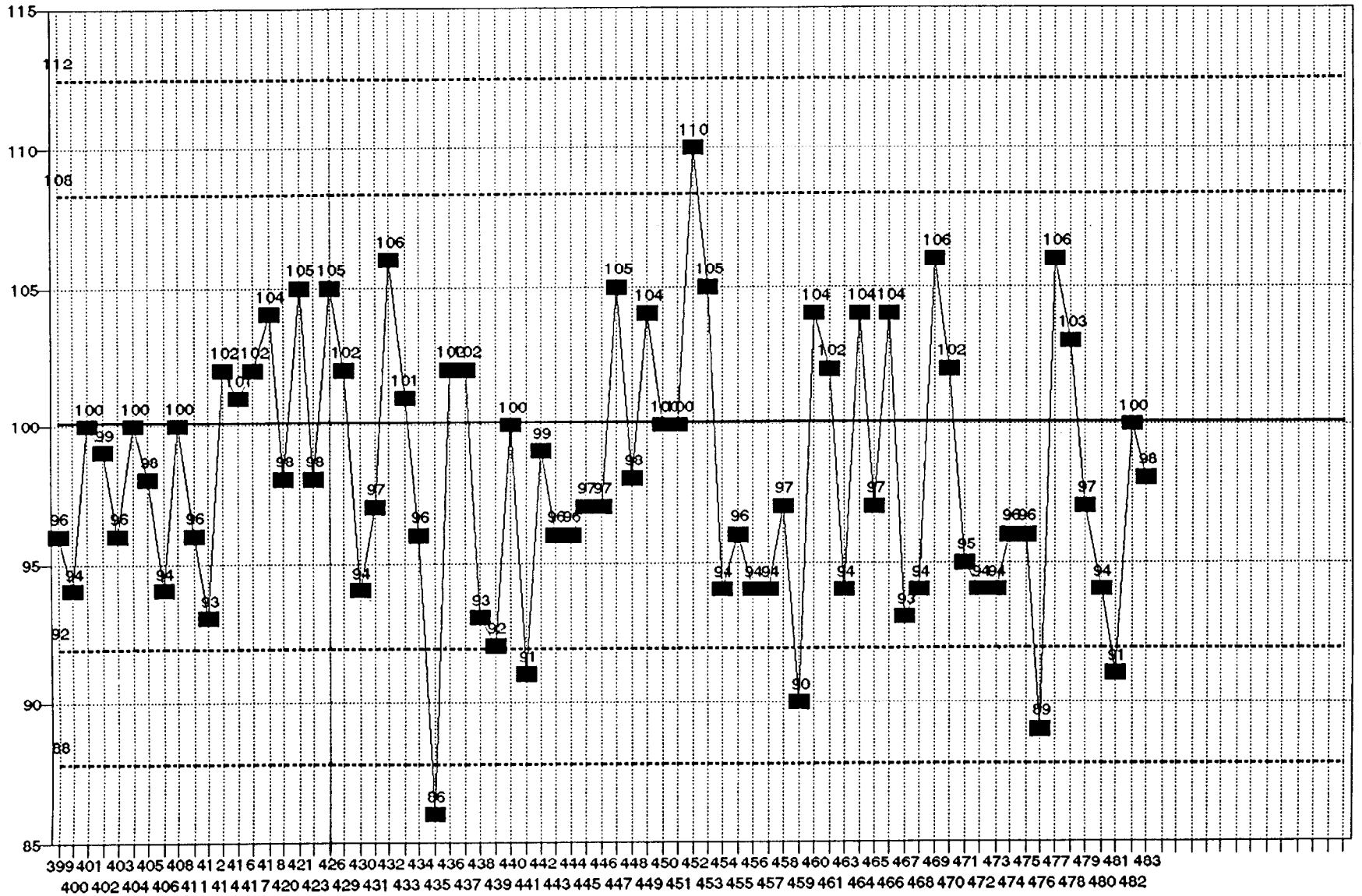
As COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



STD DEV = 5 MEAN = 97

00000095

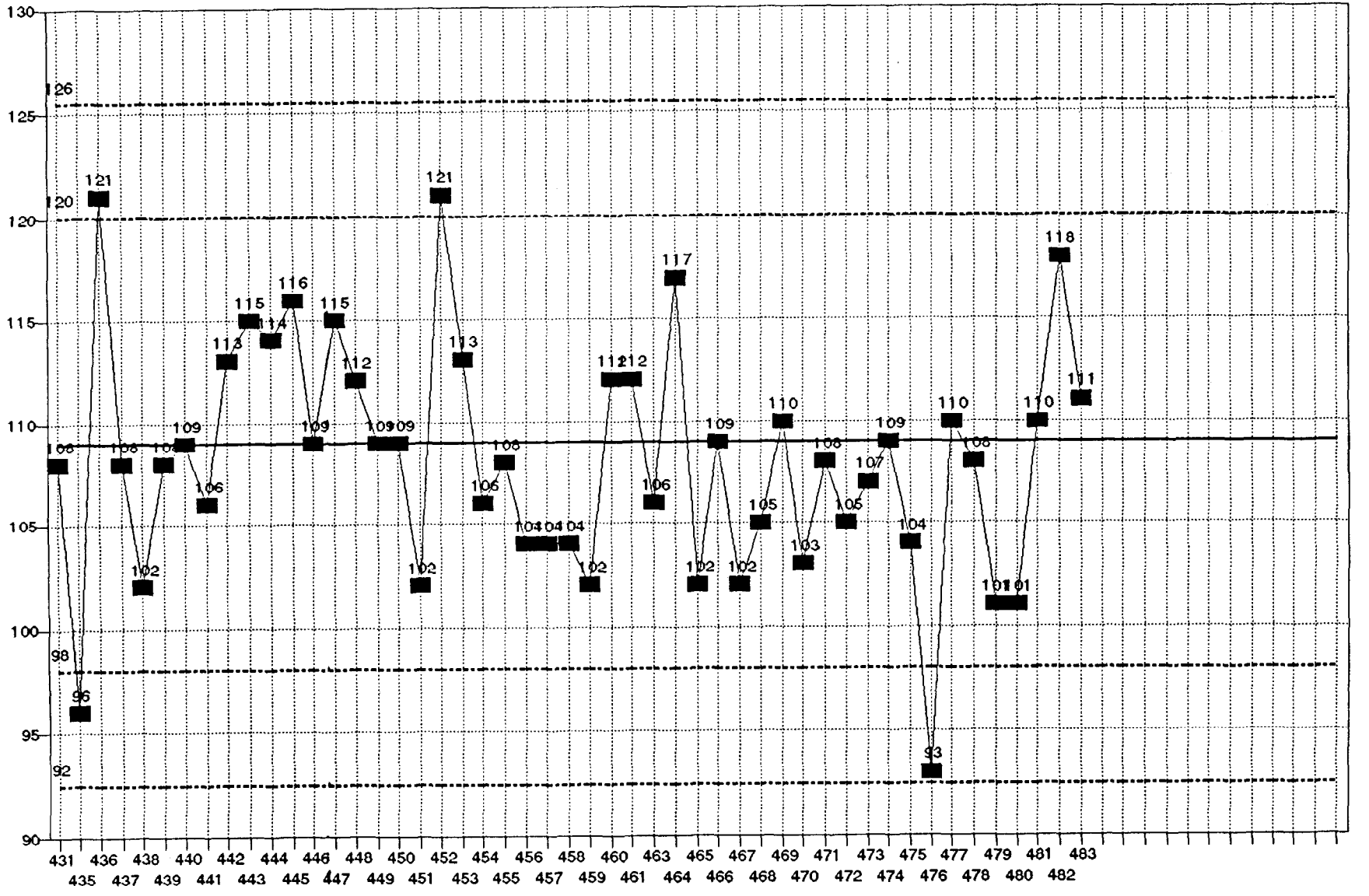
Ba COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 9/95



STD DEV = 4 MEAN = 100

9600000

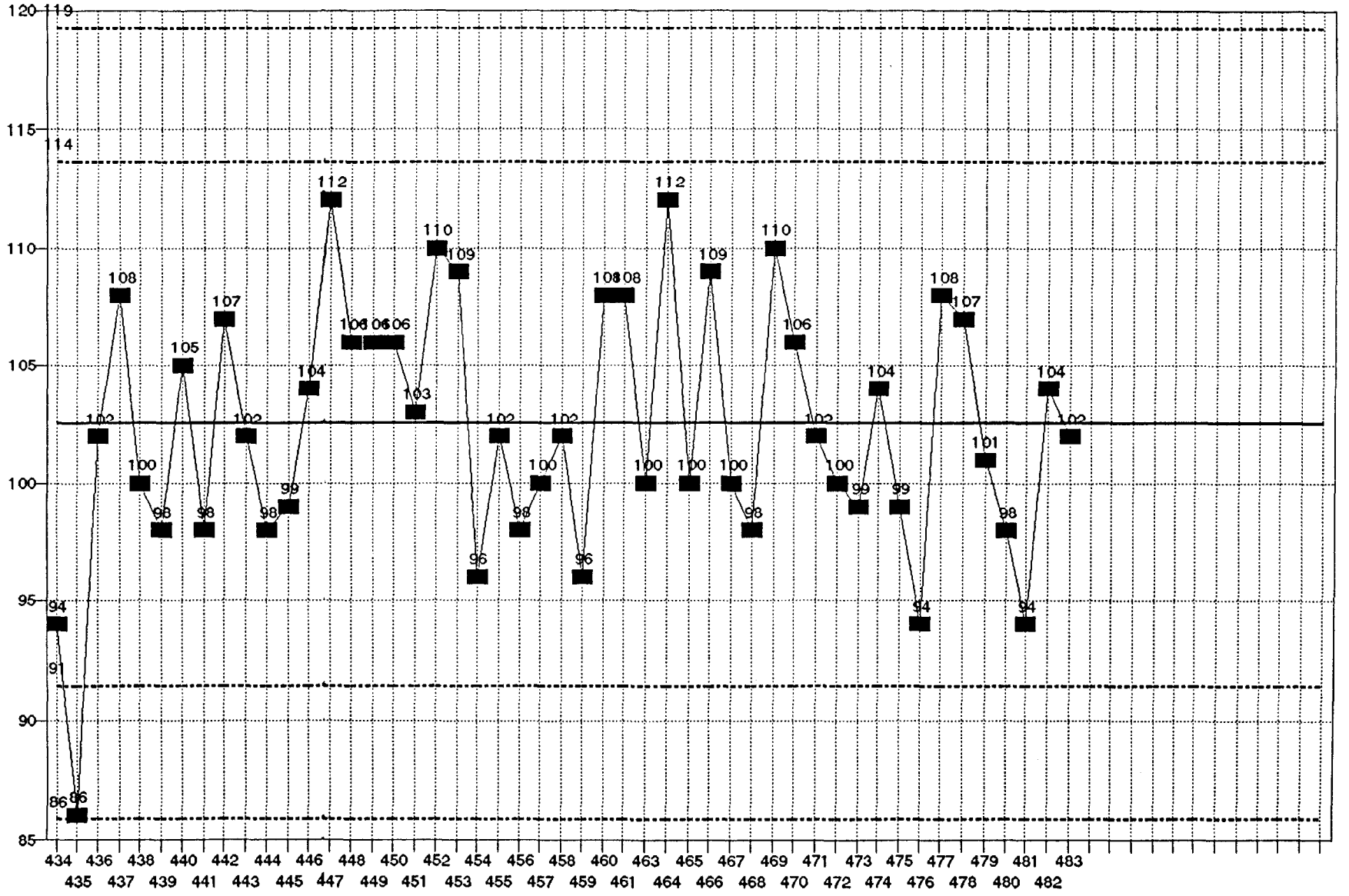
Cd COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 7/95



STD DEV = 5.51 MEAN = 109

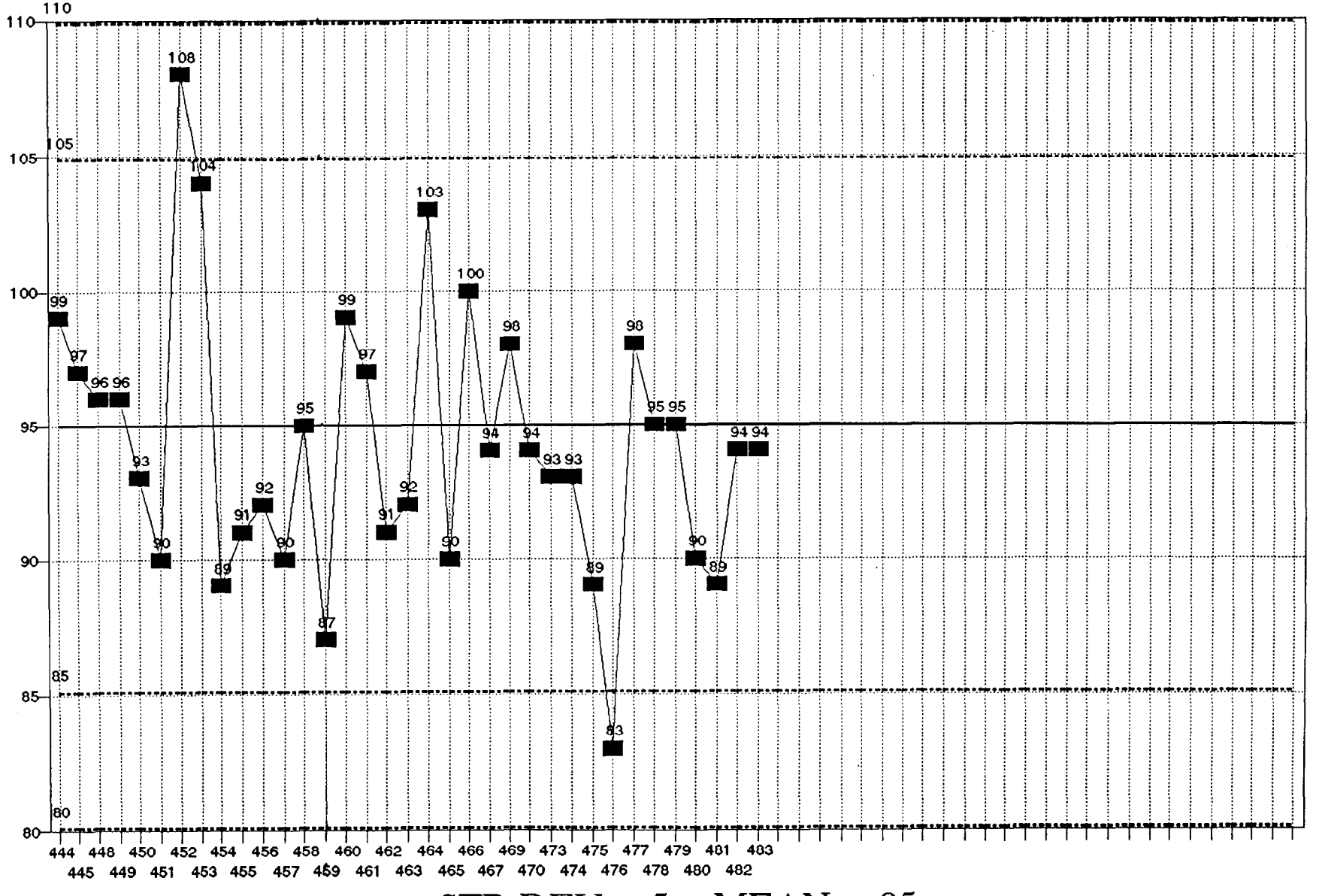
00000097

Cr COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



STD DEV = 6 MEAN = 103

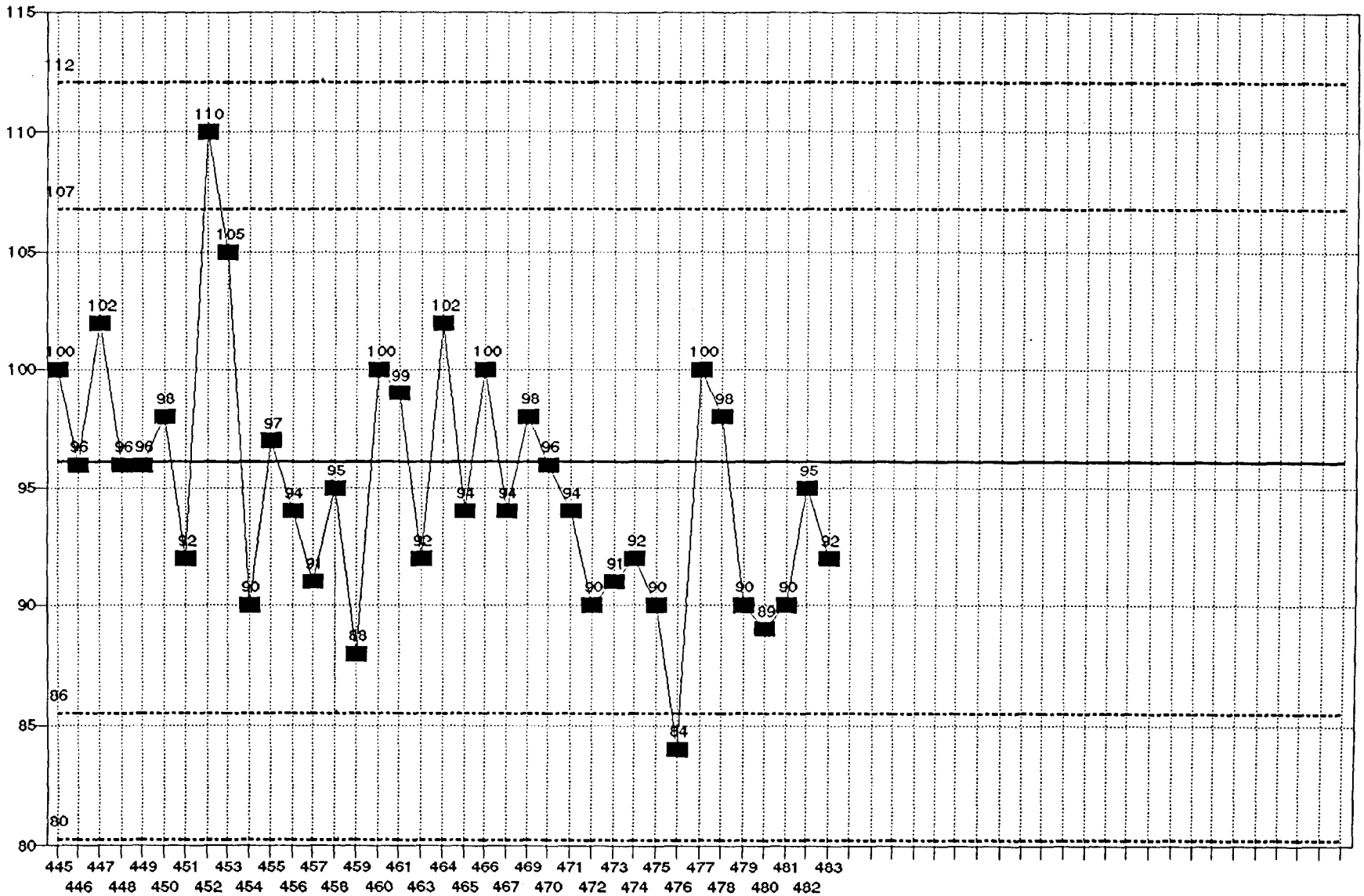
Pb COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



STD DEV = 5 MEAN = 95

6600000

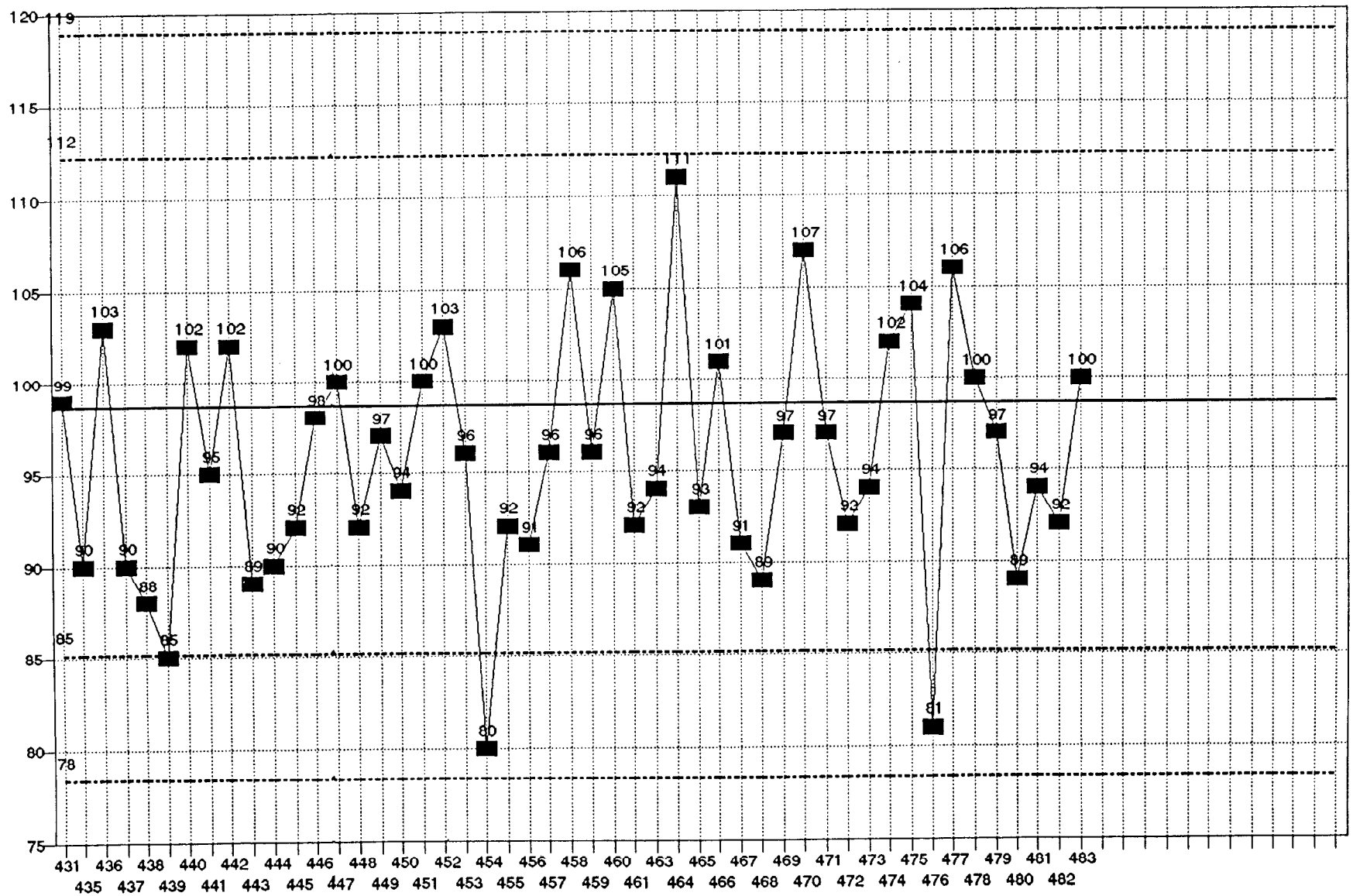
Se COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



STD DEV = 5 MEAN = 96

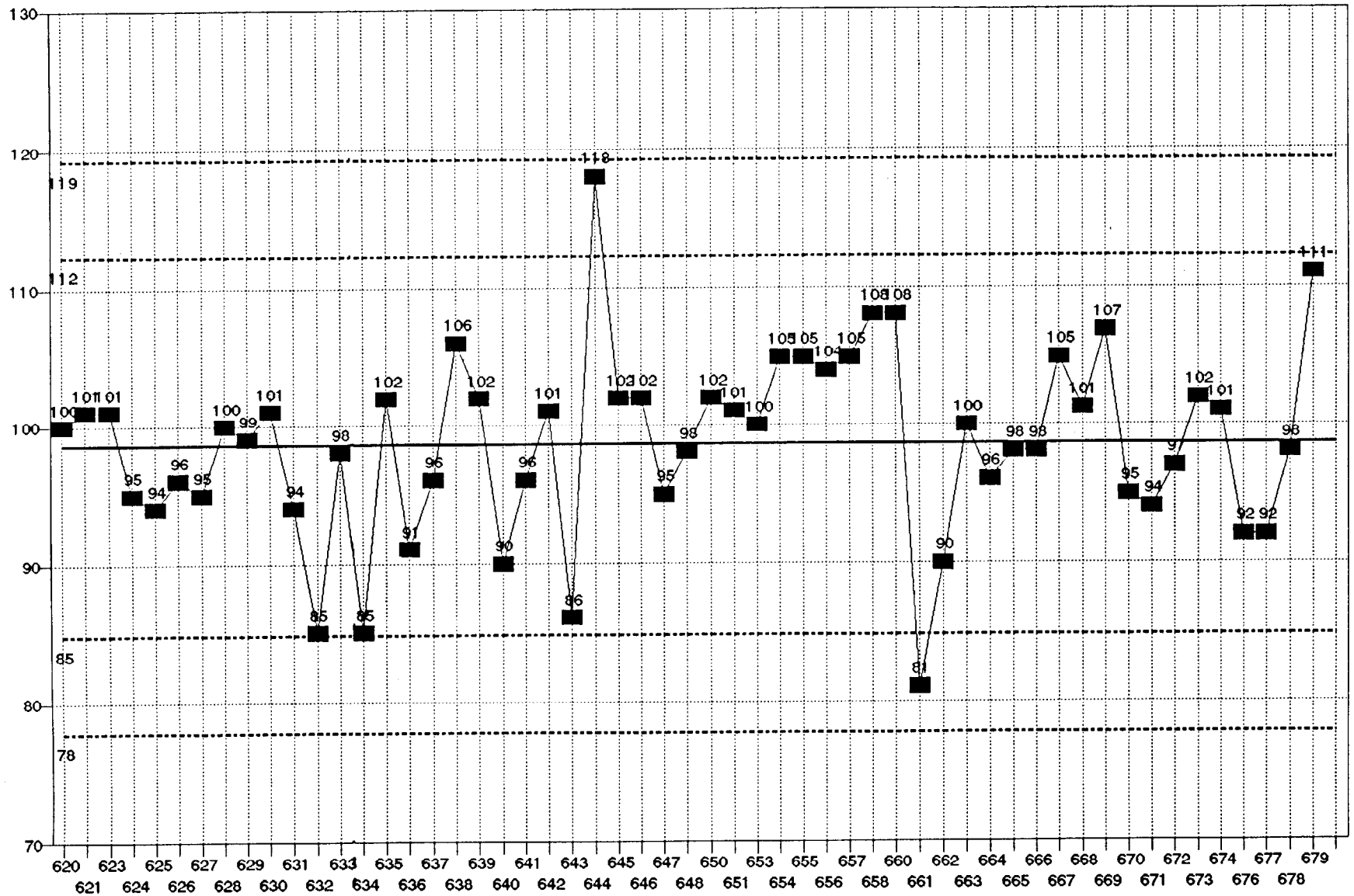
0000100

Ag COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 8/95



STD DEV = 7 MEAN = 99

Hg COMMERCIAL LCS WATER RECOVERIES
LIMITS SET 10/95



STD DEV = 7 MEAN = 99

0000102

OHM Remediation Services Corp.

CHAIN-OF-CUSTODY RECORD

LAB COPY

Form 0019
Field Technical Services
Rev. 08/89

166459

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

45803

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							REMARKS
1	CLJ44-CS-026	10/26	0728		X	See Map - 026	1-4oz.	X	X	- 4						
2	CLJ44-CS-027	10/26	0741		X	See Map - 027	1-4oz.	X	X	- 5						
3																
4																
5																
6																
7																
8																
9																
10																

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-2	Rocow R. Acow	FED-EX #692149025	10/26	1700
2			[illegible] / FACE NH	10/27/95	1300
3					
4					

REMARKS
Send Samples To PACE Lab
7 days TAT

SAMPLER'S SIGNATURE Rocow R. Acow

0010103

OHM Remediation Services Corp.

CHAIN-OF-CUSTODY RECORD

TRANSFER

Form 0019
Field Technical Services
Rev. 08/89

166458

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.
11492	Rakesh Mishra	[illegible]

CLIENT'S REPRESENTATIVE	PROJECT MANAGER/SUPERVISOR
Vana Marshburn	Jim Dowd / Judy Smith

45803

ITEM NO	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)	REMARKS
1	[illegible]	10/26	0818		X	[illegible]	[illegible]	X X [illegible] [illegible] [illegible] X [illegible] [illegible]	
2	[illegible]	10/26	0839	X		[illegible]	[illegible]	X X X [illegible] X [illegible] [illegible] [illegible]	Please Do NOT
3	[illegible]	10/26	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	X [illegible] [illegible] X [illegible] [illegible] [illegible] X	Analyze Waste
4	[illegible]	10/26	0802	X		[illegible]	[illegible]	X X X [illegible] X [illegible] [illegible] [illegible]	Blank
5								1 2 [illegible] 3 [illegible] [illegible] [illegible] [illegible]	
6									
7									
8									
9									
10									

Final Page

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-4	[illegible]	[illegible]	10/26	[illegible]
2					
3					
4					

REMARKS

[illegible] Sent [illegible]

1-3, ~~3~~ 14 hour TAT

Item = 4, 7 day TAT

SAMPLER'S SIGNATURE

[illegible]

00000104

OHM Remediation Services Corp.
A Subsidiary of OHM Corporation

ANALYTICAL DIVISION

Laboratory Analysis

Report(s) #619144 **VOLUME I OF I**

REVISED: 12/6/95

Client: OHM Remediation Services Corp.
Southern Region (Norcross, GA)

Attn: Jim Dunn

Project: 16487N - Camp LeJeune, Camp Geiger, NC

Sample(s) Received: November 2, 1995 **Data Due:** November 3, 1995

Order Received: November 2, 1995 **Data Reported:** November 3, 1995

Reviewed and Approved by: Joseph C. Hnatow for *Date:* December 6, 1995
Thomas E. Gran, Ph.D., Vice President

Narrative for SDG # CLJ44CV041

Laboratory: OHM Remediation Services Corp.
Analytical Division

Project #: 16487N

Project Location: Camp LeJeune, Camp Geiger, NC

Samples in this Sample Delivery Group (SDG):

CLJ44CV041	CLJ44CV058	CLJ44CV059
CLJ44CV060	CLJ44CV076	CLJ44CV077
CLJ44CV083	CLJ44CV83D	CLJ44CV090

Total Extractable Hydrocarbons (TEH) by GC

CLP Forms and/or analytical requirements do not apply to all TEH Level C type deliverable requirements. Every effort was made to conform to the CLP format and all applicable CLP/Level C forms have been included.

Zero of 2 matrix spike recoveries and zero of 1 matrix RPD's were outside QC limits.

All method blank criteria were met for this SDG.

Initial and continuing calibration criteria were met.

Sample holding times were not met for this SDG. Samples were received by the laboratory after the listed holding time had expired. Analysis of samples was authorized by OHM field personnel.

GRO analysis was not performed as instructed by OHM field personnel.

REASON FOR REVISION

The report cover was revised to amend the dates that were incorrectly listed.

Signature: _____ Name: William A. Fithian
Date: 12/6/95 Title: Technical Project Manager

SUMMARY OF ANALYTICAL METHODOLOGY

Joblink # 619144

REFERENCE		TITLE
8100/DRO	SW-846	Method 8100 Modified for Diesel Range Organics by GC/FID

3C (GC)
SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: OHM ANALYTICAL DIVISION Contract: NFESC

Lab Code: N/A Case No.: 16487N SAS No.: N/A SDG No.: CLJ44CV041

Matrix Spike - EPA Sample No.: CLJ44CV83D Level: (low/med) ____

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
DRO(C10 - C21)	36900	240000	253000	36	36-110

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
DRO(C10 - C21)	37300	274000	92	8	26	36-110

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 1 outside limits
Spike Recovery: 0 out of 2 outside limits

COMMENTS: _____

3C (GC)
SOIL SEMIVOLATILE BLANK SPIKE RECOVERY

0004

Lab Name: OHM ANALYTICAL DIVISION Contract: NFESC

Lab Code: N/A Case No.: 16487N SAS No.: N/A SDG No.: CLJ44CV041

Matrix Spike - EPA Sample No.: FSPK01

COMPOUND	SPIKE ADDED (ug/Kg)	BLANK CONCENTRATION (ug/Kg)	BS CONCENTRATION (ug/Kg)	BS % REC #	QC LIMITS REC.
DRO(C10 - C21)	33700	0	24300	72	44-110

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 1 outside limits

COMMENTS: _____

4B (GC)
SEMIVOLATILE METHOD BLANK SUMMARY

0005 EPA SAMPLE NO.

FBLK01

Lab Name: OHM ANALYTICAL DIVISION Contract: NFESC

Lab Code: N/A Case No.: 16487N SAS No.: N/A SDG No.: CLJ44CV041

Lab File ID: SR0185 Lab Sample ID: Q2F51641F

Instrument ID: CS Date Extracted: 11/02/95

Matrix: (soil/water) SOIL Date Analyzed: 11/02/95

Level: (low/med) _____ Time Analyzed: 15:59

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	CLJ44CV041	JO9967F	SR0217	11/04/95
02	CLJ44CV058	JO9968F	SR0218	11/04/95
03	CLJ44CV059	JO9969F	SR0219	11/04/95
04	CLJ44CV060	JO9970F	SR0220	11/04/95
05	CLJ44CV076	JO9971F	SR0221	11/04/95
06	CLJ44CV077	JO9972F	SR0222	11/04/95
07	CLJ44CV083	JO9973F	SR0223	11/04/95
08	CLJ44CV83D	JO9974F	SR0224	11/04/95
09	CLJ44CV090	JO9975F	SR0225	11/04/95
10	CLJ44CV83DMSD	JO9974FR	SR0229	11/04/95
11	FSPK01	Q2F51641FS	SR0186	11/02/95
12	CLJ44CV83DMS	JO9974FS	SR0228	11/04/95

COMMENTS:

1B (GC)
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

0006 EPA SAMPLE NO.

CLJ44CV041

Lab Name: OHM ANALYTICAL DIVISION Contract: NFESC

Lab Code: N/A Case No.: 16487N SAS No.: N/A SDG No.: CLJ44CV041

Matrix: (soil/water) SOIL Lab Sample ID: JO9967F

Sample wt/vol: 30.4 (g/mL) G Lab File ID: SR0217

Level: (low/med) _____ Date Received: 11/02/95

% Moisture: 10 decanted: (Y/N) N Date Extracted: 11/02/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/04/95

Injection Volume: _____ (uL) Dilution Factor: 5.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
	DRO(C10 - C21)	160000	

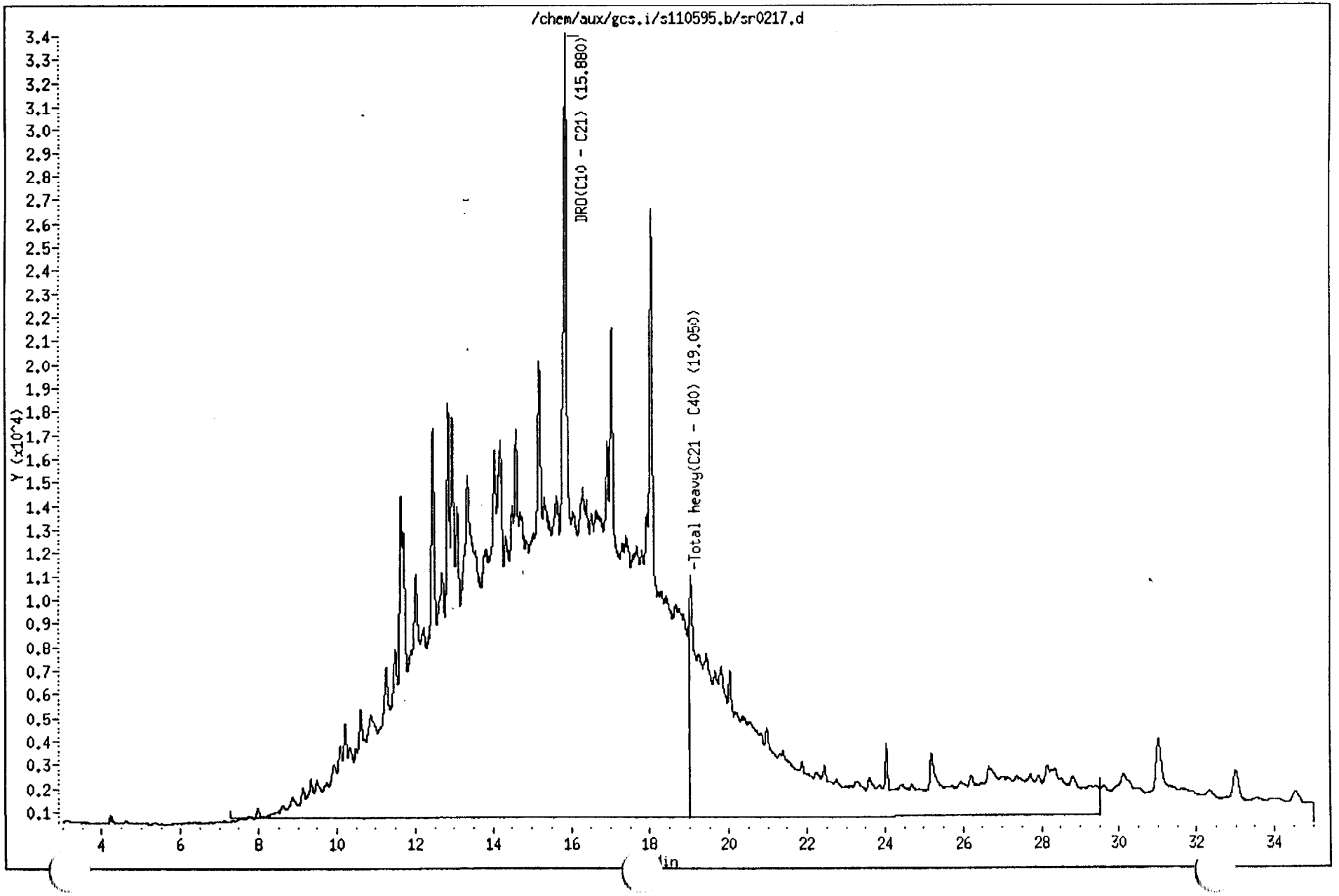
0007

Data File: /chem/aux/gcs.i/s110595.b/sr0217.d
Date : 04-NOV-95 10:09
Client ID: [illegible]
Sample Info: jo9667f,q2f51641

Column phase:

Instrument: gcs.i

Operator: jk
Column diameter: 2.00



Data File: /chem/aux/gcs.i/s110595.b/sr0217.d
Report Date: 05-Nov-1995 17:10

OHM Analytical Division

Data file : /chem/aux/gcs.i/s110595.b/sr0217.d
Lab Smp Id:
Inj Date : 04-NOV-95 10:09
Operator : jk Inst ID: gcs.i
Smp Info : jo9667f,q2f51641
Misc Info : jo9667f,q2f51641,g1,2,5
Comment :
Method : /chem/aux/gcs.i/s110595.b/101795_gcs_teh.m
Meth Date : 05-Nov-1995 10:17 Quant Type: ESTD
Cal Date : 17-OCT-95 11:42 Cal File: sr0084.d
Als bottle: 1
Dil Factor: 1.000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 3.10

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/ml)	(ug/ml)
1 DRO(C10 - C21)	15.860	12.030	3.850	28703841	876.130	876.130(M)
2 Total heavy(C21 - C40)	19.050	25.443	-6.393	7064632	300.401	300.401(M)

QC Flag Legend

M - Compound response manually integrated.

1B (GC)
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

0009 EPA SAMPLE NO.

CLJ44CV058

Lab Name: OHM ANALYTICAL DIVISION Contract: NFESC

Lab Code: N/A Case No.: 16487N SAS No.: N/A SDG No.: CLJ44CV041

Matrix: (soil/water) SOIL Lab Sample ID: JO9968F

Sample wt/vol: 30.2 (g/mL) G Lab File ID: SR0218

Level: (low/med) _____ Date Received: 11/02/95

% Moisture: 3 decanted: (Y/N) N Date Extracted: 11/02/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/04/95

Injection Volume: _____ (uL) Dilution Factor: 10.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
	DRO(C10 - C21)	210000	

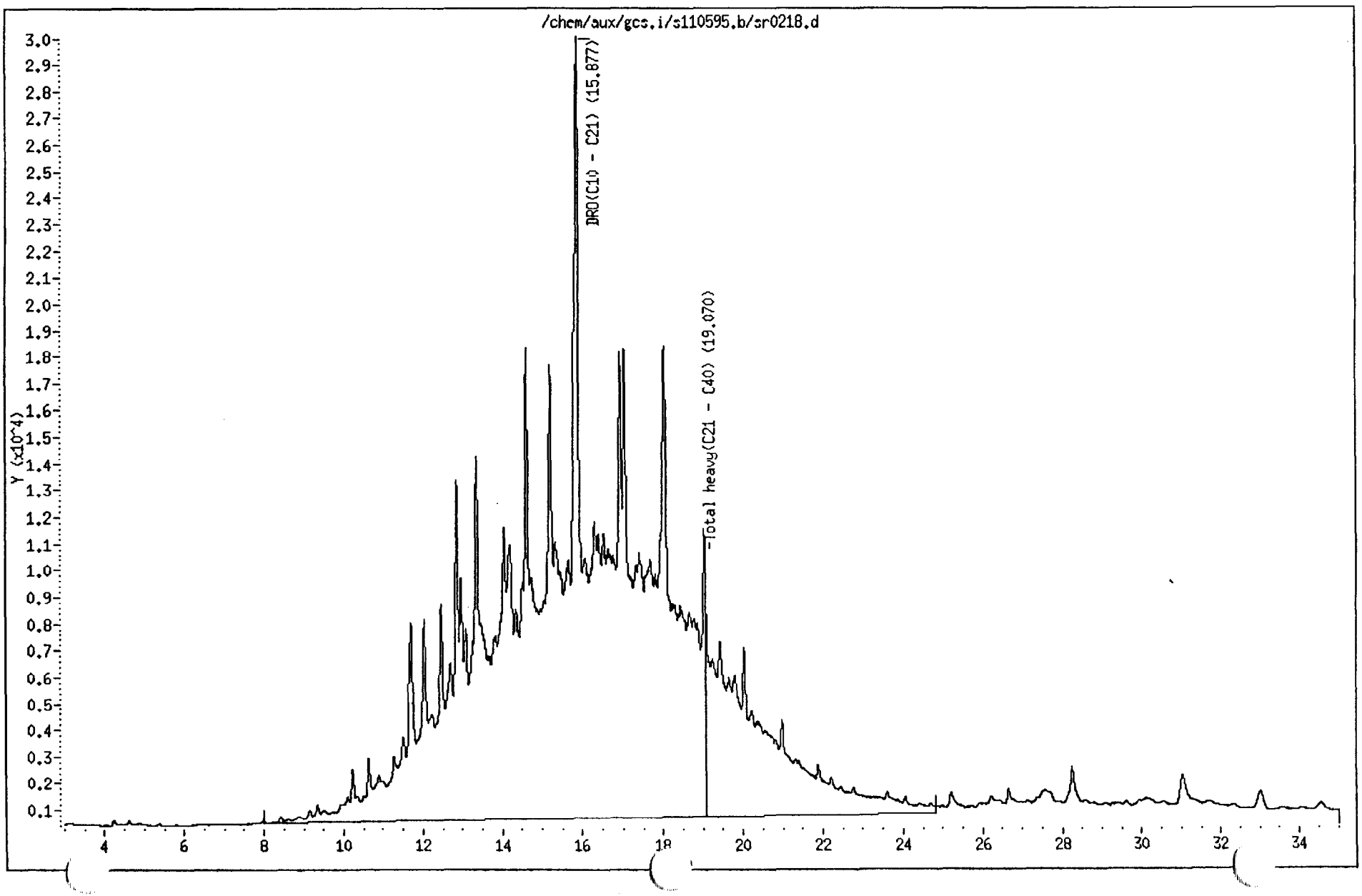
0010

Data File: /chem/aux/gcs.i/s110595.b/sr0218.d
Date : 04-NOV-95 10:51
Client ID: CLJ44CV058
Sample Info: jo9668f,q2f51641

Column phase:

Instrument: gcs.i

Operator: jk
Column diameter: 2.00



Data File: /chem/aux/gcs.i/s110595.b/sr0218.d
Report Date: 05-Nov-1995 17:11

OHM Analytical Division

Data file : /chem/aux/gcs.i/s110595.b/sr0218.d
Lab Smp Id:
Inj Date : 04-NOV-95 10:51
Operator : jk Inst ID: gcs.i
Smp Info : jo9668f,q2f51641
Misc Info : jo9668f,q2f51641,g1,2,10
Comment :
Method : /chem/aux/gcs.i/s110595.b/101795_gcs_teh.m
Meth Date : 05-Nov-1995 10:17 Quant Type: ESTD
Cal Date : 17-OCT-95 11:42 Cal File: sr0084.d
Als bottle: 1
Dil Factor: 1.000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 3.10

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/ml)
1 DRO(C10 - C21)	15.877	12.030	3.847	20299684	619.609	619.609(M)
2 Total heavy(C21 - C40)	19.070	25.443	-6.373	3631807	154.431	154.431(M)

QC Flag Legend

M - Compound response manually integrated.

1B (GC)
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

0012 EPA SAMPLE NO.

CLJ44CV059

Lab Name: OHM ANALYTICAL DIVISION Contract: NFESC

Lab Code: N/A Case No.: 16487N SAS No.: N/A SDG No.: CLJ44CV041

Matrix: (soil/water) SOIL Lab Sample ID: JO9969F

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SR0219

Level: (low/med) _____ Date Received: 11/02/95

% Moisture: 14 decanted: (Y/N) N Date Extracted: 11/02/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/04/95

Injection Volume: _____ (uL) Dilution Factor: 20.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
	DRO(C10 - C21)	710000	

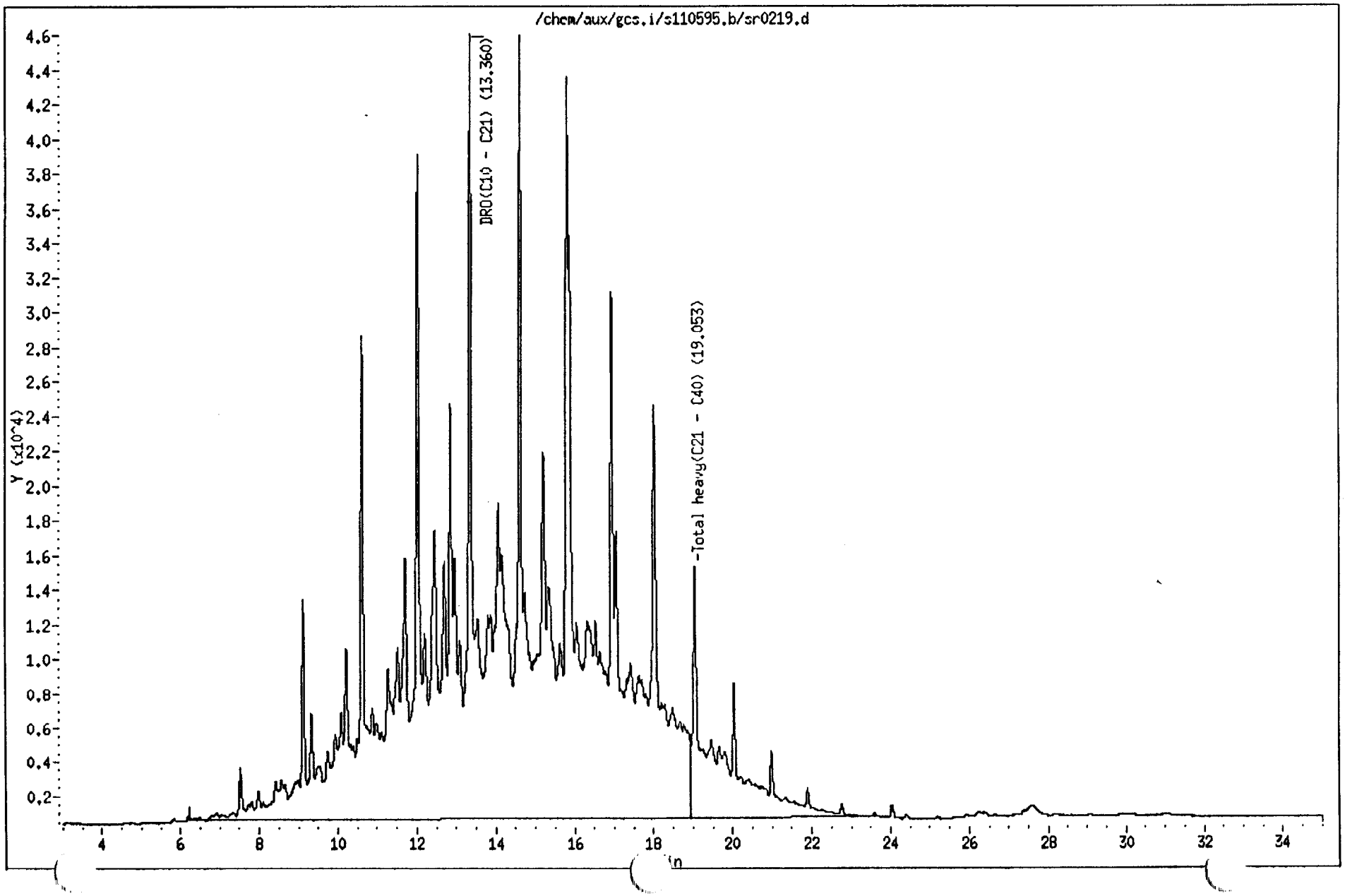
0013

Data File: /chem/aux/gcs.i/s110595.b/sr0219.d
Date : 04-NOV-1995 11:33
Client ID: CLJ44CV059
Sample Info: jo9669f,q2f51641

Column phase:

Instrument: gcs.i

Operator: jk
Column diameter: 2.00



Data File: /chem/aux/gcs.i/s110595.b/sr0219.d
Report Date: 05-Nov-1995 17:12

OHM Analytical Division

Data file : /chem/aux/gcs.i/s110595.b/sr0219.d
Lab Smp Id:
Inj Date : 04-NOV-1995 11:33
Operator : jk Inst ID: gcs.i
Smp Info : jo9669f,q2f51641
Misc Info : jo9669f,q2f51641,g1,2,20
Comment :
Method : /chem/aux/gcs.i/s110595.b/101795_gcs_teh.m
Meth Date : 05-Nov-1995 10:17 Quant Type: ESTD
Cal Date : 17-OCT-95 11:42 Cal File: sr0084.d
Als bottle: 1
Dil Factor: 1.000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 3.10

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/ml)	(ug/ml)
1 DRO(C10 - C21)	13.360	12.030	1.330	29765227	908.527	908.527(M)
2 Total heavy(C21 - C40)	19.053	25.443	-6.390	2513167	106.864	106.864(M)

QC Flag Legend

M - Compound response manually integrated.

1B (GC) 0015 EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLJ44CV060

Lab Name: OHM ANALYTICAL DIVISION Contract: NFESC

Lab Code: N/A Case No.: 16487N SAS No.: N/A SDG No.: CLJ44CV041

Matrix: (soil/water) SOIL Lab Sample ID: JO9970F

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SR0220

Level: (low/med) _____ Date Received: 11/02/95

% Moisture: 10 decanted: (Y/N) N Date Extracted: 11/02/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/04/95

Injection Volume: _____ (uL) Dilution Factor: 20.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
	DRO(C10 - C21)	720000	

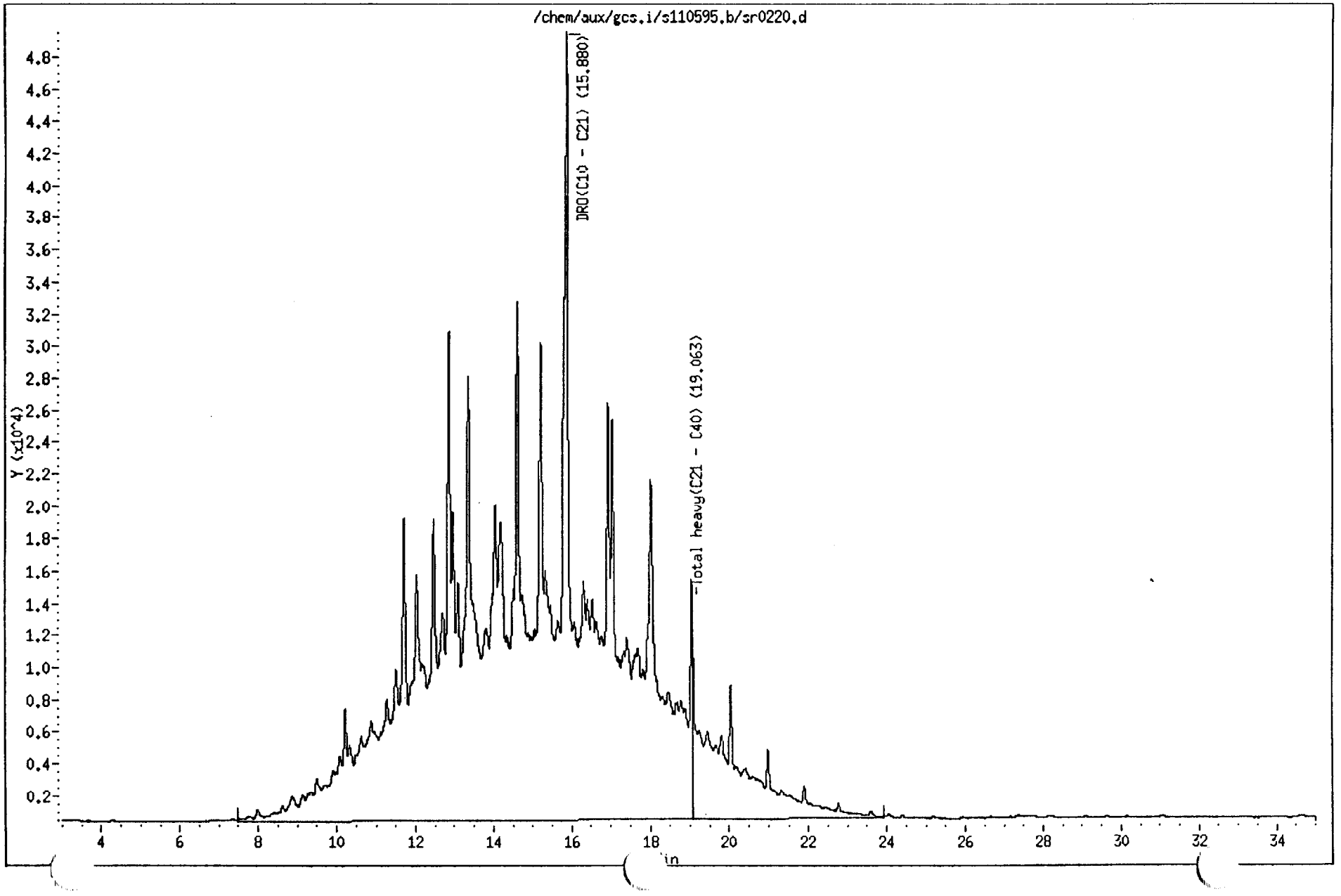
0016

Data File: /chem/aux/gcs.i/s110595.b/sr0220.d
Date : 04-NOV-95 12:15
Client ID: CCJ44CV060
Sample Info: jo9670f,q2f51641

Column phase:

Instrument: gcs.i

Operator: jk
Column diameter: 2.00



Data File: /chem/aux/gcs.i/s110595.b/sr0220.d
Report Date: 05-Nov-1995 17:13

OHM Analytical Division

Data file : /chem/aux/gcs.i/s110595.b/sr0220.d
Lab Smp Id:
Inj Date : 04-NOV-95 12:15
Operator : jk Inst ID: gcs.i
Smp Info : jo9670f,q2f51641
Misc Info : jo9670f,q2f51641,g1,2,20
Comment :
Method : /chem/aux/gcs.i/s110595.b/101795_gcs_teh.m
Meth Date : 05-Nov-1995 10:17 Quant Type: ESTD
Cal Date : 17-OCT-95 11:42 Cal File: sr0084.d
Als bottle: 1
Dil Factor: 1.000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 3.10

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/ml)	(ug/ml)
1 DRO(C10 - C21)	15.880	12.030	3.850	32129650	980.696	980.696(M)
2 Total heavy(C21 - C40)	19.063	25.443	-6.380	3029392	128.815	128.815(M)

QC Flag Legend

M - Compound response manually integrated.

1B (GC)
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

0018 EPA SAMPLE NO.

CLJ44CV076

Lab Name: OHM ANALYTICAL DIVISION Contract: NFESC

Lab Code: N/A Case No.: 16487N SAS No.: N/A SDG No.: CLJ44CV041

Matrix: (soil/water) SOIL Lab Sample ID: JO9971F

Sample wt/vol: 30.5 (g/mL) G Lab File ID: SR0221

Level: (low/med) _____ Date Received: 11/02/95

% Moisture: 9 decanted: (Y/N) ___ Date Extracted: 11/02/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/04/95

Injection Volume: _____ (uL) Dilution Factor: 20.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
	DRO(C10 - C21)	400000	

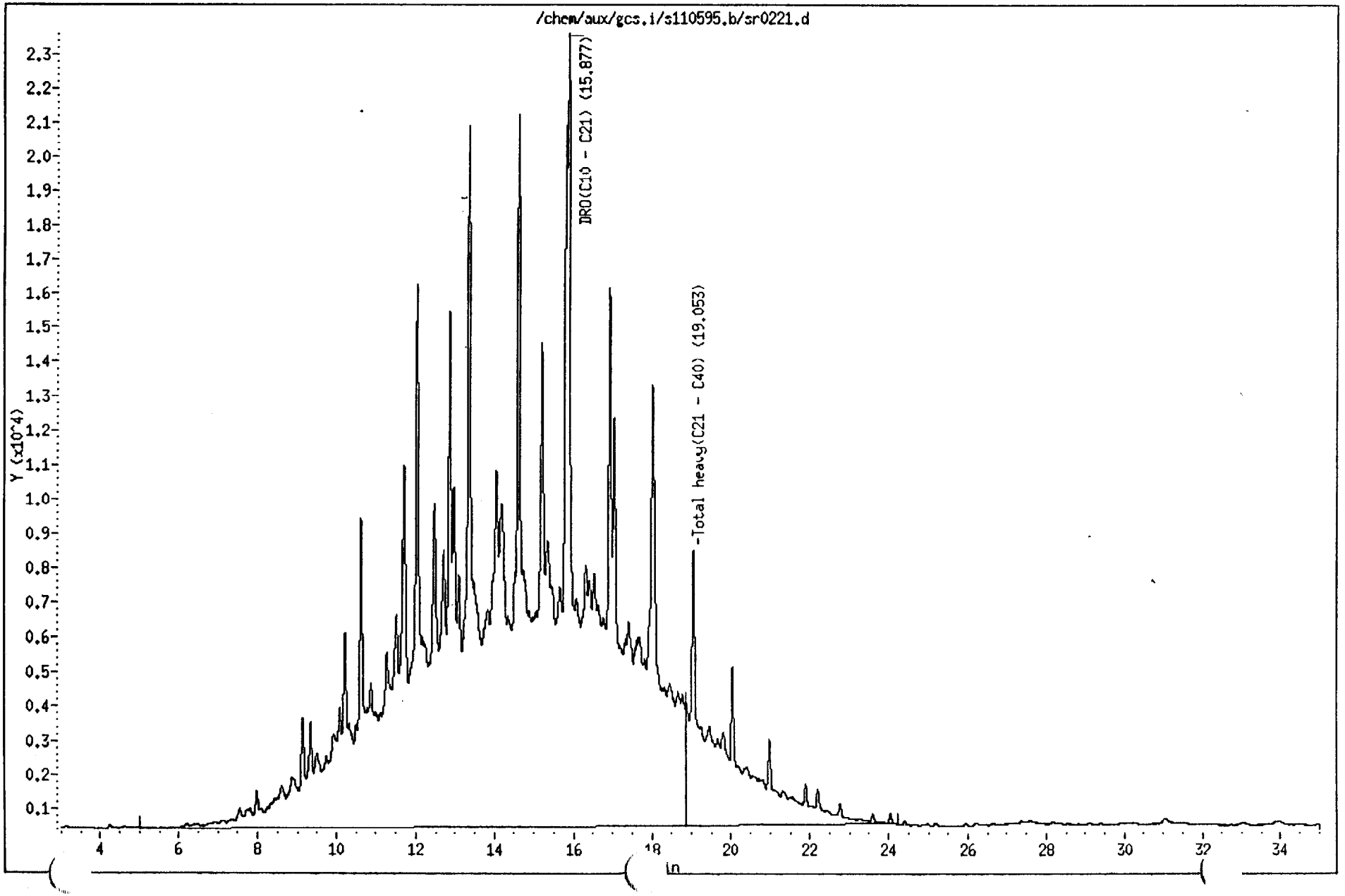
0019

Data File: /chem/aux/gcs.i/s110595.b/sr0221.d
Date : 04-NOV-95 12:57
Client ID: CL54HCV076
Sample Info: jo9671f,q2f51641

Instrument: gcs.i

Operator: jk
Column diameter: 2.00

Column phase:



OHM Analytical Division

Data file : /chem/aux/gcs.i/s110595.b/sr0221.d
Lab Smp Id:
Inj Date : 04-NOV-95 12:57
Operator : jk Inst ID: gcs.i
Smp Info : jo9671f,q2f51641
Misc Info : jo9671f,q2f51641,g1,2,20
Comment :
Method : /chem/aux/gcs.i/s110595.b/101795_gcs_teh.m
Meth Date : 05-Nov-1995 10:17 Quant Type: ESTD
Cal Date : 17-OCT-95 11:42 Cal File: sr0084.d
Als bottle: 1
Dil Factor: 1.000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 3.10

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/ml)	(ug/ml)
1 DRO(C10 - C21)	15.877	12.030	3.847	18242268	556.810	556.810(M)
2 Total heavy(C21 - C40)	19.053	25.443	-6.390	1918057	81.559	81.559(M)

QC Flag Legend

M - Compound response manually integrated.

1B (GC)

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

0021 EPA SAMPLE NO.

CLJ44CV077

Lab Name: OHM ANALYTICAL DIVISION Contract: NFESC

Lab Code: N/A Case No.: 16487N SAS No.: N/A SDG No.: CLJ44CV041

Matrix: (soil/water) SOIL Lab Sample ID: JO9972F

Sample wt/vol: 30.2 (g/mL) G Lab File ID: SR0222

Level: (low/med) _____ Date Received: 11/02/95

% Moisture: 11 decanted: (Y/N) N Date Extracted: 11/02/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/04/95

Injection Volume: _____ (uL) Dilution Factor: 2.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
	DRO(C10 - C21)	120000	

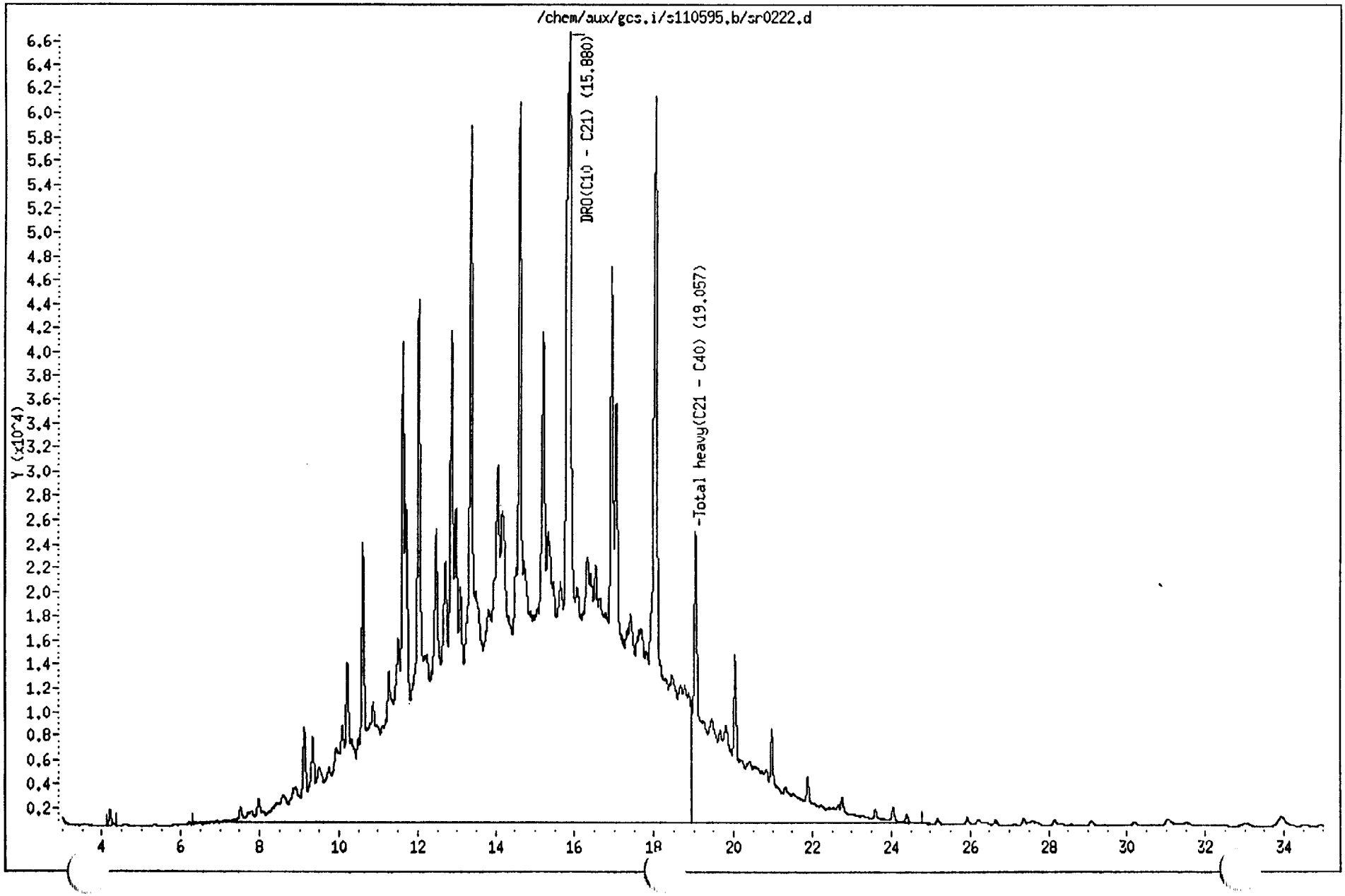
0022

Data File: /chem/aux/gcs.i/s110595.b/sr0222.d
Date : 04-NOV-95 13:39
Client ID: CLJ44CV077
Sample Info: jo9672f,q2f51641

Column phase:

Instrument: gcs.i

Operator: jk
Column diameter: 2.00



Data File: /chem/aux/gcs.i/s110595.b/sr0222.d
Report Date: 05-Nov-1995 17:15

OHM Analytical Division

Data file : /chem/aux/gcs.i/s110595.b/sr0222.d
Lab Smp Id:
Inj Date : 04-NOV-95 13:39
Operator : jk Inst ID: gcs.i
Smp Info : jo9672f,q2f51641
Misc Info : jo9672f,q2f51641,g1,2,2
Comment :
Method : /chem/aux/gcs.i/s110595.b/101795_gcs_teh.m
Meth Date : 05-Nov-1995 10:17 Quant Type: ESTD
Cal Date : 17-OCT-95 11:42 Cal File: sr0084.d
Als bottle: 1
Dil Factor: 1.000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 3.10

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/ml)	(ug/ml)
1 DRO(C10 - C21)	15.880	12.030	3.850	50679824	1546.905	1546.905(M)
2 Total heavy(C21 - C40)	19.057	25.443	-6.386	5659557	240.655	240.655(M)

QC Flag Legend

M - Compound response manually integrated.

1B (GC)
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

0024 EPA SAMPLE NO.

CLJ44CV083

Lab Name: OHM ANALYTICAL DIVISION Contract: NFESC

Lab Code: N/A Case No.: 16487N SAS No.: N/A SDG No.: CLJ44CV041

Matrix: (soil/water) SOIL Lab Sample ID: JO9973F

Sample wt/vol: 30.5 (g/mL) G Lab File ID: SR0223

Level: (low/med) _____ Date Received: 11/02/95

% Moisture: 11 decanted: (Y/N) N Date Extracted: 11/02/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/04/95

Injection Volume: _____ (uL) Dilution Factor: 10.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
	DRO(C10 - C21)	250000	

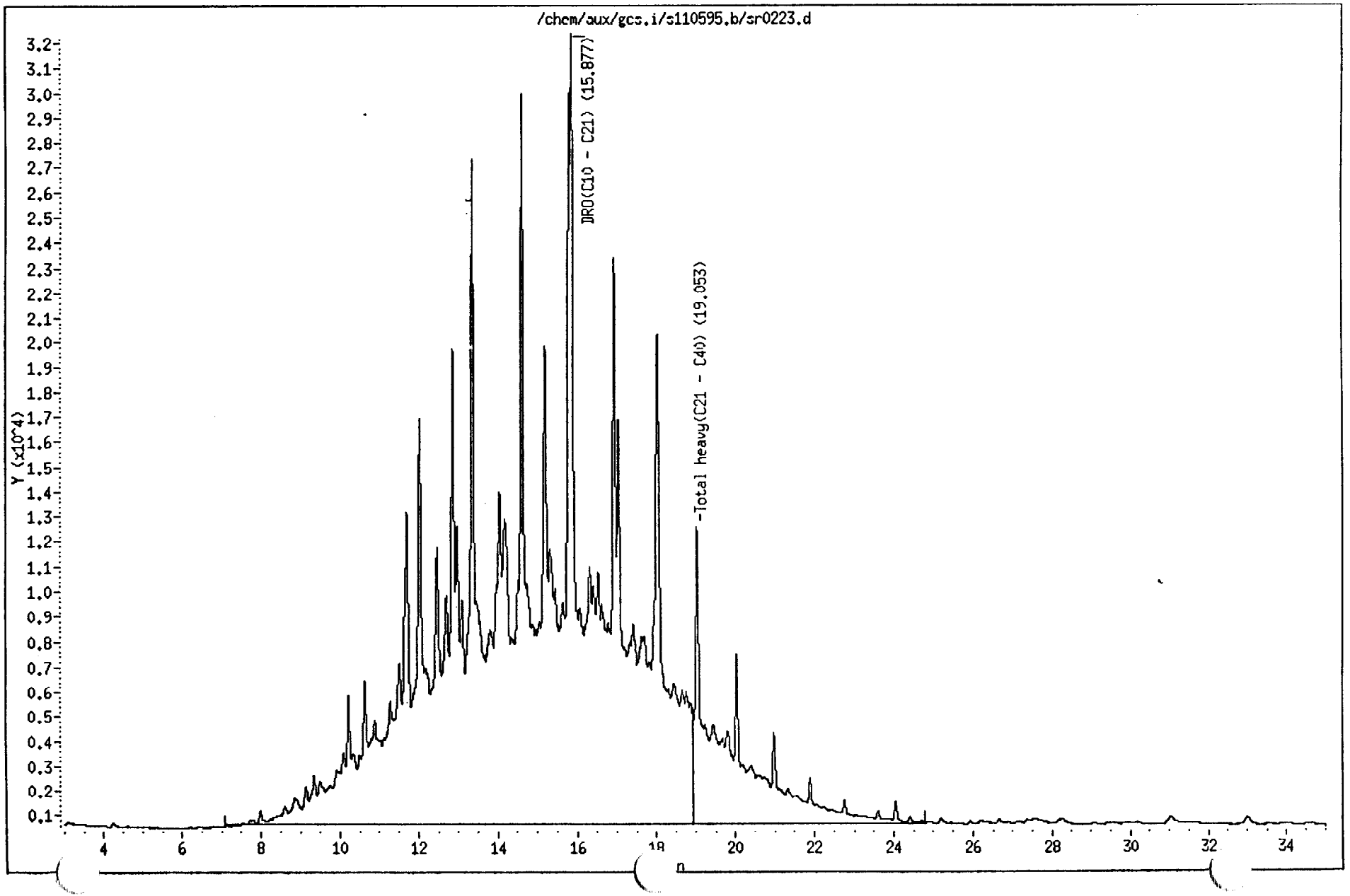
0025

Data File: /chem/aux/gcs.i/s110595.b/sr0223.d
Date : 04-NOV-95 14:21
Client ID: CCJ44CV083
Sample Info: jo9673f,q2f51641

Column phase:

Instrument: gcs.i

Operator: jk
Column diameter: 2.00



Data File: /chem/aux/gcs.i/s110595.b/sr0223.d
Report Date: 05-Nov-1995 17:15

OHM Analytical Division

Data file : /chem/aux/gcs.i/s110595.b/sr0223.d
Lab Smp Id:
Inj Date : 04-NOV-95 14:21
Operator : jk Inst ID: gcs.i
Smp Info : jo9673f,q2f51641
Misc Info : jo9673f,q2f51641,g1,2,10
Comment :
Method : /chem/aux/gcs.i/s110595.b/101795_gcs_teh.m
Meth Date : 05-Nov-1995 10:17 Quant Type: ESTD
Cal Date : 17-OCT-95 11:42 Cal File: sr0084.d
Als bottle: 1
Dil Factor: 1.000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 3.10

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/ml)	(ug/ml)
1 DRO(C10 - C21)	15.877	12.030	3.847	22387633	683.340	683.340(M)
2 Total heavy(C21 - C40)	19.053	25.443	-6.390	2639988	112.257	112.257(M)

QC Flag Legend

M - Compound response manually integrated.

1B (GC) - 0027 EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLJ44CV83D

Lab Name: OHM ANALYTICAL DIVISION Contract: NFESC

Lab Code: N/A Case No.: 16487N SAS No.: N/A SDG No.: CLJ44CV041

Matrix: (soil/water) SOIL Lab Sample ID: JO9974F

Sample wt/vol: 30.4 (g/mL) G Lab File ID: SR0224

Level: (low/med) _____ Date Received: 11/02/95

% Moisture: 10 decanted: (Y/N) N Date Extracted: 11/02/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/04/95

Injection Volume: _____ (uL) Dilution Factor: 10.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
	DRO(C10 - C21)	240000	

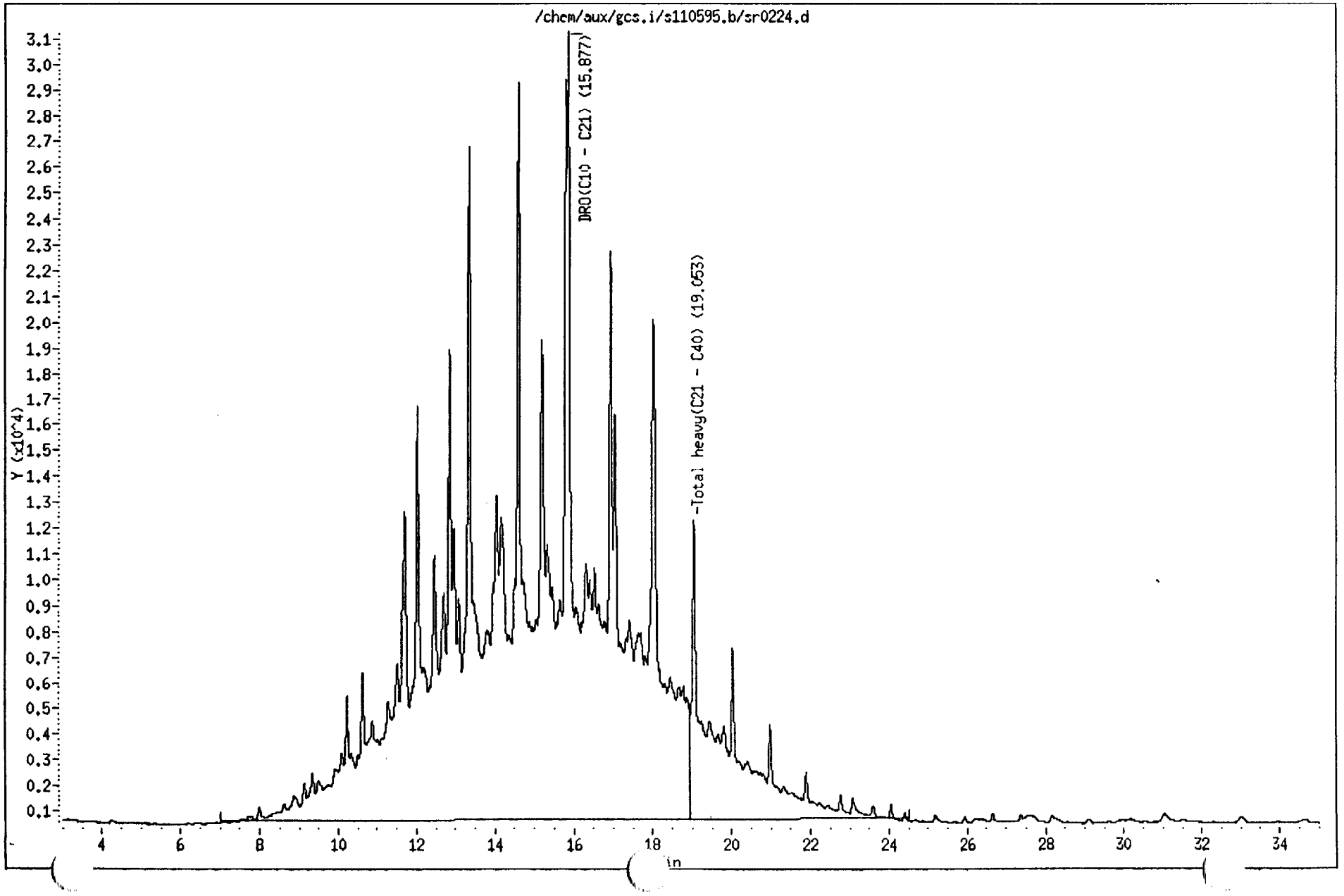
0028

Data File: /chem/aux/gcs.i/s110595.b/sr0224.d
Date : 04-NOV-95 15:03
Client ID: CLJ44CV83D
Sample Info: jo9674f,q2f51641

Column phase:

Instrument: gcs.i

Operator: jk
Column diameter: 2.00



Data File: /chem/aux/gcs.i/s110595.b/sr0224.d
Report Date: 05-Nov-1995 17:17

OHM Analytical Division

Data file : /chem/aux/gcs.i/s110595.b/sr0224.d
Lab Smp Id:
Inj Date : 04-NOV-95 15:03
Operator : jk Inst ID: gcs.i
Smp Info : jo9674f,q2f51641
Misc Info : jo9674f,q2f51641,g1,2,10
Comment :
Method : /chem/aux/gcs.i/s110595.b/101795_gcs_teh.m
Meth Date : 05-Nov-1995 10:17 Quant Type: ESTD
Cal Date : 17-OCT-95 11:42 Cal File: sr0084.d
Als bottle: 1
Dil Factor: 1.000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 3.10

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/ml)	(ug/ml)
1 DRO(C10 - C21)	15.877	12.030	3.847	21475285	655.492	655.492(M)
2 Total heavy(C21 - C40)	19.053	25.443	-6.390	2485515	105.688	105.688(M)

QC Flag Legend

M - Compound response manually integrated.

1B (GC)
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

0030 EPA SAMPLE NO.

CLJ44CV090

Lab Name: OHM ANALYTICAL DIVISION Contract: NFESC

Lab Code: N/A Case No.: 16487N SAS No.: N/A SDG No.: CLJ44CV041

Matrix: (soil/water) SOIL Lab Sample ID: JO9975F

Sample wt/vol: 30.3 (g/mL) G Lab File ID: SR0225

Level: (low/med) _____ Date Received: 11/02/95

% Moisture: 13 decanted: (Y/N) N Date Extracted: 11/02/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/04/95

Injection Volume: _____ (uL) Dilution Factor: 10.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
	DRO(C10 - C21)	250000	

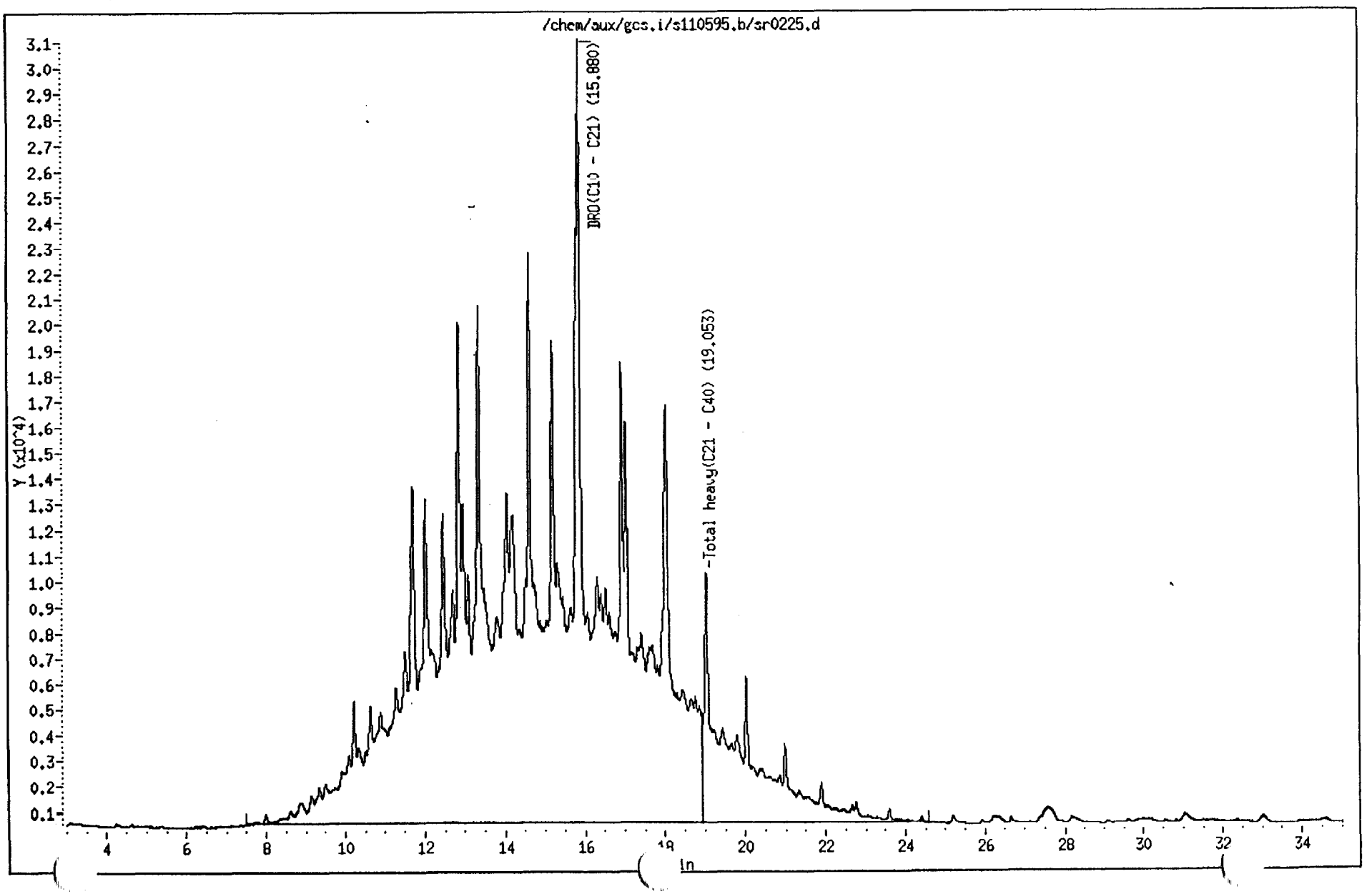
0031

Data File: /chem/aux/gcs.i/s110595.b/sr0225.d
Date : 04-NOV-1995 15:45
Client ID: CL544CV040
Sample Info: jo9675f,q2f51641

Column phase:

Instrument: gcs.i

Operator: jk
Column diameter: 2.00



Data File: /chem/aux/gcs.i/s110595.b/sr0225.d
Report Date: 05-Nov-1995 17:18

OHM Analytical Division

Data file : /chem/aux/gcs.i/s110595.b/sr0225.d
Lab Smp Id:
Inj Date : 04-NOV-1995 15:45
Operator : jk Inst ID: gcs.i
Smp Info : jo9675f,q2f51641
Misc Info : jo9675f,q2f51641,g1,2,10
Comment :
Method : /chem/aux/gcs.i/s110595.b/101795_gcs_teh.m
Meth Date : 05-Nov-1995 10:17 Quant Type: ESTD
Cal Date : 17-OCT-95 11:42 Cal File: sr0084.d
Als bottle: 1
Dil Factor: 1.000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 3.10

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/ml)	(ug/ml)
1 DRO(C10 - C21)	15.880	12.030	3.850	21218900	647.666	647.666(M)
2 Total heavy(C21 - C40)	19.053	25.443	-6.390	2252543	95.782	95.782(M)

QC Flag Legend

M - Compound response manually integrated.

Report Date : 18-Oct-1995 07:36

OHM Analytical Division

INITIAL CALIBRATION DATA

Start Cal Date : 17-OCT-95 08:06
End Cal Date : 17-OCT-95 11:42
Quant Method : ESTD
Target Version : 3.10
Integrator : HP Genie
Method file : /chem/aux/gcs.i/s101795.b/101795_gcs_teh.m
Cal Date : 18-Oct-1995 07:16
Curve Type : Average

KBigelow 10-18-95

Calibration File Names:
Level 1: /chem/aux/gcs.i/s101795.b/sr0080.d
Level 2: /chem/aux/gcs.i/s101795.b/sr0081.d
Level 3: /chem/aux/gcs.i/s101795.b/sr0082.d
Level 4: /chem/aux/gcs.i/s101795.b/sr0083.d
Level 5: /chem/aux/gcs.i/s101795.b/sr0084.d

	0.0000	0.0000	0.0000	0.0000	0.0000	___	
Compound	Level 1	Level 2	Level 3	Level 4	Level 5	RRF	% RSD
1 DRO(C10 - C21)	35601	32379	33046	31477	31307	32762	5.298
2 Total heavy(C21 - C40)	21293	23496	25473	24070	23255	23517	6.431

Data File: /chem/aux/gcs.i/s110295.b/sr0184.d
Report Date: 02-Nov-1995 15:34

OHM Analytical Division

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: gcs.i
Lab File ID: sr0184.d
Analysis Type:
Lab Sample ID:
Quant Type: ESTD

Injection Date: 02-NOV-95 14:23
Init. Calibration Date(s): 10/17/95 10/17/95
Init. Calibration Times: 08:06 11:42
Method File: /chem/aux/gcs.i/s110295.b/101795_gcs_te

COMPOUND	RRF	RF0	MIN RRF	%D	MAX %D
1 DRO(C10 - C21)	32762.072	28324.907	0.010	13.5	15.0
2 Total heavy(C21 - C40)	23517.267	23202.639	0.010	1.3	15.0

Data File: /chem/aux/gcs.i/s110295.b/sr0201.d
Report Date: 03-Nov-1995 09:28

OHM Analytical Division

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: gcs.i
Lab File ID: sr0201.d
Analysis Type:
Lab Sample ID:
Quant Type: ESTD

Injection Date: 03-NOV-95 06:21
Init. Calibration Date(s): 10/17/95 10/17/95
Init. Calibration Times: 08:06 11:42
Method File: /chem/aux/gcs.i/s110295.b/101795_gcs_te

COMPOUND	RRF	RF0	MIN RRF	%D	MAX %D
1 DRO(C10 - C21)	32762.072	30957.683	0.010	5.5	15.0
2 Total heavy(C21 - C40)	23517.267	25947.272	0.010	10.3	15.0

Data File: /chem/aux/gcs.i/s110595.b/sr0216.d
Report Date: 05-Nov-1995 10:19

OHM Analytical Division

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: gcs.i
Lab File ID: sr0216.d
Analysis Type:
Lab Sample ID:
Quant Type: ESTD

Injection Date: 04-NOV-95 09:28
Init. Calibration Date(s): 10/17/95 10/17/95
Init. Calibration Times: 08:06 11:42
Method File: /chem/aux/gcs.i/s110595.b/101795_gcs_te

COMPOUND	RRF	RF0	MIN RRF	%D	MAX %D
1 DRO(C10 - C21)	32762.072	29915.662	0.010	8.7	15.0
2 Total heavy(C21 - C40)	23517.267	24151.636	0.010	2.7	15.0

Data File: /chem/aux/gcs.i/s110595.b/sr0227.d
Report Date: 06-Nov-1995 06:58

OHM Analytical Division

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: gcs.i
Lab File ID: sr0227.d
Analysis Type:
Lab Sample ID:
Quant Type: ESTD

Injection Date: 04-NOV-95 17:09
Init. Calibration Date(s): 10/17/95 10/17/95
Init. Calibration Times: 08:06 11:42
Method File: /chem/aux/gcs.i/s110595.b/101795_gcs_te

COMPOUND	RRF	RF0	MIN RRF	%D	MAX %D
1 DRO(C10 - C21)	32762.072	29384.132	0.010	10.3	15.0
2 Total heavy(C21 - C40)	23517.267	23508.824	0.010	0.0	15.0

Data File: /chem/aux/gcs.i/s110595.b/sr0236.d
Report Date: 06-Nov-1995 07:05

OHM Analytical Division

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: gcs.i
Lab File ID: sr0236.d
Analysis Type:
Lab Sample ID:
Quant Type: ESTD

Injection Date: 04-NOV-95 23:26
Init. Calibration Date(s): 10/17/95 10/17/95
Init. Calibration Times: 08:06 11:42
Method File: /chem/aux/gcs.i/s110595.b/101795_gcs_te

COMPOUND	RRF	RF0	MIN RRF	%D	MAX %D
1 DRO(C10 - C21)	32762.072	30911.848	0.010	5.6	15.0
2 Total heavy(C21 - C40)	23517.267	24920.676	0.010	6.0	15.0

1B (GC)

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

0039 EPA SAMPLE NO.

FBLK01

Lab Name: OHM ANALYTICAL DIVISION Contract: NFESC

Lab Code: N/A Case No.: 16487N SAS No.: N/A SDG No.: CLJ44CV041

Matrix: (soil/water) SOIL Lab Sample ID: Q2F51641F

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SR0185

Level: (low/med) _____ Date Received: 11/02/95

% Moisture: _____ decanted: (Y/N) N Date Extracted: 11/02/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/02/95 ~~11/04/95~~

Injection Volume: _____ (uL) Dilution Factor: 1.0

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

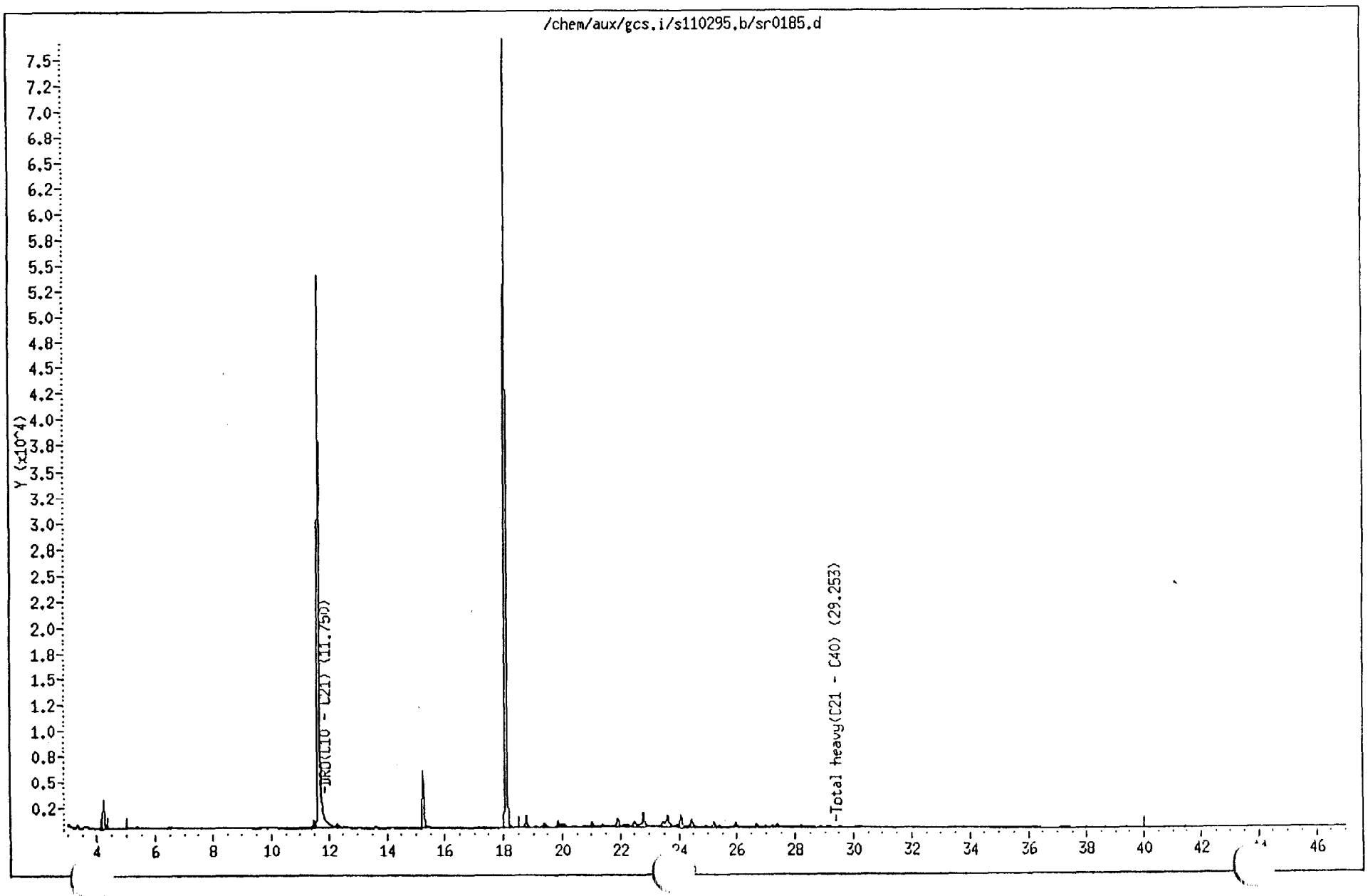
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
	DRO(C10 - C21)	3300	U

Data File: /chem/aux/gcs.i/s110295.b/sr0185.d
Date : 02-NOV-95 15:59
Client ID: Method Blank
Sample Info: q2f51641f,q2f516

Column phase:

Instrument: gcs.i

Operator: jk
Column diameter: 2.00



Data File: /chem/aux/gcs.i/s110295.b/sr0185.d
Report Date: 03-Nov-1995 07:54

OHM Analytical Division

Data file : /chem/aux/gcs.i/s110295.b/sr0185.d
Lab Smp Id:
Inj Date : 02-NOV-95 15:59
Operator : jk Inst ID: gcs.i
Smp Info : q2f51641f,q2f516
Misc Info : q2f51641f,q2f51641,g1,2,1
Comment :
Method : /chem/aux/gcs.i/s110295.b/101795_gcs_teh.m
Meth Date : 02-Nov-1995 15:31 Quant Type: ESTD
Cal Date : 17-OCT-95 11:42 Cal File: sr0084.d
Als bottle: 1
Dil Factor: 1.000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 3.10

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/ml)	(ug/ml)
1 DRO(C10 - C21)	11.750	12.043	-0.293	2618978	79.939	79.939
2 Total heavy(C21 - C40)	29.253	26.907	2.346	674496	28.680	28.680

1B (GC) 0042 EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLJ44CV83DMS

Lab Name: OHM ANALYTICAL DIVISION Contract: NFESC

Lab Code: N/A Case No.: 16487N SAS No.: N/A SDG No.: CLJ44CV041

Matrix: (soil/water) SOIL Lab Sample ID: JO9974FS

Sample wt/vol: 30.4 (g/mL) G Lab File ID: SR0228

Level: (low/med) _____ Date Received: 11/02/95

% Moisture: 10 decanted: (Y/N) N Date Extracted: 11/02/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/04/95

Injection Volume: _____ (uL) Dilution Factor: 10.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
	DRO(C10 - C21)	250000	

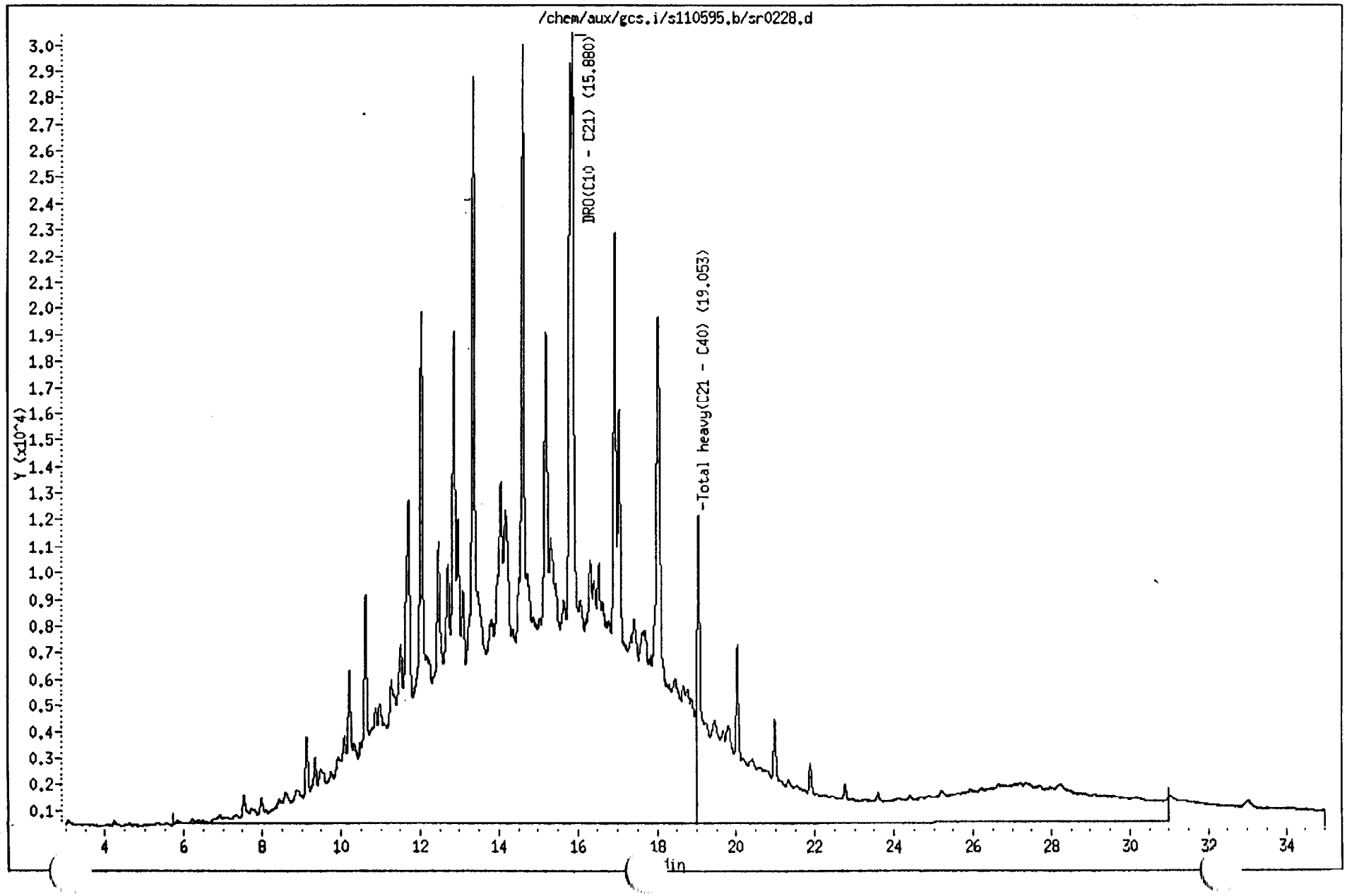
0043

Data File: /chem/aux/gcs.i/s110595.b/sr0228.d
Date : 04-NOV-1995 17:51
Client ID: CLS HNU B3D SPIKE
Sample Info: jo9974fs,q2f5164

Column phase:

Instrument: gcs.i

Operator: jk
Column diameter: 2.00



Data File: /chem/aux/gcs.i/s110595.b/sr0228.d
Report Date: 06-Nov-1995 06:59

OHM Analytical Division

Data file : /chem/aux/gcs.i/s110595.b/sr0228.d
Lab Smp Id:
Inj Date : 04-NOV-1995 17:51
Operator : jk Inst ID: gcs.i
Smp Info : jo9974fs,q2f5164
Misc Info : jo9974fs,q2f51641,g1,2,10
Comment :
Method : /chem/aux/gcs.i/s110595.b/101795_gcs_teh.m
Meth Date : 06-Nov-1995 06:43 Quant Type: ESTD
Cal Date : 17-OCT-95 11:42 Cal File: sr0084.d
Als bottle: 1
Dil Factor: 1.000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 3.10

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/ml)	(ug/ml)
1 DRO(C10 - C21)	15.880	12.027	3.853	22669642	691.947	691.947(M)
2 Total heavy(C21 - C40)	19.053	25.427	-6.374	5206809	221.403	221.403(M)

QC Flag Legend

M - Compound response manually integrated.

1B (GC) - 0045 EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLJ44CV83DMSD

Lab Name: OHM ANALYTICAL DIVISION Contract: NFESC

Lab Code: N/A Case No.: 16487N SAS No.: N/A SDG No.: CLJ44CV041

Matrix: (soil/water) SOIL Lab Sample ID: JO9974FR

Sample wt/vol: 30.1 (g/mL) G Lab File ID: SR0229

Level: (low/med) _____ Date Received: 11/02/95

% Moisture: 10 decanted: (Y/N) N Date Extracted: 11/02/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/04/95

Injection Volume: _____ (uL) Dilution Factor: 10.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
	DRO(C10 - C21)	270000	

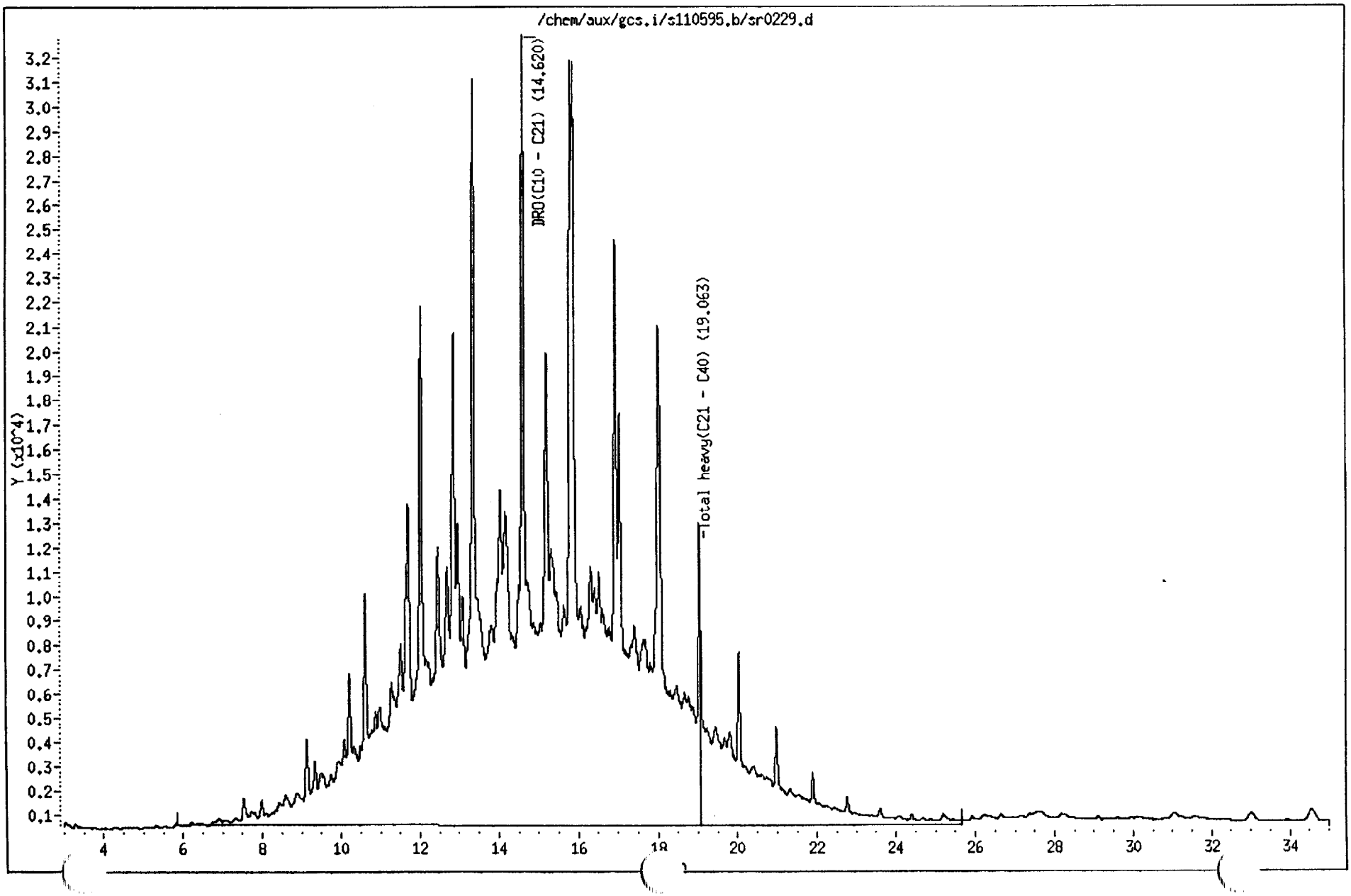
0046

Data File: /chem/aux/gcs.i/s110595.b/sr0229.d
Date : 04-NOV-95 18:33
Client ID: CLJ44CVB3D - SPIKE DUPLICATE
Sample Info: jo9974fr,q2f5164

Column phase:

Instrument: gcs.i

Operator: jk
Column diameter: 2.00



Data File: /chem/aux/gcs.i/s110595.b/sr0229.d
Report Date: 06-Nov-1995 07:00

OHM Analytical Division

Data file : /chem/aux/gcs.i/s110595.b/sr0229.d
Lab Smp Id:
Inj Date : 04-NOV-95 18:33
Operator : jk Inst ID: gcs.i
Smp Info : jo9974fr,q2f5164
Misc Info : jo9974fr,q2f51641,g1,2,10
Comment :
Method : /chem/aux/gcs.i/s110595.b/101795_gcs_teh.m
Meth Date : 06-Nov-1995 06:43 Quant Type: ESTD
Cal Date : 17-OCT-95 11:42 Cal File: sr0084.d
Als bottle: 1
Dil Factor: 1.000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 3.10

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ug/ml)
1 DRO(C10 - C21)	14.620	12.027	2.593	24279726	741.092	741.092(M)
2 Total heavy(C21 - C40)	19.063	25.427	-6.364	2659118	113.070	113.070(M)

QC Flag Legend

M - Compound response manually integrated.

1B (GC) 0048 EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FSPK01

Lab Name: OHM ANALYTICAL DIVISION Contract: NFESC

Lab Code: N/A Case No.: 16487N SAS No.: N/A SDG No.: CLJ44CV041

Matrix: (soil/water) SOIL Lab Sample ID: Q2F51641FS

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SR0186

Level: (low/med) _____ Date Received: 11/02/95

% Moisture: _____ decanted: (Y/N) N Date Extracted: 11/02/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/02/95 ~~11/04/95~~

Injection Volume: _____ (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
	DRO(C10 - C21)	24000	

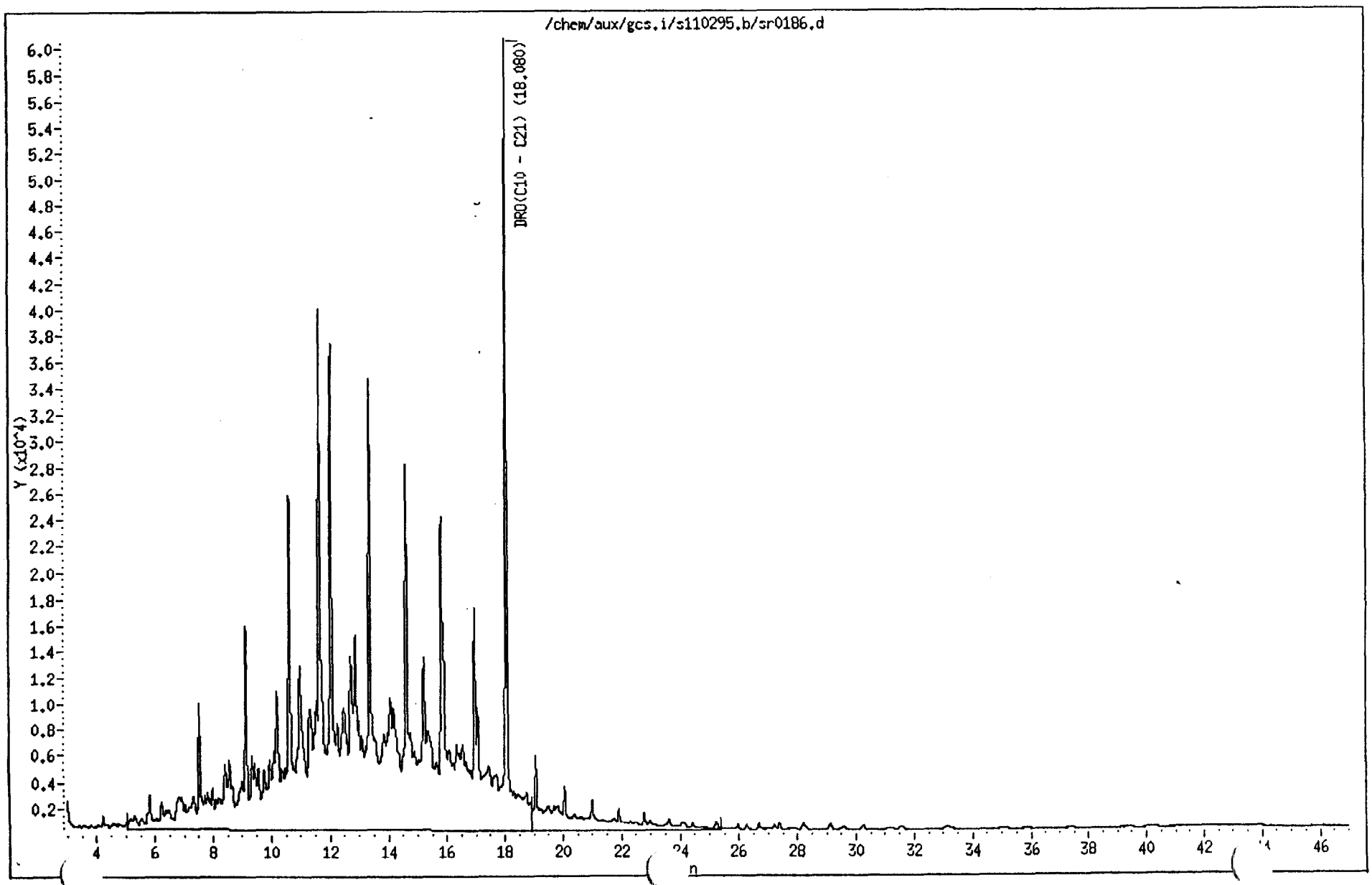
0049

Data File: /chem/aux/gcs.i/s110295.b/sr0186.d
Date : 02-NOV-95 16:48
Client ID: Method Spike
Sample Info: q2f51641fs,q2f51

Column phase:

Instrument: gcs.i

Operator: jk
Column diameter: 2.00



Data File: /chem/aux/gcs.i/s110295.b/sr0186.d
Report Date: 03-Nov-1995 08:50

OHM Analytical Division

Data file : /chem/aux/gcs.i/s110295.b/sr0186.d
Lab Smp Id:
Inj Date : 02-NOV-95 16:48
Operator : jk Inst ID: gcs.i
Smp Info : q2f51641fs,q2f51
Misc Info : q2f51641fs,q2f51641,g1,2,1
Comment :
Method : /chem/aux/gcs.i/s110295.b/101795_gcs_teh.m
Meth Date : 03-Nov-1995 07:56 Quant Type: ESTD
Cal Date : 17-OCT-95 11:42 Cal File: sr0084.d
Als bottle: 1
Dil Factor: 1.000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 3.10

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/ml)
1 DRO(C10 - C21)	18.080	12.037	6.043	23844216	727.799	727.799(M)
2 Total heavy(C21 - C40)	Compound Not Detected.					

QC Flag Legend

M - Compound response manually integrated.

OHM Remediation Services Corp.

CHAIN-OF-CUSTODY RECORD

LAB COPY

Form 0019
Field Technical Services
Rev. 08/89

166460

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

PROJECT NAME	PROJECT LOCATION
Camp Lejeune,	Camp Geiger, N.C.

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

CLIENT'S REPRESENTATIVE	PROJECT MANAGER/SUPERVISOR
VANN Marshburn	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) DRO	GRO	REMARKS
1	~~CLJ44-CU-041~~				X	Stockpile # 10 clean	1-4oz	X	X	For original Times Dates and To original Refer to C.O.C.'s
2	CLJ44-CU-058				X	Stockpile # 14 clean	1-4oz	X	X	
3	~~CLJ44-CU-059~~				X	Stockpile # 15 clean	1-4oz.	X	X	
4	~~CLJ44-CU-060~~				X	Stockpile # 16 clean	1-4oz.	X	X	
5	~~CLJ44-CU-076~~				X	Stockpile # 18 clean	1-4oz.	X	X	
6	~~CLJ44-CU-077~~				X	Stockpile # 19 clean	1-4oz	X	X	
7	~~CLJ44-CU-83~~				X	Stockpile # 20 clean	1-4oz	X	X	
8	~~CLJ44-CU-083D~~				X	Stockpile # 20D clean	1-4oz.	X	X	
9	~~CLJ44-CU-090~~				X	Stockpile # 23 clean	1-4oz	X	X	
10										

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-9	Loren R Aron	FEDEX# 6921490936	10/31	1700
2	1-9	Fedex	Angela O. Schimmel	11-2-95	1038
3					
4					

REMARKS

24 hour TAT. Please fax Data To (910) 451-1809

18°C

0051

SAMPLER'S SIGNATURE Loren R. Aron

Appendix I

Well Abandonment Information

Department of Natural Resources and Community Development
Division of Environmental Management

P. O. Box 27687 - Raleigh, N. C. 27611

WELL ABANDONMENT RECORD

CONTRACTOR PARRATT-WOLFF, INC. REG. NO. 1446

1. WELL LOCATION: (Show a sketch of the location on back of form.)
   Nearest Town: JACKSONVILLE County ONSLOW
   CAMP GEIGER Quadrangle No.
   (Road, Community, Subdivision, Lot No.)
2. OWNER: USMC
3. ADDRESS:
4. TOPOGRAPHY: draw, slope, hilltop, valley, flat
5. USE OF WELL: MONITORING DATE: 7/21/95
6. TOTAL DEPTH: 52.0' DIAMETER: 2"
7. CASING REMOVED: NONE

feet	diameter

8. SEALING MATERIAL:

Neat cement	Sand cement
bags of cement 3	bags of cement
gals. of water 24	yds. of sand
	gals. of water

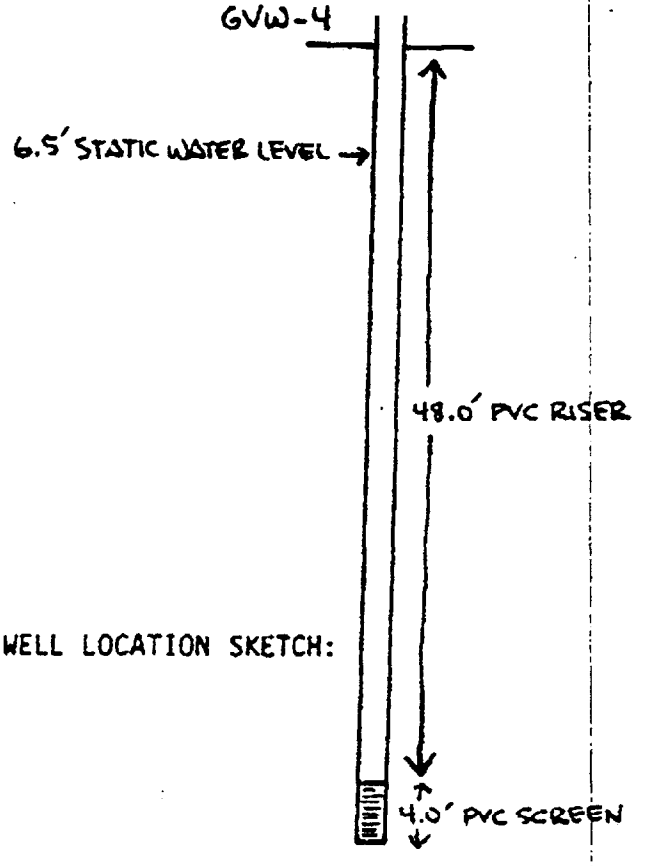
Other
Type material QUICK GEL BENTONITE
Amount 3%

9. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL
   PUMPED GROUT FROM THE BOTTOM TO THE SURFACE USING TREMIE PIPE.

I do hereby certify that this well abandonment record is true and exact.

Justin W. Abra AUG 21, 1995
Signature of Contractor or Agent Date

WELL DIAGRAM: Draw a detailed sketch of the well showing total depth, depth and diamete of screens remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used



WELL LOCATION SKETCH:

Submit original to the Division of Environmental Management, one copy to the Driller, and one copy to the Owner.

GW-30

Department of Natural Resources and Community Development
Division of Environmental Management

P. O. Box 27687 - Raleigh, N. C. 27611

WELL ABANDONMENT RECORD

CONTRACTOR PARRATT - WOLFF, INC. REG. NO. 1446

1. WELL LOCATION: (Show a sketch of the location on back of form.)
Nearest Town: JACKSONVILLE County ONSLOW
CAMP GEIGER Quadrangle No.
(Road, Community, Subdivision, Lot No.)

2. OWNER: USMC

3. ADDRESS:

4. TOPOGRAPHY: draw, slope, hilltop, valley, flat

5. USE OF WELL: MONITORING DATE: 7/21/95

6. TOTAL DEPTH: 12.0' DIAMETER: 2"

7. CASING REMOVED: NONE

feet	diameter

8. SEALING MATERIAL:

Neat cement	Sand cement
bags of cement 1	bags of cement
gals. of water 8	yds. of sand
	gals. of water

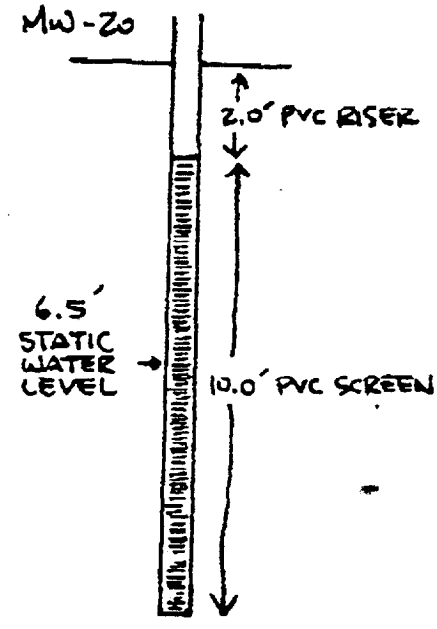
Other
Type material QUICK GEL BENTONITE
Amount 3%

9. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL
PUMPED GROUT FROM THE BOTTOM TO THE SURFACE USING TREMIE PIPE.

I do hereby certify that this well abandonment record is true and exact.

Justin W. Abra AUG 21, 1995
Signature of Contractor or Agent Date

WELL DIAGRAM: Draw a detailed sketch of the well showing total depth, depth and dimete of screens remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used



WELL LOCATION SKETCH:

Submit original to the Division of Environmental Management, one copy to the Driller, and one copy to the Owner.

JW-30

Department of Natural Resources and Community Development
Division of Environmental Management

P. O. Box 27687 - Raleigh, N. C. 27611

WELL ABANDONMENT RECORD

CONTRACTOR PARRATT-WOLFF, INC REG. NO. 1446

1. WELL LOCATION: (Show a sketch of the location on back of form.)
   Nearest Town: JACKSONVILLE County ONSLOW
   CAMP GEIGER Quadrangle No.
   (Road, Community, Subdivision, Lot No.)
2. OWNER: USMC
3. ADDRESS:
4. TOPOGRAPHY: draw, slope, hilltop, valley, flat
5. USE OF WELL: MONITORING DATE: 7/21/95
6. TOTAL DEPTH: 14.0' & 27.5' DIAMETER: 2"
7. CASING REMOVED: NONE

feet	diameter

8. SEALING MATERIAL:

Neat cement	Sand cement
bags of cement 2	bags of cement
gals. of water 16	yds. of sand
	gals. of water

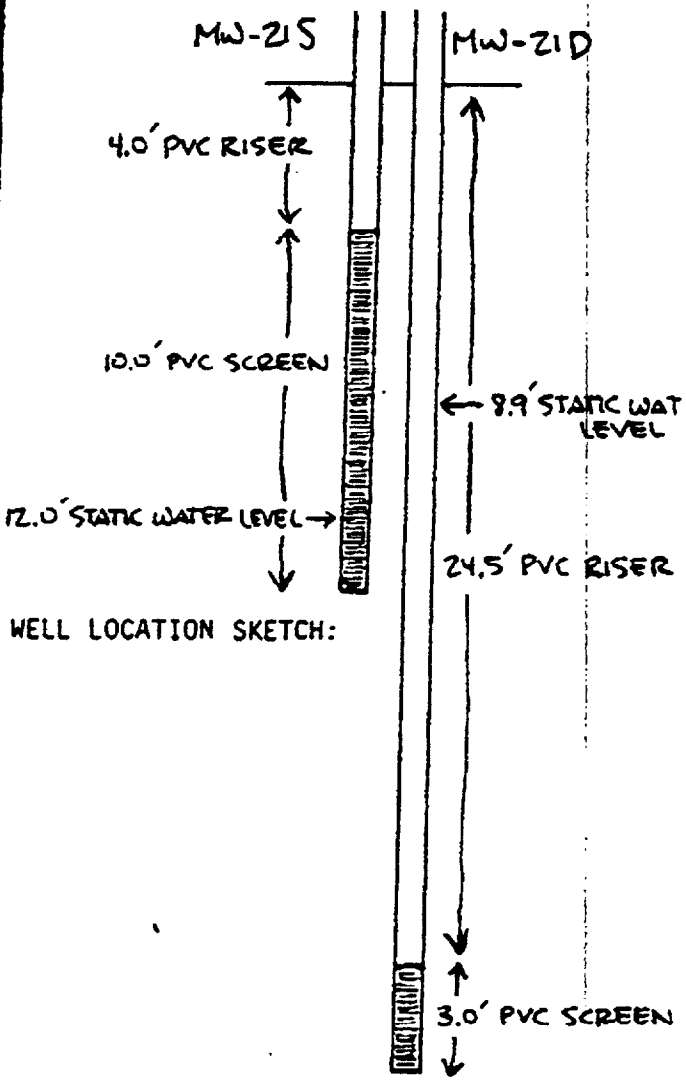
Other
Type material QUICK GEL BENTONITE
Amount 3%

9. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL
   PUMPED GROUT FROM THE BOTTOM TO THE SURFACE USING TREMIE PIPE.

I do hereby certify that this well abandonment record is true and exact.

Justin W. Abra AUG 21, 1995
Signature of Contractor or Agent Date

WELL DIAGRAM: Draw a detailed sketch of the well showing total depth, depth and diamete of screens remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used



WELL LOCATION SKETCH:

Submit original to the Division of Environmental Management, one copy to the Driller, and one copy to the Owner.

GW-30

Department of Natural Resources and Community Development
Division of Environmental Management

P. O. Box 27687 - Raleigh, N. C. 27611

WELL ABANDONMENT RECORD

CONTRACTOR PARRATT-WOLFF, INC. REG. NO. 1446

1. WELL LOCATION: (Show a sketch of the location on back of form.)
   Nearest Town: JACKSONVILLE County ONSLOW
   CAMP GEIGER Quadrangle No.
   (Road, Community, Subdivision, Lot No.)
2. OWNER: USMC
3. ADDRESS:
4. TOPOGRAPHY: draw, slope, hilltop, valley, flat
5. USE OF WELL: MONITORING DATE: 7/21/95
6. TOTAL DEPTH: 18.5' & 29.5 DIAMETER: 2"
7. CASING REMOVED: NONE

feet	diameter

8. SEALING MATERIAL:

Neat cement	Sand cement
bags of cement 3	bags of cement
gals. of water 24	yds. of sand
	gals. of water

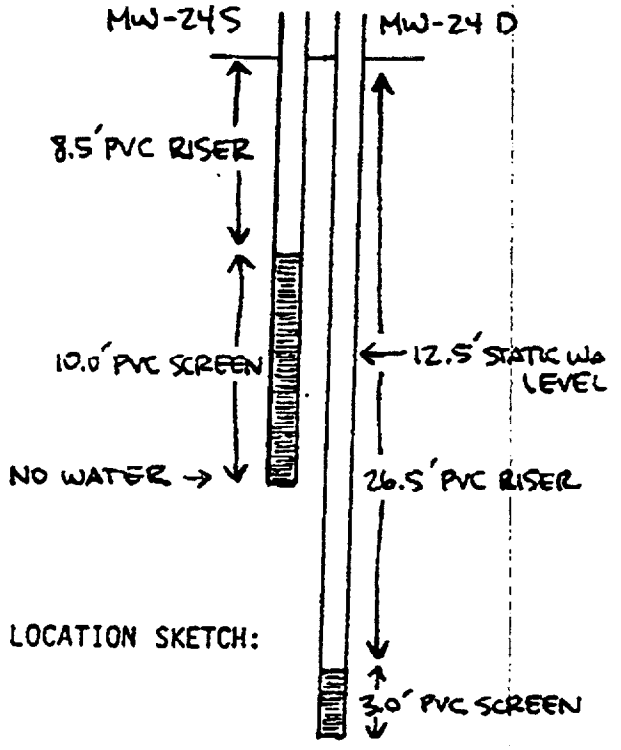
Other
Type material QUICK GEL BENTONITE
Amount 3%

9. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL
   PUMPED GROUT FROM THE BOTTOM TO THE SURFACE USING TREMIE PIPE.

I do hereby certify that this well abandonment record is true and exact.

Justin W. Abra AUG 21, 1995
Signature of Contractor or Agent Date

WELL DIAGRAM: Draw a detailed sketch of the well showing total depth, depth and diamete of screens remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used



WELL LOCATION SKETCH:

Submit original to the Division of Environmental Management, one copy to the Driller, and one copy to the Owner.

GW-30

Department of Natural Resources and Community Development
Division of Environmental Management

P. O. Box 27687 - Raleigh, N. C. 27611

WELL ABANDONMENT RECORD

CONTRACTOR PARRATT-WOLFF, INC. REG. NO. 1446

1. WELL LOCATION: (Show a sketch of the location on back of form.)
   Nearest Town: JACKSONVILLE County ONSLOW
   CAMP GEIGER Quadrangle No. _____
   (Road, Community, Subdivision, Lot No.)
2. OWNER: USMC
3. ADDRESS: _____
4. TOPOGRAPHY: draw, slope, hilltop, valley, flat
5. USE OF WELL: MONITORING DATE: 7/21/95
6. TOTAL DEPTH: 14.0' & 30.0' DIAMETER: 2"
7. CASING REMOVED: NONE

feet	diameter

8. SEALING MATERIAL:

Neat cement	Sand cement
bags of cement 3	bags of cement ___
gals. of water 24	yds. of sand ___
	gals. of water ___

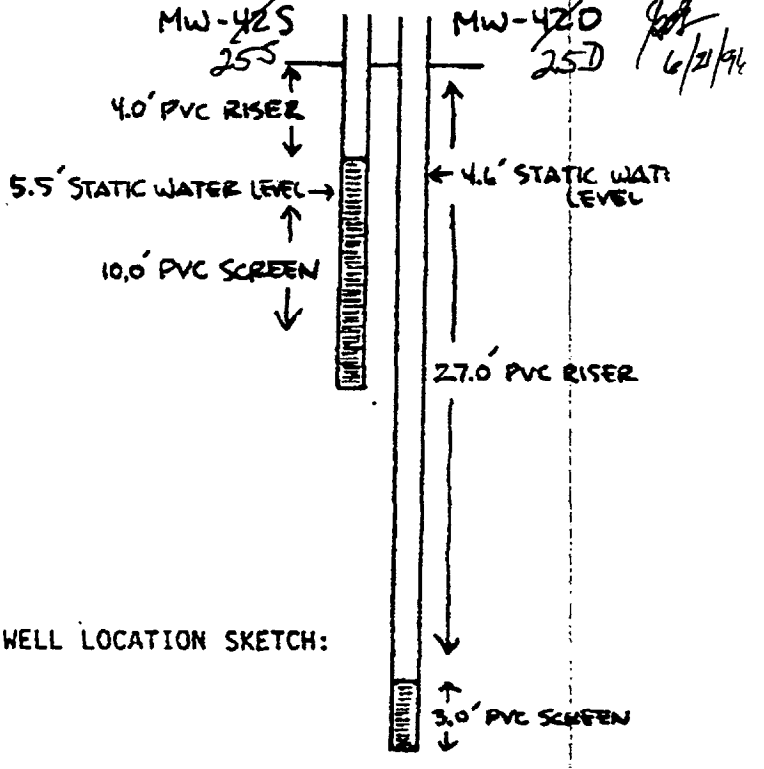
Other
Type material QUICK GEL BENTONITE
Amount 3%

9. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL
   PUMPED GROUT FROM THE BOTTOM TO THE SURFACE USING TREMIE PIPE.

I do hereby certify that this well abandonment record is true and exact.

Justin W. Abra AUG 21, 1995
Signature of Contractor or Agent Date

WELL DIAGRAM: Draw a detailed sketch of the well showing total depth, depth and diameter of screens remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used



WELL LOCATION SKETCH:

Submit original to the Division of Environmental Management, one copy to the Driller, and one copy to the Owner.

GW-30

parratt wolff inc

Faxsimile

To: Jim Dunn
OHM

From: Butch Stevens

Date: June 11, 1996

No. of pages: 6

Well abandonment Records you required for work at camp Geiger, NC 7/21/95.
If you need anything else, please call me.

Butch Stevens

☐ Fisher Road, East Syracuse NY 13057-0056 Telephone 315-437-1429 or 800-782-7260 FAX 315-437-1770
☑ One Copley Parkway, Suite 309, Raleigh, North Carolina 27623 Telephone 919-469-2953 FAX 919-469-8280