Remedial Design, Phase II
Pre-Design Investigation
Supplemental Sampling
Letter Report Number 2

for

Site 1
Former Drum Marshaling Area
Naval Weapons Industrial Reserve Plant (NWIRP)

Bethpage, New York

Northern Division
Naval Facilities Engineering Command

Contract Number N62472-90-D-1298
Contract Task Order 0213

September 1995

C F BRAUN ENGINEERING CORPORATION

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TABLES

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1.0 INTRODUCTION

This Letter Report has been prepared under the Comprehensive Long-Term Environmental Action Navy (Clean) Contract No. N6247-90-D-1298, Contract Task Order (CTO) 0213. C F Braun Engineering Corporation (C F Braun) conducted soil sampling activities during the period of August 29, 1995 through September 1, 1995 (August 1995) as part of the Remedial Design, Phase II, for Site 1 at the Naval Weapons Industrial Reserve Plant (NWIRP) in Bethpage, New York. The Remedial Design, Phase II, for Site 1 includes an air sparging/vapor extraction (AS/VE) system for source contamination located in the soils and shallow groundwater beneath the site. To support design activities soil sampling and analysis has been conducted to determine the level of volatile organic compounds (VOC) contamination at the site and to assist in selecting a location for the installation of a pilot-scale AS/VE system.

Prior to the August 1995 sampling and analysis event, which is discussed in this Letter Report, sampling and analysis was performed during the month of May 1995. The information obtained from the May investigation and pertinent information from the Remedial Investigations were summarized in the Remedial Design, Phase II Pre-Design Investigation Letter Report for Site 1 (C F Braun, July 1995).

1.1 PURPOSE

The purpose of this Letter Report is to summarize the results of the August 1995 sampling and analysis pre-design investigation. Sampling activities were required at Site 1 because the available analytical data for the subsurface soil were not adequate to conduct the Remedial Design which includes determining a location for the pilot-scale AS/VE system. The objective of the sampling effort was to determine the location of elevated levels of VOC contamination within Site 1 in order to proceed with the design effort. Remedial Action levels for groundwater and soils at Site 1 were previously established and are presented in Table 1-1.

This report will summarize the results of the August 1995 sampling and analysis activities and make recommendations for future project activities.

1.2 ORGANIZATION OF REPORT

This report consists of four sections. Section 1.0 consists of this introduction. Section 2.0 describes the field activities. Section 3.0 summarizes the results of the sampling activities. Section 4.0 provides conclusions and recommendations.

TABLE 1-1

REMEDIAL ACTION LEVELS FOR GROUNDWATER AND SOILS AT SITE 1 NWIRP BETHPAGE, NEW YORK

Chemical of Concern	New York State Standards for Groundwater (μg/L)	Remedial Action Levels for Soils[1] (μg/kg)
Trichloroethene	5	30
Toluene	5	NA
1,1-Dichloroethane	5	NA
1,2-Dichloroethene	5	NA
1,1,1-Trichloroethane	5	30
Tetrachloroethene	5	81
1,1-Dichloroethene	5	NA
Carbon tetrachloride	5	NA
Xylenes	5	NA
Vinyl chloride	2	NA

1 Remedial Action Levels developed for the protection of groundwater
NA Not developed for Site 1

2.0 FIELD INVESTIGATION

This section describes the supplemental field investigation activities conducted at Site 1 - Former Drum Marshaling Area, NWIRP, Bethpage, New York. The field investigation activities consisted of drilling five soil borings to the groundwater and the collection and analysis of 15 subsurface soil samples. The sampling and analysis plan (C F Braun, August 1995) also proposed the collection of three groundwater samples from three shallow groundwater monitoring wells (HN-27, HN-28, and HN-29). During the field activities these wells were discovered to be dry, therefore, no groundwater samples were collected during the event.

2.1 SOIL BORINGS AND SUBSURFACE SOIL SAMPLING

A total of five soil borings (DSB10 through DSB14) were drilled during this investigation. The soil borings were advanced with 4¼-inch inside diameter hollow stem augers. Soil samples were collected at 5-foot intervals with 2-inch outside diameter split-barrel samplers. Physical characteristics (density, color, lithology, and moisture content) of each sample were recorded on boring logs maintained by C F Braun. Boring logs are provided in Appendix A. The headspace from each soil sample was field screened with an HNu organic vapor monitor, and the readings were recorded on the boring logs.

A total of 15 soil samples were collected and analyzed for Target Compound List (TCL) volatile organic compounds (VOC). Three soil samples were collected from each soil boring. One sample was collected from the first 10 feet below ground surface, the second sample was collected from the middle of the soil boring based on the highest headspace reading, and the third sample was collected from immediately above the soil/groundwater interface. A copy of the sample log sheet listing the samples submitted to the laboratory for analysis is provided in Appendix B. The chain of custody forms which correspond to these samples are provided in Appendix C.

All downhole drilling equipment and the rear of the drilling rig were decontaminated with pressurized steam prior to drilling, between boreholes, and prior to leaving the site, at a decontamination pad. All sampling equipment (split-barrel samplers and stainless steel trowels) were decontaminated in accordance with the Sampling and Analysis Plan. The boreholes were backfilled with the soil cuttings. A daily record of activities performed were recorded and a copy of this record is provided in Appendix D.

3.0 INVESTIGATION RESULTS

This section provides the results of the field investigation activities and laboratory analyses of the samples collected during the field activities. Results of the investigation includes field and laboratory analysis of the soil.

3.1 FIELD EVALUATION

3.1.1 Physical Characteristics

Split spoons were used to collect samples and evaluate the physical characteristics of the soils. A sample from each split spoon was examined and lithology information was recorded on the log sheets provided in Appendix A.

NWIRP is located in Nassau County in east-central Long Island, New York. Long Island lies within the Coastal Plains Physiographic Province and is a glacial outwash plain. The topography of the site is relatively flat and featureless and slopes gently to the south. The site and surrounding area are urbanized, and almost all natural physical features have been altered or destroyed. NWIRP and the surrounding area are underlain by approximately 1,100 feet of unconsolidated sediments overlying crystalline bedrock. The sediments consist of four stratigraphic units: the Upper Glacial Formation, the Magothy Formation, the Raritan Clay Member of the Raritan Formation, and the Lloyd Sand Member of the Raritan Formation. The Upper Glacial Formation consists of sand and gravel of Pleistocene age (Lindner and Reilly, 1983). The Magothy Formation is composed of sand, silt, and clay and is Cretaceous in age. The two members of the Raritan Formation were not encountered during this investigation.

The surficial glacial deposits of the Upper Glacial Formation encountered during this investigation were 25 to 40 feet thick and consisted of well-graded, fine to coarse sand and fine to coarse gravel with varying amounts of silt. The Magothy Formation was encountered below the surficial glacial deposit and consisted of fine to medium, variegated sand with intermittent silt and clay layers. Groundwater elevations were approximately 60 feet (mean sea level).

3.1.2 Chemical Characteristics

Field analysis of the split spoon samples included recording the organic vapor head space results of the soil. HNu organic vapor headspace readings varied from 0 to 62 ppm and are summarized in Table 3-1. The highest readings were encountered at depths of 0 to 2 feet in the borings.

3.2 ANALYTICAL RESULTS

This section summarizes the analytical results of the soil analysis. The locations of the five soil borings where the soil samples were collected are shown on Figure 3-1.

The results of the analysis are provided in Table 3-2. Four of the five samples had VOC concentrations above established remedial action levels. The complete analytical package provided by the laboratory is provided in Appendix E.

The results for DSB10 indicated all VOCs were below the detection limits with the exception of TCE. TCE was detected at 26 μg/Kg which is below the remedial action level of 30 μg/Kg. TCE was detected at the 0 to 2 foot interval.

DSB11 also indicated that all volatile organics analyzed were below the detection limits with the exception of PCE. PCE was detected at a concentration of 62 μg/Kg. A duplicate sample was analyzed, also determining that concentrations were below detection limits for all VOCs except PCE. PCE was detected at a concentration of 190 μg/Kg. The positive detections were found at an interval of 0 to 2 feet. The established action level for PCE is 81 μg/Kg.

The results for DSB12 indicated that all VOCs were below the detection limits except for PCE. PCE was detected at a concentration of 27 μg/Kg which is below the remedial action level.

The soil boring with the highest levels of volatile organic contamination was DSB13. Field analysis with the HNu indicated elevated readings throughout the full depth of the boring. Laboratory analysis indicated PCE and TCE had concentrations above the established remedial action levels. The remedial action level

TABLE 3-1

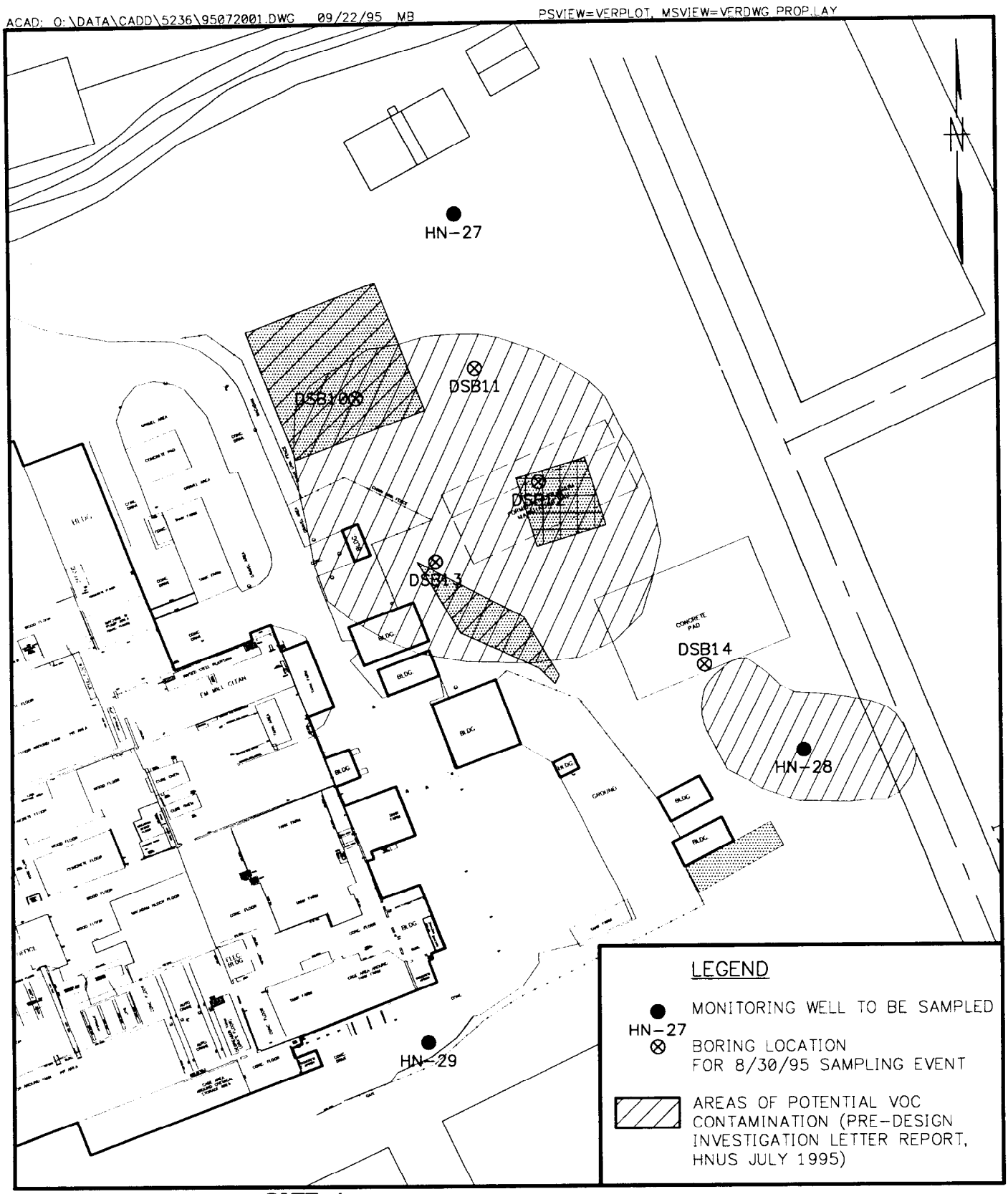
HNu READINGS FROM AUGUST 1995 SAMPLING EVENT
NWIRP BETHPAGE, NEW YORK

Soil Boring	Depth of Sample (feet)	HNu Head Space Reading (ppm)	Sample Submitted for Fixed Base Laboratory Analysis
DSB10	0 - 2	5	*
	5 - 7	<1	
	10 - 12	<1	
	15 - 17	1	*
	20 - 22	<1	
	25 - 27	<1	
	30 - 32	<1	
	35 - 37	<1	
	40 - 42	<1	
	45 - 47	<1	
	52 - 54	<1	
	55 - 57	<1	
	60 - 62	<1	*
	62 - 64	<1	
DSB11	0 - 2	34	*
	5 - 7	34	
	10 - 12	<1	
	15 - 17	0	
	20 - 22	1.5	
	25 - 27	<1	
	30 - 32	36	*
	35 - 37	2	
	40 - 42	1.8	
	45 - 47	34	
	50 - 52	34	
	55 - 57	38	
	60 - 62	0	*
	62 - 64	NR	
DSB12	0 - 2	54	*
	5 - 7	7	
	10 - 12	3	
	15 - 17	2	
	20 - 22	3.2	
	25 - 27	1	

TABLE 3-1 (Continued)
HNu READINGS FROM AUGUST 1995 SAMPLING EVENT
NWIRP BETHPAGE, NEW YORK

Soil Boring	Depth of Sample (feet)	HNu Head Space Reading (ppm)	Sample Submitted for Fixed Base Laboratory Analysis
	30 - 32	1	
	35 - 37	1	
	40 - 42	4	*
	45 - 47	<1	
	50 - 52	1.5	
	55 - 57	1	
	60 - 62	NR	*
DSB13	0 - 2	62	*
	5 - 7	36	
	10 - 12	42	
	15 - 17	28	
	20 - 22	28	
	25 - 27	12	
	30 - 32	38	
	35 - 37	30	
	40 - 42	50	*
	45 - 47	30	
	50 - 52	28	
	55 - 57	52	*
	60 - 62	NR	
DSB14	1 - 3	<1	
	5 - 7	40	*
	10 - 12	18	
	15 - 17	4	
	20 - 22	NR	
	25 - 27	0	
	30 - 32	1	
	35 - 37	1.8	
	40 - 42	2	*
	45 - 47	1.8	
	50 - 52	NR	*
	55 - 57	NR	
	60 - 62	NR	

NR No Reading Taken
* Indicates sample was submitted for laboraotry analysis. Results of the analysis is provided in Table 3-2.



SITE 1
SOIL BORING LOCATIONS
NWIRP, BETHPAGE, NEW YORK

0 100 200
SCALE IN FEET

FIGURE 3-1

C.F. BRAUN
ENGINEERING CORP.

TABLE 3-2

SOIL SAMPLE ANALYTICAL RESULTS
AUGUST, 1995 SAMPLING EVENT
NWIRP BETHPAGE, NEW YORK

	1,1,1-Trichloroethane	Trichloroethene (TCE)	Tetrachloroethene (PCE)	Toluene	Xylene
Soil Boring #10 (DSB10)					
0' to 2'	BDL	26 µg/Kg	BDL	BDL	BDL
15' to 17'	BDL	BDL	BDL	BDL	BDL
60' to 62'	BDL	BDL	BDL	BDL	BDL
Soil Boring #11 (DSB11)					
0' to 2' (Dup)	BDL	BDL	**62 (190) µg/Kg**	BDL	BDL
30' to 32'	BDL	BDL	BDL	BDL	BDL
60' to 62'	BDL	BDL	BDL	BDL	BDL
Soil Boring #12 (DSB12)					
0' to 2'	BDL	BDL	27 µg/Kg	BDL	BDL
40' to 42'	BDL	BDL	BDL	BDL	BDL
60' to 62'	BDL	BDL	BDL	BDL	BDL
Soil Boring #13 (DSB13)					
0' to 2'	BDL	**44 µg/Kg**	**490 µg/Kg**	BDL	BDL
40' to 42'	BDL	BDL	44 µg/Kg	BDL	BDL
55' to 57'	27 µg/Kg	BDL	BDL	14 µg/Kg	12 µg/Kg
Soil Boring #14 (DSB14)					
5' to 7'	BDL	BDL	BDL	BDL	BDL
40' to 42'	BDL	BDL	BDL	BDL	BDL
50' to 52'	BDL	BDL	BDL	BDL	BDL

Shaded area exceeds action level.

BDL Below Detection Limit

for TCE is 30 μg/Kg. The sample collected in the 0 to 2 foot interval indicated that the TCE and PCE concentrations were 44 μg/Kg and 490 μg/Kg, respectively. At the 40 to 42 foot interval PCE was observed at 44 μg/Kg and at the 55 to 57 foot interval 1,1,1-Trichloroethene, toluene, and xylene were observed at 27 μg/Kg, 14 μg/Kg, and 12 μg/Kg, respectively. All other volatile organics were below the detection limits.

Analytical results for DSB14, which was located by the former concrete staging pad, indicated that all VOC concentrations were below detection limits.

4.0 SUMMARY AND RECOMMENDATIONS

Two of the five soil boring locations (SB11 and SB13) indicated volatile contamination above the remedial action levels. The highest concentrations have been determined to be in the top several feet. During the previous RI investigation, SB119 was found to contain elevated levels of volatile contamination. These boring locations constitute the areas of contamination at Site 1.

Based on the sampling results, it is recommended that a pilot-scale system be installed within the area of contamination shown on Figure 3-1. The exact location of the system will be determined based on review of all historic data as well as minimizing conflicts with the proposed remediation effort for Phase I.

The purpose of the pilot-scale study will be to evaluate the success of the air sparging system to achieve concentration reductions for the chlorinated volatiles in the soil and in the upper 10 feet of the aquifer. Additionally, various design parameters will be determined such as radius of influence, air flow rates, and carbon efficiency for use during the design of a full scale system.

REFERENCES

Lindner, Julie B. and Thomas E. Reilly, 1983, Analysis of Three Tests of the Unconfined Aquifer in Southern Nassau County, Long Island, New York. Syosset, New York: USGS Water Resources Investigations Report 82-4021.

C F Braun Engineering Corporation; August 1995. Sampling and Analysis Plan Addendum for Additional Sampling at Site 1 - Former Drum Marshalling Area Naval Weapons Industrial Reserve Plan (NWIRP). Bethpage, New York.

C F Braun Engineering Corporation; July 1995. Remedial Design, Phase II, Pre-Design Investigation Letter Report for Site 1 - Former Drum Marshalling Area Naval Weapons Industrial Reserve Plant (NWIRP). Bethpage, New York.

APPENDIX

A SOIL BORING LOGS

B SAMPLE LOG SHEETS

C CHAIN OF CUSTODY RECORDS

D DAILY ACTIVITIES RECORD

E CHEMICAL ANALYSIS RESULTS

APPENDIX A

SOIL BORING LOGS

BORING LOG — **HALLIBURTON NUS**

PROJECT: NWIRP Bethpage — BORING NO.: DSB 10
PROJECT NO.: 5253 — DATE: 8-30-95 — DRILLER: Steve Wolf
ELEVATION: — FIELD GEOLOGIST: Tim Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (FT.) OR RUN NO.	BLOWS 6" OR ROD (%)	SAMPLE RECOVERY / SAMPLE LENGTH	LITHOLOGY CHANGE (DEPTH, FT.)	MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS Time	Headspace HNu
S-1	1.0	10/12	1.6/8.0	0.8	M Dense	Dark Gray	Gravelly Sand Fine	SW	1007	5 ppm *
0/2	2.0	15/15				Black Brn	Clayey Sand	SC		
	3.0						↓			
	4.0									
	5.0									
S-2 5/7		11/12	0.8/2.0		Dense		↓		1016	<1
	7.0	15/21				orange brn tan	Coarse Gravelly Sand	SW		
	10.0									
S-3 10/12		11/14	0.9/2.0		Dense	orange brn	coarse GRAVELLY M-c gr SAND	SW	1024	<1
	12.0	22/28								
	15.0									
S-4 15/17		6/6	1.2/2.0		M Dense	yellow tan	coarse gravelly M-c gr SAND	SW	1032	1 *
	17.0	10/11					F-gr SAND Tr FINE GRAVEL	SP		
	20.0									
S-5 20/22		10/9	1.2/2.0		M Dense	Tan	Coarse GRAVELLY F-C gr SAND	SW	1038	<1
	22.0	13/16								
	25.0									

REMARKS: Mobile B-61 HSA Rig
2" SS 4¼" ID Augers, Down hole Hammer

BORING DSB 10

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• See Legend on Back

BORING LOG — **HALLIBURTON NUS**

PROJECT: NWIRP Bethpage — BORING NO.: DSB 10
PROJECT NO.: 5253 — DATE: 8-30-95 — DRILLER: Steve Wolf
ELEVATION: — FIELD GEOLOGIST: Tim Evans
WATER LEVEL DATA: —
(Date, Time & Conditions) —

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR ROD (%)	SAMPLE RECOVERY - SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, Ft.)	MATERIAL DESCRIPTION*			ROCK BR. OR USCS	REMARKS
					SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION		Time / Headspace HNu
S-6 25/27		8 11	1.0/2.0		Dense	Tan	Fine-gr SAND Trace f-mp GRAVEL	SP	1045 <1 ppm
	27.0	15 16							
	30.0								
S-7 30/32		10 8	1.5/2.0		M Dense	Tan	M-gr SAND Some Fine gravel	SW	1052 Brown MoHling <1
	32.0	10 16							
	35.0								
S-8 35/37		18 27	1.5/2.0		Dense	Brn	Mgr SAND Tr Iron (Rust) Nodules	SW	1100 <1
	37.0	20 20							
	40.0								
S-9 40/42		15 16	1.4/2.0		Dense	Yellow Orange	Mgr SAND uPoorly graded	SP	1110 <1
	42.0	27 21							
	45.0		1.2/2.0					SP	1117 <1
S-10 45/47		16 17			Dense	Lt gray	Fine gr SAND		
	47.0	21 20							
	50.0								

REMARKS —

BORING DSB10

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* See Legend on Back

BORING LOG — **HALLIBURTON NUS**

PROJECT: NWIRP Bethpage — BORING NO.: DSB 10
PROJECT NO.: 5253 — DATE: 8-30-95 — DRILLER: Steve Wolf
ELEVATION: — FIELD GEOLOGIST: Tim Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (FT) OR RUN NO.	BLOWS 6" OR ROD (%)	SAMPLE RECOVERY / SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, FT.)	MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS Time	Headspace HNu
S-11 52/57		16 14 25 21	1.4/2.0		Dense	gray	Fine gr SAND Tr Silt Layer(2")	SP	1126	<1
	52.0					yellow brn	F-m gr SAND Rust laminae	SP		
	55.0									
S-12 57/57		18 80 23 29	1.4/2.0		V Dense	Lt gray yellow orange	m gr SAND V poorly graded Rust laminae	SP	1132	<1
	57.0									
	60.0									
S-13 60/62		17 23 30 30	1.9/2.0		V Dense	Lt gray + yellow orange		SP	1140	<1 ★
	62.0			▽ 0/30 62'						
S-14 62/64		10 15 23 23	1.0/2.0		Dense	↓	↓	↓	1149	<1
	64.0			TD64'						
							HSA 60'			
							★ Samples :			
							DSB 10 - 60/62			
							DSB 10 - 15/17			
							DSB 10 - 60/62			
							Sent to Pace Labs			
							for TCL VOC			

REMARKS

BORING DSB 10

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* See Legend on Back

BORING LOG — **HALLIBURTON NUS**

PROJECT: NWIRP Bethpage — BORING NO.: DSB11
PROJECT NO.: 5253 — DATE: 8/30/95 — DRILLER: Steve Wolf
ELEVATION: — FIELD GEOLOGIST: Tim Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (FT.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY - SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, Ft.)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS Time	Headspace HNU
S-1 0/2	1.0	5 / 21	1.4/0.0		M Dense	Dark Gray	Silty Sand Trace F gr GRAVEL	SC	1347	34 ppm
	2.0	19 / 8								
	5.0									
S-2 5/7		3 / 2	1.2/2.0		M Dense	orange brn	M gr SAND Some Fine GRAVEL	SW	1355	34ppm
	7.0	12 / 14				gray brn tan	Silt Sand Some Gravel	SM SW		
	10.0									
S-3 10/12		9 / 9	1.0/0.0		M Dense	yellow orange	M-C gr SAND Some Gravel	SW	1404	<1
	12.0	11 / 14								
	15.0									
S-4 15/17		10 / 9	0.9/2.0		M Dense	yellow orange	M-C gr SAND Some Fine Gravel	SW	1414	0
	17.0	10 / 9								
	20.0									
S-5 20/22		8 / 10	1.1/2.0		M Dense	Brn	Gravelly M-C gr SAND	SW	1424	1.5
	22.0	9 / 10								
	25.0									

REMARKS: Mobile B61 HSA Rig
2" SS, 4 1/4" ID Augers, Downhole Hammer

BORING DSB11

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* See Legend on Back

BORING LOG — **HALLIBURTON NUS**

PROJECT: NWIRP Bethpage — BORING NO.: DSB11
PROJECT NO.: 5253 — DATE: 8-30-95 — DRILLER: Steve Wolf
ELEVATION: — FIELD GEOLOGIST: T Evans
WATER LEVEL DATA: —
(Date, Time & Conditions) —

SAMPLE NO. & TYPE	DEPTH (FT) OR RUN NO.	BLOWS 6" OR ROD (PSI)	SAMPLE RECOVERY / SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, Ft.)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS Time	
S-6 25/27	26.0	10 / 14	1.2/2.0		Dense	Tan	Fgr SAND	SP	1430	<1
	27.0	19 / 20					Gravelly SAND	SW		
	30.0									
S-7 30/32		8 / 11	1.1/2.0		Dense	LV	V		1437	36 ★
	32.0	12 / 11				Lt gray	Fgr SAND vpoorly graded	SP		
				??						
	35.0									
S-8 35/37		12 / 12 / 11	1.3/2.0		Dense	Lt Brn	Mgr SAND	SP	1445	2
	37.0	16								
				??						
	40.0									
S-9 40/42		11 / 7	1.4/2.0		Dense	Lt gray	Fgr SAND	SP	1453	1.8
	42.0	12 / 10								
	45.0									
S-10 46/47		12 / 12	1.7/2.0		M Dense	Lt gray	Fgr SAND	SP	1501	34
	47.0	19 / 20								
	50.0									

REMARKS —

BORING DSB11

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* See Legend on Back

BORING LOG — **HALLIBURTON NUS**

PROJECT: NWIRP Raritan . BORING NO.: DSB11
PROJECT NO.: 5253 DATE: 9.30.95 DRILLER: Steve Wolf
ELEVATION: _____ FIELD GEOLOGIST: Tim Evans
WATER LEVEL DATA: _____
(Date, Time & Conditions) _____

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR ROD (Ft.)	SAMPLE RECOVERY / SAMPLE LENGTH	LITHOLOGY CHANGE (Decimal Ft.)	MATERIAL DESCRIPTION* — SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS — Time	Headspace HNu
S-11 50/52	51.0	9 / 8	1.4/2.0		V Dense	Tan	F-Gr SAND	SP	1508	34
	52.0	31 / 21								
	55.0									
S-12 55/57		11 / 15	1.4/2.0		V Dense	orange Brn	M-Gr SAND	SP	1515	38
	57.0	23 / 38								
	60.0									
S-13 60/62		7 / 14	1.3/2.0		V Dense	gray	Silt	SP SM	1525 Damp	0
	62.0	22 / 32				Brn	M-Gr SAND	SP		
S-14 62/64		11 / 12	/2.0	▽ 8/20					1530 Saturated	—
	64.0	11 / 15								
				TD64			HSA 60'			
							Samples			
							DSB11 - 00/02			
							DSB11 - 30/32			
							DSB11 - 60/62			
							sent to Pace Labs			
							for TCL VOC			

REMARKS _____

BORING DSB11

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* See Legend on Back

BORING LOG — **HALLIBURTON NUS**

PROJECT: NWIRP Bethpage — BORING NO.: DSB12
PROJECT NO.: 5253 — DATE: 8.31.95 — DRILLER: Steve Wolf
ELEVATION: — FIELD GEOLOGIST: Tim Evans
WATER LEVEL DATA: —
(Date, Time & Conditions) —

SAMPLE NO. & TYPE	DEPTH (FT) OR RUN NO.	BLOWS 6" OR ROD (%)	SAMPLE RECOVERY / SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, Ft.)	MATERIAL DESCRIPTION*: SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS (Time / Head HNu)
S-1 0/2	1.0	7 8	1.7/2.0		M Dense	Gray D Brn	Sand some Gravel Silty Sand	SW SC	1235 54 ppm *
	2.0	7 9				Brn	Fine Gravelly SAND	SW	
	5.0								
S-2 5/7		3 3	1/2.0		M Dense	Gray	Silt Tr Sand & Fine gravel	SM	1241 Damp 7
	7.0	9 6				Tan	Med Sand Tr Fine gravel	SP	
	10.0								
S-3 10/12		9 7	1.0/2.0		M Dense	orange brn	Fine - Coarse Gravelly Mgr SAND	SW	1248 3
	12.0	11 13							
	15.0								
S-4 15/17		9 9	0.3/2.0		M Dense	orange brn	Gravelly Sand	SW	1257 Moist 2 Poor recovery
	17.0	11 17							
	20.0								
S-5 20/22		7 9	1.2/2.0		M Dense	orange brn	Gravelly SAND	SW	1304 Moist 3.2
	22.0	10 8							
	25.0								

REMARKS: Mobile B-61 HSA Rig
4¼" ID Augers, 2" SS, Down Hole Hammer

BORING DSB12

PAGE 1 OF 3

* See Legend on Back

BORING LOG — **HALLIBURTON NUS**

PROJECT: NWIRP Bethpage — BORING NO.: DSB12
PROJECT NO.: 5253 — DATE: 8-31-95 — DRILLER: Steve Wolf
ELEVATION: — FIELD GEOLOGIST: Tim Evans
WATER LEVEL DATA: —
(Date, Time & Conditions) —

SAMPLE NO. & TYPE	DEPTH (ft) OR RUN NO.	BLOWS 6" OR ROD (ft)	SAMPLE RECOVERY - SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS Time	Head HNu
S-6 25/27	26.0	8 / 8	1.2/2.0		M Dense	Tan	F-C gr SAND Tr fine gravel	SW	1309	1 ppm
	27.0	17 / 11								
	30.0									
S-7 30/32		6 / 11	1.6/2.0		M Dense	tan	M-C gr SAND Tr iron Nodules (Rust .20")	SW	1316	1 ppm
	32.0	13 / 13								
	35.0									
S-8 35/37		11 / 17	1.8/2.0		Dense	orange brn	SAND Tr Rust Nodules	SW	1323	1
	37.0	18 / 21				Tan	Silty Fgr SAND	SM		
	40.0									
S-9 40/42		8 / 8	1.5/2.0		M Dense	white tan	Fgr SAND Tr mica	SP	1330	4
	42.0	9 / 10								
	45.0									
S-10 45/47		9 / 11	1.5/2.0		M Dense	wh. tan	Fgr SAND Tr Mica	SP	1337	<1
	47.0	10 / 17								
	50.0									

REMARKS —

BORING DSB12

PAGE 2 OF 3

* See Legend on Back

BORING LOG — **HALLIBURTON NUS**

PROJECT: NWIRP Bethpage — BORING NO.: DSB 12
PROJECT NO.: 5253 — DATE: 8-31-95 — DRILLER: Steve Wolk
ELEVATION: — FIELD GEOLOGIST: Tim Evans
WATER LEVEL DATA: —
(Date, Time & Conditions) —

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR ROD (%)	SAMPLE RECOVERY / SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, Ft.)	MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS Time	Head Space
S-11 50/52	51.0	11 12 12 14	1.4/2.0		M Dense	pink Tan	Mgr SAND V poorly grade	SP	1345	1.5
	52.0									
	55.0									
S-12 55/57		16 14 20 18	1.3/2.0		Dense	yellow brn	SAND	SP	1553	Damp 1ppm
	57.0						Tr silt & gravel			
	60.0									
S-13 60/62			1.6/2.0	8/31 ▽61.5		Tan Brn	sand w/ silt layer	SP	1402	— ★
	62.0			TD=62						saturated
							HSA 60'			
							Samples:			
							DSB12 - 00/02			
							DSB12 - 40/42			
							DSB12 - 60/62			
							sent to Pace Labs			
							for TCL VOC			

REMARKS —

BORING DSB 12

PAGE 3 OF 3

* See Legend on Back

BORING LOG — **HALLIBURTON NUS**

PROJECT: NWIRP Bethpage — BORING NO.: DSB 13
PROJECT NO.: 5253 — DATE: 8.31.95 — DRILLER: Steve Wolf
ELEVATION: — FIELD GEOLOGIST: Tim Evans
WATER LEVEL DATA: —
(Date, Time & Conditions) —

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR ROD (%)	SAMPLE RECOVERY / SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, Ft.)	MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS Time	Headspace HNu
S-1 0/2	1.0	5 / 3	1.1/3.0		M Dense	Tan & Brn	Sand & gravel Clayey Sand	SP SC	0903	62 ppm *
	2.0	8 / 8								
	5.0									
S-2 5/7		12 / 14	1.0/2.0		Dense	Tan	Fine Gravelly mgr Sand	SW	0909	36 ppm
	7.0	15 / 16								
	10.0									
S-3 10/12		11 / 9	1.0/2.0		M Dense	Tan	Gravelly SAND	SW	0915	42
	12.0	10 / 13								
	15.0									
S-4 15/17		9 / 9	1.3/2.0		M Dense	Tan	Fgr SAND	SP	0921	28
	17.0	8 / 9					F-C gr SAND	SW		
	20.0									
S-5 20/22		14 / 12	1.3/0.0		MDense	Tan	Fine GRAVELLY SAND	SW	0928	28
	22.0	13 / 14								
	25.0									

REMARKS: Mobile B-61 HSA Rig
4¼" ID Augers, 2" Split Spoon, Downhole Hammer

BORING DSB 13

PAGE 1 OF 3

* See Legend on Back

BORING LOG — **HALLIBURTON NUS**

PROJECT: NWIRP Bethpage — BORING NO.: DSB13
PROJECT NO.: 5052 — DATE: 8.31.95 — DRILLER: Steve Wolf
ELEVATION: — FIELD GEOLOGIST: Tim Evans
WATER LEVEL DATA: —
(Date, Time & Conditions) —

SAMPLE NO. & TYPE	DEPTH (Ft) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY - SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, Ft.)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS Time	Headspace HNu
S-6 25/27	26.0	7 7 9 12	1.5/2.0		M Dense	Tan	Mgr SAND Tr Fine gravel	SP/SW	0925	12
	27.0									
	30.0									
S-7 30/32		10 8 8 7	1.4/2.0		M Dense	orange brn	F-Mgr SAND Tr/Some Iron Nodules Cgr	SM	0940	38
	32.0									
	35.0									
S-8 35/37		5 7 11 10	1.6/2.0		M Dense	orange yellow	Mgr SAND Tr Iron Nodules (.20")	SP	0947	30
	37.0					yellow orange	Sandy Silt	SM		
	40.0									
S-9 40/42		9 12 16 20	1.3/2.0		Dense	Gray	Fgr SAND	SP	0955	50
	42.0									
	45.0									
S-10 45/47		13 22 24 28	1.3/2.0		V Dense	D Gray	Mgr SAND	SP	1007 "Coal" Odor	30
	47.0									
	50.0									

REMARKS —

BORING DSB13

PAGE 2 OF 3

* See Legend on Back

BORING LOG — **HALLIBURTON NUS**

PROJECT: NWIRP Bethpage — BORING NO.: DSB13
PROJECT NO.: 5453 — DATE: 8-31-95 — DRILLER: Steve Wolf
ELEVATION: — FIELD GEOLOGIST: Tim Evans
WATER LEVEL DATA: —
(Date, Time & Conditions) —

SAMPLE NO. & TYPE	DEPTH (FT.) OR RUN NO.	BLOWS 6" OR ROD (%)	SAMPLE RECOVERY / SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, FT.)	MATERIAL DESCRIPTION*: SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION.	ROCK BR. OR USCS	REMARKS (Time, Head Spc, HNU)
S-11 50/52		14 13 18 16	1.3/2.0		Dense	DBrn to Gray	F-Mgr SAND	SP	1014 "Coal" odor 28
							Mgr SAND		
	55.0								
S-12 55/57		17 18 20 20	1.3/2.0		Dense	Brn + Gray	Mgr SAND	SP	1023 odor laminated 52 ★
	55.7								Damp
	60.0								
S-13 60/62		10 11 9 12	1.6/2.0	≈ 61'	M Dense	Tan	M-Cgr SAND	SP	1028 odor Saturated
	62.0			TO 62'					
							HSA 60'		
							~~2"ss~~		
							Samples:		
							DSB13-00/02		
							DSB13-40/42		
							DSB13-55/57		
							sent to Pace Labs		
							for TCL VOC		

REMARKS —

BORING DSB13

PAGE 3 OF 3

* See Legend on Back

BORING LOG — **HALLIBURTON NUS**

PROJECT: NWIRP Bethpage — BORING NO.: DSB14
PROJECT NO.: 5252 — DATE: 9-1-95 — DRILLER: Steve Wolf
ELEVATION: — FIELD GEOLOGIST: Tim Evans
WATER LEVEL DATA: —
(Date, Time & Conditions): rain 8-31-95 late pm

SAMPLE NO. & TYPE	DEPTH (FT.) OR RUN NO.	BLOWS 6" OR ROD (%)	SAMPLE RECOVERY / SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, Ft.)	MATERIAL DESCRIPTION*: SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS: Time	Head Space
	1.0	7 / 9	1.5/2.0	0.8			Concrete / sand Jr gravel	SP		
S-1 1/3	2.0	11 / 14			M Dense	Brn to	clayey sand	SC	0718	<1 ppm
	3.0					Brn	FINE GRAVELLY M-CGR SAND	SW		
	5.0									
S-2 5/7		5 / 11	1.0/2.0		Dense	yellow tan	GRAVELLY SAND	SW	0722	40 ppm ★
	7.0	12 / 17								
	10.0									
S-3 10/12		6 / 11	1.1/2.0		Dense	yellow tan	GRAVELLY SAND	SW	0729	18
	12.0	15 / 16								
	15.0									
S-4 15/17		F / 9	1.0/2.0		M Dense	yellow tan	FINE GRAVEL ; M-CGR SAND	GW/ SW	0734	4
	17.0	G / 16								
	20.0									
S-5 20/22		11 / 17	0.0/2.0				- NO Recovery -		0740	-
	22.0	19 / 22							1-0" SS 1-2" SS	
	25.0									

REMARKS: Mobile B-61 HSA Rig
4¼" ID Augers, 2" SS Down hole Hammer

BORING DSB14

PAGE 1 OF 3

* See Legend on Back

BORING LOG — **HALLIBURTON NUS**

PROJECT: NWIRP Bethpage — BORING NO.: DSB 14
PROJECT NO.: 5253 — DATE: 9-1-95 — DRILLER: Steve Weir
ELEVATION: — FIELD GEOLOGIST: Tim Evans
WATER LEVEL DATA: —
(Date, Time & Conditions) —

SAMPLE NO. & TYPE	DEPTH (FT) OR RUN NO.	BLOWS 6" OR ROD (%)	SAMPLE RECOVERY / SAMPLE LENGTH	LITHOLOGY CHANGE (DEPTH, FT)	MATERIAL DESCRIPTION*: SOIL DENSITY/CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS: PID Time / Head
S-11 50/52	51.0	10 / 15 / 11 / 10	1.2/2.0		M Dense	Tan	M-Cgr SAND	SP	0820 Saturated —
	52.0								
	55.0								
S-12 55/57		2 / 3 / 5 / 6	1.4/2.0		Stiff	gray/	Fgr sandy SILT trace	SM	0830 Saturated —
	57.0								
	60.0								
S-13 60/62		11 / 10	1.7/2.0		Dense	Tan	M-Cgr SAND	SP	0847 Saturated —
	62.0	15 / 15							
				TD62					
							HSA 60'		
							1 x 3" SS		
							13 x 2" SS		
							Samples		
							DSB 14 - 05/07		
							DSB 14 - 40/42		
							DSB 14 - 50/52		
							sent to Race Labs		
							for TCL VOC		

REMARKS —

BORING DSB 14

PAGE 3 OF 3

* See Legend on Back

BORING LOG — **HALLIBURTON NUS**

PROJECT: NWIRP Bethpage — BORING NO.: DSB14
PROJECT NO.: 5253 — DATE: 9-1-95 — DRILLER: Steve Wall
ELEVATION: — FIELD GEOLOGIST: Tim Evans
WATER LEVEL DATA: —
(Date, Time & Conditions) —

SAMPLE NO. & TYPE	DEPTH (ft.) OR RUN NO.	BLOWS 6" OR ROD (%)	SAMPLE RECOVERY / SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS Time	Head Flow
S-6 25/27	26.0	4 6	1.7/2.0		M Dense	Tan	Fine GRAVELLY M-Cgr SAND	SW	0751	0 ppm
		6 9					Tr Iron Nodules (Rust) (<.20")			
	27.0									
	30.0									
S-7 30/32		9 9	1.4/2.0		M Dense	Tan	E-Mgr SAND Tr Fine Gravel	SW/SP	0757	1
	32.0	8 11				↔ Brn	Tr Iron / Rock			
	35.0									
S-8 35/37		7 9	1.5/2.0		Dense	Tan	Mgr SAND	SP	0806	1.8
	37.0	10 26				Brn	SAND Tr Rust & Gravel	SW		
	40.0									
S-9 40/42		5 7	1.6/2.0		Dense	Tan to	Fgr SAND	SP	0813	2
	42.0	16 27				Pink to Brn				
	45.0									
S-10 45/47		11 10	1.3/2.0			Brn to	Mgr SAND	SP	0820	1.8
	47.0	16 18				Tan	Fgr SAND	SP		
	50.0			▽ 9/1 = 50'						

REMARKS —

BORING DSB14

PAGE 2 OF 3

* See Legend on Back

APPENDIX B

SAMPLE LOG SHEETS

HALLIBURTON NUS Environmental Corporation

SAMPLE LOG SHEET

☐ SURFACE SOIL ☒ SUBSURFACE SOIL ☐ SEDIMENT ☐ LAGOON/POND ☐ OTHER

SAMPLERS SIGNATURE [signature]

SITE NAME NWIRP Bethpage

SITE NUMBER 5053

SAMPLE No.	SAMPLE METHOD	DEPTH (FT)	DATE	TIME	SAMPLED BY	CONCENTRATION (L)OW (M)IGH	(G)RAB (C)OMPOSITE	ANALYSES: 40 mL glass TCL VOC	No. OF CONT TOTAL	SOIL DESCRIPTION
DSB1ϕ - ϕϕ/ϕ2	2"SS	0-2	8.30.95	1007	TSE	L	G	✓	1	Gravelly to Clayey Sand
DSB1ϕ - 15/17	2"SS	15-17	8.30.95	1032	TSE	L	G	✓	1	Gravelly Sand / Sand Tr C
DSB1ϕ - 6ϕ/62	2"SS	60-62	8.30.95	1140	TSE	L	G	✓	1	Sand
DSB11 - ϕϕ/ϕ2	2"SS	0-2	8.30.95	1347	TSE	L	G	✓	1	Silty Sand Tr Grave
DSB11 - 3ϕ/32	2"SS	30-32	8.30.95	1437	TSE	L	G	✓	1	Gravelly Sand / Sand
DSB11 - 6ϕ/62	2"SS	60-62	8.30.95	1525	TSE	L	G	✓	1	Silt & Sand
DSB13 - ϕϕ/ϕ2	2"SS	0-2	8.31.95	0903	TSE	L	G	✓	1	Sand Tr Gravel / Clayey S
DSB13 - 4ϕ/42	2"SS	40-42	8.31.95	0955	TSE	L	G	✓	1	Sand
DSB13 - 55/57	2"SS	55-57	8.31.95	1023	TSE	L	G	✓	1	Sand
DSB12 - ϕϕ/ϕ2	2"SS	0-2	8-31-95	1235	TSE	L	G	✓	1	Silty Sand/Gravelly Sa
DSB12 - 4ϕ/42	2"SS	40-42	8-31-95	1330	TSE	L	G	✓	1	Sand
DSB12 - 6ϕ/62	2"SS	60-62	8-31-95	1402	TSE	L	G	✓	1	Sand & Silt
DSB14 - ϕ5/ϕ7	2"SS	5-7	9.1.95	0722	TSE	L	G	✓	1	SAND
DSB14 - 4ϕ/42	2"SS	40-42	9.1.95	0813	TSE	L	G	✓	1	Sand
DSB14 - 5ϕ/52	2"SS	50-52	9.1.95	0829	TSE	L	G	✓	1	Sand

REMARKS: Shipped FedEx (AB # 546199116 1) (8/30 + 8/31) → (9/1) AB# 879793089 0

LAB: Pace, Inc. Hampton, NH

Halliburton NUS CORPORATION

GROUNDWATER
SAMPLE LOG SHEET

Project Site Name: NWIRP Bethpage
Project No.: 5253
Sample ID No.: DGW27
Sample Location: Site 1
Sampled By: Tim Evans
C.O.C. No.: _____

- ☐ Domestic Well Data
- ☒ Monitoring Well Data
- ☐ Other Well Type: _____
- ☐ QA Sample Type: _____

Sampling Data

Date: _____
Time: _____
Method: _____

pH	S.C.	Temp. (°C)	Turbidity	Color	TBD	TBD	TBD

Purge Data

Date: 9-1-95
Method: Bailer
Monitor Reading (ppm): -
Well Casing Dia. & Material Type: 4" PVC
Total Well Depth (TD): 55.6
Static Water Level (WL): Dry
TD-WL (ft.) = -
One Casing Volume: (gal/L)
Start Purge (hrs.):
End Purge (hrs.):
Total Purge Time (min):
Total Amount Purged (gal/L):

Volume	pH	S.C.	Temp.(°C)	Turbidity	Color	TBD	TBD
Initial							
1							
2							
3							
4							
5							

Analysis	Preservative	Container Requirements	Collected (Y)

Observations/Notes: Well Dry @ 1020 hrs.
No Sample Collected

Circle If Applicable:

MS/MSD	Duplicate ID No:

Signature(s): Timothy S. Evans

TBD: To Be Determined

Halliburton NUS CORPORATION

GROUNDWATER
SAMPLE LOG SHEET

Page ___ of ___

Project Site Name: NW IRP Bethpage

Project No.: 5253

Sample ID No.: DGW28

Sample Location: Site 1

Sampled By: Tim Evans

C.O.C. No.: _____

- ☐ Domestic Well Data
- ☒ Monitoring Well Data
- ☐ Other Well Type: _____
- ☐ QA Sample Type: _____

Sampling Data

Date: _____
Time: _____
Method: _____

pH	S.C.	Temp. (°C)	Turbidity	Color	TBD	TBD	TBD

Purge Data

Date: 9-1-95
Method: _____
Monitor Reading (ppm): —
Well Casing Dia. & Material Type: 4" PVC
Total Well Depth (TD): 50.86
Static Water Level (WL): —
TD-WL (ft.) =
One Casing Volume: (gal/L)
Start Purge (hrs.):
End Purge (hrs.):
Total Purge Time (min):
Total Amount Purged (gal/L):

Volume	pH	S.C.	Temp.(°C)	Turbidity	Color	TBD	TBD
Initial							
1							
2							
3							
4							
5							

Analysis	Preservative	Container Requirements	Collected (✓)

Observations/Notes: Well Dry @ 1030 hrs
No Sample Collected

Circle If Applicable:

MS/MSD	Duplicate ID No:

Signature(s): Timothy S. [illegible]

TBD: To Be Determined

Halliburton NUS CORPORATION

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NWIRP Bethpage

Project No.: 5253

Sample ID No.: DGW29

Sample Location: Site

Sampled By: Tim Evans

C.O.C. No.: _____

- ☐ Domestic Well Data
- ☒ Monitoring Well Data
- ☐ Other Well Type: _____
- ☐ QA Sample Type: _____

Sampling Data	pH	S.C.	Temp. (°C)	Turbidity	Color	TBD	TBD	TBD
Date: _____ Time: _____ Method: _____								

Purge Data	Volume	pH	S.C.	Temp.(°C)	Turbidity	Color	TBD	TBD
Date: 9-1-95	Initial							
Method: _____	1							
Monitor Reading (ppm): —	2							
Well Casing Dia. & Material Type: 4" PVC	3							
Total Well Depth (TD): 50.37	4							
Static Water Level (WL): 42.00	5							
TD-WL (ft.) = 8.37								
One Casing Volume: (gal/L) 5.5								
Start Purge (hrs.):								
End Purge (hrs.):								
Total Purge Time (min):								
Total Amount Purged (gal/L):								

Analysis	Preservative	Container Type/Number	Collected (✓)

Observations/Notes: Well Dry @ 1247 hrs

No Sample Collected

Circle If Applicable:		Signature(s):
MS/MSD	Duplicate ID No:	Tim Evans

TBD: To Be Determined

APPENDIX C

CHAIN OF CUSTODY RECORDS

pace INCORPORATED
ENVIRONMENTAL LABORATORIES

SAMPLES FROM NEW YORK SITE YE. ✓ NO ____

241.0

CHAIN-OF-CUSTODY RECORD
Analytical Request

Client: Halliburton NUS
Address: 661 Anderson Dr Foster Plaza #7 Pittsburgh PA 15211
Phone: (412) 921-7090

Report To: Mark Speranza
Bill To:
P.O. # / Billing Reference
Project Name / No.: CTO 213

Pace Client No.
Pace Project Manager
Pace Project No.
*Requested Due Date:

Sampled By (PRINT): TIMOTHY S EVANS
Sampler Signature | Date Sampled: 8.31.95

ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO.	NO. OF CONTAINERS	PRESERVATIVES: UNPRESERVED	H_2SO_4	HNO_3	VOA			ANALYSES REQUESTED: 60mL Stars VOC TCL	REMARKS
1	DSB13 - 00/02	0903	Soil		1	✓						✓	
2	DSB13 - 40/42	0955	Soil		1	✓						✓	
3	DSB13 - 55/57	1023	Soil		1	✓						✓	
4	DSB12 - 00/02	1235	Soil		1	✓						✓	
5	DSB12 - 40/42	1330	Soil		1	✓						✓	
6	DSB12 - 60/62	1402	Soil		1	✓						✓	
7													
8													

Add'l VOC's

COOLER NOS.	BAILERS	SHIPMENT METHOD OUT DATE	SHIPMENT METHOD RETURNED DATE
1			

Additional Comments: Fedex AB# 546199 1161

ITEM NUMBER	RELINQUISHED BY AFFILIATION	ACCEPTED BY AFFILIATION	DATE	TIME
1-6	TimothyS / HNUS 8.31.95			1600

1 of 2

SEE REVERSE SIDE FOR INSTRUCTIONS

pace INCORPORATED
ENVIRONMENTAL LABORATORIES

SAMPLES FROM NEW YORK SITE YES ✓ NO ____

241077

CHAIN-OF-CUSTODY RECORD
Analytical Request

Client: Halliburton NUS
Address: 661 Anderson Dr
Foster Plaza #7
Pittsburgh PA 15220
Phone: (412) 921-7090

Report To: Mark Speranza
Bill To: ____
P.O. # / Billing Reference: ____
Project Name / No.: CTO 213

Pace Client No.: ____
Pace Project Manager: ____
Pace Project No.: ____
*Requested Due Date: ____

Sampled By (PRINT): Timothy S Evans
Sampler Signature: Timothy S Evans
Date Sampled: 8.30.95

ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO.	NO. OF CONTAINERS	PRESERVATIVES: UNPRESERVED	H_2SO_4	HNO_3	VOA	ANALYSES REQUEST: TCL VOU	REMARKS
1	DSB1Φ - ΦΦ/Φ2	1007	soil		1	✓				✓	
2	DSB1Φ - 15/17	1032	soil		1	✓				✓	
3	DSB1Φ - 6Φ/62	1140	Soil		1	✓				✓	
4	DSB11 - ΦΦ/Φ2	1347	Soil		1	✓				✓	
5	DSB11 - 3Φ/32	1437	Soil		1	✓				✓	
6	DSB11 - 6Φ/62	1525	Soil		1	✓				✓	
7											
8											

COOLER NOS.	BAILERS	SHIPMENT METHOD OUT DATE	SHIPMENT METHOD RETURNED DATE
1			

ITEM NUMBER	RELINQUISHED BY AFFILIATION	ACCEPTED BY AFFILIATION	DATE	TIME
1-6	Timothy S Evans/HNUS		8.31.95	1600

Additional Comments: FedEx AB# 546199116/

1 of 2

SEE REVERSE SIDE FOR INSTRUCTIONS

2

pace INCORPORATED
ENVIRONMENTAL LABORATORIES

SAMPLES FROM NEW YORK SITE YES ✓ NO ____

2-107

CHAIN-OF-CUSTODY RECORD
Analytical Request

Client: Halliburton NUS
Address: 601 Anderson Dr, Foster Plaza #7, Pittsburgh PA 15201
Phone: (412) 921-7090

Report To: Mark Speranza
Bill To:
P.O. # / Billing Reference
Project Name / No.

Pace Client No.
Pace Project Manager
Pace Project No.
*Requested Due Date:

Sampled By (PRINT): Timothy S Evans
Sampler Signature: Timothy S Evans
Date Sampled: 9.1.95

ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO.	NO. OF CONTAINERS	PRESERVATIVES: UNPRESERVED	H_2SO_4	HNO_3	VOA			ANALYSES REQUESTED: 60 mL Glass TCL VOC	REMARKS
1	DSB14 - 05/07	0722	Soil		1	✓						✓	
2	DSB14 - 40/42	0813	Soil		1	✓						✓	
3	DSB14 - 50/52	0829	Soil		1	✓						✓	
4													
5													
6													
7													
8													

COOLER NOS.	BAILERS	SHIPMENT METHOD OUT DATE	SHIPMENT METHOD RETURNED DATE
1			

Additional Comments: FedEx AB # 879793890

ITEM NUMBER	RELINQUISHED BY AFFILIATION	ACCEPTED BY AFFILIATION	DATE	TIME
1-3	Timothy S Evans / HNUS		9.1.95	1500

SEE REVERSE SIDE FOR INSTRUCTIONS

APPENDIX D

DAILY ACTIVITIES RECORD

DAILY ACTIVITIES RECORD

Halliburton NUS CORPORATION

PROJECT	NWIRP BETHPAGE	**JOB NO.**	5253
CLIENT	NAVY CLEAN	LOCATION	Bethpage, NY
DATE	8-30-95	ARRIVAL TIME	0830
WEATHER	clear low 80's	DEPARTURE TIME	1630
CONTRACTOR	ADT	DRILLER	Steve Wolf
HNUS REPRESENTATIVE	Tim Evans		

ITEM	QUANTITY ESTIMATE	QUANTITY TODAY	PREVIOUS TOTAL QUANTITY	CUMULATIVE QUANTITY TO DATE
1. Mobilization/Demobilization	1 Lump Sum	1/2	—	1/2
2. Hollow Stem Auger Drilling	300 ~~450~~ feet	120	—	120
3. Split-Barrel Sampling 2"	60 ~~90~~ samples	28	—	28
4. Drums	3 ~~10~~ drums			
5. Standby Time	4 hours			
6. Level C Multiplier	--			

COMMENTS

	HSA	2"
DSB10	60 ft	14
DSB11	60	14
	120	28

APPROVED BY:

Tim Evans

HNUS FIELD REPRESENTATIVE

Steve Wolf

DRILLER

DATE 8/30/95

DAILY ACTIVITIES RECORD

Halliburton NUS CORPORATION

PROJECT	NWIRP BETHPAGE	**JOB NO.**	5253
CLIENT	NAVY CLEAN	LOCATION	Bethpage, NY
DATE	8-31-95	ARRIVAL TIME	0840
WEATHER	clear sunny low 80s	DEPARTURE TIME	
CONTRACTOR	ADT	DRILLER	Steve Wolf
HNUS REPRESENTATIVE	Tim Evans		

ITEM	QUANTITY ESTIMATE	QUANTITY TODAY	PREVIOUS TOTAL QUANTITY	CUMULATIVE QUANTITY TO DATE
1. Mobilization/Demobilization	1 Lump Sum	~~1~~ —	1/2	1/2
2. Hollow Stem Auger Drilling	300 ~~400~~ feet	120	120	240
3. Split-Barrel Sampling	60 ~~80~~ samples	26	28	54
4. Drums	3 ~~4~~ drums			
5. Standby Time	4 hours			
6. Level C Multiplier	--			

COMMENTS	HSA	2" SS
DSB 13	60'	13
DSB 12	60'	13
	120	26

APPROVED BY

HNUS FIELD REPRESENTATIVE

Steve Wolf

DRILLER

DATE 8/31/95

DAILY ACTIVITIES RECORD

CF BRAUN ENGINEERING CORPORATION

PROJECT	NAVAL WEAPONS INDUSTRIAL RESERVE PARK	**JOB NO.**	5253
CLIENT	NAVY CLEAN	LOCATION	Bethpage ~~Calverton~~ NY
DATE	9-1-95	ARRIVAL TIME	0700
WEATHER	Clear sunny	DEPARTURE TIME	1700
CONTRACTOR	ADT	DRILLER	Steve Wolf
HNUS REPRESENTATIVE	Tim Evans		

ITEM	QUANTITY ESTIMATE	QUANTITY TODAY	PREVIOUS TOTAL QUANTITY	CUMULATIVE QUANTITY TO DATE
Mob / Demob		1/2	1/2	1
HSA		60	240	300
2" SS		13	54	67
Drums			-	-
Standby			-	-
Level C			-	-

COMMENTS

	HSA	2" SS
DSB 14	60	13

APPROVED BY:

HNUS FIELD REPRESENTATIVE

DRILLER

DATE

Aquifer Drilling & Testing, Inc.

51-41 59th Place • Woodside • New York 11377

DAILY JOB REPORT

DATE 8/30/95 CLIENT Halliburton NUS DRILLER S. Wolf HELPER Tom For

JOB LOCATION Grumman Bethpage EQUIPMENT: DRILL B61 SUPPORT TRUCK Int Box

DESCRIPTION OF WORK

4¼ H.S.A. to 60' 14 Spoons to 64'

4¼ H.S.A to 60 14 Spoons to 64'

ITEMIZATION:

Soil Borings: (HSA) / Mud / Air (Circle One)

Well Construction: HSA / MUD / AIR / DRIVE / WASH (Circle One)

BORING	DEPTH	TOTAL #SPOONS	WELL	SIZE (DIA)	RISER (FT)	SCREEN (FT)	TOTAL DEPTH	SAND (LBS)	PLTS(P) CHIPS(C)	CEMENT (LBS)	BENTONITE (LBS)	MANHOLE (M) STANDPIPE(P)
No. 1	60	14	No.									
No. 2	60	14	No.									
No.			No.									
No.			No.									
No.			No.									
No.			No.									

Surface Casing (Ft)_____ Steam Cleaning (Hrs) 1 Drum No. _____

Nx Coring (Ft)_____ Well Develop (Hrs.)_____ Drum Soils (Hrs)_____

Drive Wash w/Tripod (Hrs)____ Standby (Hrs) 1 (9-10 am) Stage Drums (Hrs)_____

Concrete Coring (Ft) _____

PERSONNEL	SHOP/HOME	ONSITE	LUNCH	OFFSITE	SHOP/HOME	TOTAL HOURS
Steve	7	8:30		4:30	5:50	10½
Tom For						

Approved [signature] Date 8.30.95

CLIENT REPRESENTATIVE

Print Name: Tim Evans

Client Representative to sign Onsite Lunch & Offsite times. NOTE: Actual onsite lunch is to be recorded.

WHITE (Client) YELLOW (Accounting) PINK (Admin

Aquifer Drilling & Testing, Inc.

51-41 59th Place • Woodside • New York 11377

DAILY JOB REPORT

DATE 8/31/95 CLIENT Halliburton NUS DRILLER Steve Wolf HELPER Tom Fonciva

JOB LOCATION Crossman Bethpage EQUIPMENT: DRILL B-61 SUPPORT TRUCK Box

DESCRIPTION OF WORK

4¼ H.S.A. to 60' 13 Spoons to 62'

4¼ H.S.A to 60' 13 Spoons to 62'

ITEMIZATION:

Soil Borings: HSA / Mud / Air (Circle One)

Well Construction: HSA / MUD / AIR / DRIVE / WASH (Circle One)

BORING	DEPTH	TOTAL #SPOONS	WELL	SIZE (DIA)	RISER (FT)	SCREEN (FT)	TOTAL DEPTH	SAND (LBS)	PLTS(P) CHIPS(C)	CEMENT (LBS)	BENTONITE (LBS)	MANHOLE (M) STANDPIPE(P)
No. 1	60	13	No.									
No. 2	60	13	No.									
No.			No.									
No.			No.									
No.			No.									
No.			No.									

Surface Casing (Ft)_____ Steam Cleaning (Hrs) 1 Drum No. _____

Nx Coring (Ft)_____ Well Develop (Hrs.)_____ Drum Soils (Hrs)_____

Drive Wash w/Tripod (Hrs)_____ Standby (Hrs)_____ Stage Drums (Hrs)_____

Concrete Coring (Ft) 1

PERSONNEL	SHOP/HOME	ONSITE	LUNCH	OFFSITE	SHOP/HOME	TOTAL HOURS
Steve	7	8:15		3:30		
Tom For	7					

Approved _____ Date 8-31-95

CLIENT REPRESENTATIVE

Print Name: Tim Evans

Client Representative to sign Onsite Lunch & Offsite times. NOTE: Actual onsite lunch is to be recorded.

WHITE (Client) YELLOW (Accounting) PINK (Admin)

Aquifer Drilling & Testing, Inc.

51-41 59th Place • Woodside • New York 11377

DAILY JOB REPORT

DATE 9/1/95 CLIENT Halliburton NUS DRILLER S Wolf HELPER Tom Farcus

JOB LOCATION Grumman Bethpage EQUIPMENT: DRILL B61 SUPPORT TRUCK Box

DESCRIPTION OF WORK

4¼ H.S.A. To 60' 13 Spoons to 62'
Steam Cleaned
Back Filled All Holes

ITEMIZATION:

Soil Borings: HSA / Mud / Air (Circle One)

Well Construction: HSA / MUD / AIR / DRIVE / WASH (Circle One)

BORING	DEPTH	TOTAL #SPOONS	WELL	SIZE (DIA)	RISER (FT)	SCREEN (FT)	TOTAL DEPTH	SAND (LBS)	PLTS(P) CHIPS(C)	CEMENT (LBS)	BENTONITE (LBS)	MANHOLE (M) STANDPIPE(P)
No.1	60	13	No.									
No.			No.									
No.			No.									
No.			No.									
No.			No.									
No.			No.									

Surface Casing (Ft)_____ Steam Cleaning (Hrs) 1 Drum No. _____

Nx Coring (Ft)_____ Well Develop (Hrs.)_____ Drum Soils (Hrs)_____

Drive Wash w/Tripod (Hrs)_____ Standby (Hrs)_____ Stage Drums (Hrs)_____

Concrete Coring (Ft) _____

PERSONNEL	SHOP/HOME	ONSITE	LUNCH	OFFSITE	SHOP/HOME	TOTAL HOURS
Steve	6	7		11		
Tom Far	6½					

Approved_____ Date_____

CLIENT REPRESENTATIVE

Print Name:_____

Client Representative to sign Onsite Lunch & Offsite times. NOTE: Actual onsite lunch is to be recorded.

WHITE (Client) YELLOW (Accounting) PINK (Admin

APPENDIX E

CHEMICAL ANALYSIS RESULTS

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

September 14, 1995

Halliburton NUS Corporation
Mr. Mark Speranza
661 Andersen Drive
Pittsburgh, PA 15220

SAMPLE DELIVERY GROUP NARRATIVE

Project: NWIRP Bethpage, CTO 0213
Laboratory: PACE New England, Inc. of Hampton, NH

Lab Numbers: 45205
Protocol: SW846 Methodologies with NEESA Level C package and LOTUS diskette.

Sample Receipt: Samples were received at PACE, Inc. on 9/1/95. Laboratory sample numbers were assigned for test parameters as listed on the sample table which follows this narrative. Sample shipments were 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. In addition, Sample Receipt Condition Reports can be found with the Chains-of-Custody. No spike sample was submitted for analysis.

Shipment received 9/1/95 (45205): One cooler was received with one Chain-of-Custody form. The cooler was received without a temperature blank present. The samples were packed in ice. Custody seals were present and intact.

Volatile Organic Analysis: Samples were analyzed within a project specific holding time of 7 days from sampling as directed by Ms. Kelly Johnson. The method 8240 blank "BC090595A1" "BC090695A1" and "BV1123" 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 L Wellman — 9/14/95

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

September 14, 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

SAMPLE RECEIPT CONDITION REPORT

Tel. (603) 926-7777
FAX (603) 926-7939

PAGE ____ of ____
COOLER ____ of ____
COC# ____
SDG# ____
CASE# ____

CLIENT # NUS

DATE/TIME RECEIVED 9/1/95 0930

LIMS ENTRY BY SB

DELIVERED BY fedX

TRANSCRIPTION REVIEW BY SB

RECEIVED BY SB

LIMS REVIEW BY/PM SB

		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 blk. Kedwell	
6.	VOLATILES FREE OF HEAD SPACE	☑	☐	☐	Soils - ok	
7.	TRIP BLANK PRESENT IN THIS COOLER	☐	☐	☑	none	
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 # ____

44361

Log-in Notes:

SW846 / NEESA-C

14 day h/c

7 day HT.

NUS Disk

000002

CLIENT AUTHORIZATION SIGNATURE ____ DATE ____

SAMPLE TABLE

CLIENT ID.	MATRIX	PACE #	PARAMETERS
DSB10-00/02	SOLID	45205-001	GC/MS VOA
DSB10-15/17	SOLID	45205-002	GC/MS VOA
DSB10-60/62	SOLID	45205-003	GC/MS VOA
DSB11-00/02	SOLID	45205-004	GC/MS VOA
DSB11-30/32	SOLID	45205-005	GC/MS VOA
DSB11-60/62	SOLID	45205-006	GC/MS VOA
DSB13-00/02	SOLID	45205-007	GC/MS VOA
DSB13-40/42	SOLID	45205-008	GC/MS VOA
DSB13-55/57	SOLID	45205-009	GC/MS VOA
DSB12-00/02	SOLID	45205-010	GC/MS VOA
DSB12-40/42	SOLID	45205-011	GC/MS VOA
DSB12-60/62	SOLID	45205-012	GC/MS VOA

pace INCORPORATED
THE ASSURANCE OF QUALITY

Case: _____

SDG: 45205

TABLE 1: MANUAL INTEGRATIONS PERFORMED

EPA ID	LAB ID	FILE NUMBER	COMPOUNDS MANUALLY INTEGRATED
	VSBD200	^C1028	cis-1,2-Dichloroethene
	VSBD100	^C1029	
	VSBD050	^C1030	
	VSBD010	^C1032	
	VSBD050	^C1063	
	VSBD050	^C1080	
	VSBD010	^G4410	2-Chloroethylvinylether

Manual integrations were performed as required to correct faulty integrations made by the automated software. The manual integrations began and ended at the point 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

PACE Incorporated

000004

9/8/95
Date

ref: PACE SOP ALL-Q-013-A c:\document\manint.frm

Laboratory number: 45205-001
Sample Designation: DSB10-00/02
Date Analyzed: 09/05/95
Matrix: SOLID

Instrument File Name: >C1066

Results are expressed on a dry (103 degrees C) basis.
Moisture content was 11 % , elevating the reporting limits
by a factor of 1.13 .

VOLATILE ORGANICS	CONCENTRATION (ug/Kg)		REPORTING LIMIT (ug/Kg)
Chloromethane	BDL		11
Bromomethane	BDL		11
Vinyl chloride	BDL		11
Chloroethane	BDL		6
Methylene chloride	7	JB	11
Acetone	BDL		28
Carbon disulfide	BDL		6
Tetrahydrofuran	BDL		28
Trichlorofluoromethane	BDL		6
1,1-Dichloroethene	BDL		6
1,1-Dichloroethane	BDL		6
1,2-Dichloroethene (total)	BDL		6
Chloroform	BDL		6
1,2-Dichloroethane	BDL		6
2-Butanone	BDL		28
1,1,1-Trichloroethane	BDL		6
Carbon Tetrachloride	BDL		6
Vinyl acetate	BDL		11
Bromodichloromethane	BDL		6
1,2-Dichloropropane	BDL		6
cis-1,3-Dichloropropene	BDL		6
trans-1,3-Dichloropropene	BDL		6
Trichloroethene	26		6
Dibromochloromethane	BDL		6
1,1,2-Trichloroethane	BDL		6
Benzene	BDL		6
2-Chloroethyl vinyl ether	BDL		6
Bromoform	BDL		6
4-Methyl-2-Pentanone	BDL		28
2-Hexanone	BDL		28
Tetrachloroethene	BDL		6
1,1,2,2-Tetrachloroethane	BDL		6
Toluene	BDL		6
Chlorobenzene	BDL		6
Ethylbenzene	BDL		6
Styrene	BDL		6
Xylene (total)	BDL		6

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

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

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: 45205-002
Sample Designation: DSB10-15/17
Date Analyzed: 09/05/95
Matrix: SOLID

Instrument File Name: >C1067

Results are expressed on a dry (103 degrees C) basis.
Moisture content was 9 % , elevating the reporting limits
by a factor of 1.1 .

VOLATILE ORGANICS	CONCENTRATION (ug/Kg)		REPORTING LIMIT (ug/Kg)
Chloromethane	BDL		10
Bromomethane	BDL		10
Vinyl chloride	BDL		10
Chloroethane	BDL		5
Methylene chloride	5	JB	10
Acetone	BDL		26
Carbon disulfide	BDL		5
Tetrahydrofuran	BDL		26
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		26
1,1,1-Trichloroethane	BDL		5
Carbon Tetrachloride	BDL		5
Vinyl acetate	BDL		10
Bromodichloromethane	BDL		5
1,2-Dichloropropane	BDL		5
cis-1,3-Dichloropropene	BDL		5
trans-1,3-Dichloropropene	BDL		5
Trichloroethene	BDL		5
Dibromochloromethane	BDL		5
1,1,2-Trichloroethane	BDL		5
Benzene	BDL		5
2-Chloroethyl vinyl ether	BDL		5
Bromoform	BDL		5
4-Methyl-2-Pentanone	BDL		26
2-Hexanone	BDL		26
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 ABUNDANCE OF QUAL

Laboratory number: 45205-003
Sample Designation: DSB10-60/62
Date Analyzed: 09/05/95
Matrix: SOLID

Instrument File Name: >C1068

Results are expressed on a dry (103 degrees C) basis.
Moisture content was 5 % , elevating the reporting limits
by a factor of 1.05 .

VOLATILE ORGANICS	CONCENTRATION (ug/Kg)		REPORTING LIMIT (ug/Kg)
Chloromethane	BDL		11
Bromomethane	BDL		11
Vinyl chloride	BDL		11
Chloroethane	BDL		5
Methylene chloride	6	JB	11
Acetone	BDL		26
Carbon disulfide	BDL		5
Tetrahydrofuran	BDL		26
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		26
1,1,1-Trichloroethane	BDL		5
Carbon Tetrachloride	BDL		5
Vinyl acetate	BDL		11
Bromodichloromethane	BDL		5
1,2-Dichloropropane	BDL		5
cis-1,3-Dichloropropene	BDL		5
trans-1,3-Dichloropropene	BDL		5
Trichloroethene	BDL		5
Dibromochloromethane	BDL		5
1,1,2-Trichloroethane	BDL		5
Benzene	BDL		5
2-Chloroethyl vinyl ether	BDL		5
Bromoform	BDL		5
4-Methyl-2-Pentanone	BDL		26
2-Hexanone	BDL		26
Tetrachloroethene	BDL		5
1,1,2,2-Tetrachloroethane	BDL		5
Toluene	BDL		5
Chlorobenzene	BDL		5
Ethylbenzene	BDL		5
Styrene	BDL		5
Xylene (total)	BDL		5

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

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

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: 45205-004
Sample Designation: DSB11-00/02
Date Analyzed: 09/06/95
Matrix: SOLID

Instrument File Name: >C1083

Results are expressed on a dry (103 degrees C) basis.
Moisture content was 12 % , elevating the reporting limits
by a factor of 1.13 .

VOLATILE ORGANICS	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Chloromethane	BDL	14
Bromomethane	BDL	14
Vinyl chloride	BDL	14
Chloroethane	BDL	7
Methylene chloride	BDL	14
Acetone	BDL	35
Carbon disulfide	BDL	7
Tetrahydrofuran	BDL	35
Trichlorofluoromethane	BDL	7
1,1-Dichloroethene	BDL	7
1,1-Dichloroethane	BDL	7
1,2-Dichloroethene (total)	BDL	7
Chloroform	BDL	7
1,2-Dichloroethane	BDL	7
2-Butanone	BDL	35
1,1,1-Trichloroethane	BDL	7
Carbon Tetrachloride	BDL	7
Vinyl acetate	BDL	14
Bromodichloromethane	BDL	7
1,2-Dichloropropane	BDL	7
cis-1,3-Dichloropropene	BDL	7
trans-1,3-Dichloropropene	BDL	7
Trichloroethene	BDL	7
Dibromochloromethane	BDL	7
1,1,2-Trichloroethane	BDL	7
Benzene	BDL	7
2-Chloroethyl vinyl ether	BDL	7
Bromoform	BDL	7
4-Methyl-2-Pentanone	BDL	35
2-Hexanone	BDL	35
Tetrachloroethene	62	7
1,1,2,2-Tetrachloroethane	BDL	7
Toluene	BDL	7
Chlorobenzene	BDL	7
Ethylbenzene	BDL	7
Styrene	BDL	7
Xylene (total)	BDL	7

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 GOAL

Laboratory number: 45205-004DL
Sample Designation: DSB11-00/02
Date Analyzed: 09/05/95
Matrix: SOLID

Instrument File Name: >C1069

Results are expressed on a dry (103 degrees C) basis.
Moisture content was 12 % , elevating the reporting limits
by a factor of 1.13 .

VOLATILE ORGANICS	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Chloromethane	BDL	52
Bromomethane	BDL	52
Vinyl chloride	BDL	52
Chloroethane	BDL	26
Methylene chloride	31 J B	52
Acetone	BDL	130
Carbon disulfide	BDL	26
Tetrahydrofuran	BDL	130
Trichlorofluoromethane	BDL	26
1,1-Dichloroethene	BDL	26
1,1-Dichloroethane	BDL	26
1,2-Dichloroethene (total)	BDL	26
Chloroform	BDL	26
1,2-Dichloroethane	BDL	26
2-Butanone	BDL	130
1,1,1-Trichloroethane	BDL	26
Carbon Tetrachloride	BDL	26
Vinyl acetate	BDL	52
Bromodichloromethane	BDL	26
1,2-Dichloropropane	BDL	26
cis-1,3-Dichloropropene	BDL	26
trans-1,3-Dichloropropene	BDL	26
Trichloroethene	BDL	26
Dibromochloromethane	BDL	26
1,1,2-Trichloroethane	BDL	26
Benzene	BDL	26
2-Chloroethyl vinyl ether	BDL	26
Bromoform	BDL	26
4-Methyl-2-Pentanone	BDL	130
2-Hexanone	BDL	130
Tetrachloroethene	190	26
1,1,2,2-Tetrachloroethane	BDL	26
Toluene	BDL	26
Chlorobenzene	BDL	26
Ethylbenzene	BDL	26
Styrene	BDL	26
Xylene (total)	BDL	26

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

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

pace. INCORPORATED THE ASSURANCE OF QUALITY

Laboratory number: 45205-005
Sample Designation: DSB11-30/32
Date Analyzed: 09/06/95
Matrix: SOLID

Instrument File Name: >C1084

Results are expressed on a dry (103 degrees C) basis.
Moisture content was 3 % , elevating the reporting limits
by a factor of 1.03 .

VOLATILE ORGANICS	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
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
2-Chloroethyl vinyl ether	BDL	5
Bromoform	BDL	5
4-Methyl-2-Pentanone	BDL	25
2-Hexanone	BDL	25
Tetrachloroethene	BDL	5
1,1,2,2-Tetrachloroethane	BDL	5
Toluene	BDL	5
Chlorobenzene	BDL	5
Ethylbenzene	BDL	5
Styrene	BDL	5
Xylene (total)	BDL	5

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

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

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: 45205-006
Sample Designation: DSB11-60/62
Date Analyzed: 09/06/95
Matrix: SOLID

Instrument File Name: >C1085

Results are expressed on a dry (103 degrees C) basis.
Moisture content was 10 % , elevating the reporting limits
by a factor of 1.11 .

VOLATILE ORGANICS	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Chloromethane	BDL	11
Bromomethane	BDL	11
Vinyl chloride	BDL	11
Chloroethane	BDL	5
Methylene chloride	BDL	11
Acetone	BDL	27
Carbon disulfide	BDL	5
Tetrahydrofuran	BDL	27
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	27
1,1,1-Trichloroethane	BDL	5
Carbon Tetrachloride	BDL	5
Vinyl acetate	BDL	11
Bromodichloromethane	BDL	5
1,2-Dichloropropane	BDL	5
cis-1,3-Dichloropropene	BDL	5
trans-1,3-Dichloropropene	BDL	5
Trichloroethene	BDL	5
Dibromochloromethane	BDL	5
1,1,2-Trichloroethane	BDL	5
Benzene	BDL	5
2-Chloroethyl vinyl ether	BDL	5
Bromoform	BDL	5
4-Methyl-2-Pentanone	BDL	27
2-Hexanone	BDL	27
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: 45205-010
Sample Designation: DSB12-00/02
Date Analyzed: 09/06/95
Matrix: SOLID

Instrument File Name: >C1088

Results are expressed on a dry (103 degrees C) basis.
Moisture content was 12 % , elevating the reporting limits
by a factor of 1.13 .

VOLATILE ORGANICS	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Chloromethane	BDL	11
Bromomethane	BDL	11
Vinyl chloride	BDL	11
Chloroethane	BDL	6
Methylene chloride	BDL	11
Acetone	BDL	28
Carbon disulfide	BDL	6
Tetrahydrofuran	BDL	28
Trichlorofluoromethane	BDL	6
1,1-Dichloroethene	BDL	6
1,1-Dichloroethane	BDL	6
1,2-Dichloroethene (total)	BDL	6
Chloroform	BDL	6
1,2-Dichloroethane	BDL	6
2-Butanone	BDL	28
1,1,1-Trichloroethane	BDL	6
Carbon Tetrachloride	BDL	6
Vinyl acetate	BDL	11
Bromodichloromethane	BDL	6
1,2-Dichloropropane	BDL	6
cis-1,3-Dichloropropene	BDL	6
trans-1,3-Dichloropropene	BDL	6
Trichloroethene	BDL	6
Dibromochloromethane	BDL	6
1,1,2-Trichloroethane	BDL	6
Benzene	BDL	6
2-Chloroethyl vinyl ether	BDL	6
Bromoform	BDL	6
4-Methyl-2-Pentanone	BDL	28
2-Hexanone	BDL	28
Tetrachloroethene	27	6
1,1,2,2-Tetrachloroethane	BDL	6
Toluene	BDL	6
Chlorobenzene	BDL	6
Ethylbenzene	BDL	6
Styrene	BDL	6
Xylene (total)	BDL	6

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

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

Laboratory number: 45205-007
Sample Designation: DSB13-00/02
Date Analyzed: 09/05/95
Matrix: SOLID

Instrument File Name: >C1072

Results are expressed on a dry (103 degrees C) basis.
Moisture content was 16 % , elevating the reporting limits
by a factor of 1.19 .

VOLATILE ORGANICS	CONCENTRATION (ug/Kg)		REPORTING LIMIT (ug/Kg)
Chloromethane	BDL		50
Bromomethane	BDL		50
Vinyl chloride	BDL		50
Chloroethane	BDL		25
Methylene chloride	32	JB	50
Acetone	BDL		120
Carbon disulfide	BDL		25
Tetrahydrofuran	BDL		120
Trichlorofluoromethane	BDL		25
1,1-Dichloroethene	BDL		25
1,1-Dichloroethane	BDL		25
1,2-Dichloroethene (total)	BDL		25
Chloroform	BDL		25
1,2-Dichloroethane	BDL		25
2-Butanone	BDL		120
1,1,1-Trichloroethane	BDL		25
Carbon Tetrachloride	BDL		25
Vinyl acetate	BDL		50
Bromodichloromethane	BDL		25
1,2-Dichloropropane	BDL		25
cis-1,3-Dichloropropene	BDL		25
trans-1,3-Dichloropropene	BDL		25
Trichloroethene	44		25
Dibromochloromethane	BDL		25
1,1,2-Trichloroethane	BDL		25
Benzene	BDL		25
2-Chloroethyl vinyl ether	BDL		25
Bromoform	BDL		25
4-Methyl-2-Pentanone	BDL		120
2-Hexanone	BDL		120
Tetrachloroethene	490		25
1,1,2,2-Tetrachloroethane	BDL		25
Toluene	BDL		25
Chlorobenzene	BDL		25
Ethylbenzene	BDL		25
Styrene	BDL		25
Xylene (total)	BDL		25

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

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

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: 45205-008
Sample Designation: DSB13-40/42
Date Analyzed: 09/05/95
Matrix: SOLID

Instrument File Name: >C1073

Results are expressed on a dry (103 degrees C) basis.
Moisture content was 9 % , elevating the reporting limits
by a factor of 1.09 .

VOLATILE ORGANICS	CONCENTRATION (ug/Kg)		REPORTING LIMIT (ug/Kg)
Chloromethane	BDL		46
Bromomethane	BDL		46
Vinyl chloride	BDL		46
Chloroethane	BDL		23
Methylene chloride	23	JB	46
Acetone	BDL		110
Carbon disulfide	BDL		23
Tetrahydrofuran	BDL		110
Trichlorofluoromethane	BDL		23
1,1-Dichloroethene	BDL		23
1,1-Dichloroethane	BDL		23
1,2-Dichloroethene (total)	BDL		23
Chloroform	BDL		23
1,2-Dichloroethane	BDL		23
2-Butanone	BDL		110
1,1,1-Trichloroethane	BDL		23
Carbon Tetrachloride	BDL		23
Vinyl acetate	BDL		46
Bromodichloromethane	BDL		23
1,2-Dichloropropane	BDL		23
cis-1,3-Dichloropropene	BDL		23
trans-1,3-Dichloropropene	BDL		23
Trichloroethene	BDL		23
Dibromochloromethane	BDL		23
1,1,2-Trichloroethane	BDL		23
Benzene	BDL		23
2-Chloroethyl vinyl ether	BDL		23
Bromoform	BDL		23
4-Methyl-2-Pentanone	BDL		110
2-Hexanone	BDL		110
Tetrachloroethene	44		23
1,1,2,2-Tetrachloroethane	BDL		23
Toluene	BDL		23
Chlorobenzene	BDL		23
Ethylbenzene	BDL		23
Styrene	BDL		23
Xylene (total)	BDL		23

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

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

Laboratory number: 45205-011
Sample Designation: DSB12-40/42
Date Analyzed: 09/06/95
Matrix: SOLID

Instrument File Name: >C1086

Results are expressed on a dry (103 degrees C) basis.
Moisture content was 13 % , elevating the reporting limits
by a factor of 1.14 .

VOLATILE ORGANICS	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Chloromethane	BDL	11
Bromomethane	BDL	11
Vinyl chloride	BDL	11
Chloroethane	BDL	6
Methylene chloride	BDL	11
Acetone	BDL	28
Carbon disulfide	BDL	6
Tetrahydrofuran	BDL	28
Trichlorofluoromethane	BDL	6
1,1-Dichloroethene	BDL	6
1,1-Dichloroethane	BDL	6
1,2-Dichloroethene (total)	BDL	6
Chloroform	BDL	6
1,2-Dichloroethane	BDL	6
2-Butanone	BDL	28
1,1,1-Trichloroethane	BDL	6
Carbon Tetrachloride	BDL	6
Vinyl acetate	BDL	11
Bromodichloromethane	BDL	6
1,2-Dichloropropane	BDL	6
cis-1,3-Dichloropropene	BDL	6
trans-1,3-Dichloropropene	BDL	6
Trichloroethene	BDL	6
Dibromochloromethane	BDL	6
1,1,2-Trichloroethane	BDL	6
Benzene	BDL	6
2-Chloroethyl vinyl ether	BDL	6
Bromoform	BDL	6
4-Methyl-2-Pentanone	BDL	28
2-Hexanone	BDL	28
Tetrachloroethene	BDL	6
1,1,2,2-Tetrachloroethane	BDL	6
Toluene	BDL	6
Chlorobenzene	BDL	6
Ethylbenzene	BDL	6
Styrene	BDL	6
Xylene (total)	BDL	6

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

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

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: 45205-012
Sample Designation: DSB12-60/62
Date Analyzed: 09/06/95
Matrix: SOLID

Instrument File Name: >C1087

Results are expressed on a dry (103 degrees C) basis.
Moisture content was 13 % , elevating the reporting limits
by a factor of 1.14 .

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

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

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

pace INCORPORATE THE ASSURANCE OF QUALITY

Laboratory number: 45205-009
Sample Designation: DSB13-55/57
Date Analyzed: 09/06/95
Matrix: SOLID

Instrument File Name: >G4431

Results are expressed on a dry (103 degrees C) basis.
Moisture content was 6 % , elevating the reporting limits
by a factor of 1.06 .

VOLATILE ORGANICS	CONCENTRATION (ug/g)	REPORTING LIMIT (ug/g)
Chloromethane	BDL	7
Bromomethane	BDL	7
Vinyl chloride	BDL	7
Chloroethane	BDL	3.2
Methylene chloride	BDL	7
Acetone	BDL	16
Carbon disulfide	BDL	3.2
1,1-Dichloroethene	BDL	3.2
Tetrahydrofuran	BDL	16
1,1-Dichloroethane	BDL	3.2
1,2-Dichloroethene (total)	BDL	3.2
Chloroform	BDL	3.2
Methyl ethyl ketone	BDL	16
1,2-Dichloroethane	BDL	3.2
1,1,1-Trichloroethane	27	3.2
Carbon Tetrachloride	BDL	3.2
Vinyl acetate	BDL	7
Bromodichloromethane	BDL	3.2
cis-1,3-Dichloropropene	BDL	3.2
trans-1,3-Dichloropropene	BDL	3.2
Trichloroethene	BDL	3.2
Benzene	BDL	3.2
Dibromochloromethane	BDL	3.2
1,1,2-Trichloroethane	BDL	3.2
1,2-Dichloropropane	BDL	3.2
2-Chloroethyl vinyl ether	BDL	3.2
Bromoform	BDL	3.2
Methyl isobutyl ketone	BDL	16
2-Hexanone	BDL	16
1,1,2,2-Tetrachloroethane	BDL	3.2
Tetrachloroethene	BDL	3.2
Toluene	14	3.2
Chlorobenzene	BDL	3.2
Ethylbenzene	2.0 J	3.2
Xylene (total)	12	3.2
Styrene	BDL	3.2

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

Detection limit raised by the presence of non-listed compounds.

SOIL VOLATILES SURROGATE RECOVERY

Client: HNUS
Project: BETHPAGE
Level: Low Soil

Lab No.: 45205

CLIENT SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
DSB10-00/02	103	95	94		0
DSB10-15/17	101	100	94		0
DSB10-60/62	98	100	93		0
DSB11-00/02	104	97	94		0
DSB11-30/32	100	102	95		0
DSB11-60/62	102	104	93		0
DSB13-00/02	110	93	94		0
DSB13-40/42	98	104	88		0
DSB12-00/02	110	90	96		0
DSB12-40/42	99	94	94		0
DSB12-60/62	100	98	93		0
BC090595A1	98	100	95		0
BC090695A1	97	99	96		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

2B

SOIL VOLATILES SURROGATE RECOVERY

Client: HNUS
Project: BETHPAGE
Level: Soil

Lab No.: 45205

CLIENT SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
DSB13-55/57	97	149*	111		1
BV1123	91	106	102		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: BC090595A1
Sample Designation: LABORATORY BLANK
Date Analyzed: 09/05/95
Matrix: SOLID

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

METHOD REFERENCE: EPA SW 846 2ND EDITION
METHOD 8240

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

pace INCORPORATED
THE ASSURANCE OF QUA

Laboratory number: BC090695A1
Sample Designation: LABORATORY BLANK
Date Analyzed: 09/06/95
Matrix: SOLID

VOLATILE ORGANICS	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Chloromethane	BDL	10
Bromomethane	BDL	10
Vinyl chloride	BDL	10
Chloroethane	BDL	5
Methylene chloride	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 2ND EDITION
METHOD 8240

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

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: BV1123
Sample Designation: LABORATORY BLANK
Date Analyzed: 09/07/95
Matrix: SOLID

VOLATILE ORGANICS	CONCENTRATION (ug/g)	DETECTION LIMIT (ug/g)
Chloromethane	BDL	1.0
Bromomethane	BDL	1.0
Vinyl chloride	BDL	1.0
Chloroethane	BDL	0.5
Methylene chloride	0.8 J	1.0
Acetone	BDL	2.5
Carbon disulfide	BDL	0.5
1,1-Dichloroethene	BDL	0.5
Tetrahydrofuran	BDL	2.5
1,1-Dichloroethane	BDL	0.5
Chloroform	BDL	0.5
Methyl ethyl ketone	BDL	2.5
1,2-Dichloroethane	BDL	0.5
1,1,1-Trichloroethane	BDL	0.5
Carbon Tetrachloride	BDL	0.5
Vinyl acetate	BDL	1.0
Bromodichloromethane	BDL	0.5
cis-1,3-Dichloropropene	BDL	0.5
cis-1,3-Dichloropropene	BDL	0.5
trans-1,3-Dichloropropene	BDL	0.5
Trichloroethene	BDL	0.5
Benzene	BDL	0.5
Dibromochloromethane	BDL	0.5
1,1,2-Trichloroethane	BDL	0.5
1,2-Dichloropropane	BDL	0.5
2-Chloroethyl vinyl ether	BDL	0.5
Bromoform	BDL	0.5
Methyl isobutyl ketone	BDL	2.5
2-Hexanone	BDL	2.5
1,1,2,2-Tetrachloroethane	BDL	0.5
Tetrachloroethene	BDL	0.5
Toluene	BDL	0.5
Chlorobenzene	BDL	0.5
Ethylbenzene	BDL	0.5
m-Xylene	BDL	0.5
o,p-Xylene	BDL	0.5
Styrene	BDL	0.5

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

BDL = Below detection limit

MATRIX SPIKE RECOVERY
VOLATILE ORGANIC COMPOUNDS

Laboratory Number: LCC090595A1
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 09/05/95
Matrix: LOW SOIL

COMPOUND	ug/Kg SAMPLE	ug/Kg SPIKE	ug/kg FOUND	%REC-OVERY
1,1-DICHLOROETHENE	0	50	51	101
TRICHLOROETHYLENE	0	50	47	93
BENZENE	0	50	43	87
TOLUENE	0	50	47	93
CHLOROBENZENE	0	50	51	101

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

MATRIX SPIKE RECOVERY
VOLATILE ORGANIC COMPOUNDS

Laboratory Number: LCC090695A1
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 09/06/95
Matrix: LOW SOIL

COMPOUND	ug/Kg SAMPLE	ug/Kg SPIKE	ug/kg FOUND	%REC-OVERY
1,1-DICHLOROETHENE	0	50	46	93
TRICHLOROETHYLENE	0	50	46	91
BENZENE	0	50	44	87
TOLUENE	0	50	47	94
CHLOROBENZENE	0	50	49	98

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

MATRIX SPIKE RECOVERY
VOLATILE ORGANIC COMPOUNDS

Laboratory Number: LS1123
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 09/06/95
Matrix: SOLID

COMPOUND	ug/g IN SAMPLE	ug/g SPIKE	ug/g FOUND	%REC-OVERY
1,1-DICHLOROETHENE	0	6.25	6.02	96
TRICHLOROETHYLENE	0	6.25	5.83	93
BENZENE	0	6.25	5.69	91
TOLUENE	0	6.25	5.35	86
CHLOROBENZENE	0	6.25	6.07	97

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

pace INCORPORATED THE ASSURANCE OF QUALITY

PACE New England
VOA SOILS PREP

METHOD 8240

Date/Init	Smpl Ct.	SAMPLE #	Prep Wt. (g)	Pan #	Pan Wt. (g)	Wet Wt. + Pan (g)	Dry Wt. + Pan (g)	% Solid	mls sur	mls spk	mls meoh	Comments
CF 9/5/95		45217-1	4.3	C4	1.3	7.3	6.2		1		4	concentration on SQC
		2	4.3	C5	1.3	9.2	~~8.5~~ 8.4					
		3	4.2	C6	1.3	10.0	9.0					
		45218-1	4.0	C7	1.3	7.6	6.7					
		BV1123	4.0									
		LS1123	4.0							1	8	
CF 9/5/95	S1	45205-9	4.1	dry	done						9	concentration exceeds
		-9mS	4.2							1	8	
		-9mSD	4.1							1	8	
CF 9/11/95		BV1123B	4.0									
	S2	45246-1	1.1	C1								
	S3	45260-1	4.4	C7 1	1.3	8.5	8.2	0.96				
	S4	2	4.4	C3 2	1.3	8.0	7.7					
	S5	3	4.0	C4 3	1.3	6.5	6.2					
CF 9/12/95		BV1123C										
		45291-1										
		45283-1										
		45297-1										

MeOH Lot # 34290 Surr. V 10910 Spike V 0410

5A

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

Lab Name: PACE New England

Project: BETHPAGE

Lab File ID: >C1022 BFB Injection Date: 08/31/95

Instrument ID: CMS BFB Injection Time: 13:07

ION ABUNDANCE CRITERIA for C1022 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	C1028	08/31/95	16:55
VSTD100	VSTD100	C1029	08/31/95	17:30
VSTD050	VSTD050	C1030	08/31/95	18:05
VSTD020	VSTD020	C1031	08/31/95	18:39
VSTD010	VSTD010	C1032	08/31/95	19:14

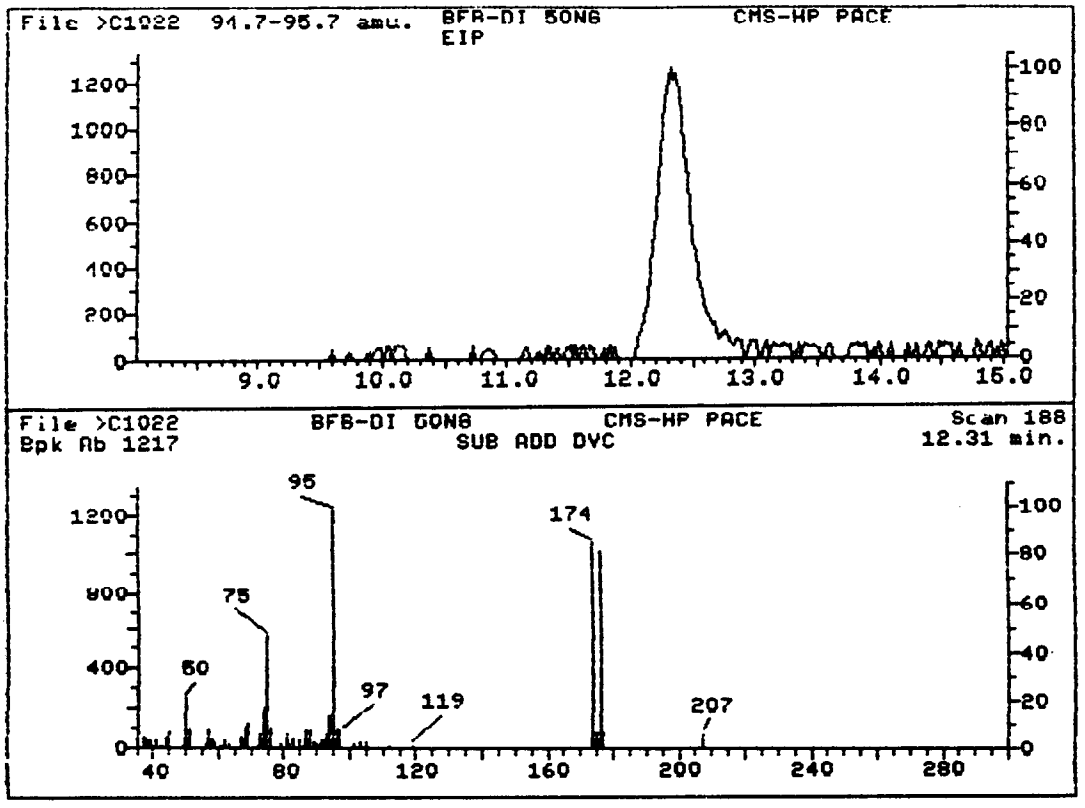
GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB) '88

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	20.56	20.56	Ok
75	30-60% of mass 95	46.25	46.25	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	8.63	8.63	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	85.93	85.93	Ok
175	5-9% of mass 174	6.79	7.90	Ok
176	95-101% of mass 174	81.82	95.22	Ok
177	5-9% of mass 176	6.98	8.53	Ok

Injection Date: 08/31/95
Injection Time: 13:07
Data File: >C1022
Scan: 188

THIS IS THE RESULT OF AVERAGING	187.00	188.00	189.00
AND SUBTRACTING BACKGROUND SCAN	168.00		



000028

5A

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

Lab Name: PACE New England

Project: BETHPAGE

Lab File ID: >C1061 BFB Injection Date: 09/05/95

Instrument ID: CMS BFB Injection Time: 13:44

ION ABUNDANCE CRITERIA for C1061 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	C1063	09/05/95	14:41
BC090595A1	90182-089	C1064	09/05/95	15:16
LCC090595A1	90182-089MS	C1065	09/05/95	16:02
DSB10-00/02	45205-001	C1066	09/05/95	16:46
DSB10-15/17	45205-002	C1067	09/05/95	17:20
DSB10-60/62	45205-003	C1068	09/05/95	17:55
DSB11-00/02DL	45205-004DL	C1069	09/05/95	18:30
DSB13-00/02	45205-007	C1072	09/05/95	21:00
DSB13-40/42	45205-008	C1073	09/05/95	21:50

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB) '88

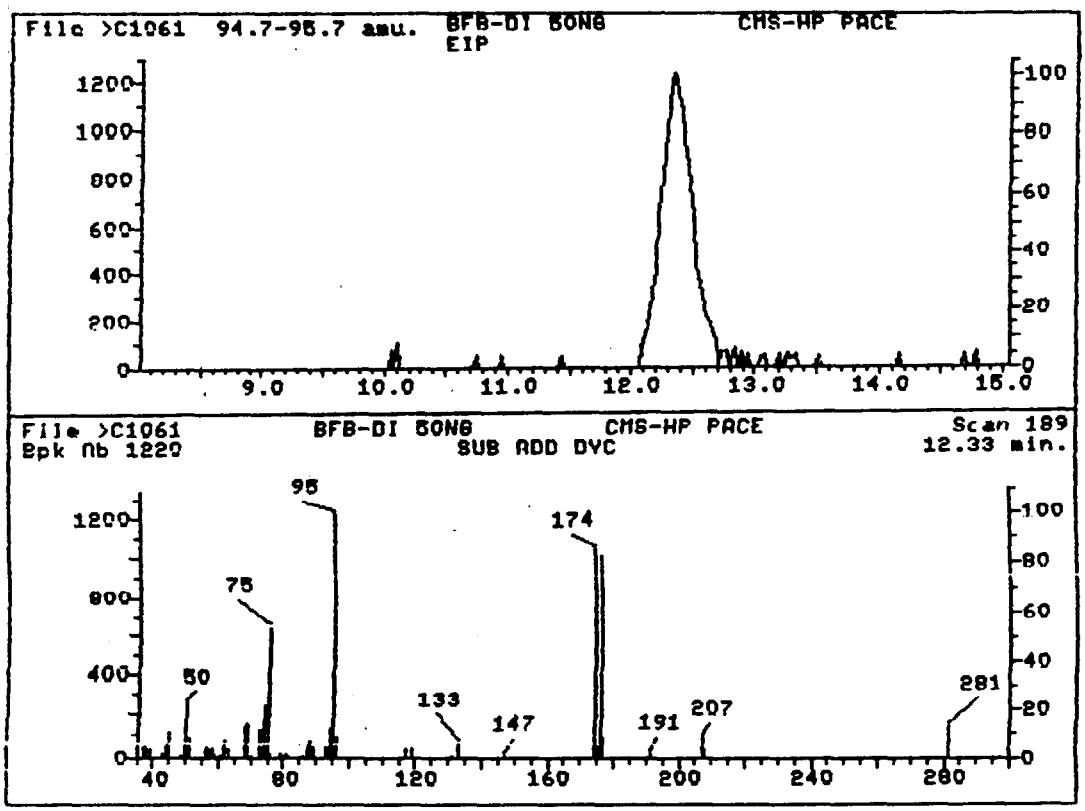
m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	20.35	20.35	Ok
75	30-60% of mass 95	52.23	52.23	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.73	7.73	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	84.87	84.87	Ok
175	5-9% of mass 174	4.86	5.73	Ok
176	95-101% of mass 174	83.04	97.84	Ok
177	5-9% of mass 176	7.27	8.75	Ok

Injection Date: 09/05/95
Injection Time: 13:44
Data File: >C1061
Scan: 189

THIS IS THE RESULT OF AVERAGING AND SUBTRACTING BACKGROUND SCAN

188.00	189.00	190.00
169.00		

TW 9/7/95



5A

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

Lab Name: PACE New England

Project: BETHPAGE

Lab File ID: >C1078 BFB Injection Date: 09/06/95

Instrument ID: CMS BFB Injection Time: 12:16

ION ABUNDANCE CRITERIA for C1078 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	C1080	09/06/95	13:13
BC090695A1	90182-090	C1081	09/06/95	13:48
LCC090695A1	90182-090MS	C1082	09/06/95	14:33
DSB11-00/02	45205-004	C1083	09/06/95	16:02
DSB11-30/32	45205-005	C1084	09/06/95	16:52
DSB11-60/62	45205-006	C1085	09/06/95	17:42
DSB12-40/42	45205-011	C1086	09/06/95	18:32
DSB12-60/62	45205-012	C1087	09/06/95	19:22
DSB12-00/02	45205-010	C1088	09/06/95	20:12

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB) '88

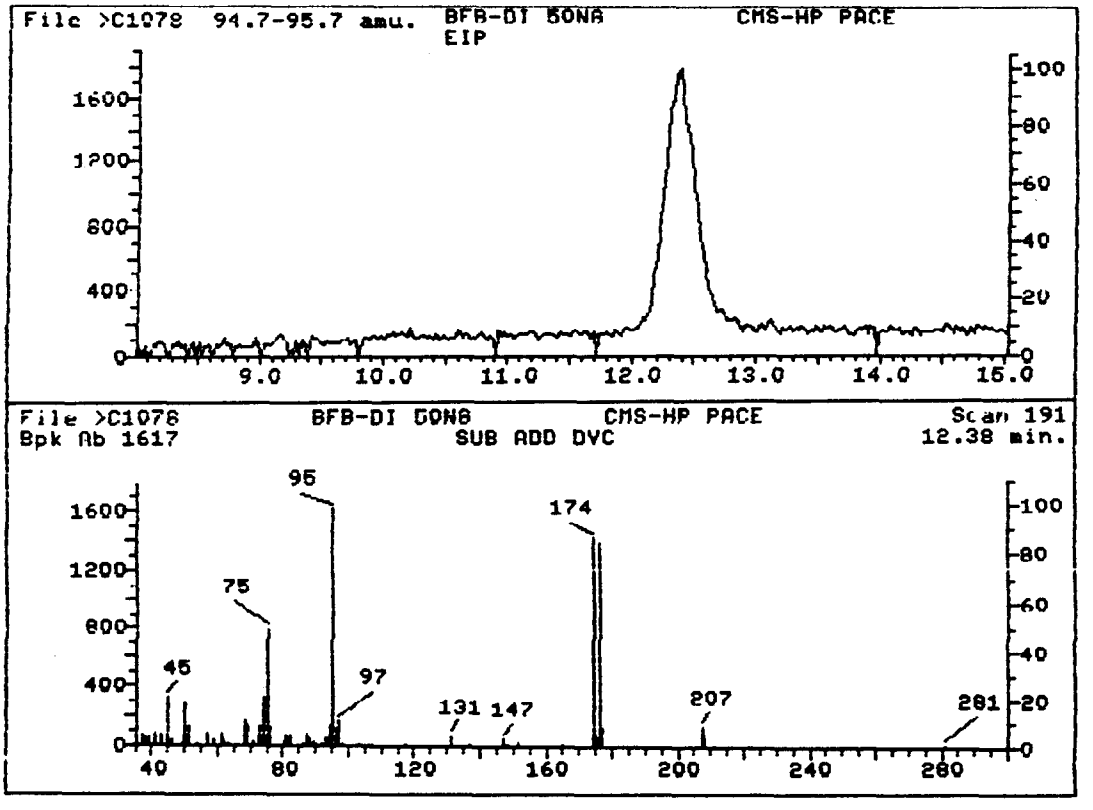
m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	17.75	17.75	Ok
75	30-60% of mass 95	49.20	49.20	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	6.80	6.80	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	87.57	87.57	Ok
175	5-9% of mass 174	5.15	5.89	Ok
176	95-101% of mass 174	85.51	97.65	Ok
177	5-9% of mass 176	7.40	8.66	Ok

Injection Date: 09/06/95
Injection Time: 12:16
Data File: >C1078
Scan: 191

THIS IS THE RESULT OF AVERAGING AND SUBTRACTING BACKGROUND SCAN

190.00 191.00 192.00
171.00

TW 9/8/95



000032

5A

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

Lab Name: PACE New England

Project: BETHPAGE

Lab File ID: >G4403 BFB Injection Date: 09/05/95

Instrument ID: GMS BFB Injection Time: 14:11

ION ABUNDANCE CRITERIA for G4403 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	G4404	09/05/95	14:40
VSTD100	VSTD100	G4405	09/05/95	15:19
VSTD050	VSTD050	G4406	09/05/95	15:58
VSTD020	VSTD020	G4409	09/05/95	18:18
VSTD010	VSTD010	G4410	09/05/95	18:57

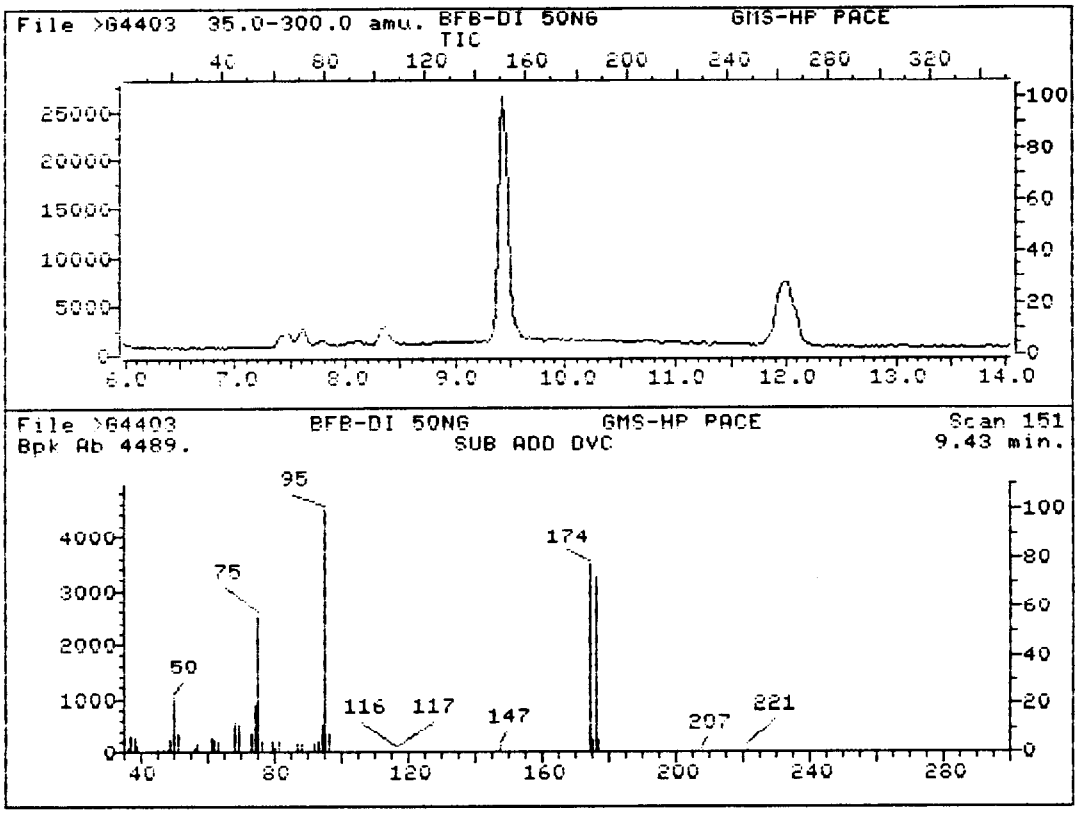
PVL 9/8/95

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	22.60	22.60	Ok
75	30-60% of mass 95	56.00	56.00	Ok
95	Base peak. 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.40	7.40	Ok
173	Less than 2% of mass 174	.24	.31	Ok
174	Greater than 50% of mass 95	77.05	77.05	Ok
175	5-9% of mass 174	5.02	6.52	Ok
176	95-101% of mass 174	73.63	95.57	Ok
177	5-9% of mass 176	4.87	6.62	Ok

Injection Date: 09/05/95
Injection Time: 14:11
Data File: >G4403
Scan: 151 + 150 + 152 - 100



5A

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

Lab Name: PACE New England

Project: BETHPAGE

Lab File ID: >G4424 BFB Injection Date: 09/06/95

Instrument ID: GMS BFB Injection Time: 10:32

ION ABUNDANCE CRITERIA for G4424 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	G4426	09/06/95	11:35
BG090695A1	90184-110	G4427	09/06/95	12:15
LSV1123		G4430	09/06/95	14:43
DSB13-55/57	45205-009	G4431	09/06/95	15:25
DSB13-55/57MS	45205-009MS	G4432	09/06/95	16:22
DSB13-55/57MSD	45205-009MSD	G4433	09/06/95	17:20

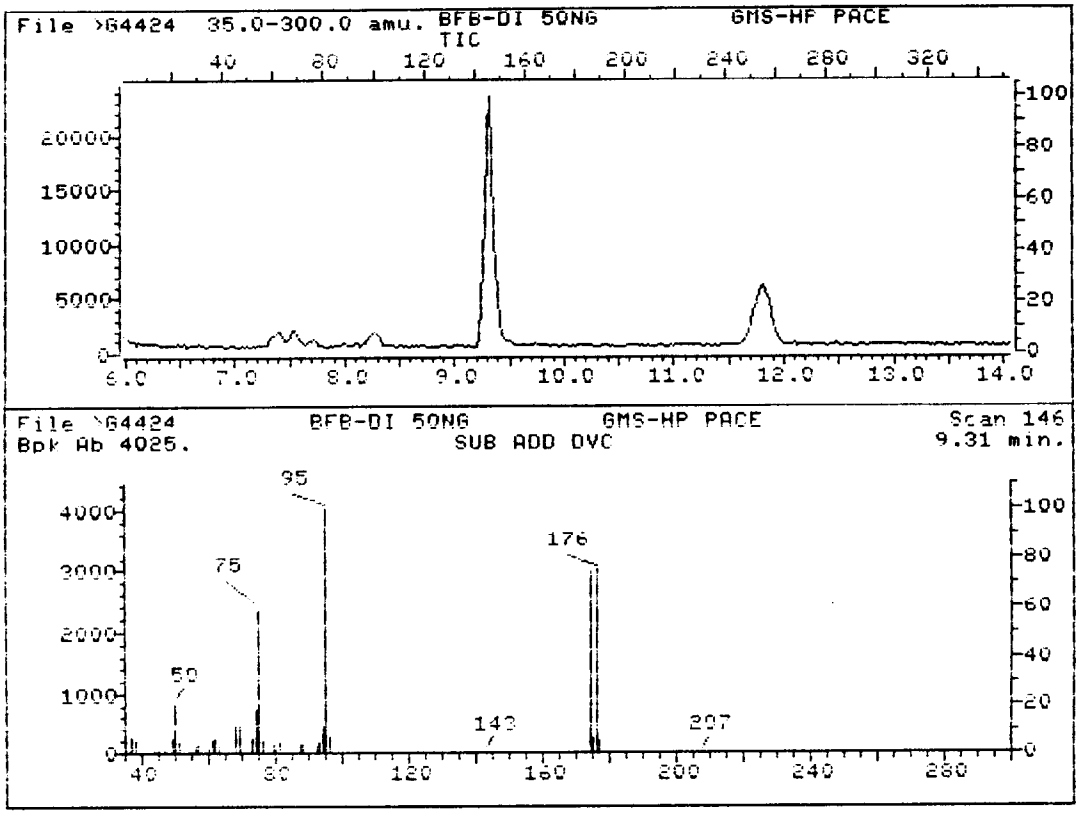
PAC 9/8/95

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB) '88

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	20.46	20.46	Ok
75	30-60% of mass 95	58.23	58.23	Ok
95	Base peak. 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	6.94	6.94	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	74.05	74.05	Ok
175	5-9% of mass 174	5.71	7.71	Ok
176	95-101% of mass 174	74.57	100.69	Ok
177	5-9% of mass 176	5.36	7.19	Ok

Injection Date: 09/06/95
Injection Time: 10:32
Data File: >G4424
Scan: 146 +145+147-100



5A

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

Lab Name: PACE New England

Project: BETHPAGE

Lab File ID: >G4444 BFB Injection Date: 09/07/95

Instrument ID: GMS BFB Injection Time: 11:08

ION ABUNDANCE CRITERIA for G4444 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	G4447	09/07/95	12:57
BV1123A	90186-052	G4458	09/07/95	21:09

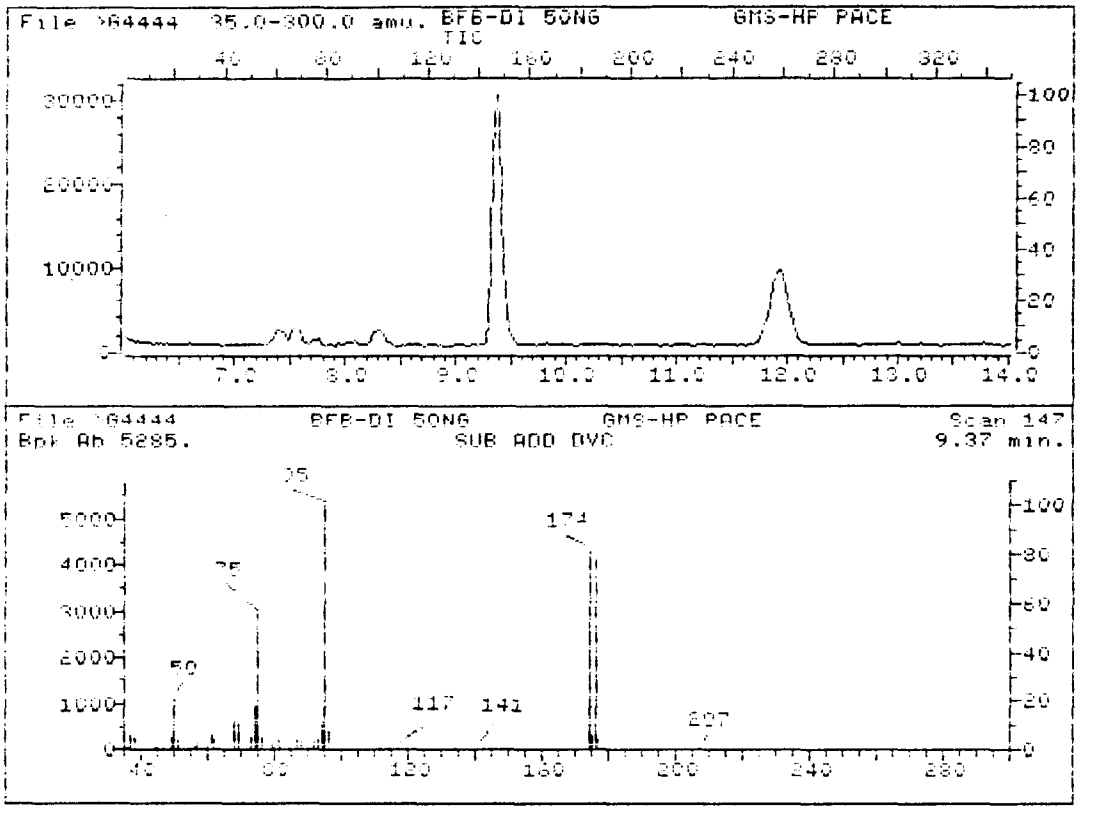
A-1

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	21.01	21.01	Ok
75	30-60% of mass 95	55.54	55.54	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.44	7.44	Ok
173	Less than 2% of mass 174	.35	.43	Ok
174	Greater than 50% of mass 95	81.61	81.61	Ok
175	5-9% of mass 174	5.95	7.29	Ok
176	95-101% of mass 174	77.55	95.02	Ok
177	5-9% of mass 176	4.81	6.21	Ok

Injection Date: 09/07/95
Injection Time: 11:08
Data File: >G4444
Scan: 147 + 146 + 148 - 100



8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PACE New England

Project: BETHPAGE

Lab File ID (Standard): >C1063 Date Analyzed: 09/05/95

Instrument ID: CMS Time Analyzed: 14:41

	IS1(BCM)		IS2(DFB)		IS3(CBZ)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	63686	7.34	249452	18.03	203654	22.84
UPPER LIMIT	127372	7.84	498904	18.53	407308	23.34
LOWER LIMIT	31843	6.84	124726	17.53	101827	22.34
CLIENT I.D.						
BC090595A1	62832	7.36	243480	18.04	202036	22.84
LCC090595A1	69526	7.32	270924	18.02	220724	22.86
DSB10-00/02	55272	7.39	214674	18.02	169780	22.90
DSB10-15/17	63857	7.44	258812	18.03	212489	22.88
DSB10-60/62	65010	7.43	250191	18.03	204996	22.89
DSB11-00/02DL	66660	7.29	241165	18.04	182317	22.85
DSB13-00/02	70232	7.40	266010	18.05	188221	22.89
DSB13-40/42	79429	7.41	298602	18.04	238827	22.83

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

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

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

8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PACE New England

Project: BETHPAGE

Lab File ID (Standard): >C1080 Date Analyzed: 09/06/95

Instrument ID: CMS Time Analyzed: 13:13

	IS1(BCM)		IS2(DFB)		IS3(CBZ)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	85898	7.35	318580	17.99	277456	22.83
UPPER LIMIT	171796	7.85	637160	18.49	554912	23.33
LOWER LIMIT	42949	6.85	159290	17.49	138728	22.33
CLIENT I.D.						
BC090695A1	83310	7.37	314310	18.00	267404	22.86
LCC090695A1	83844	7.39	314727	18.00	262106	22.88
DSB11-00/02	63891	7.48	234491	18.02	186131	22.88
DSB11-30/32	74345	7.38	281071	18.04	228897	22.89
DSB11-60/62	73255	7.43	275969	18.03	221169	22.91
DSB12-40/42	72352	7.46	270965	18.07	229059	22.90
DSB12-60/62	77303	7.43	293556	18.04	243288	22.89
DSB12-00/02	62640	7.38	218478	18.03	166028	22.89

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

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

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

8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PACE New England

Project: BETHPAGE

Lab File ID (Standard): >G4426 Date Analyzed: 09/06/95

Instrument ID: GMS Time Analyzed: 11:35

	IS1(BCM) AREA	#	RT	#	IS2(DFB) AREA	#	RT	#	IS3(CBZ) AREA	#	RT	#
12 HOUR STD	90088		11.43		424786		13.55		323645		21.05	
UPPER LIMIT	180176		11.93		849572		14.05		647290		21.55	
LOWER LIMIT	45044		10.93		212393		13.05		161823		20.55	
CLIENT I.D.												
BG090695A1	81279		11.45		374131		13.56		294638		21.11	
LSV1123	72512		11.45		334820		13.56		290100		21.13	
DSB13-55/57	72542		11.43		328495		13.54		300448		21.09	
DSB13-55/57MS	71690		11.31		340048		13.44		322916		21.04	
DSB13-55/57MSD	75959		11.29		373167		13.43		320542		21.05	

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

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

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

8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PACE New England

Project: BETHPAGE

Lab File ID (Standard): >G4447 Date Analyzed: 09/07/95

Instrument ID: GMS Time Analyzed: 12:57

	IS1(BCM)		IS2(DFB)		IS3(CBZ)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	103582	11.48	475974	13.57	366897	21.10
UPPER LIMIT	207164	11.98	951948	14.07	733794	21.60
LOWER LIMIT	51791	10.98	237987	13.07	183449	20.60
CLIENT I.D.						
BV1123A	77474	11.41	359697	13.52	325330	21.07

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

SC0831 / LC0831

TN 9/1/95

Initial Calibration Data
HSL Compounds

Case No: ----------

Instrument ID: CMS-HP ----------

Contractor: RESAN ----------

Calibration Date: ~~09/01/95~~ 083195 ③ TN ----------

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

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

Maximum % RSD for CCC is 30%

Laboratory ID:	>C1032	>C1031	>C1030	>C1029	>C1028					
	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	.46763	.47577	.36171	.32007	.35693	.209	.39642	17.819		**
C015 BROMOMETHANE	1.17488	1.26312	1.06945	1.05207	1.15280	.287	1.14246	7.481		
C020 VINYL CHLORIDE	.85723	.87690	.81362	.74692	.87721	.357	.83438	6.631	*	
C025 CHLOROETHANE	.46232	.54392	.49169	.47947	.54935	.439	.50535	7.748		
C030 METHYLENE CHLORIDE	2.19924	1.63239	1.15780	1.06405	1.11119	.624	1.43293	33.872		
C035 ACETONE	.85161	.63688	.45944	.41946	.41366	.756	.55605	33.887		
C040 CARBON DISULFIDE	2.31313	2.35907	2.05976	1.99473	2.34228	.855	2.21379	7.798		
C042 TRICHLOROFLUOROMETHANE	2.48403	2.43315	2.25633	2.09547	2.51744	.908	2.35728	7.535		
C045 1,1-DICHLOROETHENE	.94318	.98063	.91438	.84931	1.00126	.997	.93775	6.369	*	
C058 TETRAHYDROFURAN	.17106	.17957	.15996	.15837	.15310	1.154	.16441	6.510		
C050 1,1-DICHLOROETHANE	2.03857	2.01826	1.76173	1.74080	1.92570	1.138	1.89701	7.374		**
C053 1,2-DICHLOROETHENE(total)	.91402	1.11611	.99562	.98137	1.09662	1.241	1.02075	8.258		(Conc=20.0,40.0,100.0,200
C060 CHLOROFORM	2.33560	2.69706	2.39838	2.37748	2.61724	1.277	2.48515	6.483	*	
C110 2-BUTANONE	1.20181	1.16612	.91318	.86723	.85908	1.434	1.00148	16.808		
C065 1,2-DICHLOROETHANE	1.79133	1.84748	1.63573	1.62509	1.71709	1.397	1.72335	5.611		
MTBE	2.34098	2.57509	2.08308	2.10044	2.06032	1.561	2.23198	9.982		
CS15 1,2-DICHLOROETHANE-d4	1.05607	1.73800	1.16489	1.27859	1.50126	1.383	1.34776	20.291		
C115 1,1,1-TRICHLOROETHANE	.60252	.60827	.55422	.51984	.63875	.636	.58472	8.081		
C120 CARBON TETRACHLORIDE	.53983	.53752	.50913	.47799	.59072	.657	.53104	7.864		
C125 VINYL ACETATE	.78683	.80853	.64410	.66794	.69662	.685	.72080	10.128		
C130 BROMODICHLOROMETHANE	.83209	.85322	.73630	.73184	.84131	.677	.79895	7.475		
C140 1,2-DICHLOROPROPANE	.34939	.36698	.31842	.30021	.33195	.767	.33339	7.809	*	
C143 CIS-1,3-DICHLOROPROPENE	.54570	.60788	.52951	.50110	.56224	.779	.54928	7.240		
C150 TRICHLOROETHENE	.42172	.44504	.38913	.36968	.41594	.815	.40830	7.190		
C155 DIBROMOCHLOROMETHANE	.66968	.75967	.65723	.64338	.72563	.830	.69112	7.154		
C160 1,1,2-TRICHLOROETHANE	.37814	.42059	.35094	.32740	.36041	.844	.36750	9.489		
C165 BENZENE	.78322	.84693	.73497	.70810	.79945	.856	.77453	7.047		
C172 TRANS-1,3-DICHLOROPROPENE	.48499	.55231	.48195	.46238	.51895	.852	.49852	6.957		
C176 2-CHLOROETHYLVINYLETHER	.19253	.18379	.17714	.18595	.20643	.919	.18917	5.870		
C180 BROMOFORM	.50373	.57870	.50054	.50231	.56201	.981	.52946	7.142		**

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

$\overline{RRT}$ - 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: 09/01/95

Contract No: 68D20026

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

Laboratory ID:)C1032)C1031)C1030)C1029)C1028

Compound	RF 10.00	RF 20.00	RF 50.00	RF 100.00	RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC	
CS05 TOLUENE-d8	.71650	1.07788	.73729	.77261	.93180	.953	.84705	18.190			
C205 4-METHYL-2-PENTANONE	.82257	.81170	.65178	.64867	.65534	.818	.71801	12.618			
C210 2-HEXANONE	.72633	.61534	.52162	.50467	.48353	.891	.57030	17.661			
C220 TETRACHLOROETHENE	.42697	.40162	.37565	.34880	.40835	.893	.39228	7.770			
C225 1,1,2,2-TETRACHLOROETHANE	.97846	1.01699	.85729	.83387	.88008	.881	.91334	8.750		**	✓
C230 TOLUENE	1.37299	1.27557	1.09803	1.02495	1.14467	.961	1.18324	11.827	*	✓	
C235 CHLOROBENZENE	1.00980	.97789	.85743	.81547	.89260	1.006	.91064	8.950		**	✓
C240 ETHYLBENZENE	.49943	.47791	.41320	.39264	.45719	1.089	.44807	9.918	*	✓	
C245 STYRENE	1.05884	1.02502	.87025	.85975	.94908	1.211	.95259	9.382			
C251 XYLENE	.54416	.54445	.47309	.42934	.49776	1.218	.49776	9.854			
C250 XYLENE (total)	.58592	.57284	.49423	.46112	.51907	1.244	.52663	9.980			(Conc=20.0,40.0,100.0,200
CS10 BROMOFLUOROBENZENE	.78323	1.06717	.71560	.73315	.87997	1.164	.83582	17.258			

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

$\overline{RRT}$ - 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 (**)

000044

LC0905

Continuing Calibration Check
HSL Compounds

Case No: ----------

Calibration Date: 09/05/95

Contractor: RESRN

Time: 14:41

Contract No: 68020026

Laboratory ID: >C1063

Instrument ID: CMS-HP

Initial Calibration Date: ~~09/01/95~~ 8/31/95 TW 9/5/95

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

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
C010 CHLOROMETHANE	.39642	.42531	7.29		**	
C015 BROMOMETHANE	1.14246	1.21529	6.37			
C020 VINYL CHLORIDE	.83438	.79379	4.87	*		
C025 CHLOROETHANE	.50535	.51002	.92			
C030 METHYLENE CHLORIDE	1.43293	1.25026	12.75			
C035 ACETONE	.55605	.43377	21.99			
C040 CARBON DISULFIDE	2.21379	2.31110	4.40			
C042 TRICHLOROFLUOROMETHANE	2.35728	2.61929	11.11			
C045 1,1-DICHLOROETHENE	.93775	.98771	5.33	*		
C058 TETRAHYDROFURAN	.16441	.19282	17.28			
C050 1,1-DICHLOROETHANE	1.89701	1.95297	2.95		**	
C053 1,2-DICHLOROETHENE(total)	1.02075	1.15666	13.32			(Conc=100.00)
C060 CHLOROFORM	2.48515	2.74376	10.41	*		
C110 2-BUTANONE	1.00148	.96233	3.91			
C065 1,2-DICHLOROETHANE	1.72335	1.93920	12.53			
MTBE	2.23198	2.65457	18.93			(Conc=50.00)
CS15 1,2-DICHLOROETHANE-d4	1.34776	1.57053	16.53			
C115 1,1,1-TRICHLOROETHANE	.58472	.61815	5.72			
C120 CARBON TETRACHLORIDE	.53104	.59290	11.65			
C125 VINYL ACETATE	.72080	.68954	4.34			
C130 BROMODICHLOROMETHANE	.79895	.83675	4.73			
C140 1,2-DICHLOROPROPANE	.33339	.34696	4.07	*		
C143 CIS-1,3-DICHLOROPROPENE	.54928	.58860	7.16			(Conc=50.00)
C150 TRICHLOROETHENE	.40830	.45552	11.56			
C155 DIBROMOCHLOROMETHANE	.69112	.80015	15.78			
C160 1,1,2-TRICHLOROETHANE	.36750	.40574	10.41			
C165 BENZENE	.77453	.82491	6.50			
C172 TRANS-1,3-DICHLOROPROPENE	.49852	.53743	7.81			(Conc=50.00)
C176 2-CHLOROETHYLVINYLETHER	.18917	.20574	8.76			
C180 BROMOFORM	.52946	.70040	32.29		**	
CS05 TOLUENE-d8	.84705	.98681	16.50			
C205 4-METHYL-2-PENTANONE	.71801	.75123	4.63			

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

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

%Diff - % Difference from original average or curve

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

000045

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 09/05/95

Contractor: RESAN Time: 14:41

Contract No: 68020026 Laboratory ID:)C1063

Instrument ID: CMS-HP Initial Calibration Date: 09/01/95

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

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
C210 2-HEXANONE	.57030	.58100	1.88			
C220 TETRACHLOROETHENE	.39228	.48810	24.43			
C225 1,1,2,2-TETRACHLOROETHANE	.91331	.96947	6.15		**	
C230 TOLUENE	1.18324	1.25202	5.81	*		
C235 CHLOROBENZENE	.91064	.98515	8.18		**	
C240 ETHYLBENZENE	.44807	.45751	2.10	*		
C245 STYRENE	.95259	.92201	3.21			
C251 XYLENE	.49776	.51846	4.16			
C250 XYLENE (total)	.52663	.52580	.16			(Conc=100.00)
CS10 BROMOFLUOROBENZENE	.83582	.90396	8.15			

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

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

%Diff - % Difference from original average or curve

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

000046

LC0906

Continuing Calibration Check
HSL Compounds

Case No: _____ Calibration Date: 09/06/95

Contractor: RESAM Time: 13:13

Contract No: 68D20026 Laboratory ID: >C1080

Instrument ID: CMS-HP Initial Calibration Date: ~~09/01/95~~ 8/31/95 TW 9/6/95

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

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
C010 CHLOROMETHANE	.39642	.46913	18.34		**	✓
C015 BROMOMETHANE	1.14246	1.25873	10.18			
C020 VINYL CHLORIDE	.83438	.83725	.34	*		✓
C025 CHLOROETHANE	.50535	.51945	2.79			
C030 METHYLENE CHLORIDE	1.43293	1.18492	17.31			
C035 ACETONE	.55605	.44683	19.64			
C040 CARBON DISULFIDE	2.21379	2.31147	4.41			
C042 TRICHLOROFLUOROMETHANE	2.35728	2.53279	7.45			
C045 1,1-DICHLOROETHENE	.93775	1.04383	11.31	*		✓
C058 TETRAHYDROFURAN	.16441	.16422	.12			
C050 1,1-DICHLOROETHANE	1.89701	1.91457	.93		**	✓
C053 1,2-DICHLOROETHENE(total)	1.02075	1.16644	14.27			(Conc=100.00)
C060 CHLOROFORM	2.98515	2.63003	5.83	*		✓
C110 2-BUTANONE	1.00148	.85790	14.34			
C065 1,2-DICHLOROETHANE	1.72335	1.77279	2.87			
MTBE	2.23198	2.43497	9.09			(Conc=50.00)
CS15 1,2-DICHLOROETHANE-d4	1.34776	1.47470	9.42			
C115 1,1,1-TRICHLOROETHANE	.58472	.62814	7.43			
C120 CARBON TETRACHLORIDE	.53104	.58543	10.24			
C125 VINYL ACETATE	.72080	.63205	12.31			
C130 BROMODICHLOROMETHANE	.79895	.82806	3.64			
C140 1,2-DICHLOROPROPANE	.33339	.32954	1.16	*		✓
C143 CIS-1,3-DICHLOROPROPENE	.54928	.57199	4.13			(Conc=50.00)
C150 TRICHLOROETHENE	.40830	.44981	10.17			
C155 DIBROMOCHLOROMETHANE	.69112	.78400	13.44			
C160 1,1,2-TRICHLOROETHANE	.36750	.37950	3.27			
C165 BENZENE	.77453	.76477	1.26			
C172 TRANS-1,3-DICHLOROPROPENE	.49852	.48756	2.20			(Conc=50.00)
C176 2-CHLOROETHYLVINYLETHER	.18917	.19149	1.23			
C180 BROMOFORM	.52946	.64708	22.22		**	✓
CS05 TOLUENE-d8	.84705	.96058	13.40			
C205 4-METHYL-2-PENTANONE	.71801	.59373	17.31			

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

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

%Diff - % Difference from original average or curve

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

000047

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 09/06/95

Contractor: RESAN Time: 13:13

Contract No: 68D20026 Laboratory ID: >C1080

Instrument ID: CMS-HP Initial Calibration Date: 09/01/95

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

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
C210 2-HEXANONE	.57030	.48204	15.48			
C220 TETRACHLOROETHENE	.39228	.46486	18.50			
C225 1,1,2,2-TETRACHLOROETHANE	.91334	.93293	2.15		**	
C230 TOLUENE	1.18324	1.21568	2.74	*		
C235 CHLOROBENZENE	.91064	.96583	6.06		**	
C240 ETHYLBENZENE	.44807	.45297	1.09	*		
C245 STYRENE	.95259	.94256	1.05			
C251 XYLENE	.49776	.51880	4.23			
C250 XYLENE (total)	.52663	.52348	.60			(Conc=100.00)
CS10 BROMOFLUOROBENZENE	.83582	.92397	10.55			

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

$\overline{RF}$ - 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: RESAM

Calibration Date: ~~09/06/95~~ 9/5/95

Contract No: 68D20026

C60905 / I60905

AUR 9/8/95 (3)

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

Laboratory ID:	>64410	>64409	>64406	>64405	>64404				
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	.88418	.85974	.69749	.83291	.84460	.413	.82378	8.880	**
C015 BROMOMETHANE	1.87401	1.68176	1.35527	1.24775	.95392	.490	1.42254	25.485	
C020 VINYL CHLORIDE	1.06202	1.03536	.93305	.96411	.92160	.428	.98323	6.353	*
C025 CHLOROETHANE	.66711	.66062	.57899	.57022	.52587	.502	.60056	10.197	
C030 METHYLENE CHLORIDE	1.77653	1.55278	1.24255	1.32963	1.20858	.708	1.42201	16.829	
C035 ACETONE	.34860	.30523	.24734	.31566	.32046	.612	.30746	12.113	
C040 CARBON DISULFIDE	2.36621	2.49439	2.55028	2.76706	2.72075	.713	2.57974	6.391	
C042 TRICHLOROFLUOROMETHANE	3.57853	3.91128	3.64027	3.66605	3.21056	.540	3.60134	7.011	
C045 1,1-DICHLOROETHENE	1.22310	1.22896	1.17068	1.20584	1.14531	.633	1.19478	2.994	*
C058 TETRAHYDROFURAN	.07884	.07838	.08282	.09252	.07935	1.012	.08238	7.201	
C050 1,1-DICHLOROETHANE	2.40916	2.57134	2.40131	2.38079	2.23779	.832	2.40008	4.935	**
C054 1,2-DICHLOROETHENE(cis)	1.42257	1.43460	1.31367	1.37622	1.38657	.942	1.38673	3.425	
C053 1,2-DICHLOROETHENE(trans)	1.46259	1.48385	1.41906	1.45478	1.45500	.760	1.45506	1.605	
MTBE	2.83947	3.01495	2.92072	2.99057	2.55294	.738	2.86373	6.518	
C060 CHLOROFORM	3.52876	3.76132	3.44987	3.56727	3.39365	.971	3.54017	3.980	*
C110 2-BUTANONE	.46588	.47624	.48929	.50911	.43327	.909	.47476	5.952	
C065 1,2-DICHLOROETHANE	2.79913	2.88617	2.67471	2.71510	2.50300	1.126	2.71562	5.303	
CS15 1,2-DICHLOROETHANE-d4	2.58316	2.44250	2.17451	2.15953	2.03042	1.107	2.27802	9.967	
C115 1,1,1-TRICHLOROETHANE	.74860	.77458	.77671	.80959	.78949	.884	.77979	2.861	
C120 CARBON TETRACHLORIDE	.64600	.68358	.69228	.72771	.70373	.927	.69066	4.338	
C125 VINYL ACETATE	.32178	.28802	.38109	.40978	.36634	.702	.35340	13.707	
C130 BROMODICHLOROMETHANE	.75683	.78283	.80907	.88230	.88794	1.128	.82379	7.160	
C140 1,2-DICHLOROPROPANE	.33384	.32803	.31471	.33569	.33114	1.088	.32868	2.535	*
C143 CIS-1,3-DICHLOROPROPENE	.47407	.48371	.50025	.53090	.49342	1.227	.49647	4.359	
C150 TRICHLOROETHENE	.43992	.43292	.41283	.43914	.45601	1.058	.43616	3.574	
C155 DIBROMOCHLOROMETHANE	.57091	.60072	.64138	.73867	.76896	1.444	.66413	12.991	
C160 1,1,2-TRICHLOROETHANE	.32184	.31593	.31463	.33582	.33891	1.348	.32542	3.468	
C165 BENZENE	.88691	.83596	.84460	.88335	.87884	.954	.86593	2.747	
C172 TRANS-1,3-DICHLOROPROPENE	.38395	.40997	.43506	.47418	.45328	1.320	.43129	8.224	
C176 2-CHLOROETHYLVINYLETHER	.06562	.13902	.15257	.16878	.08468	1.186	.12213	36.580	

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 (**)

000049

Initial Calibration Data
HSL Compounds

Case No:

Contractor: RESAN

Contract No: 68D20026

Instrument ID: GMS-HP

Calibration Date: ~~09/06/95~~ 9/5/95 — 9/8/95 (3)

CG0905 / IG0905

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

Laboratory ID:	>64410	>64409	>64406	>64405	>64404					
	RF	RF	RF	RF	RF					
Compound	10.00	20.00	50.00	100.00	200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C180 BROMOFORM	.42085	.44231	.50723	.62849	.67873	1.749	.53552	21.248		**
CS05 TOLUENE-d8	1.09691	1.06221	.99871	1.02343	.95996	.817	1.02824	5.198		
C205 4-METHYL-2-PENTANONE	.36255	.46332	.49966	.55594	.41990	.765	.46027	16.074		
C210 2-HEXANONE	.16853	.19390	.20861	.26860	.25607	.870	.21914	19.251		
C220 TETRACHLOROETHENE	.51976	.49819	.48957	.50736	.47019	.905	.49701	3.765		
C225 1,1,2,2-TETRACHLOROETHANE	.68463	.66242	.72142	.81269	.75625	1.146	.72748	8.188		**
C230 TOLUENE	1.41187	1.39855	1.29163	1.36676	1.30562	.826	1.35489	3.996	*	
C235 CHLOROBENZENE	1.07497	1.03518	.96250	1.01542	.99424	1.005	1.01646	4.168		**
C240 ETHYLBENZENE	.46875	.45061	.43401	.45974	.48122	1.013	.45887	3.905	*	
C245 STYRENE	.95544	.96532	.94162	1.00034	1.01913	1.083	.97637	3.307		
C251 XYLENE (O)	.57311	.54868	.51549	.56545	.56170	1.078	.55289	4.105		
C250 XYLENE (total)	.56963	.55155	.52172	.55673	.54691	1.023	.54931	3.205		(Conc=20.0,40.0,100.0,200
CS10 BROMOFLUOROBENZENE	1.03529	.93146	.90863	.93857	.97381	1.157	.95755	5.154		

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 (**)

000050

HSL Compounds

Case No: Calibration Date: 09/06/95

Contractor: RESAN Time: 11:35

Contract No: 68020026 Laboratory ID: >G4426

Instrument ID: GMS-HP Initial Calibration Date: 09/06/95

I60906

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

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C010 CHLOROMETHANE	.82378	.78827	4.31		**
C015 BROMOMETHANE	1.42254	1.33146	6.40		
C020 VINYL CHLORIDE	.98323	1.00956	2.68	*	
C025 CHLOROETHANE	.60056	.60436	.63		
C030 METHYLENE CHLORIDE	1.42201	1.29650	8.82		
C035 ACETONE	.30746	.26655	13.31		
C040 CARBON DISULFIDE	2.57974	2.61429	1.34		
C042 TRICHLOROFLUOROMETHANE	3.60134	3.82134	6.11		
C045 1,1-DICHLOROETHENE	1.19478	1.18405	.90	*	
C058 TETRAHYDROFURAN	.08238	.07424	9.89		
C050 1,1-DICHLOROETHANE	2.40008	2.41100	.45		**
C054 1,2-DICHLOROETHENE(cis)	1.38673	1.36443	1.61		
C053 1,2-DICHLOROETHENE(trans)	1.45506	1.47078	1.08		
MTBE	2.86373	2.65823	7.18		
C060 CHLOROFORM	3.54017	3.53356	.19	*	
C110 2-BUTANONE	.47476	.37571	20.86		
C065 1,2-DICHLOROETHANE	2.71562	2.59807	4.33		
CS15 1,2-DICHLOROETHANE-d4	2.27802	2.16871	4.80		
C115 1,1,1-TRICHLOROETHANE	.77979	.77500	.61		
C120 CARBON TETRACHLORIDE	.69066	.70602	2.22		
C125 VINYL ACETATE	.35340	.33021	6.56		
C130 BROMODICHLOROMETHANE	.82379	.78020	5.29		
C140 1,2-DICHLOROPROPANE	.32868	.31506	4.15	*	
C143 CIS-1,3-DICHLOROPROPENE	.49647	.48370	2.57		
C150 TRICHLOROETHENE	.43616	.41636	4.54		
C155 DIBROMOCHLOROMETHANE	.66413	.61359	7.61		
C160 1,1,2-TRICHLOROETHANE	.32542	.28853	11.34		
C165 BENZENE	.86593	.84001	2.99		
C172 TRANS-1,3-DICHLOROPROPENE	.43129	.41687	3.34		
C176 2-CHLOROETHYLVINYLETHER	.12213	.12352	1.13		
C180 BROMOFORM	.53552	.46358	13.43		**
CS05 TOLUENE-d8	1.02824	1.05556	2.66		

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 (**)

HSL Compounds

Case No: Calibration Date: 09/06/95

Contractor: RESAN Time: 11:35

Contract No: 68020026 Laboratory ID: >G4426

Instrument ID: GMS-HP Initial Calibration Date: 09/06/95

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

Compound	RF	RF	%Diff	CCC	SPCC	
C205 4-METHYL-2-PENTANONE	.46027	.42987	6.61			
C210 2-HEXANONE	.21914	.16933	22.73			
C220 TETRACHLOROETHENE	.49701	.52370	5.37			
C225 1,1,2,2-TETRACHLOROETHANE	.72748	.67264	7.54		**	
C230 TOLUENE	1.35489	1.36826	.99	*		
C235 CHLOROBENZENE	1.01646	1.00808	.82		**	
C240 ETHYLBENZENE	.45887	.46974	2.37	*		
C245 STYRENE	.97637	.94194	3.53			
C251 XYLENE (O)	.55289	.53904	2.50			
C250 XYLENE (total)	.54931	.53650	2.33			(Conc=100.00)
CS10 BROMOFLUOROBENZENE	.95755	.93856	1.98			

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

RF - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

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

Case No: Calibration Date: 09/07/95

Contractor: RESRM Time: 12:57

Contract No: 68D20026 Laboratory ID: 264447

Instrument ID: GMS-MF Initial Calibration Date: 09/06/95

I60907

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

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C010 CHLOROMETHANE	.62378	.64128	22.15		**
C015 BROMOMETHANE	1.42254	1.16998	17.75		
C020 VINYL CHLORIDE	.98323	.88501	9.99	*	
C025 CHLOROETHANE	.60056	.55445	7.68		
C030 METHYLENE CHLORIDE	1.42201	1.19006	16.31		
C035 ACETONE	.30746	.25447	17.24		
C040 CARBON DISULFIDE	2.57974	2.32630	9.82		
C042 TRICHLOROFLUOROMETHANE	3.60134	3.36786	6.48		
C045 1,1-DICHLOROETHENE	1.19478	1.11574	6.62	*	
C050 TETRAHYDROFURAN	.08238	.08188	.61		
C050 1,1-DICHLOROETHANE	2.40008	2.26671	5.56		**
C054 1,2-DICHLOROETHENE(cis)	1.30673	1.28415	7.40		
C053 1,2-DICHLOROETHENE(trans)	1.45506	1.35799	6.67		
MTBE	2.86373	2.76597	3.41		
C060 CHLOROFORM	3.54017	3.31682	6.31	*	
C110 2-BUTANONE	.47476	.39660	16.46		
C065 1,2-DICHLOROETHANE	2.71502	2.43683	10.27		
C515 1,2-DICHLOROETHANE-d4	2.27802	2.15059	5.59		
C115 1,1,1-TRICHLOROETHANE	.77779	.74021	5.08		
C120 CARBON TETRACHLORIDE	.69066	.65904	4.58		
C125 VINYL ACETATE	.35340	.33284	5.82		
C130 BROMODICHLOROMETHANE	.82379	.76922	6.63		
C140 1,2-DICHLOROPROPANE	.32868	.31833	3.15	*	
C143 CIS-1,3-DICHLOROPROPENE	.49647	.47837	3.65		
C150 TRICHLOROETHENE	.43616	.40720	6.64		
C155 DIBROMOCHLOROMETHANE	.66413	.59132	10.96		
C160 1,1,2-TRICHLOROETHANE	.32542	.29994	7.83		
C165 BENZENE	.86593	.81929	5.39		
C172 TRANS-1,3-DICHLOROPROPENE	.43129	.41299	4.24		
C176 2-CHLOROETHYLVINYLETHER	.12213	.10648	12.82		
C180 BROMOFORM	.53552	.45129	15.73		**
CS05 TOLUENE-d8	1.02824	1.06793	3.86		

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 (**)

HSL Compounds

Case No: Calibration Date: 09/07/95

Contractor: RESAN Time: 12:57

Contract No: 68020026 Laboratory ID: >G4447

Instrument ID: GMS-HP Initial Calibration Date: 09/06/95

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

Compound	RF	RF	%Diff	CCC	SPCC	
C205 4-METHYL-2-PENTANONE	.46027	.42506	7.65			
C210 2-HEXANONE	.21914	.20099	8.28			
C220 TETRACHLOROETHENE	.49701	.47980	3.46			
C225 1.1.2.2-TETRACHLOROETHANE	.72748	.67271	7.53		**	
C230 TOLUENE	1.35489	1.40560	3.74	*		
C235 CHLOROBENZENE	1.01646	.96600	4.96		**	
C240 ETHYLBENZENE	.45887	.43633	4.91	*		
C245 STYRENE	.97637	.91129	6.67			
C251 XYLENE (O)	.55289	.54544	1.35			
C250 XYLENE (total)	.54931	.56019	1.98			(Conc=100.00)
C510 BROMOFLUOROBENZENE	.95755	.91748	4.18			

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

RF - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

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

PACE New England

GCMS/VOA Instr GMS-HP Analyst/Date TW 8/31/95 STD Lot # V-6394A

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
>C1072	474	—	—	BFB - DFTPP	50ng	MTH 1 95 M/Z = 24K		Y	✓
				TIME: 13:07					
				SCAN 187-188-189	~168	~88 ≥ a, +NY			
>C1073		ICAL24	1	VSTD050	5ml	NOT USED		N	
24			2	VSTD050		C-13 (M5)		Y	
25		ICC0831	3	ICC083195A1		VBLKCN C-6 (M2)		Y	✓
26			4	LCC083195A1	5ml	V-6392 NF Y		N	
27		LCC0831	5	VSTD 200		HEATED PURGE (LOW 30'S) CSTD 2		N	
28			6	VSTD 200		SCC0831 / LCC0831 C-13 (M3)		Y	✓
29			7	VSTD 100				Y	✓
30			8	VSTD 050				Y	✓
31			9	VSTD 020				Y	✓
32			10	VSTD 010		C-13 (M3)		Y	✓
33			1	VSTD 010				N	
34		ICC0831	2	LCC083195A2	5ml	V-6392 CSTD 3		Y	✓
35			3	~~45144-1 TW (2) SOLF BLK 3R3~~	~~5ml 3ml~~			Y	✓
36			4	45146-3				Y	✓
37			5	-3MS				Y	✓
38			6	-4				Y	✓
39			7	-4MS				Y	✓
40			8	-2	2ml			Y	✓
41			9	-2MS				Y	✓
42			10	45141-1	3ml	LR	<2	Y	✓
43				-BAKE-					

624/8240

VOLTAGE = 1900

PACE New England

GCMS/VOA Instr C **MS-HP** Analyst/Date TWg/5/95 STD Lot # V-6391

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
>C1052		—	—	BFB - DI	50ng			N	
53		—	—	BFB - DI	50ng			N	
54		—	—	BFB - DI	50ng			N	
				MANUAL TUNE AS	JUSTED				
55		—	—	BFB - DI	50ng			N	
56		—	—	BFB - DI	50ng			N	
57		—	—	↓	↓	CHANGED INJ PARAMETER			
58		—	—						
59		—	—			UV VOLTAGE → 2000			
60		—	—	BFB - DI	50ng	CHANGE SYRINGE		Y	
61	474	—	—	BFB - DI	50ng	MTH1 95 M/z = 22K		Y	
				TIME: 13:44					
				SCAN: 188 + 189 +	190 - 467	88 - 91			
>C1062		LC0931	1	VSTD050	5ml	NOT USED		N	
63			2	VSTD050	↓	C-13 (NS)		Y	
64		LC0905	3	BC090595A1	↓	VBLKC0		Y	✓
65			4	LCC090595A1	5ml	V-6392		Y	✓
66			5	45205-1	5.0g			Y	✓
67			6	-2	5.3g			Y	✓
68			7	-3	5.0g			Y	✓
69			8	-4	1.1g	L.R. RE 4g		N	
70			9	-5	1.2g	RE 5g		N	
71			10	-6	1.3g	RE 5g		N	
72			1	-7	1.2g	RE 5g TWG/6/95		Y	✓
73			2	-8	1.2g			Y	✓
74			3	-11	1.1g	RE 5g		N	
75			4	-12	1.2g	↓		N	
76			5	45219-1	5.1g			Y	✓
77				BLKC					
				000056					

MSC SCAN

VOLTAGE = 1900

PACE New England

GCMS/VOA Instr C **MS-HP** Analyst/Date TGN 9/6/95 STD Lot # V-6394B 08289SFL

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
>C1078	1474	—	—	BFB 50ng		MTH 1 M/2 95 - 29K		Y	✓
				TIME: 12:16					
				SCAN: 190+191+192	-171	80 + 91			
>C1079		LC0831	1	VSBD050	5ml	NOT USED		N	
80			2	VSD050		C-13 (MS)		Y	✓
81		LC0906	3	BC090695A1		VBLICCP		Y	✓
82			4	LCC090695 A1	5ml	V-6392		Y	✓
83			5	45205-4	4.0g	LR		Y	✓
84			6	-5	5.1g			Y	✓
85			7	-6	5.2g			Y	✓
86			8	-11	5.1g			Y	✓
87			9	-12	5.0g			Y	✓
88			10	-10	5.1g			Y	✓
89			1	45219-2	5.2g			Y	✓
90			2	-3	5.3g			Y	✓
91			3	45205-(MS	5.2g	SR		Y	
92			4	-10MSD	↓	↓		Y	
~~93~~				~~-BLANK-~~		CHANGE OF PLUG TO 9/6/95			
93			5	45205-4	5.0g	IS FAILURE		N	
94				-BLANK-					

000057

6.24
11.80
5 pt

MSGSAM
Voltage = 2100

PACE New England

08289SSEL

GCMS/VOA Instr G **MS-HP** Analyst/Date AR 9/5/95 STD Lot # V-6344

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
>64398	#	—	—	BFB-DI	50ng	MH1 M/e95 = 37K		N	
99	#	—	—	BFB-DI	50ng	MH1 M/e95 =		y	
				Scan: 154+155+156 -100 time: 11:52					
>64400		IG0410	1	VSTD050	5mls	Not used		N	
01		↓	2	VSTD050	↓	↑ vinyl chloride		N	
02		IG0905	3	BG0905 95A1	↓	VBLKGE		N	
Voltage = 2075									
>64403	#338	—	—	BFB-DI	50ng	MH1 M/e95 = 31K		y	
				Scan: 150+151 +152 -100		V-6058K 1K'91+'88K			
				time: 14:11					
>64404		IG0905	1	VSTD200	5mls			y	
05			2	VSTD100		IG0905/CG0905		y	
06			3	VSTD050				y	
07			4	VSTD020		↓IS		N	
08			5	VSTD010	↓	↓IS		N	
09			6	VSTD020	5mls			y	
10		↓	7	VSTD010		M2 = C32		y	
11		IG5605	8	BG0905 95A1		VBLKGE		y	
12			9	CC6090595A1	↓			y	
13			10	45,193-1	1.8mls	(R624) R/M Scrange	>2	y	
14			11	-4	930uls	↓ ↓ ↓	>2	y	
15			12	VSTDFREON	5mls	V-		y	
16			13	45,171-1	1.2mls	(R624 FRE) + CH2Cl2 4.5mls DCE		N	
17			14	-2	5mls			y	
18			1	-3	5mls			y	
19			2	-4	2mls			y	
~~20~~ ⑤			~~AR 9/5/95 13:~~ BAKE						
20 21	9/5/95		3	-5	1.9mls			y	
21 22			4	-10	5mls			y	
22 23			5	-11	5mls	000058		y	
23 24	AR 9/5/95	↓	—	BAKE					

Leakage around DVC Valve.

MS SAM Voltage = 2015

PACE New England

08289558L

GCMS/VOA Instr G **MS-HP** Analyst/Date ALK 9/16/15 STD Lot # V-16514B

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
>64424	$\frac{1}{358}$	—	—	BFB-DI	50ng	MHL m/e95=27L		y	
				Scan: 145+		V-6088 ok 158+151			
				146+147-100					
				time: 1032					
>64425		I60905	1	VSTD050	5mls	Not used		N	
26		↓	2	VSTD050	↓	+Freon		y	
27		I60906	3	BG0906955A1	↓	VBLKGF m2=CL		y	✓
>64428		I60906	4	UG0906955A1	5mls			y	✓
29			5	BV1123	100ml	↓Tol-d8		N	
30			6	LSV1123	↓			y	✓
31			7	45,205-9	20ml	LR (R8240) Neena-C. ↑MC		y	✓
32			8	-9ms	↓	↓		y	✓
33			9	-9msd	↓	↓		y	✓
34			10	46,217-1	100ml	(R8240MSMTBE) LW 9/15		y	✓
35			11	-2	↓	↓		y	✓
36			12	-3	↓	↓		y	✓
37			13	45,218-1	↓	(R8240MS) LW 9/15		y	✓
38			14	45,211-7	5mls	(R624LW) LW 9/15		y	✓
39			1	-8	↓	↓		y	✓
40			2	-9	620ls	↓ RE 50ml's ? ↑ toluene		N	
41			3	45,171-1	4.5mls	(R624FBE) RE		N	
42			4	BV1123	100ml	out of WINDOW RE - surr ok		N	
43			/	BAKE					
						000059			

Per 9/17/15

MSGSAM
Voltage = 2075

PACE New England

082895SEC

GCMS/VOA Instr G MS-HP Analyst/Date ALR 9/7/95 STD Lot # V-639

FRN	Anlv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
>G4444	8/338	—	—	BFB-DI	50ng	ALR 1 M/L 95 = 36K		y	
				Scan: 146+147		V-6088 OK '88+'91			
				+ 148 - 100					
				time: 1108					
>G4446		IG0905	1	VSTD050	5mls	Not used			
47		↓	2	VSTD050	↓	+Freon		y	
48		IG0907	3	B60907SA1	↓	VBLKGG m/z=C6		y	✓
>G4449		IG0907	4	LCG0907SA1	5mls				
50			5	BV1123	100AE	ITol-dr same tube? as before		N	
51			6	45,171-1	4mls	(R624FRE)		y	✓
52			7	45,211-9 20	5mls	(R624LW) RE 50mls		N	
53			8	VSTD603	5mls			y	✓
54			9	45,189-1	↓	(R624)	<2	y	
55			10	-2		(R603)		y	
56			11	-3		(R624)	<2	y	✓
57			12	-4	↓	(R603)		y	✓
~~58~~			~~13~~	~~BFB-Lloyd~~	~~25mls~~	~~MSGS24~~			
~~59~~			~~14~~	~~VSTD010~~					
~~60~~			~~1~~	~~B60907SD1~~					
~~61~~			~~2~~	~~45,234-5~~	↓				
~~62~~			~~/~~	~~BAKE~~					
58			13	BV1123	100ml	PASSED		y	✓
59			—	BAKE	—				

ALR 9/7/95

000060

MSGSAM-
Voltage = 1207s

PACE New England

08285SSL

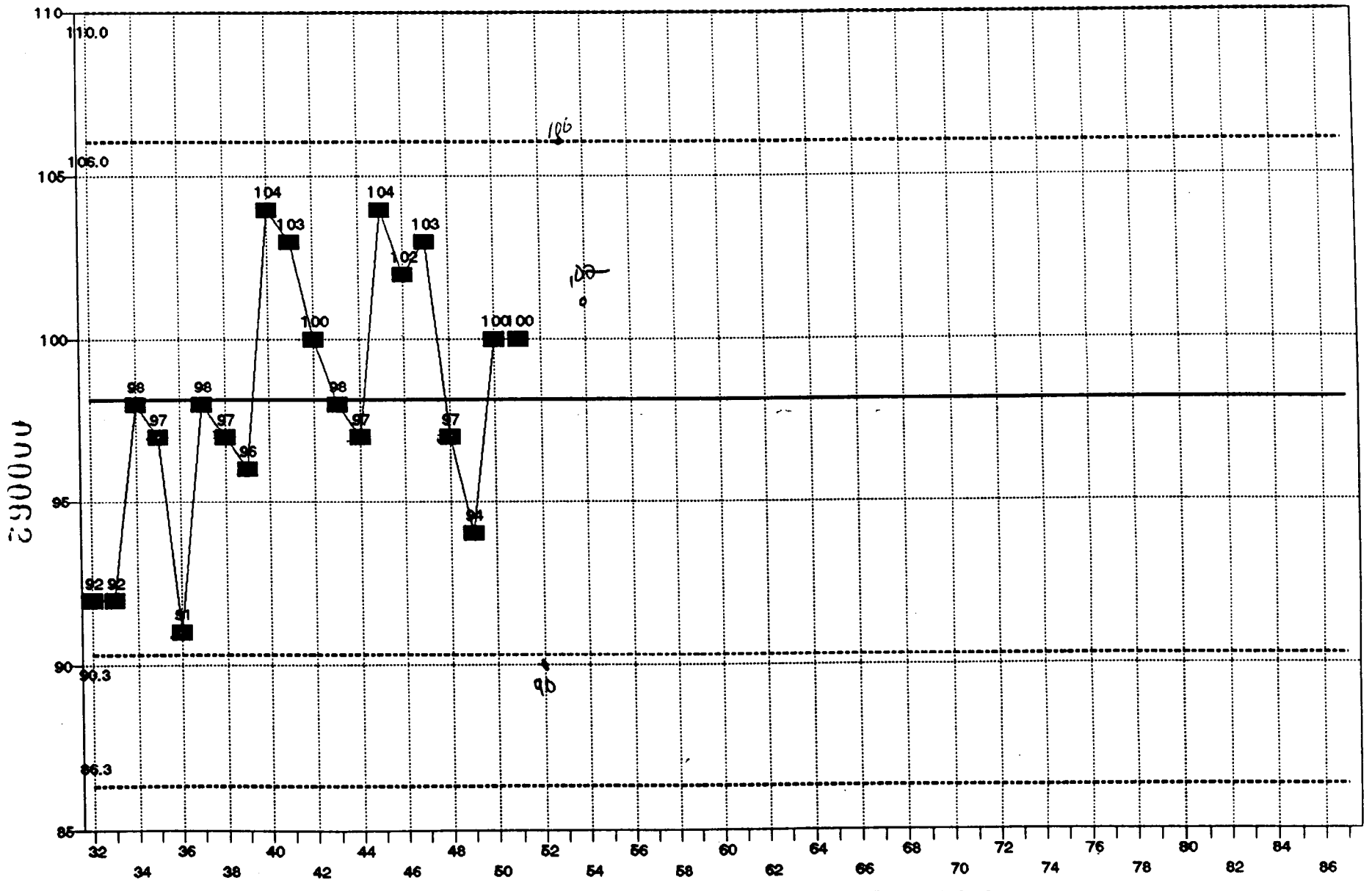
GCMS/VOA Instr G **MS-HP** Analyst/Date AVR 9/7/95 STD Lot # V-6314B

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
>64444	9/358	—	—	BFB-DI	50ng	MVR 1 9/6/95 = 36K		y	
				Scan: 146+147		V-6088 OK 1884 '91			
				+148-100					
				time: 1108					
>64446		I60905	1	VSHD050	5mls	Not used			
47		↓	2	VSHD050	↓	+Freon		y	
48		I60907	3	B60907SA1	↓	VBUGGG m/z=C6		y	✓
>64449		I60907	4	LCG0907SA1	5mls				
50			5	BV1123	100ml	Tol-dr same tube? as before		N	
51			6	45,171-1	4mls	(R624+RE)		y	✓
52			7	45,211-9 20	5mls	(R624LW) RE 50mls		N	
53			8	VSHD603	5mls			y	✓
54			9	45,189-1	↓	(R624)	<2	y	✓
55			10	-2		(R603)		y	✓
56			11	-3		(R624)	<2	y	✓
57			12	-4	↓	(R603)		y	✓
~~58~~			~~13~~	~~BFB-Purged~~	~~25mls~~	~~MSGS24~~			
~~59~~			~~14~~	~~VSHD070~~					
~~60~~			~~1~~	~~B60907SD1~~					
~~61~~			~~2~~	~~45,234-3~~	↓				
~~62~~			~~/~~	~~BAKE~~					
58			13	BV1123	100ml	PASSed		y	✓
59			—	BAKE	—			y	

AVR 9/7/95

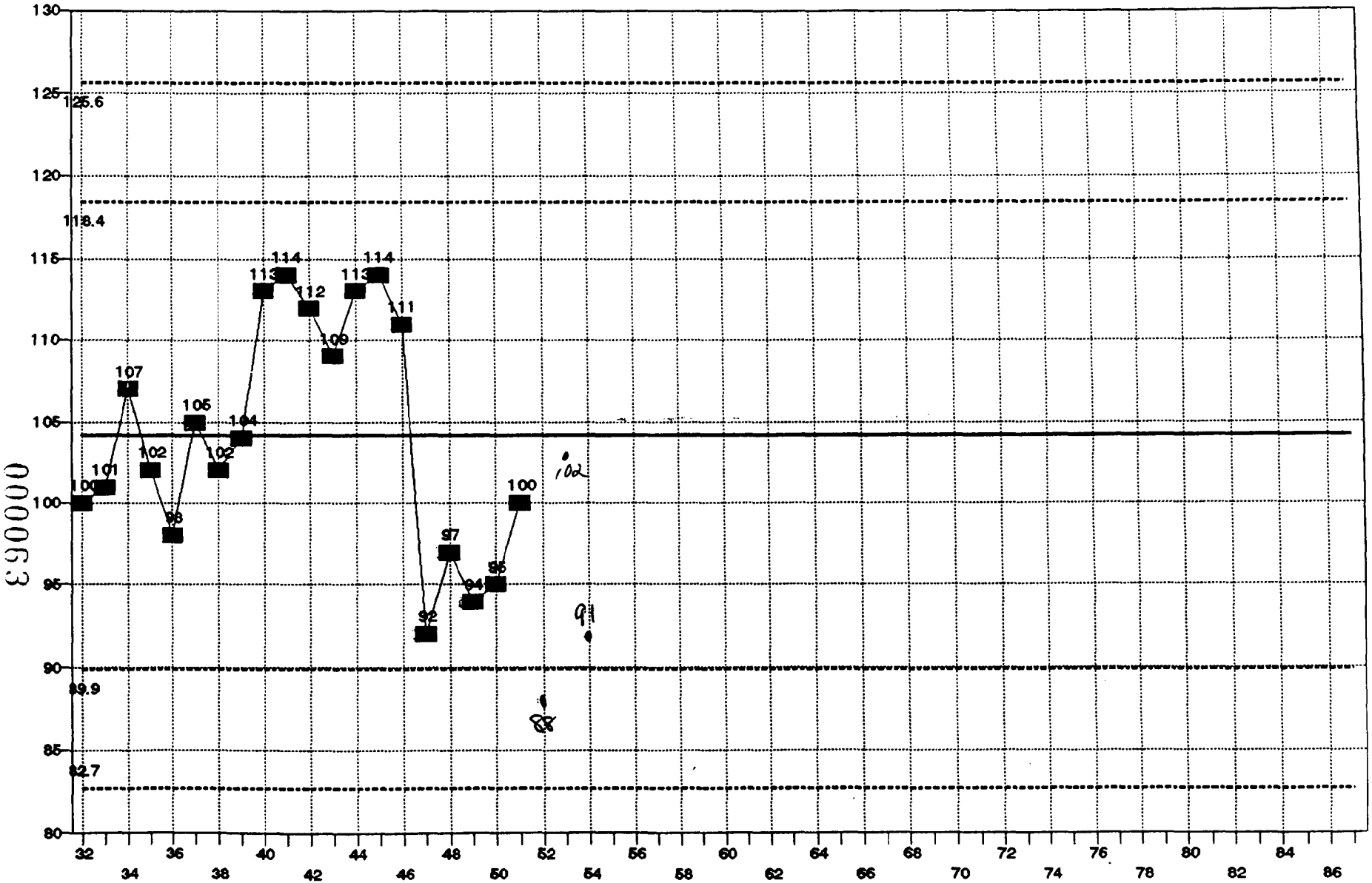
000061

VOA MED SOLIDS - SURR DCE
LIMIT SET 8/95



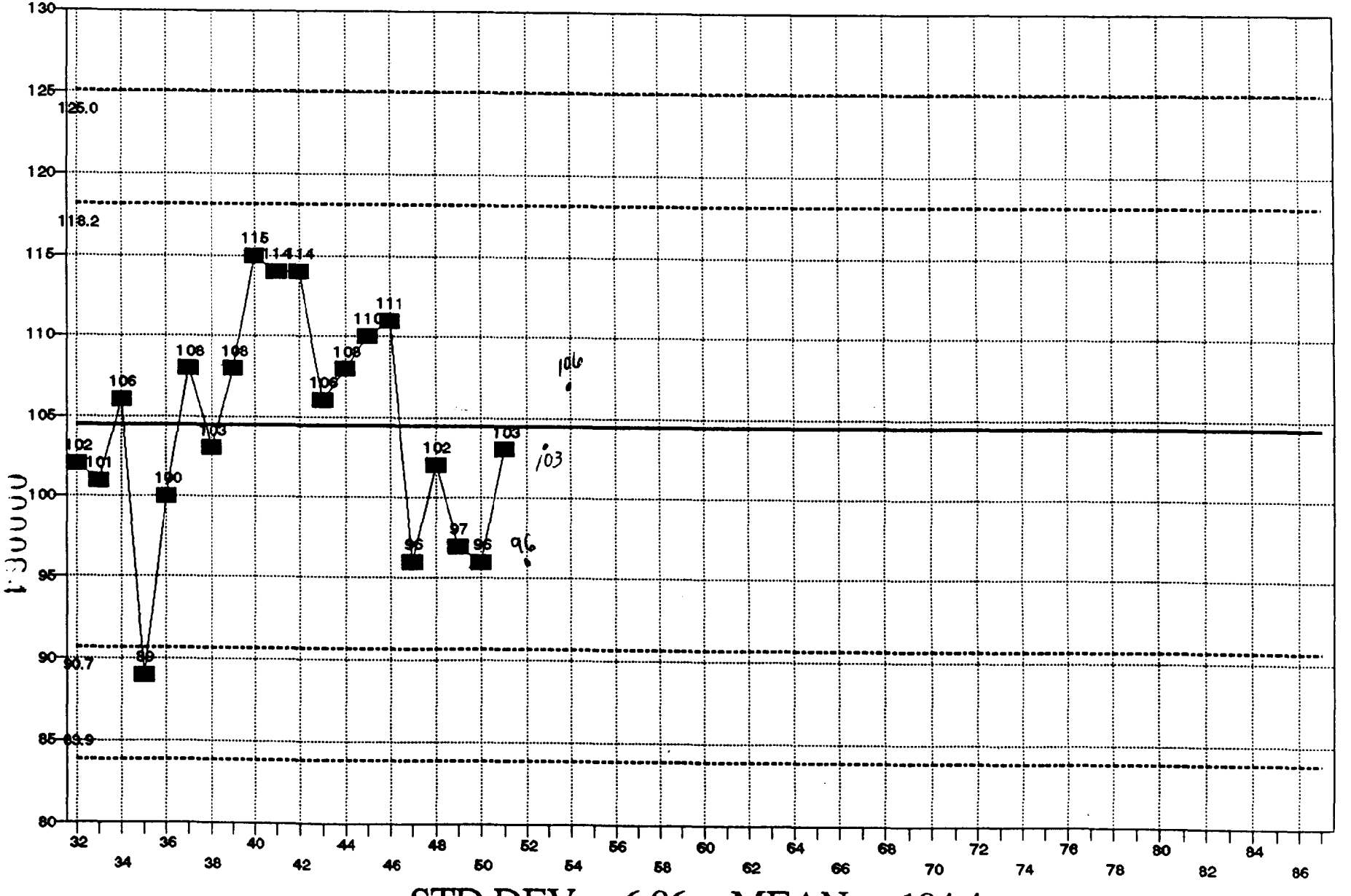
STD DEV = 3.94 MEAN = 98.2

VOA MED SOLIDS - SURR TOL
LIMIT SET 8/95



STD DEV = 7.14 MEAN = 104.2

VOA MED SOLIDS - SURR BFB
LIMIT SET 8/95

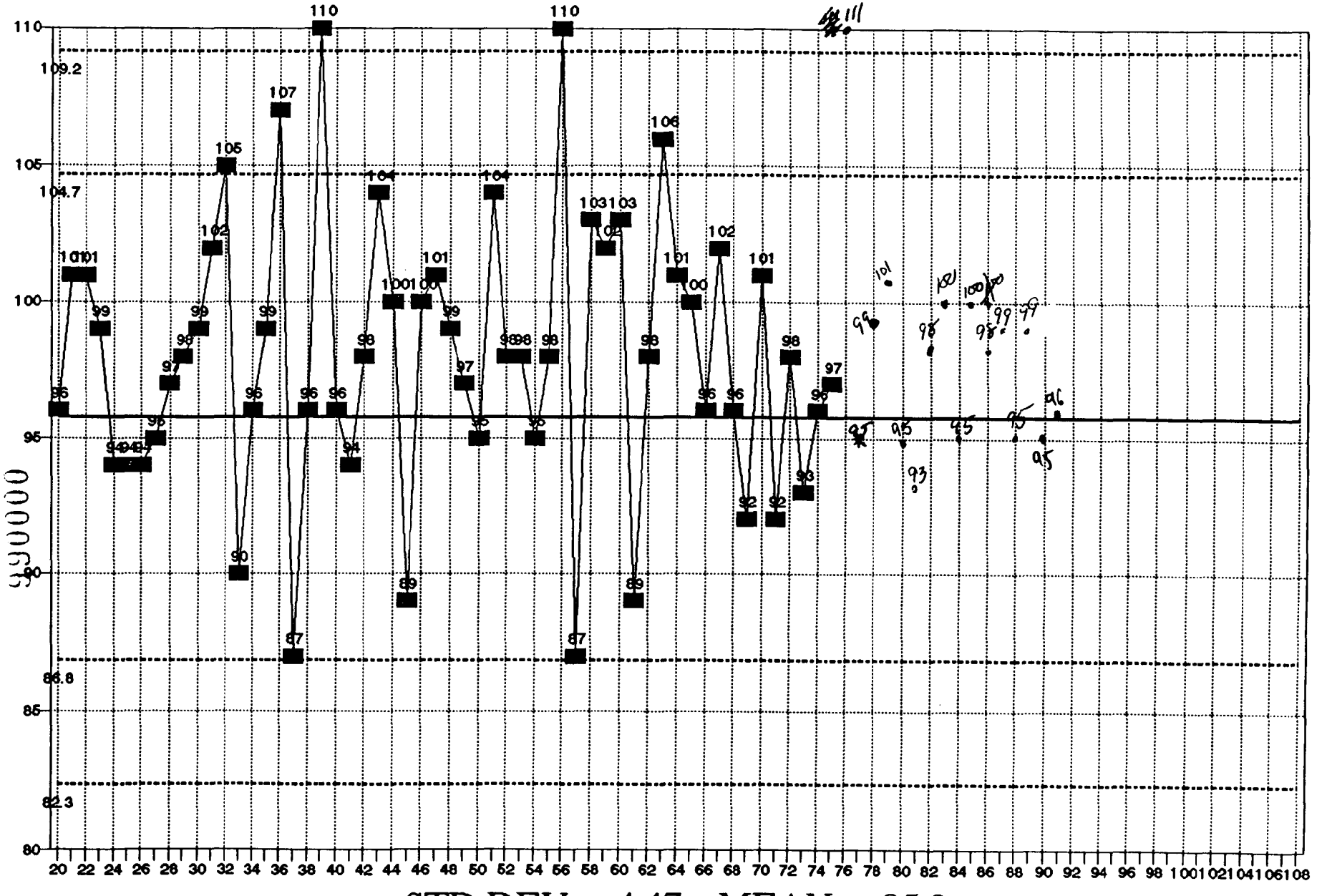


STD DEV = 6.86 MEAN = 104.4

MED SOIL BLANK # LIST

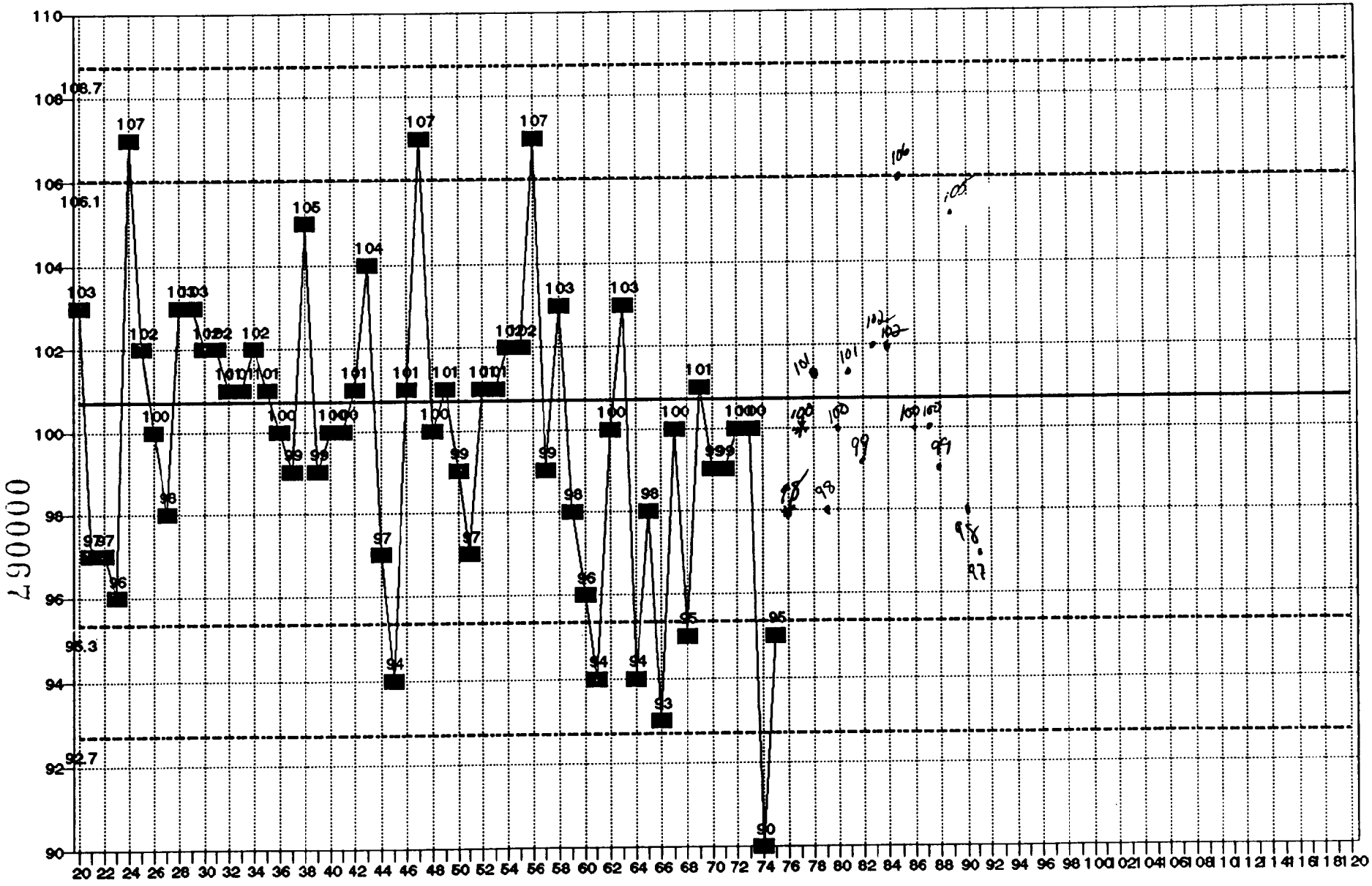
POINT	/ BLANK
1	MB021693A
2	MB022193B
3	MB022993B
4	MB030193A
5	MB040293A
6	MB050493A
7	MB050493A
8	MB050593A
9	MB050693A
10	MB052793B
11	MB052593A
12	MB101293A
13	MB100993A
14	MB111793A
15	MB121393A
16	MB121393A
17	MB020694A
18	MB021094A
19	MB021594A
20	MB021594A
21	MB021594A
22	MB042994B
23	MB050494A
24	MB050494A
25	B-V1005A
26	B-V1021A
27	B-V1027B
28	B-V1027C
29	B-V1034C
30	B-V1039
31	B-V1044A
32	B-V1045A
33	B-V1044B
34	B-V1050
35	B-V1066 EMS
36	B-V1066 CMS
37	B-V1070 12/30/94
38	B-V1070 1/3/95
39	B-V1085
40	B-V1084
41	B-V1085
42	B-V1084
43	B-V1087
44	B-V1085
45	B-V1084
46	B-V1084
47	B-V1117A
48	B-V1117B
49	B-V1118A
50	B-V1118D
51	B-V1118B
52	B-V1118A CMS
53	B-V1117A
54	B-V1123

VOA LOW SOLIDS - SURR DCE
EPA SW846 LIMIT SET 9/94



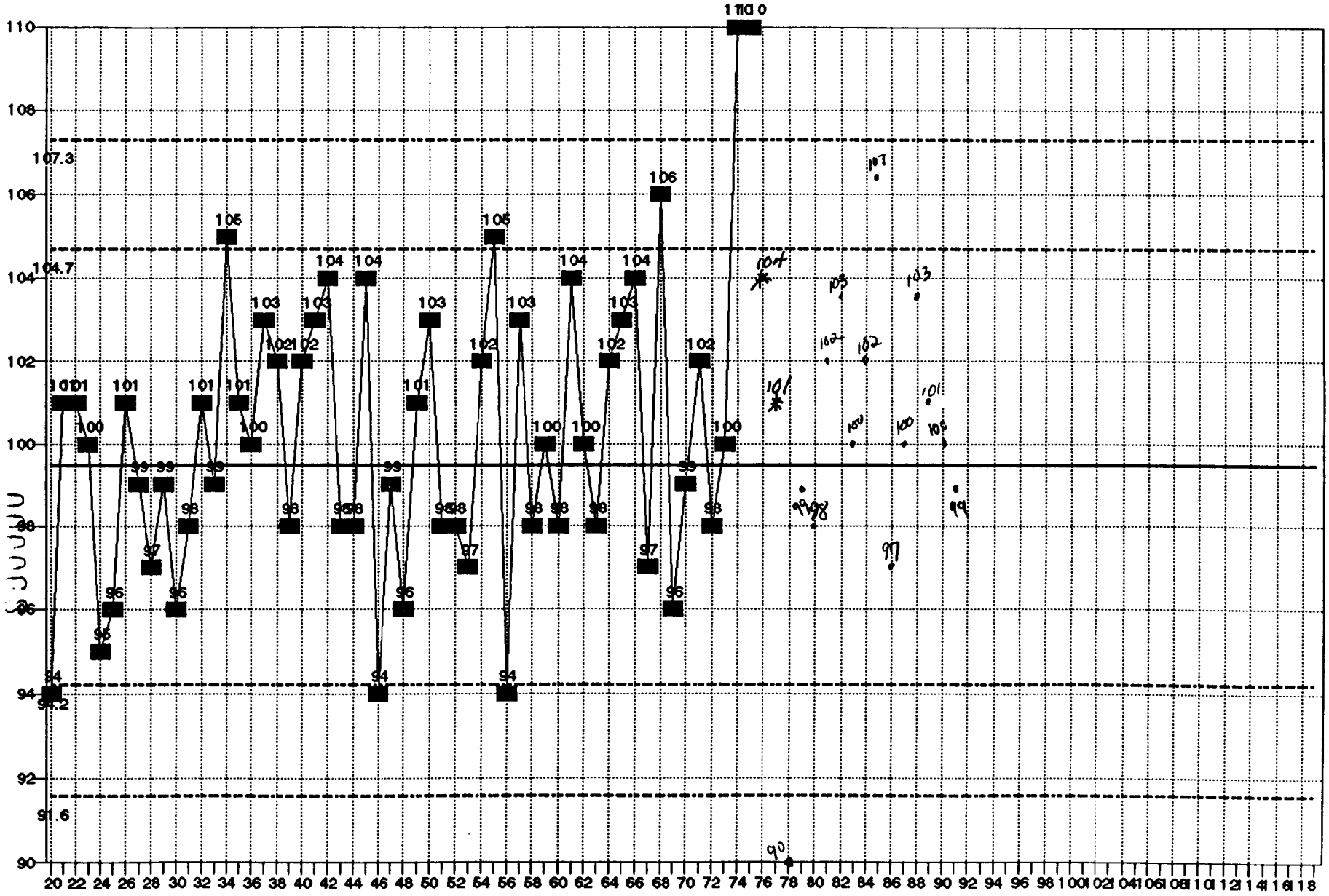
STD DEV = 4.47 MEAN = 95.8

VOA LOW SOLIDS - SURR TOL-D8
EPA SW846 LIMITS SET 9/94



STD DEV = 2.68 MEAN = 100.7

VOA LOW SOLIDS - SURR BFB
EPA SW846 LIMITS SET 9/94



STD DEV = 2.62 MEAN = 99.4

SW846 8240 LOW LEVEL SOLIDS

1 BC081794A
2 BC081894A
3 BC082594A
4 BC082694A
5 BC083094A
6 BG081994A
7 BG082394B
8 BG082494A
9 BG082594A
10 BG082694C
11 BG082994A
12 BC083194A
13 BC090194A
14 BC090294A
15 BG083094A
16 BG083194A
17 BG090194A
18 BG090294A
19 BG090694A
20 BG090894A
21 BC090694A
22 BC090894B
23 BC090994A
24 BG090994A
25 BG091294A
26 BG091394A
27 BG091494B
28 BG091594A
29 BG091694A
30 BG091994A
31 BE092094A
32 BE092194A
33 BC092194B
34 BC092294B
35 BC092394B
36 BC092694B
37 BG100794A
38 BE092294A
39 BE092394A
40 BC092794B
41 BC101094A
42 BC101194A
43 BG101194A
44 BC101294A
45 BG101294A
46 BG101394A
47 BE101894A
48 BE101994A
49 BG101994C
50 BC101794A
51 BC101894A
52 BC101994A
53 BG102094A
54 BG102194A
55 BG102494A
56 BG100594D
57 BG100794A
58 BG101194A
59 BG102594A
60 BE101794A
61 BG101294B
62 BG112394C
63 BG120694C
64 BG120794B
65 BG120894B
66 BG120994B
67 BG121494A
68 BG121594A
69 BG121694A
70 BG121994A
71 BG122094B
72 BG122394A
73 BG122794A
74 BG123094B
75 6
76 BC021095B
77 BC021395A
78 BG040695B
79 BG040795B
80 BG040995A
81 BC061395C (93, 101, 102)
82 BC061495C (98, 99, 103)
83 BC061595A (100, 102, 100)
84 BC061695A (95, 102, 102)
85 BC062795A (100, 106, 107)
86 BC062895B2 (98, 100, 97)
87 BC062995A1 (99, 100, 100)
88 BC072595A1 (95, 99, 103)
89 BE081495A1 (99, 105, 101)
90 BC090595A1 (95, 98, 100)
91 BC090695A1 (96, 97, 99)
92
93
94
95
96
97
98
99
100

241077

pace INCORPORATED
ENVIRONMENTAL LABORATORIES

SAMPLES FROM NEW YORK SITE YES ✓ NO ____

CHAIN-OF-CUSTODY RECORD
Analytical Request

Client: Halliburton NUS
Address: 661 Anderson Dr, Foster Plaza #7, Pittsburgh PA 15220
Phone: (412) 921-7090

Report To: Mark Speranza
Bill To: ____
P.O. # / Billing Reference:
Project Name / No.: CTO 213

Pace Client No.:
Pace Project Manager:
Pace Project No.:
*Requested Due Date:

Sampled By (PRINT): TIMOTHY S EVANS
Sampler Signature: Timothy S Evans
Date Sampled: 8.30.95

ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO.	NO. OF CONTAINERS	PRESERVATIVES: UNPRESERVED	H_2SO_4	HNO_3	VOA	ANALYSES REQUEST: TCL VOC	REMARKS
1	DSB10 - 00/02	1007	soil	45205-1	1	✓				✓	
2	DSB10 - 15/17	1032	soil	-2	1	✓				✓	
3	DSB10 - 60/62	1140	soil	-3	1	✓				✓	
4	DSB11 - 00/02	1347	soil	-4	1	✓				✓	
5	DSB11 - 30/32	1437	soil	-5	1	✓				✓	
6	DSB11 - 60/62	1525	soil	-6	1	✓				✓	
7											
8											

COOLER NOS.	BAILERS	SHIPMENT METHOD OUT DATE	SHIPMENT METHOD RETURNED DATE
1			

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	ACCEPTED BY / AFFILIATION	DATE	TIME
1-6	Timothy S Evans HNUS 8.31.95	S Branson/pace	9/1/95	0930
		1600		

Additional Comments: FedEx AB# 546199116 1

1 of 2

SEE REVERSE SIDE FOR INSTRUCTIONS

ORIGINAL

pace INCORPORATED
ENVIRONMENTAL LABORATORIES

SAMPLES FROM NEW YORK SITE YES ✓ NO ____

CHAIN-OF-CUSTODY RECORD
Analytical Request

Client: Halliburton NUS
Address: 661 Anderson Dr Foster Plaza #7 Pittsburgh PA 15211
Phone: (412) 921-7090

Report To: Mark Speranza
Bill To:
P.O. # / Billing Reference
Project Name / No.: CTO 213

Pace Client No.
Pace Project Manager
Pace Project No.
*Requested Due Date:

Sampled By (PRINT): TIMOTHY S EVANS
Sampler Signature
Date Sampled: 8.31.95

ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO.	NO. OF CONTAINERS	PRESERVATIVES: UNPRESERVED	H_2SO_4	HNO_3	VOA	ANALYSES REQUEST: 60mL glass TCL VOC	REMARKS
1	DSB13 - 00/02	0903	Soil	45205-7	1	✓				✓	
2	DSB13 - 40/42	0955	Soil	-8	1	✓				✓	
3	DSB13 - 55/57	1023	Soil	-9	1	✓				✓	
4	DSB12 - 00/02	1235	Soil	-10	1	✓				✓	
5	DSB12 - 40/42	1330	Soil	-11	1	✓				✓	
6	DSB12 - 60/62	1402	Soil	-12	1	✓				✓	
7											
8											

COOLER NOS.	BAILERS	SHIPMENT METHOD: OUT DATE	RETURNED DATE
1			

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	ACCEPTED BY / AFFILIATION	DATE	TIME
1-6	Timothy S Evans / HNUS 8.31.95 1600	S Bronson / pace	9/1/95	0930

Additional Comments: FedEx AB# 3461991161

000071

1 of 2

Final Page

SEE REVERSE SIDE FOR INSTRUCTIONS

ORIGINAL

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THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

September 18, 1995

Halliburton NUS Corporation
Mr. Mark Speranza
661 Andersen Drive
Pittsburgh, PA 15220

SAMPLE DELIVERY GROUP NARRATIVE

Project: NWIRP Bethpage, CTO 0213
Laboratory: PACE New England, Inc. of Hampton, NH

Lab Numbers: 45219
Protocol: SW846 Methodologies with NEESA Level C package and LOTUS diskette.

Sample Receipt: Samples were received at PACE, Inc. on 9/5/95. Laboratory sample numbers were assigned for test parameters as listed on the sample table which follows this narrative. Sample shipments were 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. In addition, Sample Receipt Condition Reports can be found with the Chains-of-Custody. No spike sample was submitted for analysis.

Shipment received 9/5/95 (45219): One cooler was received with one Chain-of-Custody form. The cooler was received without a temperature blank present. The samples were packed in ice with the ice melted upon receipt at PACE. Custody seals were present and intact.

Volatile Organic Analysis: Samples were analyzed within a project specific holding time of 7 days from sampling as directed by Ms. Kelly Johnson. The method 8240 blank "BC060595A1" and "BC060695A1" 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 L Wellman — 9/18/95

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

September 18, 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

SAMPLE RECEIPT CONDITION REPORT
Tel. (603) 926-7777
FAX (603) 926-7939

PAGE 1 of 1
COOLER 1 of 1
COC# 241079
SDG# —
CASE# —

CLIENT HNUS
DATE/TIME RECEIVED 9/5/95 0930 LIMS ENTRY BY SB
DELIVERED BY fedX TRANSCRIPTION REVIEW BY SB
RECEIVED BY SB LIMS REVIEW BY/PM SB

	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	☐	☐	☒	See Below	
5. SAMPLES RECEIVED AT 2° - 6° C (Ice/Ice Packs Present? (Y) or N)	☐	☐	☒	No temp blk. Ice completely melted. Samples at Room temp.	
6. VOLATILES FREE OF HEAD SPACE	☐	☒	☐		
7. TRIP BLANK PRESENT IN THIS COOLER	☐	☐	☒	None Present w/soil samples.	
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:

Sample DSB14 - 05/07 has DSB14-00/02 on jar label.
CoC is correct per Tim Evans

Sampled 9/1/95. 7 day project H.T.

SW846/neesa-c

CLIENT AUTHORIZATION SIGNATURE DATE 0000002

SAMPLE TABLE

CLIENT ID.	MATRIX	PACE #	PARAMETERS
DSB14-05/07	SOLID	45219-001	GC/MS VOA
DSB14-40/42	SOLID	45219-002	GC/MS VOA
DSB14-50/52	SOLID	45219-003	GC/MS VOA

pace INCORPORATED THE ASSURANCE OF QUALITY

Case: _____

~~SDG:~~ 45219

TABLE 1: MANUAL INTEGRATIONS PERFORMED

EPA ID	LAB ID	FILE NUMBER	COMPOUNDS MANUALLY INTEGRATED
	VSBD 200	^C 1028	C15 - 1,2-Dichloroethane
	VSBD 100	^C 1029	
	VSBD 050	^C 1030	
	VSBD 010	^C 1032	
	VSBD 050	^C 1063	
	VSBD 050	^C 1080	

Manual integrations were performed as required to correct faulty integrations made by the automated software. The manual integrations began and ended at the poin ; 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
PACE Incorporated

9/8/95
Date

ref: PACE SOP ALL-Q-013-A c:\document\manint.frm

Laboratory number: 45219-001
Sample Designation: DSB14-05/07
Date Analyzed: 09/06/95
Matrix: SOLID

Instrument File Name: >C1076

Results are expressed on a dry (103 degrees C) basis.
Moisture content was 3 % , elevating the reporting limits
by a factor of 1.03 .

VOLATILE ORGANICS	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
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
2-Chloroethyl vinyl ether	BDL	5
Bromoform	BDL	5
4-Methyl-2-Pentanone	BDL	25
2-Hexanone	BDL	25
Tetrachloroethene	BDL	5
1,1,2,2-Tetrachloroethane	BDL	5
Toluene	BDL	5
Chlorobenzene	BDL	5
Ethylbenzene	BDL	5
Styrene	BDL	5
Xylene (total)	BDL	5

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

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

pace INCORPORATED
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Laboratory number: 45219-002
Sample Designation: DSB14-40/42
Date Analyzed: 09/06/95
Matrix: SOLID

Instrument File Name: >C1089

Results are expressed on a dry (103 degrees C) basis.
Moisture content was 5 % , elevating the reporting limits
by a factor of 1.05 .

VOLATILE ORGANICS	CONCENTRATION (ug/Kg)		REPORTING LIMIT (ug/Kg)
Chloromethane	BDL		10
Bromomethane	BDL		10
Vinyl chloride	BDL		10
Chloroethane	BDL		5
Methylene chloride	8	JB	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
2-Chloroethyl vinyl ether	BDL		5
Bromoform	BDL		5
4-Methyl-2-Pentanone	BDL		25
2-Hexanone	BDL		25
Tetrachloroethene	BDL		5
1,1,2,2-Tetrachloroethane	BDL		5
Toluene	BDL		5
Chlorobenzene	BDL		5
Ethylbenzene	BDL		5
Styrene	BDL		5
Xylene (total)	BDL		5

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

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

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: 45219-003
Sample Designation: DSB14-50/52
Date Analyzed: 09/06/95
Matrix: SOLID

Instrument File Name: >C1090

Results are expressed on a dry (103 degrees C) basis.
Moisture content was 10 % , elevating the reporting limits
by a factor of 1.11 .

VOLATILE ORGANICS	CONCENTRATION (ug/Kg)		REPORTING LIMIT (ug/Kg)
Chloromethane	BDL		10
Bromomethane	BDL		10
Vinyl chloride	BDL		10
Chloroethane	BDL		5
Methylene chloride	8	JB	10
Acetone	BDL		26
Carbon disulfide	BDL		5
Tetrahydrofuran	BDL		26
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		26
1,1,1-Trichloroethane	BDL		5
Carbon Tetrachloride	BDL		5
Vinyl acetate	BDL		10
Bromodichloromethane	BDL		5
1,2-Dichloropropane	BDL		5
cis-1,3-Dichloropropene	BDL		5
trans-1,3-Dichloropropene	BDL		5
Trichloroethene	BDL		5
Dibromochloromethane	BDL		5
1,1,2-Trichloroethane	BDL		5
Benzene	BDL		5
2-Chloroethyl vinyl ether	BDL		5
Bromoform	BDL		5
4-Methyl-2-Pentanone	BDL		26
2-Hexanone	BDL		26
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

SOIL VOLATILES SURROGATE RECOVERY

Client: HNUS
Project: BETHPAGE
Level: Low Soil

Lab No.: 45219

CLIENT SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
DSB14-05/07	98	99	86		0
DSB14-40/42	100	101	97		0
DSB14-50/52	99	100	100		0
BC060595A	98	100	95		0
BC060695A	97	99	96		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: BC060595A1
Sample Designation: LABORATORY BLANK
Date Analyzed: 06/05/95
Matrix: SOLID

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

METHOD REFERENCE: EPA SW 846 2ND EDITION
METHOD 8240

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

pace INCORPORATED
THE ASSURANCE OF QUALITY

Laboratory number: BC060695A1
Sample Designation: LABORATORY BLANK
Date Analyzed: 06/06/95
Matrix: SOLID

VOLATILE ORGANICS	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Chloromethane	BDL	10
Bromomethane	BDL	10
Vinyl chloride	BDL	10
Chloroethane	BDL	5
Methylene chloride	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 2ND EDITION
METHOD 8240

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

pace INCORPORATE
THE ASSURANCE OF QUALITY

MATRIX SPIKE RECOVERY
VOLATILE ORGANIC COMPOUNDS

Laboratory Number: LCC090595A1
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 09/05/95
Matrix: LOW SOIL

COMPOUND	ug/Kg SAMPLE	ug/Kg SPIKE	ug/kg FOUND	%REC-OVERY
1,1-DICHLOROETHENE	0	50	51	101
TRICHLOROETHYLENE	0	50	47	93
BENZENE	0	50	43	87
TOLUENE	0	50	47	93
CHLOROBENZENE	0	50	50	101

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

pace INCORPORATED
THE ASSURANCE OF QUALITY

MATRIX SPIKE RECOVERY
VOLATILE ORGANIC COMPOUNDS

Laboratory Number: LCC090695A1
Sample Designation: LABORATORY CONTROL SAMPLE
Date Analyzed: 09/06/95
Matrix: LOW SOIL

COMPOUND	ug/Kg SAMPLE	ug/Kg SPIKE	ug/kg FOUND	%REC-OVERY
1,1-DICHLOROETHENE	0	50	46	93
TRICHLOROETHYLENE	0	50	46	91
BENZENE	0	50	44	87
TOLUENE	0	50	47	94
CHLOROBENZENE	0	50	49	98

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

5A

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

Lab Name: PACE New England

Project: BETHPAGE

Lab File ID: >C1022 BFB Injection Date: 08/31/95

Instrument ID: CMS BFB Injection Time: 13:07

ION ABUNDANCE CRITERIA for C1022 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	C1028	08/31/95	16:55
VSTD100	VSTD100	C1029	08/31/95	17:30
VSTD050	VSTD050	C1030	08/31/95	18:05
VSTD020	VSTD020	C1031	08/31/95	18:39
VSTD010	VSTD010	C1032	08/31/95	19:14

GC/MS PERFORMANCE STANDARD

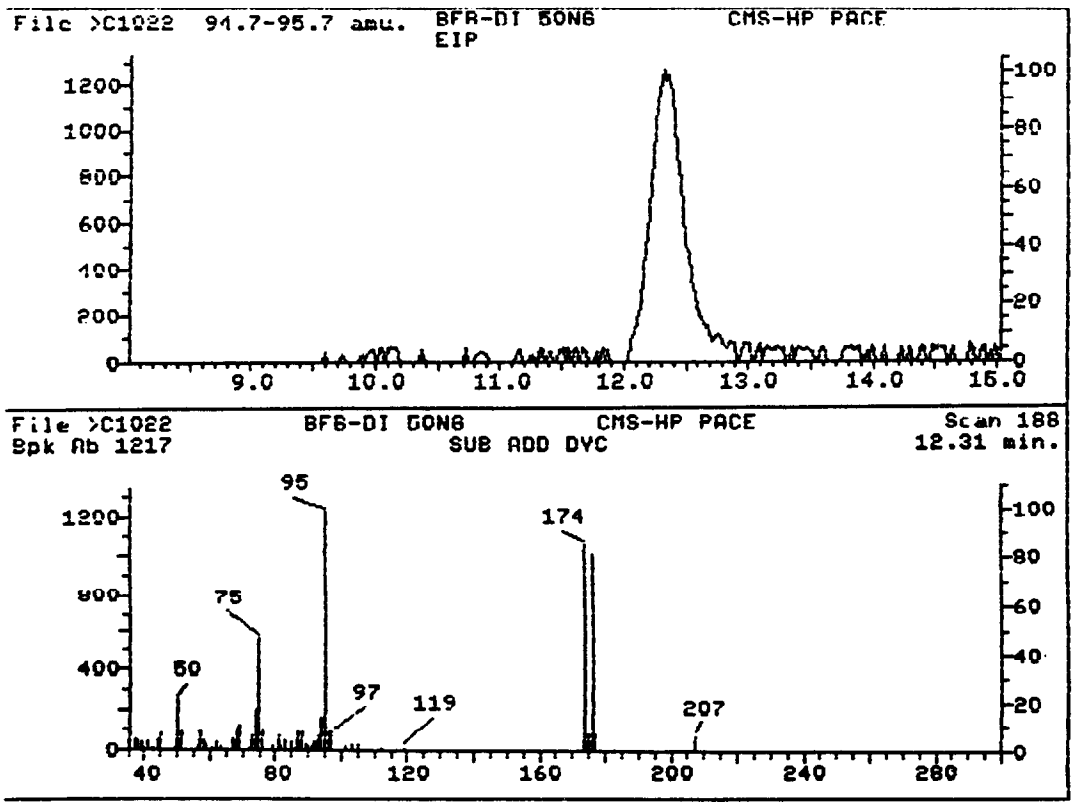
Bromofluorobenzene (BFB) '88

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	20.56	20.56	Ok
75	30-60% of mass 95	46.25	46.25	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	8.63	8.63	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	85.93	85.93	Ok
175	5-9% of mass 174	6.79	7.90	Ok
176	95-101% of mass 174	81.82	95.22	Ok
177	5-9% of mass 176	6.98	8.53	Ok

Injection Date: 08/31/95
Injection Time: 13:07
Data File: >C1022
Scan: 188

THIS IS THE RESULT OF AVERAGING	187.00	188.00	189.00
AND SUBTRACTING BACKGROUND SCAN	168.00		

9/8/95



5A

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

Lab Name: PACE New England

Project: BETHPAGE

Lab File ID: >C1061 BFB Injection Date: 09/05/95

Instrument ID: CMS BFB Injection Time: 13:44

ION ABUNDANCE CRITERIA for C1061 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	C1063	09/05/95	14:41
BC090595A1	90182-089	C1064	09/05/95	15:16
LCC090595A1	90182-089MS	C1065	09/05/95	16:02
DSB14-05/07	45219-001	C1076	09/06/95	00:20

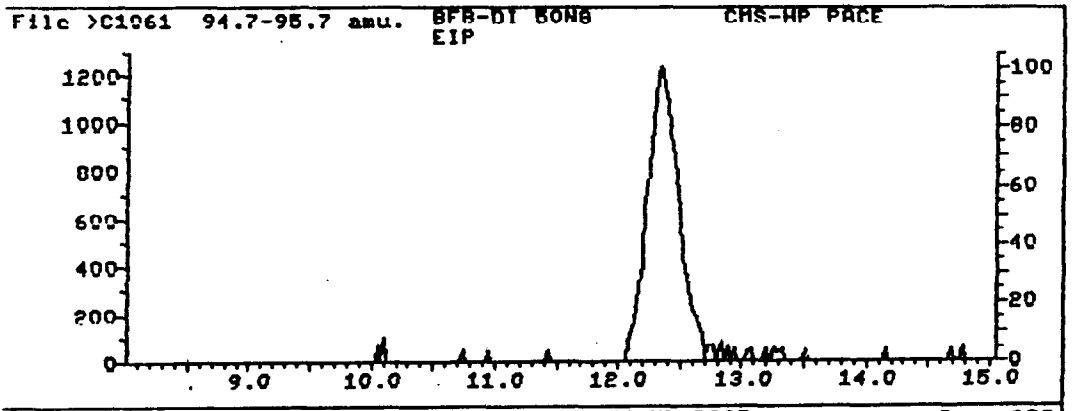
GC/MS PERFORMANCE STANDARD

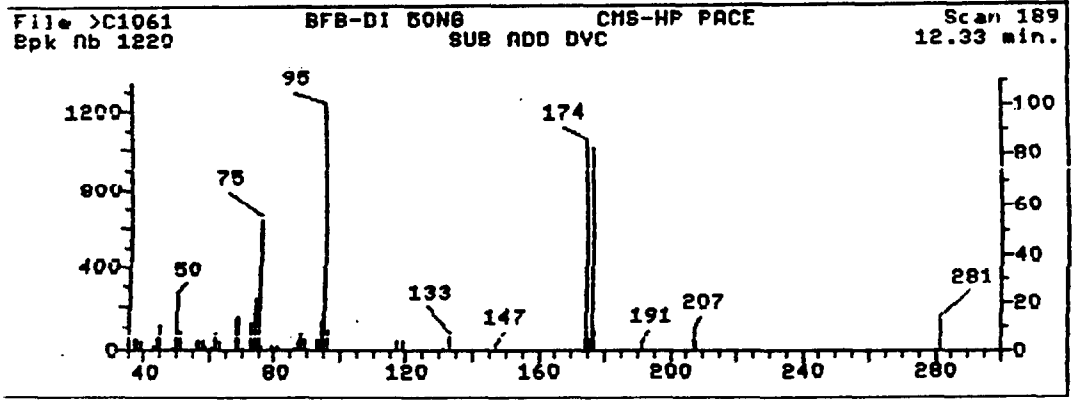
Bromofluorobenzene (BFB) '88

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	20.35	20.35	Ok
75	30-60% of mass 95	52.23	52.23	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.73	7.73	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	84.87	84.87	Ok
175	5-9% of mass 174	4.86	5.73	Ok
176	95-101% of mass 174	83.04	97.84	Ok
177	5-9% of mass 176	7.27	8.75	Ok

Injection Date: 09/05/95
Injection Time: 13:44
Data File: >C1061
Scan: 189

THIS IS THE RESULT OF AVERAGING 188.00 189.00 190.00
AND SUBTRACTING BACKGROUND SCAN 169.00





5A

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

Lab Name: PACE New England

Project: BETHPAGE

Lab File ID: >C1078 BFB Injection Date: 09/06/95

Instrument ID: CMS BFB Injection Time: 12:16

ION ABUNDANCE CRITERIA for C1078 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	C1080	09/06/95	13:13
BC090695A1	90182-090	C1081	09/06/95	13:48
LCC090695A1	90182-090MS	C1082	09/06/95	14:33
DSB14-40/42	45219-002	C1089	09/06/95	21:02
DSB14-50/52	45219-003	C1090	09/06/95	21:52

GC/MS PERFORMANCE STANDARD

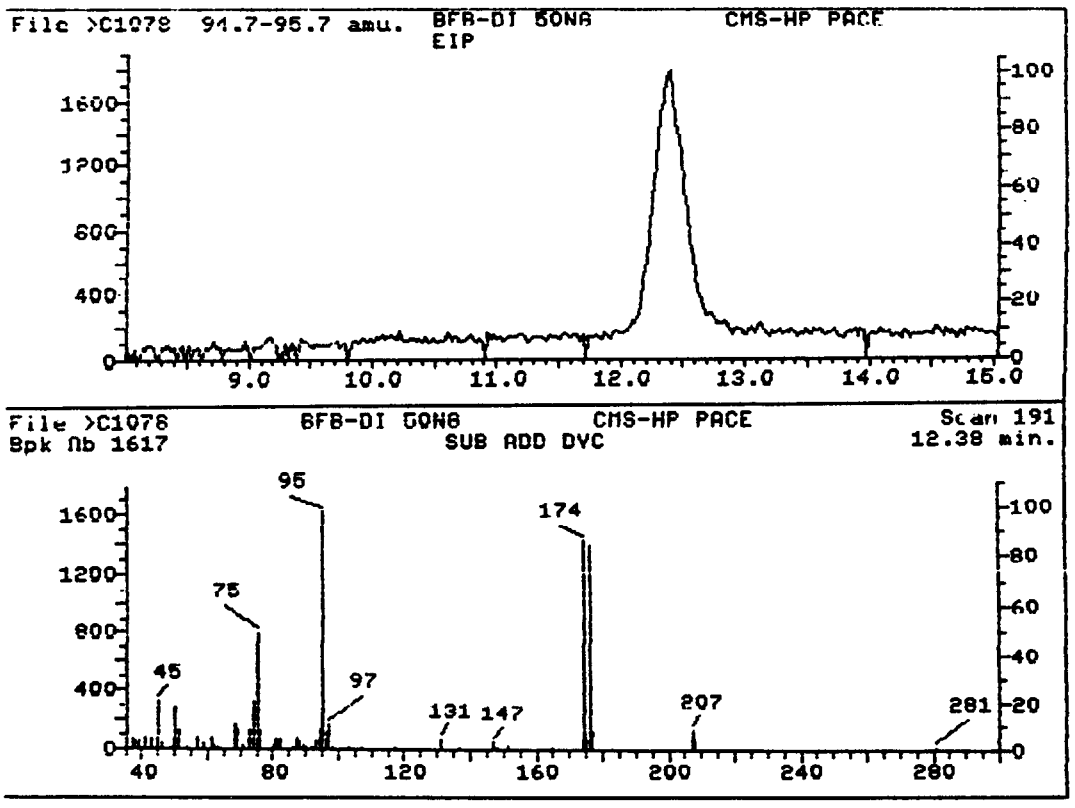
Bromofluorobenzene (BFB) '88

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	17.75	17.75	Ok
75	30-60% of mass 95	49.20	49.20	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	87.57	87.57	Ok
175	5-9% of mass 174	5.15	5.89	Ok
176	95-101% of mass 174	85.51	97.65	Ok
177	5-9% of mass 176	7.40	8.66	Ok

Injection Date: 09/06/95
Injection Time: 12:16
Data File: >C1078
Scan: 191

THIS IS THE RESULT OF AVERAGING	190.00	191.00	192.00
AND SUBTRACTING BACKGROUND SCAN	171.00		

9/8/95



8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: PACE New England

Project: BETHPAGE

Lab File ID (Standard): >C1063 Date Analyzed: 09/05/95

Instrument ID: CMS Time Analyzed: 14:41

	IS1(BCM) AREA	#	RT	#	IS2(DFB) AREA	#	RT	#	IS3(CBZ) AREA	#	RT	#
12 HOUR STD	63686		7.34		249452		18.03		203654		22.84	
UPPER LIMIT	127372		7.84		498904		18.53		407308		23.34	
LOWER LIMIT	31843		6.84		124726		17.53		101827		22.34	
CLIENT I.D.												
BC090595A1	62832		7.36		243480		18.04		202036		22.84	
LCC090595A1	69526		7.32		270924		18.02		220724		22.86	
DSB14-05/07	68998		7.48		270256		18.07		224988		22.88	

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

Project: BETHPAGE

Lab File ID (Standard): >C1080 Date Analyzed: 09/06/95

Instrument ID: CMS Time Analyzed: 13:13

	IS1(BCM)		IS2(DFB)		IS3(CBZ)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	85898	7.35	318580	17.99	277456	22.83
UPPER LIMIT	171796	7.85	637160	18.49	554912	23.33
LOWER LIMIT	42949	6.85	159290	17.49	138728	22.33
CLIENT I.D.						
BC090695A1	83310	7.37	314310	18.00	267404	22.86
LCC090695A1	83844	7.39	314727	18.00	262106	22.88
DSB14-40/42	63310	7.38	240851	18.04	199154	22.89
DSB14-50/52	71966	7.32	277542	18.04	235748	22.85

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

SC0831 / LC0831

TN 9/11/95

Initial Calibration Data
HSL Compounds

Case No: Instrument ID: CMS-HP

Contractor: RESAN Calibration Date: ~~09/01/95~~ 083195 ③ TN

Contract No: 68D20026

Minimum RF for SPCC is .30 Maximum % RSD for CCC is 30%

Laboratory ID: >C1032 >C1031 >C1030 >C1029 >C1028

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	.46763	.47577	.36171	.32007	.35693	.209	.39642	17.819		**	✓
C015 BROMOMETHANE	1.17488	1.26312	1.06945	1.05207	1.15280	.287	1.14296	7.481			
C020 VINYL CHLORIDE	.85723	.87690	.81362	.74692	.87721	.357	.83438	6.631	*		✓
C025 CHLOROETHANE	.46232	.54392	.49169	.47947	.54935	.439	.50535	7.748			
C030 METHYLENE CHLORIDE	2.19924	1.63239	1.15780	1.06405	1.11119	.624	1.43293	33.872			
C035 ACETONE	.85161	.63608	.45944	.41946	.41366	.756	.55605	33.887			
C040 CARBON DISULFIDE	2.31313	2.35907	2.05976	1.99473	2.34228	.855	2.21379	7.798			
C042 TRICHLOROFLUOROMETHANE	2.48403	2.43315	2.25633	2.09547	2.51744	.908	2.35728	7.535			
C045 1,1-DICHLOROETHENE	.94318	.98063	.91438	.84931	1.00126	.997	.93775	6.369	*		✓
C058 TETRAHYDROFURAN	.17106	.17957	.15996	.15837	.15310	1.154	.16441	6.510			
C050 1,1-DICHLOROETHANE	2.03857	2.01826	1.76173	1.74080	1.92570	1.138	1.89701	7.374		**	✓
C053 1,2-DICHLOROETHENE(total)	.91402	1.11611	.99562	.98137	1.09662	1.241	1.02075	8.258			(Conc=20.0,40.0,100.0,200
C060 CHLOROFORM	2.33560	2.69706	2.39838	2.37748	2.61724	1.277	2.48515	6.483	*		✓
C110 2-BUTANONE	1.20181	1.16612	.91318	.86723	.89908	1.434	1.00148	16.808			
C065 1,2-DICHLOROETHANE	1.79133	1.84748	1.63573	1.62509	1.71709	1.397	1.72335	5.611			
MTBE	2.34098	2.57509	2.08308	2.10044	2.06032	1.561	2.23198	9.982			
CS15 1,2-DICHLOROETHANE-d4	1.05607	1.73800	1.16489	1.27859	1.50126	1.383	1.34776	20.291			
C115 1,1,1-TRICHLOROETHANE	.60252	.60827	.55422	.51984	.63875	.636	.58472	8.081			
C120 CARBON TETRACHLORIDE	.53983	.53752	.50913	.47799	.59072	.657	.53104	7.864			
C125 VINYL ACETATE	.78683	.80853	.64410	.66794	.69662	.685	.72080	10.128			
C130 BROMODICHLOROMETHANE	.83209	.85322	.73630	.73184	.84131	.677	.79895	7.475			
C140 1,2-DICHLOROPROPANE	.34939	.36698	.31842	.30021	.33195	.767	.33339	7.809	*		✓
C143 CIS-1,3-DICHLOROPROPENE	.54570	.60788	.52951	.50110	.56224	.779	.54928	7.240			
C150 TRICHLOROETHENE	.42172	.44504	.38913	.36968	.41594	.815	.40830	7.190			
C155 DIBROMOCHLOROMETHANE	.66968	.75967	.65723	.64338	.72563	.830	.69112	7.154			
C160 1,1,2-TRICHLOROETHANE	.37814	.42059	.35094	.32740	.36041	.844	.36750	9.489			
C165 BENZENE	.78322	.84693	.73497	.70810	.79945	.856	.77453	7.047			
C172 TRANS-1,3-DICHLOROPROPENE	.48499	.55231	.48195	.46238	.51095	.852	.49852	6.957			
C176 2-CHLOROETHYLVINYLETHER	.19253	.18379	.17714	.18595	.20643	.919	.18917	5.870			
C180 BROMOFORM	.50373	.57870	.50054	.50231	.56201	.981	.52946	7.142		**	✓

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

$\overline{RRT}$ - 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-MP _____

Contractor: RESAN Calibration Date: 09/01/95

Contract No: 68D20026

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

Laboratory ID:		>C1032	>C1031	>C1030	>C1029	>C1028					
		RF	RF	RF	RF	RF					
	Compound	10.00	20.00	50.00	100.00	200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
CS05	TOLUENE-d8	.71650	1.07788	.73729	.77261	.93100	.953	.84705	18.190		
C205	4-METHYL-2-PENTANONE	.82257	.81170	.65178	.64867	.65534	.818	.71801	12.618		
C210	2-HEXANONE	.72633	.61534	.52162	.50467	.48353	.891	.57030	17.661		
C220	TETRACHLOROETHENE	.42697	.40162	.37565	.34880	.40835	.893	.39228	7.770		
C225	1,1,2,2-TETRACHLOROETHANE	.97846	1.01699	.85729	.83387	.88008	.881	.91334	8.750		**
C230	TOLUENE	1.37299	1.27557	1.09803	1.02495	1.14467	.961	1.18324	11.827	*	
C235	CHLOROBENZENE	1.00980	.97789	.85743	.81547	.89260	1.006	.91064	8.950		**
C240	ETHYLBENZENE	.49943	.47791	.41320	.39264	.45719	1.089	.44807	9.918	*	
C245	STYRENE	1.05884	1.02502	.87025	.85975	.94908	1.211	.95259	9.382		
C251	XYLENE	.54416	.54445	.47309	.42934	.49776	1.218	.49776	9.854		
C250	XYLENE (total)	.58592	.57284	.49123	.46112	.51907	1.244	.52663	9.980		
CS10	BROMOFLUOROBENZENE	.78323	1.06717	.71560	.73315	.87997	1.164	.83582	17.258		

(Conc=20.0,40.0,100.0,200

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

$\overline{RRT}$ - 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 (**)

LC0905

Continuing Calibration Check
HSL Compounds

Case No: ----------

Calibration Date: 09/05/95

Contractor: RESAN

Time: 14:41

Contract No: 68D20026

Laboratory ID: >C1063

Instrument ID: CMS-HP

Initial Calibration Date: ~~09/01/95~~ 8/31/95 TW 9/5/95

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

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
C010 CHLOROMETHANE	.39642	.42531	7.29		**	
C015 BROMOMETHANE	1.14246	1.21529	6.37			
C020 VINYL CHLORIDE	.83438	.79379	4.87	*		
C025 CHLOROETHANE	.50535	.51002	.92			
C030 METHYLENE CHLORIDE	1.43293	1.25026	12.75			
C035 ACETONE	.55605	.43377	21.99			
C040 CARBON DISULFIDE	2.21379	2.31110	4.40			
C042 TRICHLOROFLUOROMETHANE	2.35720	2.61929	11.11			
C045 1,1-DICHLOROETHENE	.93775	.98771	5.33	*		
C058 TETRAHYDROFURAN	.16441	.19282	17.28			
C050 1,1-DICHLOROETHANE	1.89701	1.95297	2.95		**	
C053 1,2-DICHLOROETHENE(total)	1.02075	1.15666	13.32			(Conc=100.00)
C060 CHLOROFORM	2.48515	2.74376	10.41	*		
C110 2-BUTANONE	1.00148	.96233	3.91			
C065 1,2-DICHLOROETHANE	1.72335	1.93920	12.53			
MTBE	2.23198	2.65457	18.93			(Conc=50.00)
C515 1,2-DICHLOROETHANE-d4	1.34776	1.57053	16.53			
C115 1,1,1-TRICHLOROETHANE	.58472	.61815	5.72			
C120 CARBON TETRACHLORIDE	.53104	.59290	11.65			
C125 VINYL ACETATE	.72080	.68954	4.34			
C130 BROMODICHLOROMETHANE	.79895	.83675	4.73			
C140 1,2-DICHLOROPROPANE	.33339	.34696	4.07	*		
C143 CIS-1,3-DICHLOROPROPENE	.54928	.58860	7.16			(Conc=50.00)
C150 TRICHLOROETHENE	.40830	.45552	11.56			
C155 DIBROMOCHLOROMETHANE	.69112	.80015	15.78			
C160 1,1,2-TRICHLOROETHANE	.36750	.40574	10.41			
C165 BENZENE	.77453	.82491	6.50			
C172 TRANS-1,3-DICHLOROPROPENE	.49852	.53743	7.81			(Conc=50.00)
C176 2-CHLOROETHYLVINYLETHER	.18917	.20574	8.76			
C180 BROMOFORM	.52946	.70040	32.29		**	
C505 TOLUENE-d8	.84705	.98681	16.50			
C205 4-METHYL-2-PENTANONE	.71801	.75123	4.63			

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

$\overline{RF}$ - 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: 09/05/95

Contractor: RESAM Time: 14:41

Contract No: 68D20026 Laboratory ID:)C1063

Instrument ID: CMS-HP Initial Calibration Date: 09/01/95

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

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
C210 2-HEXANONE	.57030	.58100	1.88			
C220 TETRACHLOROETHENE	.39228	.48810	24.43			
C225 1,1,2,2-TETRACHLOROETHANE	.91334	.96947	6.15		**	
C230 TOLUENE	1.18324	1.25202	5.81	*		
C235 CHLOROBENZENE	.91064	.98515	8.18		**	
C240 ETHYLBENZENE	.44807	.45751	2.10	*		
C245 STYRENE	.95259	.92201	3.21			
C251 XYLENE	.49776	.51046	4.16			
C250 XYLENE (total)	.52663	.52580	.16			(Conc=100.00)
C510 BROMOFLUOROBENZENE	.83582	.90396	8.15			

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

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

%Diff - % Difference from original average or curve

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

LC0906

Continuing Calibration Check
HSL Compounds

Case No: _____ Calibration Date: 09/06/95

Contractor: RESAN Time: 13:13

Contract No: 68D20026 Laboratory ID: >C1080

Instrument ID: CMS-HP Initial Calibration Date: ~~09/01/95~~ 8/31/95 TN 9/6/95

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

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
C010 CHLOROMETHANE	.39642	.46913	18.34		**	✓
C015 BROMOMETHANE	1.14246	1.25873	10.18			
C020 VINYL CHLORIDE	.83438	.83725	.34	*		✓
C025 CHLOROETHANE	.50535	.51945	2.79			
C030 METHYLENE CHLORIDE	1.43293	1.18492	17.31			
C035 ACETONE	.55605	.44683	19.64			
C040 CARBON DISULFIDE	2.21379	2.31147	4.41			
C042 TRICHLOROFLUOROMETHANE	2.35728	2.53279	7.45			
C045 1,1-DICHLOROETHENE	.93775	1.04383	11.31	*		✓
C058 TETRAHYDROFURAN	.16441	.16422	.12			
C050 1,1-DICHLOROETHANE	1.89701	1.91457	.93		**	✓
C053 1,2-DICHLOROETHENE(total)	1.02075	1.16644	14.27			(Conc=100.00)
C060 CHLOROFORM	2.48515	2.63003	5.83	*		✓
C110 2-BUTANONE	1.00148	.85790	14.34			
C065 1,2-DICHLOROETHANE	1.72335	1.77279	2.87			
MTBE	2.23198	2.43497	9.09			(Conc=50.00)
CS15 1,2-DICHLOROETHANE-d4	1.34776	1.47470	9.42			
C115 1,1,1-TRICHLOROETHANE	.58472	.62814	7.43			
C120 CARBON TETRACHLORIDE	.53104	.58543	10.24			
C125 VINYL ACETATE	.72080	.63205	12.31			
C130 BROMODICHLOROMETHANE	.79895	.82806	3.64			
C140 1,2-DICHLOROPROPANE	.33339	.32954	1.16	*		✓
C143 CIS-1,3-DICHLOROPROPENE	.54928	.57199	4.13			(Conc=50.00)
C150 TRICHLOROETHENE	.40830	.44981	10.17			
C155 DIBROMOCHLOROMETHANE	.69112	.78400	13.44			
C160 1,1,2-TRICHLOROETHANE	.36750	.37950	3.27			
C165 BENZENE	.77453	.76477	1.26			
C172 TRANS-1,3-DICHLOROPROPENE	.49852	.48756	2.20			(Conc=50.00)
C176 2-CHLOROETHYLVINYLETHER	.18917	.19149	1.23			
C180 BROMOFORM	.52946	.64708	22.22		**	✓
CS05 TOLUENE-d8	.84705	.96058	13.40			
C205 4-METHYL-2-PENTANONE	.71801	.59373	17.31			

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

$\overline{RF}$ - 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: 09/06/95

Contractor: RESAN Time: 13:13

Contract No: 68D20026 Laboratory ID: >C1080

Instrument ID: CMS-HP Initial Calibration Date: 09/01/95

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

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C210 2-HEXANONE	.57030	.48204	15.48		
C220 TETRACHLORDETHENE	.39228	.46486	18.50		
C225 1,1,2,2-TETRACHLORDETHANE	.91334	.93293	2.15		**
C230 TOLUENE	1.18324	1.21568	2.74	*	
C235 CHLOROBENZENE	.91064	.96583	6.06		**
C240 ETHYLBENZENE	.44807	.45297	1.09	*	
C245 STYRENE	.95259	.94256	1.05		
C251 XYLENE	.49776	.51880	4.23		
C250 XYLENE (total)	.52663	.52348	.60		(Conc=100.00)
CS10 BROMOFLUOROBENZENE	.83582	.92397	10.55		

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

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

%Diff - % Difference from original average or curve

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

MSCSAM / MSCOLL

IS = V- 6359
SS = V- 6390

PACE New England

GCMS/VOA Instr. GMS-HP Analyst/Date TW 8/31/17 STD Lot # V-6394A 032317SA1

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
>C1072	494	—	—	BFB - SS	50ng	MTH 1 95 M/z = 24K		Y	✓
				TIME: 13:07					
				SCAN 187+1881 189	- 168	~88 ≥ a 1 +NY			
>C1073		ICA024	1	VSTD050	5ml	NOT USED		N	
24			2	VSTD050		C-13 (MS)		Y	
25		ICO831	3	BLCO83195 A1		VBLKCN C-6 (M2)		Y	✓
26			4	LCC083195A1	5ml	V-6392 RE Y		N	
27		LCO831	5	VSTD 200		HEATED PURGE (LOW SOILS) CSTD 2		N	
28			6	VSTD 200		SCO831 / LCO831 C-13 (MS)		Y	✓
29			7	VSTD 100				Y	✓
30			8	VSTD 050				Y	✓
31			9	VSTD 020				Y	✓
32			10	VSTD 010		C-13 (MS)		Y	✓
33			1	VSTD 010				N	
34		ICO831	2	LCC083195A2	5ml	V-6392 CSTD 3		Y	✓
35			3	~~45144-1 TW (2) SOLF BLK 33~~	~~3ml~~ 5ml			Y	✓
36			4	45146-3				Y	✓
37			5	-3MS				Y	✓
38			6	-4				Y	✓
39			7	-4MS				Y	✓
40			8	-2	2ml			Y	✓
41			9	-2MS				Y	✓
42			10	45141-1	3ml	LR	<2	Y	✓
43				-BKE-					

624/8240 MSCSAM / MSCOIL
VOLTAGE = 1900

PACE New England

082795E1

GCMS/VOA Instr C **MS-HP** Analyst/Date TN 9/5/95 STD Lot # V- B

FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	I
>C1052		—	—	BFB - DI	50ng			N	—
53		—	—	BFB - DI	50ng			N	
54		—	—	BFB - DI	50ng			N	—
				MANUAL TUNE ADJUSTED					
55		—	—	BFB - DI	50ng			N	
56		—	—	BFB - DI	50ng			N	
57		—	—	↓	↓	CHANGED INJ PORT SEPTA			
58		—	—						
59		—	—			UP VOLTAGE → 2000			
60		—	—	BFB - DI	50ng	CHANGE SYRINGE		Y	—
61	#474	-	.	BFB - DI	50ng	MTM I 95 m/z = 22K		Y	
				TIME: 13:44					—
				SCAN: 188+189+	190-167	88 : 91			
>C1062		LC0831	1	VSTD050	5ml	NOT USED		N	—
63			2	VSTD050		C-13 (NS)			
64		LC0905	3	BC090595A1	↓	VBLKC0		Y	✓
65			4	LCC090595A1	5ml	V-6392		Y	✓
66			5	45205-1	5.0g			Y	✓
67			6	-2	5.3g			Y	✓
68			7	-3	5.0g			Y	✓
69			8	-4	1.1g	L.R. RE 4.5g		N	
70			9	-5	1.2g	RE 5g		N	—
71			10	-6	1.3g	RE 5g		N	
72			1	-7	1.2g	RE 5g in Dalles		Y	✓
73			2	-8	1.2g			Y	✓
74			3	-11	1.1g	RE 5g		N	
75			4	-12	1.2g	↓		N	
76			5	45219-1	5.1g			Y	✓
77				BAKE					

MSC SMM

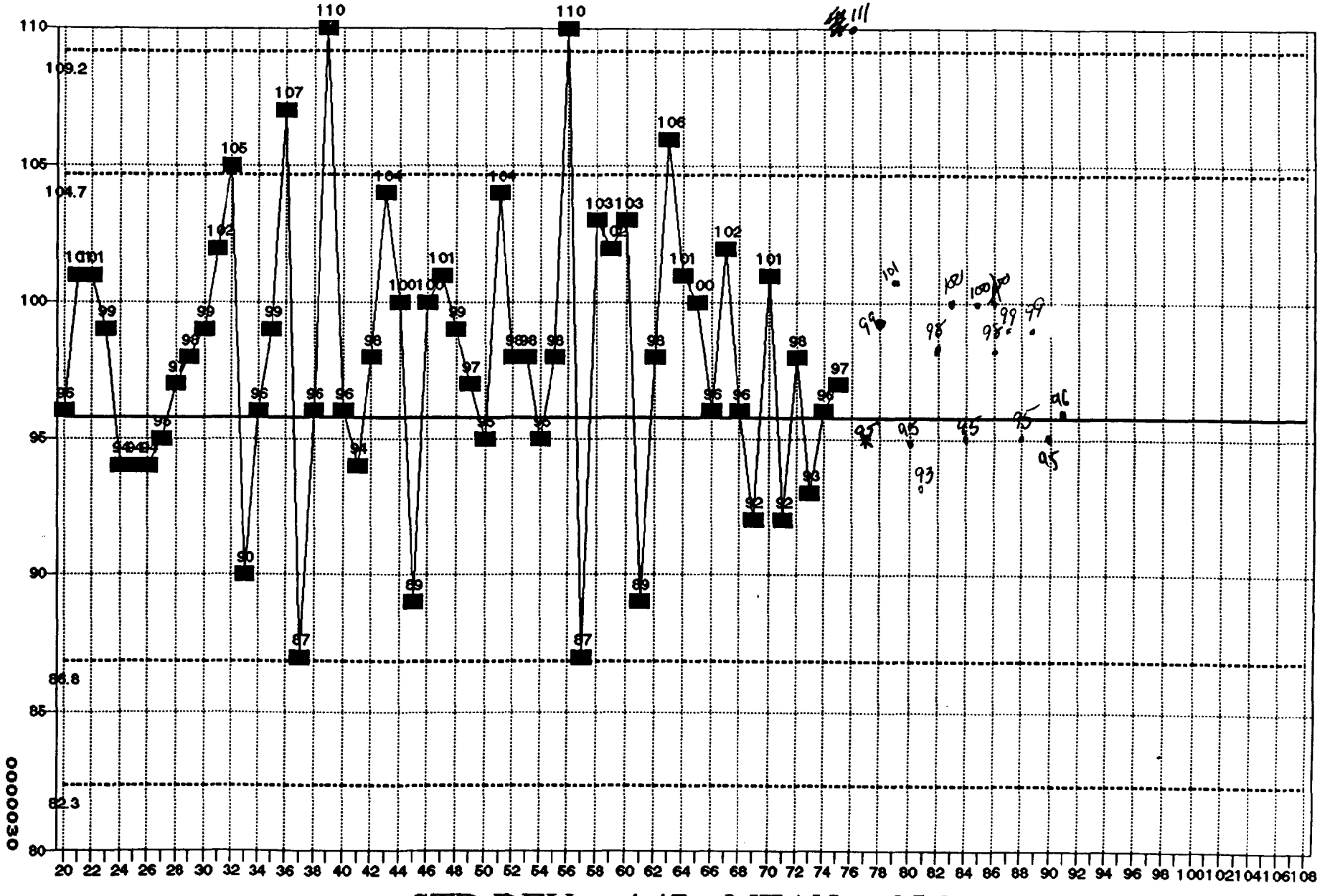
VOLTAGE = 1900

PACE New England

GCMS/VOA Instr C **MS-HP** Analyst/Date TGN 9/6/95 STD Lot # V-6394B 08289SFL

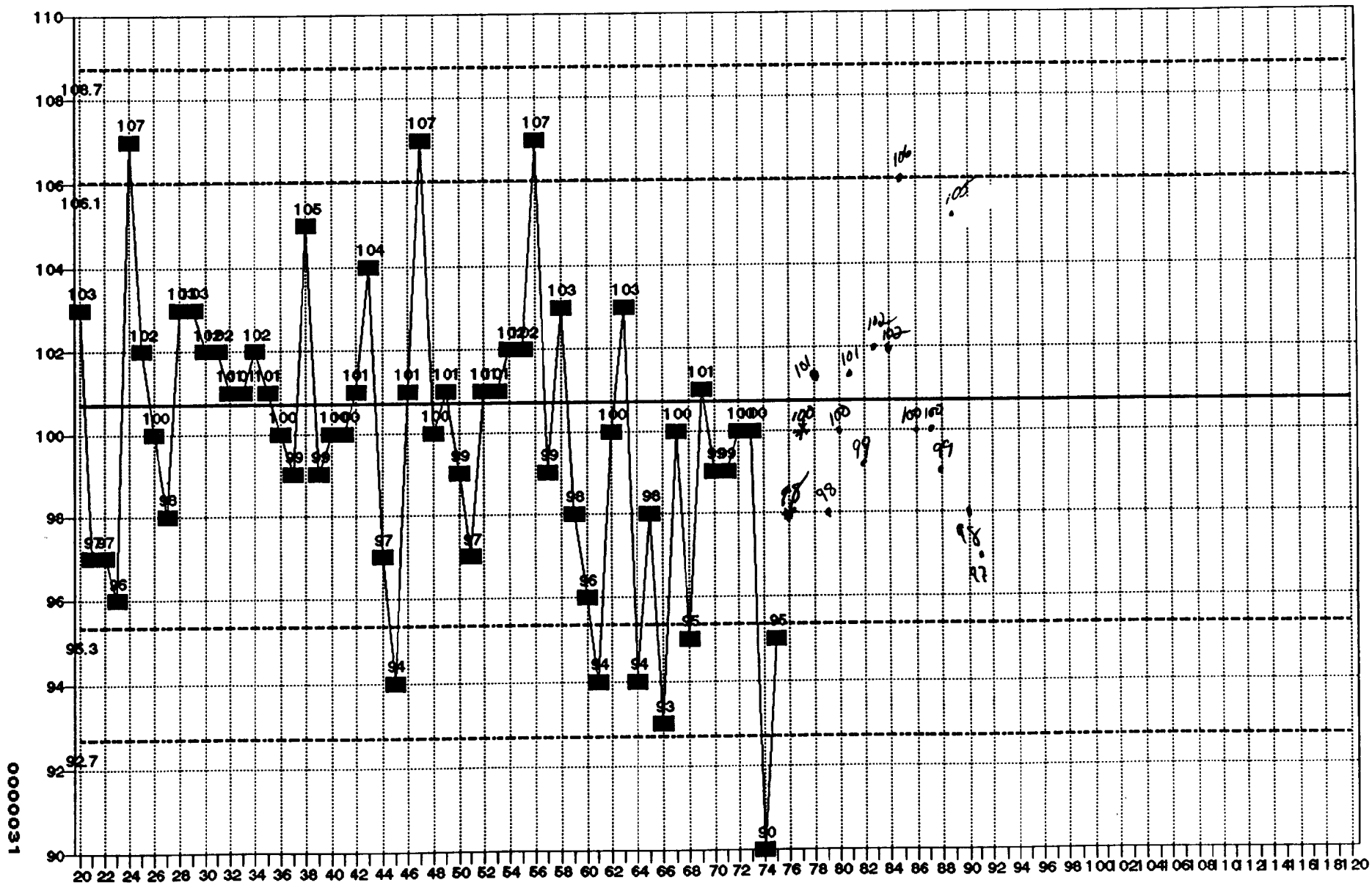
FRN	Arcv	ID File	Tube	SAMPLE	AMT	COMMENTS	pH	A	R
>C1078	1474	—	—	BFB 50ng	50ng	MTH I 4½ 95 - 29K		Y	✓
				TIME: 12:16					
				SCAN: 190+191+192	- 171	~~88~~ 91			
>C1079		LC0831	1	VSTD050	5ml	NOT USED		N	
80			2	VSTD050		C-13 (MS)		Y	✓
81		LC0906	3	BC090695A1		VBLKCP		Y	✓
82			4	LCC090695 A1	5ml	V-6392		Y	✓
83			5	45205-4	4.0g	LR		Y	✓
84			6	-5	5.1g			Y	✓
85			7	-6	5.2g			Y	✓
86			8	-11	5.1g			Y	✓
87			9	-12	5.0g			Y	✓
88			10	-10	5.1g			Y	✓
89			1	45219-2	5.2g			Y	✓
90			2	-3	5.3g			Y	✓
91			3	45205-(MS)	5.2g	SR		Y	
92			4	-(MSD)	↓	↓		Y	
~~93~~				- ~~BAKE~~ -		CHANGE OF PURGE TO 9/6/95			
93			5	45205-4	5.0g	IS FAILURE		N	
94				- BAKE -					

VOA LOW SOLIDS - SURR DCE
EPA SW846 LIMIT SET 9/94



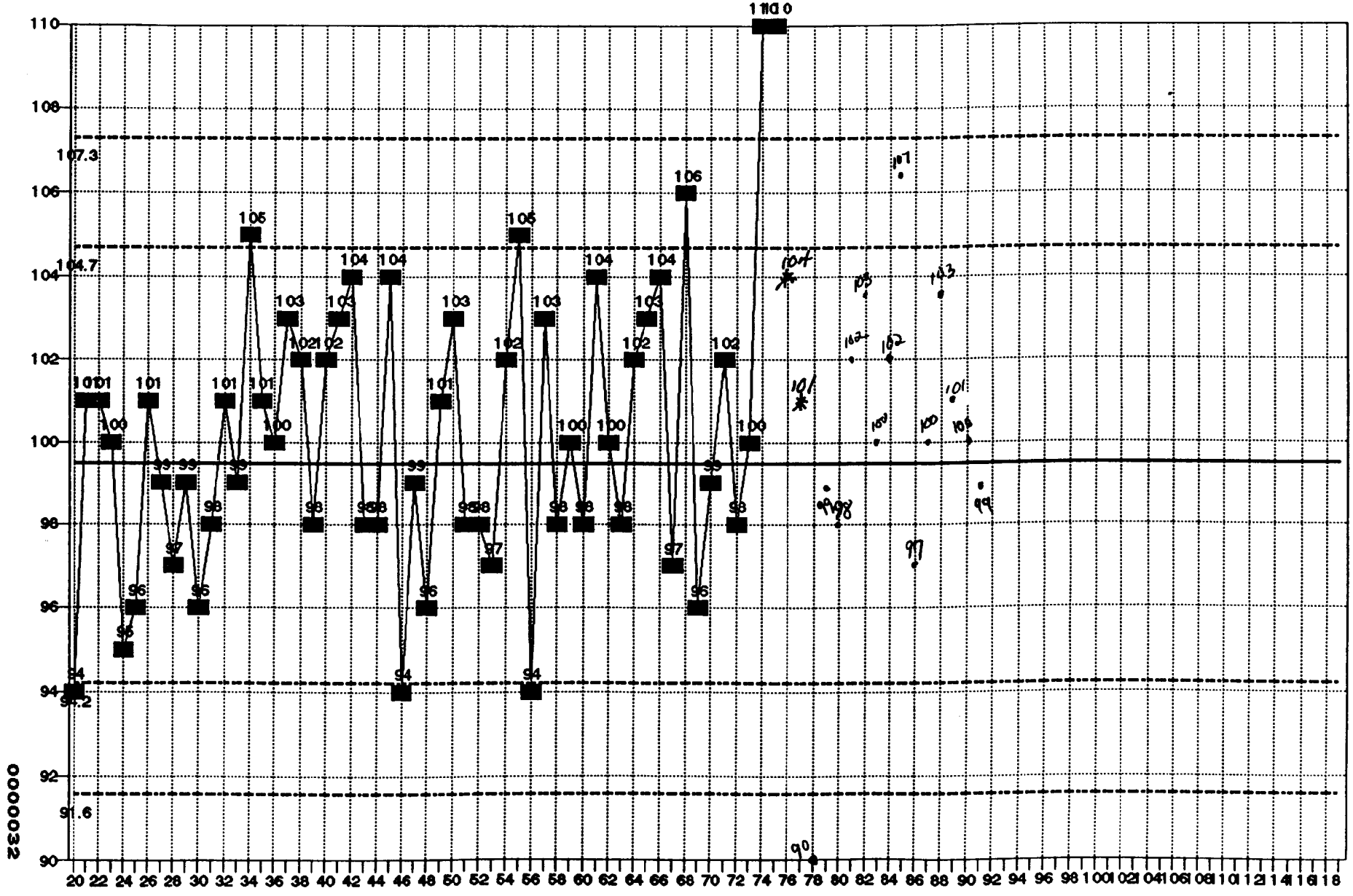
STD DEV = 4 ·7 MEAN = 95.8

VOA LOW SOLIDS - SURR TOL-D8
EPA SW846 LIMITS SET 9/94



STD DEV = 2.68 MEAN = 100.7

VOA LOW SOLIDS - SURR BFB
EPA SW846 LIMITS SET 9/94



STD DEV = 2.62 MEAN = 99.4

SW846 8240 LOW LEVEL SOLIDS

1	BC081794A	51	BC101894A
2	BC081894A	52	BC101994A
3	BC082594A	53	BG102094A
4	BC082694A	54	BG102194A
5	BC083094A	55	BG102494A
6	BG081994A	56	BG100594D
7	BG082394B	57	BG100794A
8	BG082494A	58	BG101194A
9	BG082594A	59	BG102594A
10	BG082694C	60	BE101794A
11	BG082994A	61	BG101294B
12	BC083194A	62	BG112394C
13	BC090194A	63	BG120694C
14	BC090294A	64	BG120794B
15	BG083094A	65	BG120894B
16	BG083194A	66	BG120994B
17	BG090194A	67	BG121494A
18	BG090294A	68	BG121594A
19	BG090694A	69	BG121694A
20	BG090894A	70	BG121994A
21	BC090694A	71	BG122094B
22	BC090894B	72	BG122394A
23	BC090994A	73	BG122794A
24	BG090994A	74	BG123094B
25	BG091294A	75	b
26	BG091394A	76	BC0210 9JB
27	BG091494B	77	BC0213 95A
28	BG091594A	78	BG040695B
29	BG091694A	79	BG040795B
30	BG091994A	80	BG040995A
31	BE092094A	81	BC061395C (93, 101, 102)
32	BE092194A	82	BC061495C (98, 99, 103)
33	BC092194B	83	BC061595A (100, 102, 100)
34	BC092294B	84	BC061695A (95, 102, 102)
35	BC092394B	85	BC062795A (100, 106, 107)
36	BC092694B	86	BC062895B2 (98, 100, 97)
37	BG100794A	87	BC062995A1 (99, 100, 100)
38	BE092294A	88	BC072595A1 (95, 99, 103)
39	BE092394A	89	BE081495A1 (99, 105, 101)
40	BC092794B	90	BC090595A1 (95, 98, 100)
41	BC101094A	91	BC090695A1 (96, 97, 99)
42	BC101194A	92	
43	BG101194A	93	
44	BC101294A	94	
45	BG101294A	95	
46	BG101394A	96	
47	BE101894A	97	
48	BE101994A	98	
49	BG101994C	99	
50	BC101794A	100	

241079

pace INCORPORATED
ENVIRONMENTAL LABORATORIES

SAMPLES FROM NEW YORK SITE YES ✓ NO ____

CHAIN-OF-CUSTODY RECORD
Analytical Request

Client: Halliburton NUS
Address: 661 Anderson Dr
Foster Plaza #7
Pittsburgh PA 15211
Phone: (412) 921-7090

Report To: Mark Speranza
Bill To:
P.O. # / Billing Reference
Project Name / No.

Pace Client No.
Pace Project Manager
Pace Project No.
*Requested Due Date:

Sampled By (PRINT): Timothy S Evans
Sampler Signature: Timothy S Evans
Date Sampled: 9.1.95

ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO.	NO. OF CONTAINERS	PRESERVATIVES: UNPRESERVED	H_2SO_4	HNO_3	VOA			ANALYSES REQUESTED: 40 mL glass TCL VOC	REMARKS
1	DSB 14 - 05/07	0722	Soil	452194	1	✓						✓	
2	DSB 14 - 40/42	0813	Soil	-2	1	✓						✓	
3	DSB14 - 50/52	0829	Soil	-3	1	✓						✓	
4													
5													
6													
7													
8													

Final Report

COOLER NOS.	BAILERS	SHIPMENT METHOD OUT DATE	SHIPMENT METHOD RETURNED DATE
1			

ITEM NUMBER	RELINQUISHED BY AFFILIATION	ACCEPTED BY AFFILIATION	DATE	TIME
1-3	Timothy S Evans / HNUS 9.1.95 1500	SBranson / Pace	9/5/95	093

Additional Comments: FedEx AB # 879793890

0000034

ORIGINAL

SEE REVERSE SIDE FOR INSTRUCTIONS